

Oracle Cloud

Using Oracle Intelligent Track and Trace

24.1.3

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Get Help

There are a number of ways to learn more about your product and interact with Oracle and other users.

Get Help in the Applications

Use help icons  to access help in the application. If you don't see any help icons on your page, click your user image or name in the global header and select Show Help Icons.

Get Support

You can get support at [My Oracle Support](#). For accessible support, visit [Oracle Accessibility Learning and Support](#).

Get Training

Increase your knowledge of Oracle Cloud by taking courses at [Oracle University](#).

Join Our Community

Use [Cloud Customer Connect](#) to get information from industry experts at Oracle and in the partner community. You can join forums to connect with other customers, post questions, and watch events.

Learn About Accessibility

For information about Oracle's commitment to accessibility, visit the [Oracle Accessibility Program](#). (if videos) Videos included in this guide are provided as a media alternative for text-based topics also available in this guide.

Share Your Feedback

We welcome your feedback about Oracle Applications user assistance. If you need clarification, find an error, or just want to tell us what you found helpful, we'd like to hear from you.

You can email your feedback to oracle_fusion_applications_help_ww_grp@oracle.com.

Thanks for helping us improve our user assistance!

2 Get Started

Get Started with Oracle Intelligent Track and Trace

Oracle Intelligent Track and Trace is a blockchain application that helps to manage and monitor your supply chain.

This application harnesses the power of distributed ledgers and immutable data stores to remove the need for intermediaries. You no longer require trusted third parties to verify, record, and coordinate transactions. Instead, you determine who participates in the monitoring and verification process of any document exchanged. Get started with Intelligent Track and Trace and learn how to access the cloud service.

Topics

- [Before You Begin](#)
- [How to Access Intelligent Track and Trace](#)
- [Language Support](#)
- [How to Get Support](#)

Before You Begin

Before you begin using Intelligent Track and Trace ensure that you have the following items:

- Make sure you have link to access Oracle Intelligent Track and Trace and a user account. Typically these are included in your subscription email, if you haven't received this email, contact the system administrator. See [How to Access Intelligent Track and Trace](#).

How to Access Oracle Intelligent Track and Trace Cloud Service

Log in to the Web application to start using Intelligent Track and Trace.

Before you start

To log in to Intelligent Track and Trace, you must have a user account. Oracle provides user account information when you subscribe to the cloud service.

To access the web based application:

1. Open an internet browser and go to: `https://hostname/tntui`

You can find the name of your host in the email you received when you subscribed to the service.

2. Enter your user name and password.
3. Click **Sign In**.

Language Support

The language settings in your web browser are used to determine which language the Sign In page and user interface is displayed.

The following languages are supported for Intelligent Track and Trace.

- Arabic
- Chinese (Simplified)
- Dutch
- French (European)
- German
- Italian
- Japanese
- Korean
- Norwegian
- Portuguese (Brazilian)
- Russian
- Spanish
- Swedish
- Thai
- Turkish
- Vietnamese

How to Get Support

Use these resources to resolve problems:

- Visit the Oracle Help Center at <http://docs.oracle.com/en/>.
- If you're an Oracle Premier Support Customer, visit *My Oracle Support*.
- Contact Oracle Technical Support. See *Contacting Oracle Support* in *Getting Started with Oracle Cloud*.

3 Get to Know Oracle Intelligent Track and Trace Cloud Service

Get to Know Intelligent Track and Trace

Intelligent Track and Trace is a blockchain application that enables you to manage, track, trace and monitor transaction documents in your supply chain business network.

Intelligent Track and Trace takes advantage of the power of Oracle Blockchain Platform. Transaction documents exchanged between supply chain participants are securely and permanently recorded in an immutable ledger. Highest level of encryption and data protection policy is used to share sensitive data with all stakeholders. Data sharing increases transparency and product traceability.

About Oracle Intelligent Track and Trace Cloud Service

One of the major challenges in the current supply chain models used in the industry is tracking transaction assets across multiple trading partners. Due to lack of transparency and visibility between the various parties involved in the supply chain, maintaining asset information continuity across enterprise boundaries is arduous.

Blockchain technology enables the network of business partners to agree upon key pieces of information which can be shared across organization boundaries. This fosters a trust relationship between supply chain participants, ensuring smooth movement of non-repudiable information.

Intelligent Track and Trace builds on the Oracle Blockchain Platform to enable end-to-end traceability of assets, products, and transaction documents in supply chains to reduce delays and automate record keeping. This business-ready blockchain application provides a digital ledger of products, documents, and movement of all these assets in your business network. You can now track and manage each of your transaction data and assets in real time, define policy and exceptions, resolve disputes, improve regulatory compliance, and gain business insights using advanced analytics.

Business Benefits

- **Product Tracking:** Intelligent Track and Trace enables you to track all the activities in a typical supply chain. It also provides the tracking of lot-controlled and serial-controlled items and packages and can track events across sourcing, manufacturing, storage, sale, shipment, or returns. This capability to track events affecting serial or lot-controlled items enables Intelligent Track and Trace to support comprehensive backward or forward trace for any given product. You can scroll through complete history of all related transaction documents and environmental (IoT) data in a complex supply chain spanning multiple organizations. For example, a pharmaceutical company manufacturing vaccines can track raw material, such as vials, arrivals from suppliers. It can track current location of the raw material, shipping details, quality and condition (temperature/humidity etc.) of the raw material delivered.
- **Dispute Resolution:** Using Intelligent Track and Trace you can setup rules and policies in the form of complex smart contracts and can track compliance and exceptions. In case of any dispute, you can track and trace back to the root cause. For example, a doctor in hospital determines that the consistency of vaccine is unusual. As a pharmaceutical company manufacturing vaccines, you can trace through the supply chain to find what went wrong.
- **Business Insights and Analytics:** Intelligent Track and Trace offers cross-organization business insights at various level of details, starting from the bird's eye view of the business network, to full visibility of

all transaction documents. The application also provides the ability to drill down to specific transaction documents, such as those with failed smart contract business rules. You can view issues with smart contracts in any part of the supply chain to downstream organizations, calculate statistics based on end-to-end view, and predict delays or yield issues.

Understand the Building Blocks

Intelligent Track and Trace includes multiple business personas, entities and objects that form the foundation of any supply chain network. To harness the full potential of the Intelligent Track and Trace application, you must understand these key building blocks and how they interact with each other.

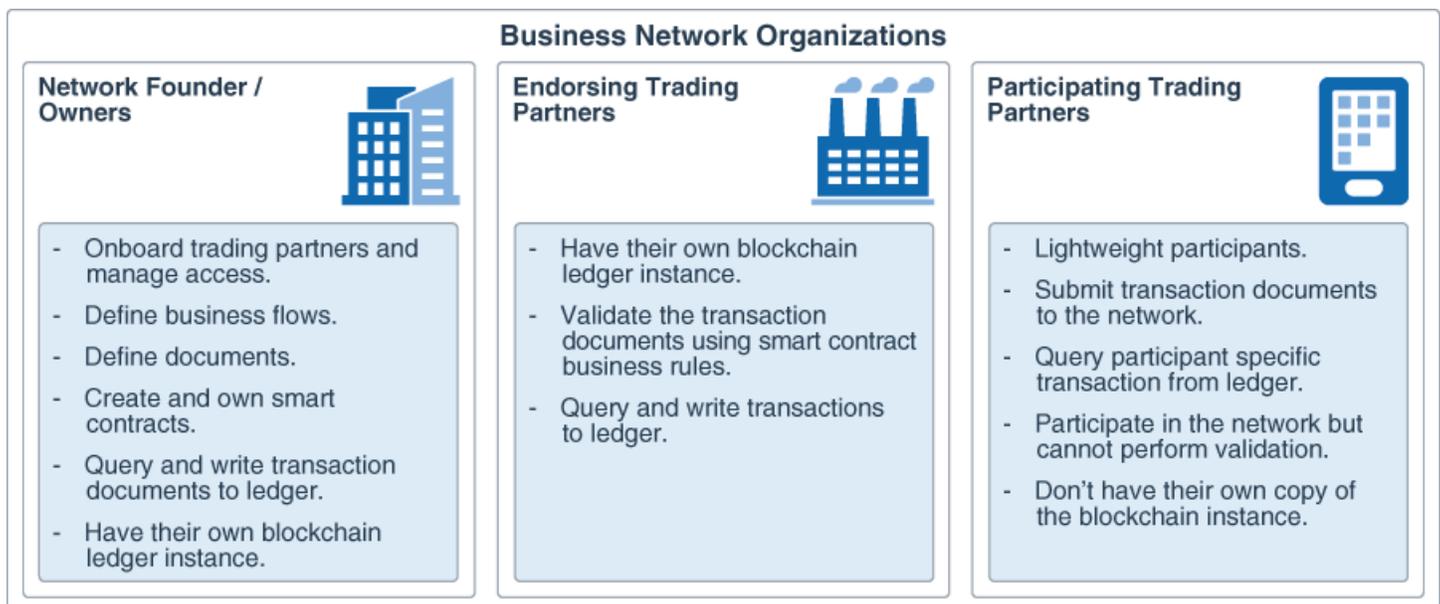
The following sections introduce the building blocks of this application.

- *Trading Partners*
- *Documents*
- *Business Flows*

Organizations

Trading partners are entities that do business together. In a supply chain network, trading partner participates in transactions such as creating purchase orders, processing sales order, tracking shipments etc. These are key personas in Intelligent Track and Trace that forms the business network and exchange transaction documents.

In Intelligent Track and Trace, trading partners are digital placeholders of your business partners. Based on the role trading partners plays your network, they are classified into three types.



Founder is the owner of the business network. They create the network and invite the other organizations (endorsing and participating partners) to join the network. Founder on-boards the partners of different types, and manages access. Being the owner of the network, founder has its own dedicated ledger, can define own set of rules and policies, manage

and validate all transaction documents written to the ledger, and has visibility across all the documents exchanged in the supply chain.

Endorsing Trading Partners are participants along with founder in the business network. Each transaction may have one or more organizations as the participants. Like Founder, they can have their own dedicated ledgers, maintain their own set of rules and policies, validate the transaction documents they own, and manage what is written to their ledger.

Participating Trading Partners are the lightweight organizations that do not have dedicated ledgers. They submit documents for the business steps they are identified as submitter by the founder. They have limited visibility to the network and business processes, and cannot perform any validations.

Documents

Any transaction carried out in a supply chain always has an associated document which is used to record the transaction data. It also captures all the relevant information related to the transaction which can be later used for tracking and tracing.

Supply chain operations comprise of complex logistical exercises involving multiple agencies including buyers, sellers, transporters, shipping lines, customs departments etc. This supply chain network may extend beyond domestic and global boundaries of all countries. The movement of assets from the origin to its destination requires engagement and interaction with all of the business network partners who have a stake in a transaction. Partners actively engage, and have visibility to information and documentation involved at each step of the supply chain. Therefore, maintenance of standardized documentation becomes an integral part of any supply chain transaction.

Exchange of information in the form of standardized documents not only facilitates in building trust relationships between multiple partners, it also ensures traceability of assets and associated information which may be required for complex decision making, such as dispute resolution etc.

Intelligent Track and Trace application ingests and processes these standardized documents received during the various business flow steps. It produces a generic document which capture all key attributes of the input business document including any relationships that the input document may have. This transformation of the standard document to a generic one, depends on the document type and mapping that you provide when defining the steps of a business flow. You can learn more about document types and mappings supported by Intelligent Track and Trace in [Define Document Types](#).

Business Flows

A Business Flow represents a set of steps involved in the core business processes of a supply chain, such as procurement, manufacturing, distribution, sales etc.

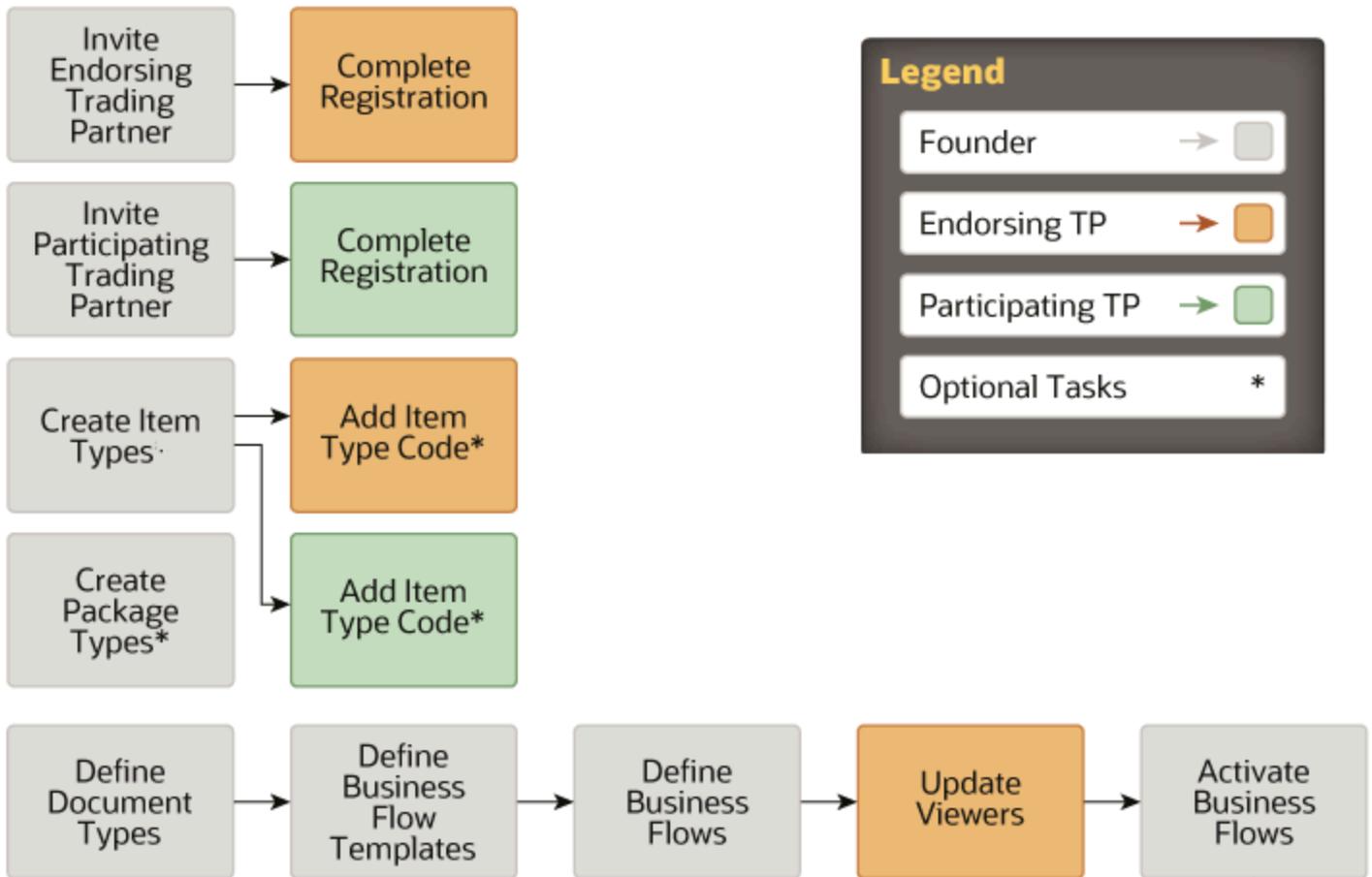
A typical business flow in Intelligent Track and Trace is a logical grouping of business process steps that describe an interaction between two or more trading partners. Each step of a business flow has an associated document which is submitted by the identified trading partner. The submitted document is processed by the Intelligent Track and Trace and is recorded securely in appropriate distributed ledgers along with extracted key attributes.

Intelligent Track and Trace keeps track of all processed documents and correlates each document to appropriate business flow. For more information on business flows, see [Configure Business Flows](#)

Typical Workflow to Use Oracle Intelligent Track and Trace Cloud Service

As a founder, to start using Intelligent Track and Trace you first need to setup and configure your business network, business flows, products, and associated documents. Once configured, you can start tracking and tracing all your assets.

The image represents the workflow for implementing Intelligent Track and Trace.



Tasks	Description	More Information
Invite Endorsing Trading Partners	Send invites to the endorsing trading partners in your network to join Intelligent Track and Trace .	<i>Invite an Endorsing Trading Partner</i>
Invite Participating Trading Partners	Send invites to the participating trading partners in your network to join Intelligent Track and Trace .	<i>Invite a Participating Trading Partner</i>

Tasks	Description	More Information
Complete Registration	As a participating or endorsing trading partner, complete the registration process and setup Intelligent Track and Trace .	Join Founder's Network - Endorsing Trading Partner Join Founder's Network - Participating Trading Partner
(Optional) Define Package Types	As a founder admin, define different package types or containers if required.	Add and Manage Package Types
Define Item Types	As a founder admin, define the item types that map to the lot-controlled or serial-controlled products in your supply chain.	Add and Manage Item Types
(Optional) Add Item Type Code	As an endorsing or participating trading partner, for an existing item type, specify an item type code that you use for referencing them in your documents.	Add Item Type Code
Define Document Types	Add new document types to associate them to business flow steps. For each document type added, you have to upload JSON schema, define mapping template, schema and simulator template.	Create a New Document Type
Define Business Flow Templates	Create templates which define the steps involved in supply chain business flows in your organization. These templates will then be used to create business flow instances for products with specific trading partners.	Create a Business flow Template
Define Business Flows	Create business flows from business templates. You can setup the visibility of trading partners at step level. Business flows enable you to track your assets involving specific trading partners and vendors.	Create a New Business Flow Instance
Update Viewers	As an endorsing trading partner, add the viewers for the business flow steps for which you have been identified as the document submitter.	Configure Business Flow Steps
Validate and Activate Business Flow	Activate the business flows by enabling document submission.	Activate a Business Flow

Once you have completed configuring Intelligent Track and Trace , the application starts ingesting documents received for the defined business flows. Depending upon your role in the network, you can monitor and manage your assets, serial or lot-controlled products, and documents. For more information, see [Track Your Assets and Documents](#).

4 Configure Oracle Intelligent Track and Trace

This part contains the following chapters:

- *User Management*
- *Define Document Types*
- *Add Business Flow Templates*
- *Configure Business Flows*
- *Add and Manage Item Types*
- *Add and Manage Package Types*
- *Configure Integrations*
- *Configure Report Templates*
- *Configure Settings*
- *Configure User Defined UOM Codes*
- *Endorsing Trading Partner Tasks*
- *Participating Trading Partner Tasks*
- *VSCoDe Extension for Oracle Intelligent Track and Trace*
- *Create Custom Applications using Visual Builder Studio*

User Management

Topics

- *Configure Trading Partner*
- *Manage Users*
- *Fine-grained Access Control*

Configure Trading Partner

Access to Intelligent Track and Trace is determined by the role of peer partner in the founder supply chain network. As a founder or peer trading partner, you must understand the various user roles you can assign within your Intelligent Track and Trace instance.

Topics:

- *Understand Roles and Users*
- *Understand User Quota*

Tasks performed by the **Founder**

Topics

- *Invite an Endorsing Trading Partner*
- *Invite a Participating Trading Partner*
- *View Trading Partner Details*
- *Edit Trading Partner Details*
- *Add Trading Partner Location*

Tasks performed by the **Trading Partners**

Topics

- *Endorsing Trading Partner Tasks*
- *Participating Trading Partner Tasks*

Understand Roles and Users

How you interact with Intelligent Track and Trace depends on two aspects—your organization's role within the business network, and your role within the organization.

Intelligent Track and Trace supports three types of organizations in the business network— founder, endorsing trading partner, and participating trading partner. Founder is the owner of the Intelligent Track and Trace instance, and is responsible for inviting the trading partners to join and register with the application. Apart from organization's role, founder and each of the trading partners are also responsible for creating appropriate user roles. The visibility of the application's features and functionality depends on the user role granted to you. For each organization type, Intelligent Track and Trace has a predefined set of user groups:

- Founder
 - **Administrator:** The application administrator configures and maintains the application. Users with this role have super-user privileges. An administrator can create, modify, delete and maintain all the entities in the business network. It has visibility to track and trace all the business assets, and view end-to-end matrices, analytics and business insights collected and calculated by Intelligent Track and Trace.
 - **Integration User Group:** The application user can only post transaction documents using the published REST API. As an integration user, you cannot login to the application, or perform any operation.
 - **Web Application User Group:** All users in the founder organization assigned this role.
- Endorsing Trading Partners
 - **Administrator:** The application administrator can do everything with the domain of the endorsing trading partner.
 - **Integration User Group:** The application user can only post transaction documents using REST APIs, within the domain of the endorsing trading partner. As an integration user, you cannot login to the application, or perform any operation.
 - **Web Application User Group:** Users with this role are basic users of endorsing trading partner organization.
- Participating Trading Partners
 - **Administrator:** The application administrator can do everything with the domain of the participating trading partner.

- o **Integration User Group** : The application user can only post transaction documents using REST API, within the domain of the participating trading partner.
- o **Web Application Group**: Users belong to this group are basic users of participating trading partner organization

Permissions	Founder			Endorsing Trading Partner			Participating Trading Partner		
Functionality	Web Application Users	Integration Users	Admin	Web Application Users	Integration Users	Admin	Web Application Users	Integration Users	Admin
Runtime	Yes	No	Yes	Yes*	No	Yes	Yes	No	Yes
Configuration	No	No	Yes	No	No	Yes*	No	No	No
Simulation	No	No	Yes	No	No	No	No	No	No
Trading Partner Management	No	No	Yes	No	No	No	No	No	No
User Management	No	No	Yes*	No	No	Yes*	No	No	Yes*
Post Documents	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*

Yes* – These operations are permitted but only for their own organization. For example, Endorsing Trading Partner Admins can modify the configuration for business flow steps for which their organization is assigned as submitter.

Understand User Quota

A user quota is allocated to the founder as part of the Intelligent Track and Trace subscription. User quota specifies the number of individual users subscribed by the founder. There are two types of users which you can purchase—Universal and Participating users.

Universal Users

Total number of universal users refers to the total individual users allocated to the founder during subscription. Universal users can be founder users, or endorsing trading partner users. The division of the allocated user quota amongst the trading partners is the responsibility of the founder. As part of inviting endorsing trading partner, founder can allocate a certain number of users from this universal user pool. That trading partners can create only the number of users that founder has allocated.

Once the founder allocates the users to the trading partners, the universal quota count includes these allocated users, irrespective of whether the trading partners have used their allocated quota or not. In case the number of users have increased, founder can also buy more universal users.

Participating Trading Partner Users

Apart from universal users, Intelligent Track and Trace enables the founder to buy additional participating partner users. Participating users can be allocated to only participating trading partners, or to create new participating partners. If the founder has purchased participating users, the users allocated when inviting participating users are counted as part of this quota. However, if the participating quota is exhausted, any additional participating users are allocated from the universal user quota.

When a user quota (universal and participating partner users) is assigned to the founder, the founder has the flexibility to divide the quota among the trading partners, and reserve a few for himself. The trading partner in turn has the responsibility of creating its own users. The users created can have the role of – application user, admin, or user.

For example, a founder is assigned a quota of 20 universal users, and 10 participating users. The founder allocates 4 participating users each to two different participant trading partners. Now, the total number of available participant users are 2, and available universal users are 20. If the founder allocates additional 5 users to participating trading partners, then the total number of available participating users is 0 and available universal users is 17 (3 of these are used as participating partner users).

The division of user quota is driven by the needs of the founder's business network. Intelligent Track and Trace provides full flexibility to the founder on how the quota is divided.

Invite an Endorsing Trading Partner

Invite endorsing trading partner to join the founder network.

As a founder, you on-board other peer organizations by sending them invites to join and register to Intelligent Track and Trace.

1. Click **Menu** () and then click **Configurations**.
2. Click **Users Management** ().
3. Under **Trading Partners** tab, click **Invite**.
4. In the **Invite Trading Partner** drawer, under **Details**, specify trading partner name, type, and business roles to be assigned.
5. Under **Primary User**, specify the trading partner user details who will be granted the administrative privileges.
The email address is where Intelligent Track and Trace will send a welcome email. The admin user of the endorsing trading partner will follow the instructions mentioned in the welcome email to join the founder network.
6. Under **Users**, specify the number of users you want to allocate to this endorsing trading partner.
7. Under **Primary Address**, enter the trading partner address, if the entry matches the exact address, the GPS coordinates appear for your confirmation. If coordinates do not match, use location map to select the trading partner location, that includes, trading partner address and the GPS coordinates.

Note: If no GPS coordinates are found, then Address not found message appears.

If the selected location does not match any specific address, then the closest location details, such as area/region, state, country, and GPS coordinates will be used.

Use the location card to edit trading partner address. In this case, the GPS coordinates and location PIN details will not change.

On the location map, you can drag the PIN to a different location and the corresponding address based on new pin location, will be updated.

8. Click **Invite**.

Results:

An invitation email is sent to the endorsing trading partner at the email address provided under Primary User area. The primary user is the admin user which has permission to perform all operations in the trading partner domain. The admin user should follow the instructions provided in the email and register with Intelligent Track and Trace to join the founder network.

Invite an Participating Trading Partner

Invite a participating trading partner to join the founder network.

1. Click **Menu** () and then click **Configurations**.
2. Click **Users Management** ().
3. Under **Trading Partners** tab, click **Invite**.
4. In the **Invite Trading Partner** drawer, under **Details**, specify trading partner name, type, and business roles to be assigned.
5. Under **Primary User**, specify the trading partner user details who will be granted the administrative privileges.
The email address is where Intelligent Track and Trace will send a welcome email. The admin user of the endorsing trading partner will follow the instructions mentioned in the welcome email to join the founder network.
6. Under **Users**, specify the number of users you want to allocate to this endorsing trading partner.
7. Under **Primary Address**, use location map to select the trading partner location, that includes, trading partner address and the GPS coordinates.

Note: If no GPS coordinates are found, then Address not found message appears.

If the selected location does not match any specific address, then the closest location details, such as area/region, state, country, and GPS coordinates will be used.

Use the location card to edit trading partner address. In this case, the GPS coordinates and location PIN details will not change.

On the location map, you can drag the PIN to a different location and the corresponding address based on new pin location, will be updated.

8. Click **Invite**.

Results:

An invitation email is sent to the participating trading partner at the email address provided under Primary User area. The primary user should follow the instructions provided in the email and register with Intelligent Track and Trace to join the founder network.

View Trading Partner Details

View details about a trading partner, including its status, role, users allocated, and locations.

1. Click **Menu** () and then click **Configurations**.
2. Click **Users Management** ().

The **Trading Partners** tab under **Configurations : User Management** shows the list of Trading Partners along with all the relevant information:

3. Select the any Trading Partner from the trading partner list or click **Show Details** under **Actions** to view the complete information of the selected trading partner.
 - o **Status:** Indicates the status of the trading partner. Status can be any one of the following values - Invited, Activated, or Registered.
 - o **Type:** Indicates the trading partner category.
 - o **Users:** The value is displayed in the format—**Total users allocated/Users currently configured**.
 - o **Roles:** Specifies the role of the trading partner. The value of this field is customer defined, and is populated when you add the trading partner to the network.
 - o **Primary User:** Email and contact details of the admin user.
 - o **Primary Address:** Specifies the primary or secondary location of the trading partner.

Note: The location card allows you to edit the primary or secondary trading partner location. The delete option is available only for the secondary location.

Note: Users with **Trading Partner View - Provides read-only access to Trading Partners Configuration page** will only have viewing access to the trading partners details page. In this case, the **Edit details** and **Add Location** options are not available.

Edit Trading Partner Details

1. Click **Menu** () and then click **Configurations**.
2. Click **Users Management** ().
3. On the **Trading Partners** dashboard, click trading partner name or click **Show Details** under **Actions**.
4. Click **Edit Details** to update **Name**, **Roles**, and **Users** data.
5. Use the edit  icon to update the primary or secondary location.
6. Click **Save** and wait until the **Save successful** message is displayed.
7. Click **Cancel** to return to the trading partner details page.
8. Click **User Management** to return to the **Trading Partners** dashboard.

Add Trading Partner Location

Add location for a trading partner. For each trading partner you can add multiple locations.

1. Click **Menu** () and then click **Configurations**.
2. Click **Users Management** ().
3. On the **Trading Partners** dashboard:
 - o Click trading partner name and then from the trading partner details page, click **Add Location**.
 - o Click **Add Location** under **Actions**.
4. Click the **Delete**  icon against the location you want to remove.
5. Provide trading partner **Name**, location, and **Location ID** details.
Use edit address icon from the location card to make necessary changes, if required.
To define a custom business ID type, see [Define Business ID Types](#).

6. Click **Save** and wait until the **Save successful** message is displayed.
7. Click **Cancel** to return to the trading partner details page.
8. Click **User Management** to return to the **Trading Partners** dashboard.

Manage Users

You can create new users and can also add an existing Oracle Identity Cloud Service user to the application.

When creating users you should bear in mind that universal user quota is sum of—number of endorsing trading partners, number of users allocated to the trading partner, number of founder users, and spill over participating user quota (if any). The participating user quota spills into the universal quota in case it exceeds the participating users purchased by the founder. You can also purchase additional user quota if you think current quota does not meet the needs of your business networks.

Topics:

- [Add a New User](#)
- [Edit a User](#)
- [Dissociate a User](#)
- [Reset Password for a User](#)
- [View Users](#)
- [Add an Existing Oracle IDCS User](#)
- [Generate an Application Token](#)
- [Delete an Application Token](#)

Add a New User

Create a new user and assign a predefined or custom group.

1. Click **Menu** () and then click **Configurations**.
 2. Click **Users Management** ().
 3. Under **Users** tab, click **Add User**.
 4. Complete these fields under **Personal** area:
 - **First Name:** Enter the name of the user
 - **Last Name:** Enter the surname
 - **Assign Group:** Select one or more groups from the drop-down list:
The default groups are:
 - **ADMIN**
 - **APP_USER**
 - **USER**
- For more information on user groups, see [Permission Groups](#).
5. Complete these fields under **Login** area:
 - **Email:** Enter the user email address

- (Optional) Select **Use the email address as the username**
6. Complete these fields under **Contact** area:
 - (Optional) **Phone**: Enter the user phone number
 - (Optional) **Street**: Enter the user street address
 - (Optional) **City**: Enter the user city
 - (Optional) **State**: Enter the user state
 - (Optional) **Zip**: Enter the user zip code
 - (Optional) **Country**: Enter the user country
 7. Click **Save** and wait until a **Save successful** message is displayed.
 8. Click **Close** to return to the **User Management** dashboard.

Edit a User

1. Click **Menu** () and then click **Configurations**.
2. Click **Configurations : User Management** ().
3. Select the user you want to edit and click **Edit User** ().
4. Complete required changes under **Personal** area:
 - **First Name**: Enter the name of the user
 - **Last Name**: Enter the surname
 - **Assign Group**: Select one or multiple groups from the drop-down list:

The default groups are:
 - **ADMIN**
 - **APP_USER**
 - **USER**
5. Complete the required changes under **Login** area:
 - **Email**: Enter the user email address.
 - (Optional) Click **Send New Temporary Password**.
 - (Optional) Select **Use the email address as the username**.
6. Complete required changes under **Contact** area:
 - (Optional) **Phone**: Enter the user phone number
 - (Optional) **Street**: Enter the user street address
 - (Optional) **City**: Enter the user city
 - (Optional) **State**: Enter the user state
 - (Optional) **Zip**: Enter the user zip code
 - (Optional) **Country**: Enter the user country
7. Click **Save** and wait until a **Save successful** message is displayed.
8. Click **Close** to return to the **User Management** dashboard.

Dissociate a User

Every user in the application is an Oracle Identity Cloud Service (idcs) user. When you need to remove a user from the application, you can dissociate the user, which will not delete the user from IDCS.

1. Click **Menu** () and then click **Configurations**.
2. Click **User Management** ().
3. Under **Users** tab, select the user you want to delete from the list of users displayed.
4. Click **Dissociate User** () next to the user you want to disassociate.
5. On the **Confirm Disassociate** page, click **Dissociate**.

Reset Password For a User

1. Click **Menu** () and then click **Configurations**.
2. Click **User Management** ().
3. Under **Users** tab, select the user for which you want to reset the password.
4. Click **Reset Password** () next to the name of the user.

View Users

1. Click **Menu** () and then click **Configurations**.
2. Click **User Management** ().
3. Under **Configurations : User Management** dashboard, you can see the list of configured users displayed with **Name, Username, Groups, Phone**. The **Name** column displays the full name including the name and surname of the user. The user list includes:
 - o Admin users of trading partners
 - o All the users in the founder organization

The **User Menu** () on the bottom right corner, displays your username, the name of your organization, and also allows you to sign out from the instance.

Add an Existing Oracle IDCS User

A founder admin can add an existing Oracle Identity Cloud Service user to the application and assign a role.

1. Click **Menu** () and then click **Configurations**.
2. Click **User Management** ().
3. Click **Filter** and from the drop-down list select **Show Users**.
4. Click the adjacent drop-down list and select **IDCS Users**.
5. From the list of users, identify the IDCS user that you need to add to the application, and click **Edit** ().

6. Complete these fields under **Personal** area:
 - o **First Name:** Enter the name of the user
 - o **Last Name:** Enter the surname
 - o **Assign Group:** Select one or multiple groups from the drop-down list:

The default groups are:
 - **ADMIN**
 - **APP_USER**
 - **USER**
7. Complete these fields under **Login** area:
 - o **Email:** Enter the user email address
 - o (Optional) Click **Send New Temporary Password**
8. Complete these fields under **Contact** area:
 - o (Optional) **Phone:** Enter the user phone number
 - o (Optional) **Street:** Enter the user street address
 - o (Optional) **City:** Enter the user city
 - o (Optional) **State:** Enter the user state
 - o (Optional) **Zip:** Enter the user zip code
 - o (Optional) **Country:** Enter the user country
9. Click **Save** and wait until the **Save successful** message is displayed.
10. Click **Close** to return to the **User Management** dashboard.

Results:

On the **Users** page, the IDCS user is displayed in the list.

Generate an Application Token

A user can generate application tokens that can be used by external applications to connect to Intelligent Track and Trace and invoke Intelligent Track and Trace REST APIs. A trading partner administrator can generate application tokens for all the users of the trading partner.

Application tokens are used by external applications or an Intelligent Track and Trace OIC (Oracle Integration Cloud) adapter to connect securely with Intelligent Track and Trace. This method replaces the use of Oracle Identity Cloud Service (IDCS) credentials for authentication of external applications or adapters. When an integration is configured between the OIC adapter and Intelligent Track and Trace, a user can generate an application token which can then be used by the integration adapter to generate the access token.

1. Sign in to Oracle Intelligent Track and Trace using your credentials.
2. Click **User Menu** () and select **Application Tokens**.
The **Application Tokens** page displays the list of application tokens that the logged-in user has generated.

3. Click **Generate Application Token** ().

The **Generate Application Token** page displays the new application token and the **Token Description** field displays the date and time of the generation.

4. Click **Copy Application Token** to copy the token to your system's clipboard, which you can paste on the integration configuration screen.
5. If you have signed in as an administrator of a trading partner, then complete these steps to generate an application token for any user of the trading partner:
 - a. Click **Menu** () and then click **Configuration**.
 - b. Click **User Management** ().
 - c. On the **Users** page, identify the user for which you need to generate an application token and click **Generate Application Token** () for the user.
 - d. Click **Generate Application Token** ().
 - e. Click **Copy Application Token** to copy the token to your system's clipboard, which you can paste on the integration configuration screen.

Delete an Application Token

A user can generate or delete application tokens which can be used by external applications to connect to Intelligent Track and Trace and invoke Intelligent Track and Trace REST APIs. A trading partner administrator can generate or delete application tokens for all the users of the trading partner.

As a user of a trading partner you should have generated application tokens or as an administrator of a trading partner, you should have generated application tokens for one or more users of the trading partner.

1. Sign in to Intelligent Track and Trace using your credentials.
2. Click **User Menu** () and select **Application Tokens**.
The **Application Tokens** page displays the list of application tokens that the logged-in user has generated.
3. Identify the token to delete from its description that displays the date and time of its generation. Click **Revoke Token** () for that token.
A **deleted successfully** message is displayed along with the token description.
4. If you have signed in as an administrator of a trading partner, then complete these steps to delete an application token for any user of the trading partner:
 - a. Click **Menu** () and then click **Configuration**.
 - b. Click **User Management** ().
 - c. On the **Users** page, identify the user for which you need to delete an application token and click **Generate Application Token** () for the user.
 - d. Identify the token to delete from its description that displays the date and time of its generation. Click **Delete** () for that token.
A **deleted successfully** message is displayed along with the token description.

Access Control

Fine-grained access control is a function-specific permission model to control access to various application functions within Intelligent Track and Trace application.

As an administrator, you define different access configurations based on the user groups and associated permissions assigned to those groups. This enables various users in your organization to access specific components as a member of the group.

Fine-grained access control involves the following:

- Manage (Create, Edit, Delete) Groups
- Add or remove permissions to the groups
- Assign or Unassign users to one or more groups

Any user of the Intelligent Track and Trace application must be a member of at least one group. The two key components of fine-grained access control are:

Topic

- *User Permissions*
- *Permission Groups*

User Permissions

Permissions are authorizations to allow access to each application component. You must have required permissions to perform a specific action or a series of actions associated with a task.

Example Use case

For a business flow, some non-admin users in your organization only need to submit documents or trace items ingested in to the application. As an administrator, you assign permissions to users only to submit documents or to trace items.

Permission Types

Permissions define the level of access rights available to you. These are:

- **Administrative permissions:** Administrative permissions are mapped to administrator functions. For example, an admin user may have full configuration access or limited configuration access within Intelligent Track and Trace application.
- **Non-Administrative permissions:** Non-Administrative permissions can be function specific as per business requirement. For example, a non-admin user may have read-only permissions to selective functions.

Transitive permissions

Some permissions depend on other permissions to also be granted. As a user, instead of selecting all the dependent permissions manually, the application determines the dependencies and automatically grants these permissions. This piggy-backing approach further enhances the fine-grained access control capabilities with additional permissions assigned implicitly along-with main permissions.

For example, for a user to invite new trading partners via configurations page, the user must have the trading partner read permission. Here, `TRADING PARTNER READ` permission is a transitive (add-on) permission with `TRADING PARTNER WRITE` permission.

Permission Definitions

To control access to various functions, you create permission groups and then assign users to the groups. The permissions that you assign vary depending on the type of function you need to access.

The following table shows the permission mapping to **ADMIN**, **APP_USER**, and **USER** groups: For more information on user groups, see *Permission Groups*.

UI Function	Permission	Admin	Admin	User	App_ User	Transitive Permissions	Description
Configuration	TRADING_PARTNER_READ	No	Yes	Yes	No	USER_READ, GLOBAL_APP_SETTINGS_READ	Read-only access to Trading Partners Configuration page
	TRADING_PARTNER_WRITE	Yes	Yes	No	No	TRADING_PARTNER_READ	Read-write access to Trading Partners Configuration page
	DOCUMENT_TYPE_READ	No	Yes	Yes	No		Read-only access to Document Types Configuration page
	DOCUMENT_TYPE_WRITE	Yes	Yes	No	No	DOCUMENT_TYPE_READ	Read-write access to Document Types Configuration page
	FLOW_DEFINITION_READ	No	Yes	Yes	No	DOCUMENT_TYPE_READ, TRADING_PARTNER_READ	Read-only access to Business Flow Templates and Business Flows Configuration pages
	FLOW_DEFINITION_WRITE	Yes	Yes	No	No	FLOW_DEFINITION_READ	Read-write access to Business Flow Templates and Business Flows Configuration pages
	SMART_CONTRACT_READ	Yes	Yes	Yes	No	FLOW_DEFINITION_READ, EVENT_ACTION_READ, UOM_READ	Read-only access to Smart Contracts Configuration page
	SMART_CONTRACT_WRITE	Yes	Yes	No	No	SMART_CONTRACT_READ	Read-write access to Smart Contracts Configuration page
	DOCUMENT_INTEGRATION_ENDPOINT_READ	Yes	Yes	Yes	No	FLOW_DEFINITION_READ	Read-only access to Document Integration Endpoints page
	DOCUMENT_INTEGRATION_ENDPOINT_WRITE	Yes	Yes	No	No	DOCUMENT_INTEGRATION_ENDPOINT_READ	Read-write access to Document Integration Endpoints page
	DOCUMENT_INTEGRATION_DEFINITION_READ	Yes	Yes	No	No	FLOW_DEFINITION_READ	Read-only access to Document Integrations and Activity Log page
	DOCUMENT_INTEGRATION_DEFINITION_WRITE	Yes	Yes	No	No	DOCUMENT_INTEGRATION_DEFINITION_READ, DOCUMENT_INTEGRATION_ENDPOINT_WRITE	Read-write access to Document Integrations and Activity Log page
	OUTBOUND_CONNECTION_READ	Yes	Yes	Yes	No		Read-only access to Connections page
	OUTBOUND_CONNECTION_WRITE	Yes	Yes	No	No	OUTBOUND_CONNECTION_READ	Read-write access to Connections page
	EVENT_ACTION_READ	Yes	Yes	Yes	No	DOCUMENT_TYPE_READ, OUTBOUND_CONNECTION_READ	Read-only access to Event Actions page
	EVENT_ACTION_WRITE	Yes	Yes	No	No	EVENT_ACTION_READ	Read-write access to Event Actions page
	ITEM_TYPE_READ	Yes	Yes	No	No	UOM_READ	Read-only access to Item Types page
	ITEM_TYPE_WRITE	Yes	Yes	No	No	ITEM_TYPE_CODE_WRITE	Read-write access to Item Types page
	PACKAGE_TYPE_READ	Yes	Yes	No	No		Read-only access to Package Types page
	PACKAGE_TYPE_WRITE	Yes	Yes	No	No	PACKAGE_TYPE_READ	Read-write access to Package Types page
UOM_READ	No	Yes	Yes	Yes		Read-only access to Units Of Measure page	
UOM_WRITE	Yes	Yes	No	No	UOM_READ	Read-write access to Units Of Measure page	

UI Function	Permission	Admin	Admin	User	App_ User	Transitive Permissions	Description
Monitoring	REPORT_TEMPLATES_DEFINITION_READ	Yes	Yes	No	No		Read-only access to Report Templates page
	REPORT_TEMPLATES_DEFINITION_WRITE	Yes	Yes	No	No	REPORT_TEMPLATES_DEFINITION_READ	Read-write access to Report Templates page
	USER_READ	No	Yes	Yes	No		Read-only access to Users page / tab
	USER_WRITE	Yes	Yes	No	No	USER_READ	Read-write access to Users page / tab
	USER_GROUP_READ	Yes	Yes	No	No		Read-only access to Groups page / tab
	USER_GROUP_WRITE	Yes	Yes	No	No	USER_GROUP_READ	Read-write access to Groups page / tab
	GLOBAL_APP_SETTINGS_READ	No	Yes	Yes	No		Read-only access to Settings page
	GLOBAL_APP_SETTINGS_WRITE	Yes	Yes	No	No	GLOBAL_APP_SETTINGS_READ	Read-write access to Settings page
	DOCUMENT_DIAGNOSTICS	Yes	Yes	No	No	UOM_READ	Access to Document Processing Diagnostics page
	NOTIFICATION_READ	No	Yes	Yes	No	UOM_READ	Access to Notifications page
	SMART_CONTRACT_PROPOSAL_READ	Yes	Yes	Yes	No	UOM_READ	Access to Smart Contract Proposal page
SIMULATION	Yes	Yes	No	No	FLOW_DEFINITION_READ, UOM_READ	Covers simulation definition and running of simulations	
Operations	DASHBOARD_READ	No	Yes	Yes	No	FLOW_DEFINITION_READ, UOM_READ	Read-only access to Dashboards and Trading Partner operations pages
	DASHBOARD_WRITE	Yes	Yes	No	No	DASHBOARD_READ	Read-write access to Dashboards and Trading Partner operations pages
	ITEM_TRACE	No	Yes	Yes	No	UOM_READ	Access to Product Tracking operations pages (Packages and Items)
	DOCUMENT_TRACE	No	Yes	Yes	No	DOCUMENT_TYPE_READ, UOM_READ	Access to operations pages Business Flows and Documents
	DOCUMENT_SUBMIT	No	Yes	Yes	Yes	UOM_READ	Access to Document Receiver REST API and Document Endpoints page

All permissions are constrained by trading partner type. For example, **FLOW_DEFINITION_WRITE** grants founder users full access to flow configuration screens, whereas endorser users can access and modify only certain entities. For example, modify viewers of a flow/step where the trading partner is a submitter.

The following table shows the permission mapping based on current trading partner type:

UI Component	Permission	Trading Partner Type	Description
Configuration	TRADING_PARTNER_READ	Founder	Provides read-only access to Trading Partners Configuration page
		Endorser	Doesn't provide any functionality. Should be filtered out
		Participant	Doesn't provide any functionality. Should be filtered out

UI Component	Permission	Trading Partner Type	Description
	TRADING_PARTNER_WRITE	Founder	Provides read-write access to Trading Partners Configuration page
		Endorser	Doesn't provide any functionality. Should be filtered out
		Participant	Doesn't provide any functionality. Should be filtered out
	DOCUMENT_TYPE_READ	Founder	Provides read-only access to Document Types Configuration page
		Endorser	Provides read-only access to Document Types Configuration page
		Participant	Provides read-only access to Document Types Configuration page
	DOCUMENT_TYPE_WRITE	Founder	Provides read-write access to Document Types Configuration page
		Endorser	Doesn't provide any functionality. Should be filtered out
		Participant	Doesn't provide any functionality. Should be filtered out
	FLOW_DEFINITION_READ	Founder	Provides read-only access to Business Flow Templates and Business Flows Configuration pages
		Endorser	Provides read-only access to Business Flows Configuration page.
		Participant	Doesn't provide any functionality. Should be filtered out
FLOW_DEFINITION_WRITE	Founder	Provides read-write access to Business Flow Templates and Business Flows Configuration pages	
	Endorser	Provides read-write access to Business Flows Configuration page. Can edit only the steps where the ENDORSER is a submitter and can edit viewers only if it's allowed on a Trading Partner level.	
	Participant	Doesn't provide any functionality. Should be filtered out	
SMART_CONTRACT_READ	Founder	Provides read-only access to Smart Contracts Configuration page	
	Endorser	Provides read-only access to Smart Contracts Configuration page.	
	Participant	Doesn't provide any functionality. Should be filtered out	
SMART_CONTRACT_WRITE	Founder	Provides read-write access to Smart Contracts Configuration page. (Founder can update contracts only when it's an author.)	

UI Component	Permission	Trading Partner Type	Description
		Endorser	Provides read-write access to Smart Contracts Configuration page. (Endorser can update contracts only when it's an author.)
		Participant	Doesn't provide any functionality. Should be filtered out
	DOCUMENT_INTEGRATION_ENDPOINT_READ	Founder	Provides read-only access to Document Integration Endpoints Configuration page.
		Endorser	Provides read-only access to Document Integration Endpoints Configuration page.
		Participant	Provides read-only access to Document Integration Endpoints Configuration page.
	DOCUMENT_INTEGRATION_ENDPOINT_WRITE	Founder	Provides read-write access to Document Integration Endpoints Configuration page.
		Endorser	Provides read-write access to Document Integration Endpoints Configuration page.
		Participant	Provides read-write access to Document Integration Endpoints Configuration page.
	DOCUMENT_INTEGRATION_DEFINITION_READ	Founder	Provides read-only access to Document Integrations Configuration page and Integrations tab on Activity Log Monitoring page.
		Endorser	Provides read-only access to Document Integrations Configuration page and Integrations tab on Activity Log Monitoring page.
		Participant	Provides read-only access to Document Integrations Configuration page and Integrations tab on Activity Log Monitoring page.
	DOCUMENT_INTEGRATION_DEFINITION_WRITE	Founder	Provides read-write access to Document Integrations Configuration page and Integrations tab on Activity Log Monitoring page.
		Endorser	Provides read-write access to Document Integrations Configuration page and Integrations tab on Activity Log Monitoring page.
		Participant	Provides read-write access to Document Integrations Configuration page and Integrations tab on Activity Log Monitoring page.
	OUTBOUND_CONNECTION_READ	Founder	Provides read-only access to Connections Configuration page
		Endorser	Provides read-only access to Connections Configuration page
		Participant	Doesn't provide any functionality. Should be filtered out
	OUTBOUND_CONNECTION_WRITE	Founder	Provides read-write access to Connections Configuration page

UI Component	Permission	Trading Partner Type	Description
		Endorser	Provides read-write access to Connections Configuration page
		Participant	Doesn't provide any functionality. Should be filtered out
	EVENT_ACTION_READ	Founder	Provides read-only access to Event Action Configuration page
		Endorser	Provides read-only access to Event Action Configuration page
		Participant	Doesn't provide any functionality. Should be filtered out
	EVENT_ACTION_WRITE	Founder	Provides read-write access to Event Action Configuration page
		Endorser	Provides read-write access to Event Action Configuration page
		Participant	Doesn't provide any functionality. Should be filtered out
	ITEM_TYPE_READ	Founder	Provides read-only access to Item Types Configuration page and Uploads tab on Activity Log Monitoring page.
		Endorser	Provides read-only access to Item Types Configuration page.
		Participant	Provides read-only access to Item Types Configuration page.
	ITEM_TYPE_WRITE	Founder	Provides read-write access to Item Types Configuration page and Uploads tab on Activity Log Monitoring page.
		Endorser	Provides read access to Item Types Configuration page and write access to Trading Partner specific item Type code on this page
		Participant	Provides read access to Item Types Configuration page and write access to Trading Partner specific item Type code on this page
	PACKAGE_TYPE_READ	Founder	Provides read-only access to Package Types Configuration page.
		Endorser	Provides read-only access to Package Types Configuration page.
		Participant	Provides read-only access to Package Types Configuration page.
	PACKAGE_TYPE_WRITE	Founder	Provides read-write access to Package Types Configuration page.
Endorser		Doesn't provide any functionality. Should be filtered out.	

UI Component	Permission	Trading Partner Type	Description
		Participant	Doesn't provide any functionality. Should be filtered out.
	UOM_READ	Founder	Provides read-only access to Units Of Measure Configuration page
		Endorser	Provides read-only access to Units Of Measure Configuration page
		Participant	Provides read-only access to Units Of Measure Configuration page
	UOM_WRITE	Founder	Provides read-write access to Units Of Measure Configuration page
		Endorser	Doesn't provide any functionality. Should be filtered out
		Participant	Doesn't provide any functionality. Should be filtered out
	REPORT_TEMPLATES_DEFINITION_READ	Founder	Provides read-only access to Report Templates Configuration page.
		Endorser	Provides read-only access to Report Templates Configuration page.
		Participant	Provides read-only access to Report Templates Configuration page.
	REPORT_TEMPLATES_DEFINITION_WRITE	Founder	Provides read-write access to Report Templates Configuration page.
		Endorser	Doesn't provide any functionality. Should be filtered out.
		Participant	Doesn't provide any functionality. Should be filtered out.
	USER_READ	Founder	Provides read-only access to Users tab on User Management Configuration page.
		Endorser	Provides read-only access to Users tab on User Management Configuration page.
		Participant	Provides read-only access to Users tab on User Management Configuration page.
	USER_WRITE	Founder	Provides read-write access to Users tab on User Management Configuration page. Founder can update users which are assigned to it and IDCS users.
		Endorser	Provides read-write access to Users tab on User Management Configuration page.
		Participant	Provides read-write access to Users tab on User Management Configuration page.
	USER_GROUP_READ	Founder	Provides read-only access to Groups tab on User Management Configuration page.

UI Component	Permission	Trading Partner Type	Description
		Endorser	Provides read-only access to Groups tab on User Management Configuration page.
		Participant	Provides read-only access to Groups tab on User Management Configuration page.
	USER_GROUP_WRITE	Founder	Provides read-write access to Groups tab on User Management Configuration page.
		Endorser	Provides read access to Groups tab on User Management Configuration page and write access to manage users group membership..
		Participant	Provides read access to Groups tab on User Management Configuration page and write access to manage users group membership.
	GLOBAL_APP_SETTINGS_READ	Founder	Provides read-only access to Settings Configuration page.
		Endorser	Doesn't provide any functionality. Should be filtered out
		Participant	Doesn't provide any functionality. Should be filtered out
	GLOBAL_APP_SETTINGS_WRITE	Founder	Provides read-write access to Settings Configuration page
		Endorser	Doesn't provide any functionality. Should be filtered out
		Participant	Doesn't provide any functionality. Should be filtered out
	Monitoring	DOCUMENT_DIAGNOSTICS	Founder
Endorser			Provides access to Document Processing Diagnostics Monitoring page.
Participant			Provides access to Document Processing Diagnostics Monitoring page.
NOTIFICATION_READ		Founder	Provides access to Notifications Monitoring page.
		Endorser	Provides access to Notifications Monitoring page.
		Participant	Provides access to Notifications Monitoring page.
SMART_CONTRACT_PROPOSAL_READ		Founder	Provides access to Smart Contract Proposal Monitoring page.
		Endorser	Provides access to Smart Contract Proposal Monitoring page.
		Participant	Doesn't provide any functionality. Should be filtered out
SIMULATION	Founder	Provides read-write access to Simulations Monitoring page	

UI Component	Permission	Trading Partner Type	Description
Operations		Endorser	Doesn't provide any functionality. Should be filtered out
		Participant	Doesn't provide any functionality. Should be filtered out
	DASHBOARD_READ	Founder	Provides access to Trading Partner Operation pages
		Endorser	Provides access to Trading Partner Operation pages
		Participant	Provides access to Trading Partner Operation pages
	DASHBOARD_WRITE	Founder	Provides access to Trading Partner Operation pages
		Endorser	Provides access to Trading Partner Operation pages
		Participant	Provides access to Trading Partner Operation pages
	ITEM_TRACE	Founder	Provides access to Packages and Items Operation pages
		Endorser	Provides access to Packages and Items Operation pages
		Participant	Provides access to Packages and Items Operation pages
	DOCUMENT_TRACE	Founder	Provides access to Documents Operation page and pages related to Business Flows Operations
		Endorser	Provides access to Documents Operation page and pages related to Business Flows Operations
		Participant	Provides access to Documents Operation page and pages related to Business Flows Operations
	DOCUMENT_SUBMIT	Founder	Provides access to Document Submission Operation page
		Endorser	Provides access to Document Submission Operation page
		Participant	Provides access to Document Submission Operation page

Permission Groups

A group is a set of permissions that defines the type of access associated to each component within Intelligent Track and Trace.

About Permission Groups

Fine-grained access control is implemented via permission groups. As a founder admin, you are allowed to:

- Create and edit custom groups
- Assign permissions to groups
- Delete custom groups

As a user, you may be assigned to one or more permission groups. If you are a member of more than one group, you will have the combined access and functionality of all the assigned groups.

Note: A group must contain at least one permission.

Example use case

If you are assigned to permission Group A with one set of permissions and also to permission Group B with another set of permissions, the final set of permissions you are entitled to is the union of all the permissions defined in group A and in group B.

The following table illustrates the multiple group scenario.

Group A	Group B	User X (Group A + Group B)
Document Type View	Notifications	Document Type View
Flow Definition View	Product Tracking	Flow Definition View
Submit Documents	Submit Documents	Submit Documents
Trace Documents	Trace Documents	Trace Documents
		Notifications
		Product Tracking

Types of Permission Groups

There are two types of permission groups:

- **Predefined groups**

Predefined groups are the preconfigured groups. Each group is created with a predefined user type role in your environment. You cannot create, edit, or delete predefined groups. These are:

- ADMIN
- USER
- APP_USER

- **Custom groups**

Custom permission groups define access control based on a user type in your business environment. You can add or modify custom permission groups, add users to these groups, or delete the groups if no users are assigned to it. The two categories are:

- *Administrative User Group*
- *Non-Administrative User Group*

Administrative User Group

With fine-grained access control, you may have full admin privileges or you may have limited admin privileges. For example, based on your role, you are an admin user with access permissions to the entire configuration area or you are an admin user with access limited only to a few components.

Topics

- *Create Administrative Group with Full Admin Privileges*
- *Create Administrative Group with Restricted Admin Privileges*

Non-Administrative User Group

If you are non-admin user, you may only have read-only access to Trading Partners configuration page or to document types configuration page.

Topic

- *Create Non-Administrative Group with Selective Privileges*

Manage Groups

You can create new groups, add permissions to the groups, and can add new users or add an existing Oracle Identity Cloud Service users to these groups.

Managing groups involve:

Topics

- *Create a Group*
- *Assign Users to Groups*
- *Edit a Group*
- *Delete a Group*

Create a Group

Only founder administrator can create and manage groups. A group is a set of permissions and users must be assigned to one or more groups based on the level of access needed.

You create groups with administrative permissions or non-administrative permissions. For more information on groups, see *Permission Groups*.

To create a permissions group:

1. Click **Menu** () and then click **Configurations**.

2. Click **Configurations : User Management** ().
3. Under **Groups** tab, click **Create Group**.
4. Complete these fields under **Details** area:
 - o **Group Name:** Enter the name of the group
 - o **Description:** Enter the short description about the purpose of the group.
 - o **Group Type:** Select any one of the group type as:
 - **Administrative**
 - **Non-Administrative**
5. Under **Assign Permissions** area, select the required permissions that you want to grant to the users of your organization.

Note: A group must have at least one admin or non-admin permission. The transitive permissions are automatically assigned with the main permissions. For more information on transitive permissions, see [User Permissions](#).
6. Click **Create** and wait until a **Save successful** message is displayed.
7. Click **Close** to return to the **User Management** dashboard.
8. From the **Manage Users** page, select the users and assigned to the respective permission groups. See [Assign Users to Groups](#).

Create Administrative Group with Full Admin Privileges

If you are a founder administrator, you get full control over all the functions within Intelligent Track and Trace application.

To obtain full admin privileges, you have two options:

1. Using custom permissions group

1. Create a new custom permission group, see [Create a Group](#).
 - a. Select **Group Type** as **Administrative**.
 - b. Under **Assign Permissions** area, select all the permissions labeled as **Administrative**.
The transitive permissions associated with the main permissions will be assigned automatically.

Note: You must assign at least one administrative permission to the group.

2. Assign User to Predefined Group

2. Assign a new or existing user to the predefined **ADMIN** group. See [Add a New User](#).

Results:

The following image shows that as a founder admin user, you have configuration privileges to all the functions available under **Configurations** module.

Configurations : Trading Partners

Users Available

Universal **11 of 200**

Participating **2 of 100**

Users Created

Founder Users **2**

Participating Trading Partner Users **2**

Endorsing Trading Partner Users **9**

E	Beta Distributor	1 of 1	✓
P	Community Clinic	1 of 1	✓
F	Delta Distributor	2 of 191	✓
E	Gamma Distributor	1 of 1	✓
E	General Hospital	1 of 1	✓
E	SVN Pharmacy	1 of 1	✓
E	Speedy Carrier		✓

Beta Distributor

Type: **ENDORSER**

Status: **REGISTERED**

Roles: **DISTRIBUTION PARTNER**

Locations: **+**

Name	IDs
Columbus DC	DC-ID 34012, PLA
Detroit DC	DC-ID 30120, PLA

Create Administrative Group with Restricted Admin Privileges

Fine-grained access control allows you to define a permission group with limited admin privileges.

Example use case

You need to configure document integrations only. With restricted admin access, you may only have permissions to define document integrations.

To define a permission group with restricted access:

1. Create a new permissions group, see [Create a Group](#).
2. Select **Group Type** as **Administrative**.
3. Under **Assign Permissions** area, select permissions to configure document integrations. For list of available permissions, see [User Permissions](#).

The transitive permissions associated with main permissions will be automatically assigned.

Note: You must assign at least one administrative permission to the group.

Create Non-Administrative Group with Selective Privileges

A non-administrative permissions group offers set of permissions required for non-admin users. The permissions are function specific based on the action to be completed.

Consider the following use cases for non-admin permission groups.

1. Use case 1 - Product Tracking and Document Submission

Based on your business requirement, as a participating trading partner user, you need to complete the following actions:

- Submit documents for a business flow step
- Track items and packages

1. Create a new permissions group, see [Create a Group](#).
2. Select **Group Type** as **Non-Administrative**.

3. Under **Assign Permissions** area, assign permissions specific to the example use case requirement. The following image shows the assigned permissions.

Assign Permissions

Permission	Description
Dashboards and Trading Partners View	Provides read-only access to Trading Partners Operation pages
Document Type View	Provides read-only access to Document Types Configuration page
Flow Definition View	Provides read-only access to Business Flow Templates Configuration
Notifications	Provides access to Notifications Monitoring page
Product Tracking	Provides access to Packages Operation and Items Operation pages
Settings View	Provides read-only access to Settings Configuration page
Submit Documents	Provides access to Document Receiver REST API and Document Sub

The transitive permissions associated with main permissions will be automatically assigned.

For list of available permissions, see [User Permissions](#).

4. Sign In to the application as non-admin user.

The following image shows the restricted access available only to the selected functions.

Document Submission

Business Flow ↑↓	Step
Vaccine Procurement	ORDER VACCINE
Vaccine Procurement	RECEIVE VACCINE SHIPMENT
Move Vaccine To Distribution Partners	VACCINE AND PPE SHIPMENT NOTICE
PPE Procurement	ORDER PPE
PPE Procurement	RECEIVE PPE



Trading Partners



Items



Packages



Document Submission

Packages



Search



BOX-12 14
CONTAINER-8
BOX-14 7
CONTAINER-10

Under **Operations** module, you can track items and packages and also submit documents. Whereas, under **Configurations** module, you only have read-only access to the available functions.

2. Use case 2 - Document Submission

Based on your business requirement, some endorsing trading partner users in your organization only need to submit documents for a business flow step.

5. Under **Assign Permissions** area, assign permissions specific to the example use case requirement. For list of available permissions, see [User Permissions](#).

The following image shows the assigned permission(s).

Flow Definition Vi...	Provides read-only access to Business Flow Templates Configuration and Business Flows
Notifications	Provides access to Notifications Monitoring page
Product Tracking	Provides access to Packages Operation and Items Operation pages
Settings View	Provides read-only access to Settings Configuration page
Submit Documents	Provides access to Document Receiver REST API and Document Submission Operation p

The transitive permissions associated with main permissions will be automatically assigned.

6. Sign In to the application as non-admin user.

The following image shows the restricted access available only to the selected functions.

Document Submission

Business Flow	Step	Document Type
Vaccine Procurement	ORDER VACCINE	Purchase Order
Vaccine Procurement	RECEIVE VACCINE SHIPMENT	Inbound Shipment
Move Vaccine To Distribution Partners	VACCINE AND PPE SHIPMENT NOTICE	Outbound Shipment
PPE Procurement	ORDER PPE	Purchase Order
PPE Procurement	RECEIVE PPE	Inbound Shipment



 **Document Submission** Operat

Configurations : Units Of Measure

Japanese Sho	 Japanese Sho
	Code SHO
	Description A common size for sake bottles
	Class Volume

Under **Operations** module, **Document Submission** is available. Whereas, under **Configurations** module, you only have read-only access to **Units Of Measure**.

Assign User to a Group

For fine-grained access control to work, users must be members of one or more groups depending on the user type.

You can assign users to a single or multiple groups in two ways:

1. Using Add User option

1. Click **Menu** () and then click **Configurations**.
2. Click **Configurations : User Management** ().
3. Under **Users** tab, click **Add User**.
4. Under **Personal** area, click **Assign Group** and add predefined or custom group from the drop-down list.
5. Click **Save** and wait until the **Save Successful** message appears.
6. Click **Close** to return to the **User Management** dashboard.

2. Using Manage Groups option

7. Under **Groups** tab, click **Manage User** ().
8. From the **Manage Users** page, assign zero or more users as per your business requirement.
9. Click **Save** and wait until the **Save Successful** message appears.
10. Click **Close** to return to the **User Management** dashboard.

Results:

Under **Users** tab, view the assigned group names under **Groups** column.

Edit a Group

You can modify the set of permissions assigned to a custom group.

You can edit both Administrative and Non-Administrative permission groups. Predefined permission groups are immutable and cannot be edited. To modify a custom group:

1. Click **Menu** () and then click **Configurations**.
2. Click **Configurations : User Management** ().
3. Select the custom group you want to edit and click **Group Details** ().
4. Assign or un-assign permissions based on the user access requirements.
5. Click **Save** and wait until the **Save Successful** message appears.
6. Click **Close** to return to the **User Management** dashboard.

Delete a Group

You can delete administrative or non-administrative custom groups if they are no longer needed. You cannot delete a predefined group.

Note:

A group cannot be deleted if one or more users assigned to it.

Before you start

You must un-assign users before you delete a group.

Here's what to do

1. Click **Menu** () and then click **Configurations**.
2. Click **Configurations : User Management** ().
3. Select the custom group you want to delete and click **Delete Group** ().
4. Click **Save** and wait until the **Save Successful** message appears.
5. Click **Close** to return to the **User Management** dashboard.

Filter Users or Groups Data

Use multiple filters to narrow down the list of applications users and groups based on the predefined filter attributes.

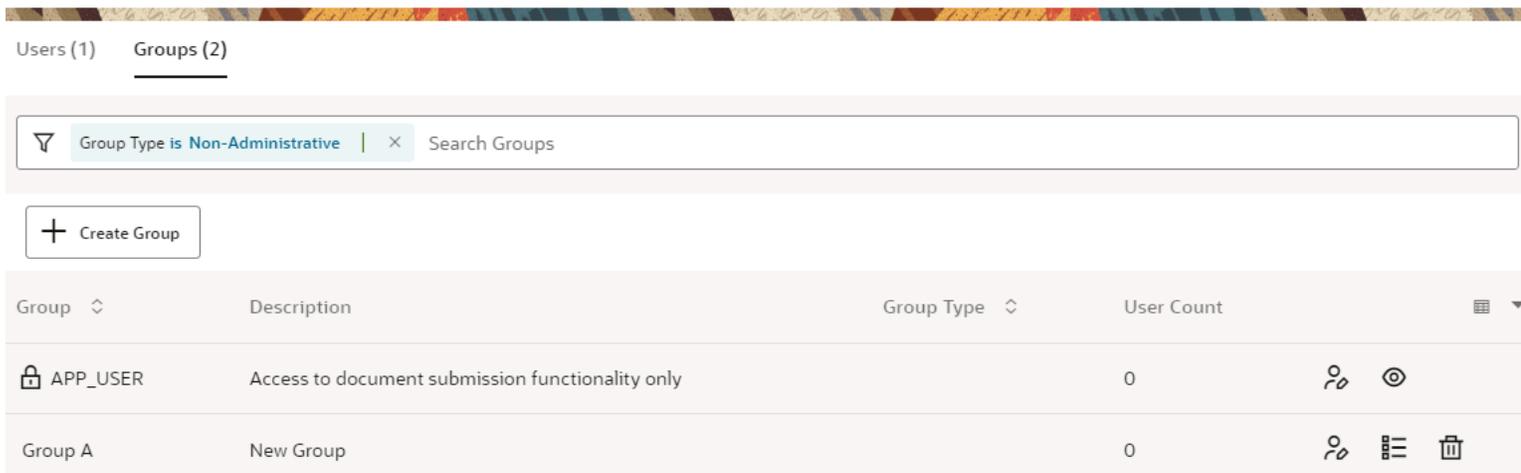
Oracle Intelligent Track and Trace users can be filtered based on their username, the group they are assigned to, and other miscellaneous details. The groups data can be filtered based on the group type and based on a predefined classification of group category, such as Administrative or Non-Administrative.

1. Select either the **Users** or the **Groups** tab to apply required filters.
2. Click the **Filter** bar and select single or multiple field name(s) from the list.
3. From the selected column attribute drop-down, select the required operator.
The following operators are available based on the selected attribute type:
4. In the **Search Filter Criteria** field, enter the filter criteria and then click outside the filter box.

Results:

The following image illustrates the filtered data based on the given criteria.

Configurations : User Management



The screenshot shows the 'Configurations : User Management' interface. At the top, there are two tabs: 'Users (1)' and 'Groups (2)'. Below the tabs is a search bar with a filter applied: 'Group Type is Non-Administrative'. Below the search bar is a '+ Create Group' button. The main area contains a table with the following data:

Group	Description	Group Type	User Count	
APP_USER	Access to document submission functionality only		0	 
Group A	New Group		0	  

Define Document Types

Each transaction in a supply chain has an associated document. For ingesting documents coming from various external sources into the business network, Intelligent Track and Trace enables the founder to define common document structures.

Topics:

- [About Document Type Structure](#)
- [Create a New Document Type](#)
- [Edit a Document Type](#)
- [Delete a Document Type](#)

Define Document Schemas, Mappings and Simulator Templates

As part of configuring the Intelligent Track and Trace, founder defines the structure of the documents which gets ingested into the network.

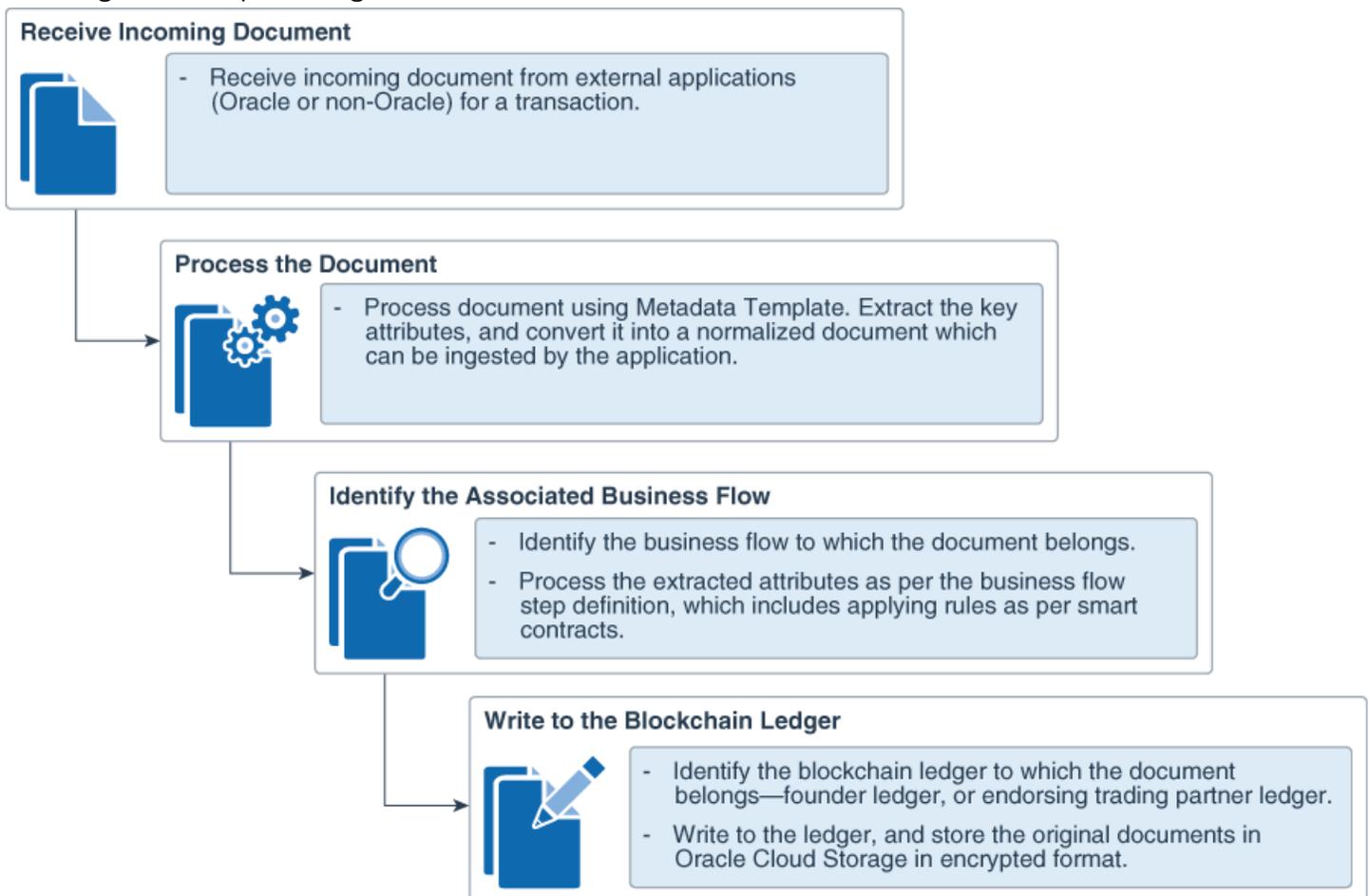
As a founder, you can either use pre-seeded document types in the Intelligent Track and Trace, or can define your own customized document types. Each document type consists of five essential parts, which are document schema, metadata template, metadata schema, simulator template, and presentation template. You can provide multiple definitions or variants for a single document type where each definition or variant will have the five essential parts. The five essential parts are described as follows:

- **Document Schema:** Defines the structure of the document in the standard JSON format. Intelligent Track and Trace is currently compliant with JSON Schema Draft 5. Intelligent Track and Trace provides JSON schema for the preseeded document types. For more information, see [Define Document Schema JSON](#). However, as a founder, you can upload your own raw JSON schema if the preseeded document types does not suit the needs of your supply chain network. Intelligent Track and Trace validates the syntax of the uploaded JSON schema and throws exception in case of any error.
- **Metadata Template:** Defines the type mapping which enables the Intelligent Track and Trace application to process the incoming documents and extract key pieces of information. Metadata template is essentially a set of key value pairs, which maps the JSON schema to the application schema. This mapping is important for Intelligent Track and Trace to understand the structure of the document described in the JSON schema, and ingest information which is then written to the ledger. This extracted data is used for tracking, tracing, and calculating analytics and insights. For the preseeded document types, out-of-the-box mapping is provided. For customized document types, founder decides which key pieces of information are important, and provides the mapping. Only mapped information extracted from the document is written to the ledger, and the document is stored in Oracle Storage Cloud in encrypted form. The document in Storage Cloud is linked to the corresponding entry in the ledger by adding the location and the hash of the document to the ledger entry. For more details, see [Define Metadata Template](#).
- **Metadata Schema:**
Defines user-definable attributes that extends the system-defined normalized data structure. You may have a requirement to track attributes in addition to the ones already mapped. These attributes can be added as a list of key value pairs under the Metadata Template section. For Intelligent Track and Trace to understand the document data, the user needs to define the data type of each of the field specified. For example, if the user

has defined a field named "buyername" in the Metadata Template, then in Metadata Schema tab you have to define the data type of "buyername", it can be a String, an array of Strings, measure type etc. For more details, see [Define Metadata Schema](#).

- **Simulator Template:** are used for generating synthetic transactions during simulation. Simulations is one of the key functionality which lets you test the multiple what-if scenarios in your business network. For testing these scenarios you need data which is part of the flow which you want to test. Simulator template defines how you can simulate a document (such as purchase order), and the attributes in the document which will be used for the simulation. In the template you provide either constant values or value generating expressions such as random number, random strings and references to other documents in the flow. This template is then used by the simulator to generate transactions for testing various business scenarios. For more details, see [Define Simulator Template](#).
- **Presentation Template:** The incoming source document, ingested by Intelligent Track and Trace, is received in raw JSON format as defined in the document schema. This source document may be difficult to interpret by the end user due to the complex JSON schema structure. Intelligent Track and Trace enables you to define a HTML presentation template, which is used to display the incoming source document in a human readable rich text format. The pre-seeded document types already have pre-defined presentation templates. For more details, see [Define Presentation Template](#). For any new documents types defined, you as a founder should also define a presentation template.

After the document structure is defined, document ingestion process begins and the document type schema is used for incoming document processing.



For a detailed information on how to define a document type JSON, metadata template, metadata schema and simulator template, see [Define Document Schema and Templates](#).

Create New Document Type

You can create a new document type either from scratch, or by duplicating an existing document type.

Topics:

- [Create a New Document Type from Scratch](#)
- [Create a New Document Type by Duplicating an Existing Document Type](#)
- [Create a New Variant for an Existing Document Type](#)

Create a new document type from scratch

If the pre-seeded document types does not suit the needs of your supply chain network, you can create document types from scratch.

To create a document type from scratch, you must upload the raw JSON schema, define metadata mappings and schema, create simulator template, and define the presentation template. The procedure provides the basic steps of creating a new document type. You can refer to the [Define Document Schema and Templates](#) to understand how to create a JSON schema for a document type, and how to define mappings, schema, simulator templates and presentation templates.

1. Click **Menu** () and then click **Configurations**.
2. Click **Document Types** ().
3. Under **Configurations : Document Types** dashboard, click **Create New Document Types** ().
4. In the **Create: Document Type**, enter the **Name** of the document type, and select a color for the document from **Document Color** drop-down menu.
5. Enter the attributes in the **Metadata Schema** area. This is common across all variants and should be defined only in one location.
6. Click **Save** and wait until the **Save successful** message is displayed.
7. Click **Cancel** to return to the **Configurations : Document Types** dashboard.
Your document type is displayed and the **Default** variant in the new document type is created.
8. To complete the **Default** variant, click **Edit** () adjacent to the name of the variant.
The four parts of the **Default** variant document type are displayed.
9. If required, rename the name of the variant.
10. Click **Document Schema** tab. Open the raw JSON schema of the document type. You can directly copy paste the JSON schema in the text area tab.
11. Click **Metadata Template** tab. Enter the type mapping for the document.
12. Click **Simulator Template** tab. Enter the simulator template details for the document.
13. Click **Presentation Template** tab. Enter the presentation template details for the document.
14. Click **Save** and wait until the **Save successful** message is displayed.

15. Click **Cancel** to return to the **Configurations : Document Types** dashboard.

Results:

When Intelligent Track and Trace receives a transaction document, it maps it to the variant of the configured document type, and processes it based on the type mapping defined for that variant of the document type. To create a new variant of this new document type, see [Create a New Variant for an Existing Document Type](#)

Create a new document type by duplicating an existing document type

Create a new document type from an existing document type.

In a scenario, where an existing document type is similar to the new document type with few variations, you can duplicate the existing type and make modification on top of it. This saves time and effort involved in creating JSON schema and other mappings from scratch.

1. Click **Menu** () and then click **Configurations**.
2. Click **Document Types** ().
3. Select the document type that you want to duplicate from the list of Document Types in the left pane.
4. Click **Duplicate Document Type** () on the right side of the Document Type name.
5. In the **Duplicate Document Type**, enter the **Name** of the document type, and click **Duplicate**.
The duplicate document type is displayed on the **Configurations : Document Types** dashboard.
To edit the duplicate document type or its variants see [Edit a Document Type](#).

Create a New Variant for an Existing Document Type

As a founder or a trading partner, you can create multiple definitions or variants for a single document type. In each variant of a document type, you need to define its document schema, metadata template, simulator template, and presentation template whereas you create a single metadata schema, which is common across all the variants.

You should have an existing document type for which you want to create a new definition or variant.

Note: You can neither delete system-defined document types nor modify their document schema . Other components of a system-defined document type can be changed but will require manual updates or upgrades to new versions. It is recommended to create a new variant for a system-defined document type if there is a need to modify the structure or one ore more of the type definitions

1. Click **Menu** () and then click **Configurations**.
2. Click **Document Types** ().
3. On the **Configurations : Document Types** dashboard, from the left bar, click the document type for which you need to add a new definition or variant. Note that the document types that display a () beside its name are system-defined.
4. For the selected document type, adjacent to its **Variants** label, click **Add Variant** ().
The **Create: Document Types** window is displayed.

5. In the **Create: Document Type**, enter the **Name** of the variant for the document type, and select a color for the document from **Document Type Color** drop-down list.
6. Click the **Document Schema** tab. Upload the raw JSON schema of the document type. You can directly copy paste the JSON schema in the text area tab.
7. Click **Metadata Template** tab. Enter the type mapping for the document.
8. Click **Simulator Template** tab. Enter the simulator template details for the document.
9. Click **Presentation Template** tab. Enter the presentation template details for the document.
10. Click **Save** and wait until the **Save successful** message is displayed.
11. Click **Cancel** to return to the **Configurations : Document Types** dashboard.

Results:

The new document type variant is added under in the **VARIANTS** list.

To modify the template schema, which is common for all the variants, you'll need to edit the document type. See [Edit a Document Type](#).

Edit a Document Type

Edit a document type to modify its name or its template schema, which is common for all the variants of the document type. Edit a variant of the document type to modify the document schema, type mapping, or simulator template of that specific variant.

1. Click **Menu** () and then click **Configurations**.
2. Click **Document Types** ().
3. Under **Configurations : Document Types** dashboard, select the document that you want to edit from the list of documents in the left pane.
4. On the right hand pane, next to the name of document, click **Edit** ().
5. Make the necessary changes in the **Name, Document Type Color**.
6. If required, modify the **Metadata Schema**, which is common across all the variants of the document type.
7. Click **Save** and wait until the **Save successful** message is displayed.
8. Click **Close** to return to the **Configurations : Document Types** dashboard.
9. To modify a variant of this document type, select the variant name and click **Edit** () adjacent to the variant name.
10. Modify the document structure definition under **Document Schema, Metadata Template, Simulator Template**, or **Presentation Template** tabs.
11. Click **Save** and wait until the **Save successful** message is displayed.
12. Click **Cancel** to return to the **Configurations : Document Types** dashboard.

Delete a Document Type

1. Click **Menu** () and then click **Configurations**.

2. Click **Document Type** ().
3. Select the **Document Type** that you want to delete from the list of document types in the left pane.
4. On the right hand pane, next to the name of the document type, click **Delete** ().

Add Business Flow Templates

Business flow templates enable you to define the structure for the commonly used flow patterns in your organization. You use these templates for creating the flow definitions.

Topics:

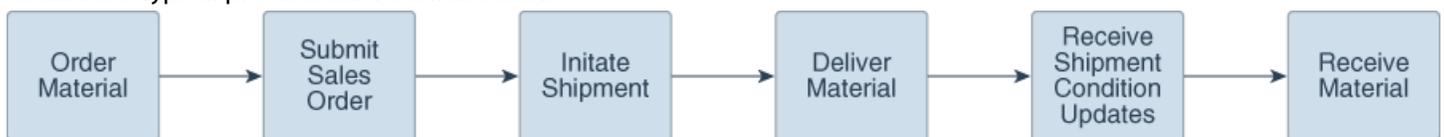
- [About Business Flow Templates](#)
- [Create a Business flow Template](#)
- [Duplicate a Business flow Template](#)
- [Edit a Business Flow Template](#)
- [Delete a Business Flow Template](#)

About Business Flows

A business flow is a logical grouping of transaction documents which are interconnected to each other by the sequence of events.

A business flow consists of a series of steps, where each step represents exchange of transaction documents between the trading partners. For an organization, the steps in a business flow for common supply chain operations (procurement, manufacturing etc) remain the same.

Consider a typical procurement business flow:



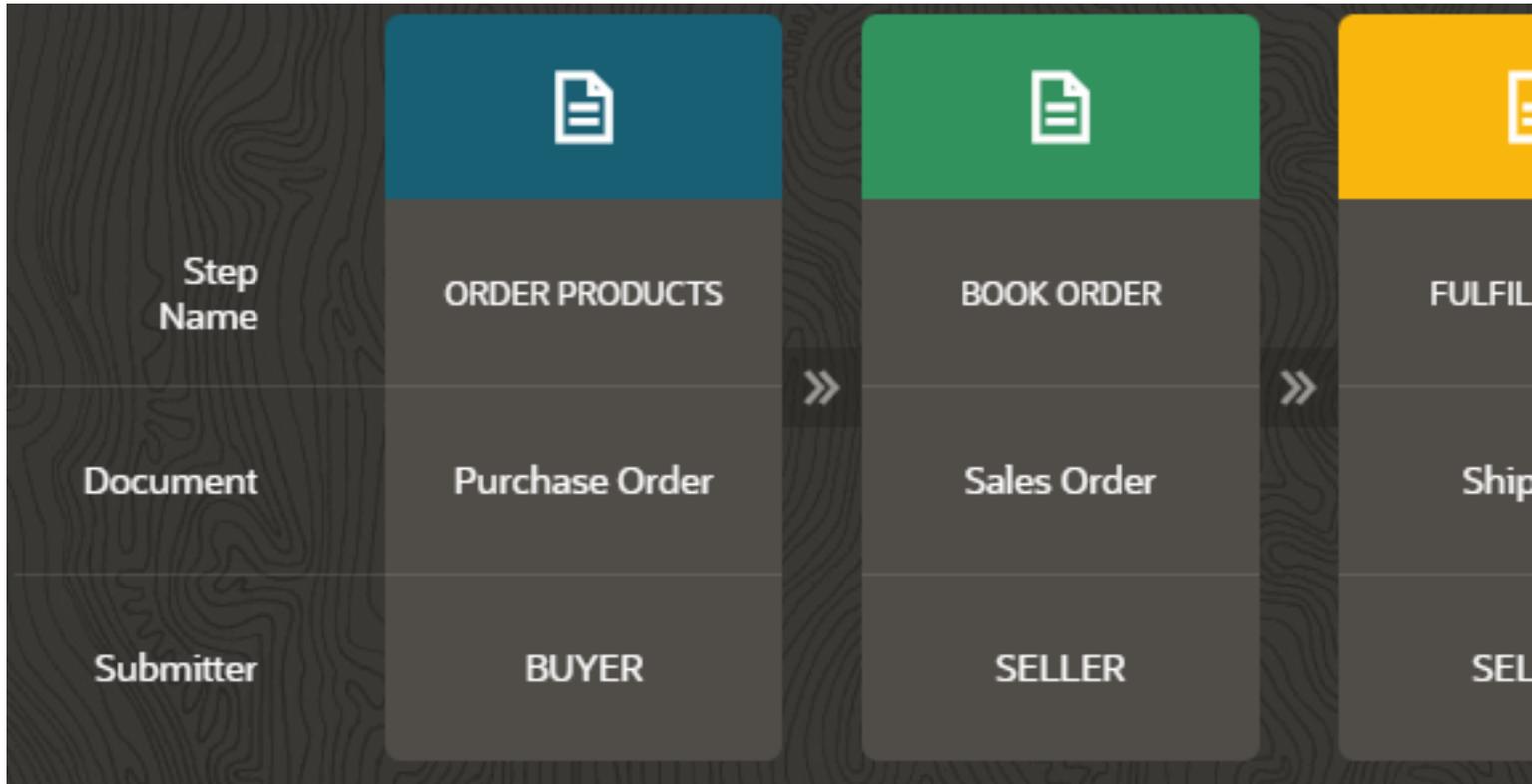
Here, the steps when buying material A and material B will remain same. The only difference would be the item being purchased, and the trading partners involved. Even the document types associated for each step remains the same, they will differ only with respect to their contents and values.

Intelligent Track and Trace enables you to define business flow templates, which are then used to create business flow instances. Using the graphical interface you can:

- Define the business steps for a template, where each business step represents a transaction.
- Identify the associated document type. The document types are the same that you have defined in [Create a New Document Type](#)
- Define the placeholders for the trading partners involved, and the role of each trading partner (for example, buyer, seller etc)

- Specify who would be the business document submitters for each step. There can be multiple submitters in a step.
- Logically sequence the business steps in the order of their occurrence. Note that the sequence is not enforced at runtime. Documents can arrive into the network in any order and the application orders them correctly according to the sequence defined in the flow template.

For a procurement flow example, here is a sample procurement template created in Intelligent Track and Trace:



You can now use this template to create individual business flow instances for procuring Material A, Material B and Material C.

For information on business flows, see [About Business Flows](#).

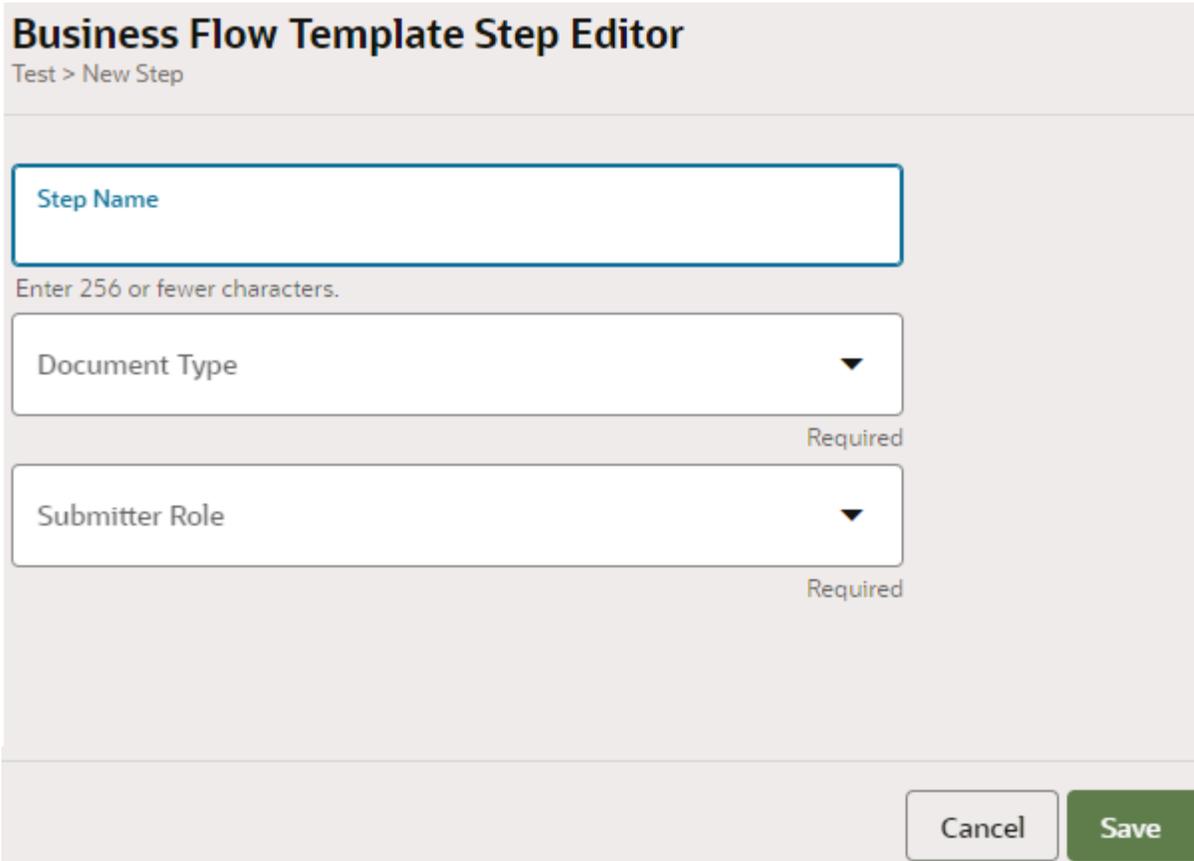
Create Business Flow Template

Create a new business template.

In Intelligent Track and Trace, business template is the starting point of creating any business flow instance.

1. Click **Menu** () and then click **Configurations**.
2. Click **Business Flow Templates** ().
3. Under **Configurations : Business Flow Templates** dashboard, click **Create New Business Flow Template** ().
4. In the **New : Business Flow Templates** area, enter the **Name** of the business template.

5. Click **Add Business Step** ().



The image shows a dialog box titled "Business Flow Template Step Editor" with a breadcrumb "Test > New Step". It contains three input fields: a text field for "Step Name" with a character limit of 256, and two dropdown menus for "Document Type" and "Submitter Role", both marked as "Required". At the bottom right are "Cancel" and "Save" buttons.

6. For each business step enter:
- **Step Name:** Enter the name of the step.
 - **Document Type:** Select the document associated with the step from the drop-down. The drop-down lists all the document types that you had defined as part of *Create a New Document Type*.
 - **Submitter Role:** Select the role of the trading partners who will be submitting the document for this step. The drop-down lists all the roles that you have defined as part of *Invite an Endorsing Trading Partner* and *Participating Trading Partner Tasks*. You can select more than one submitter roles.
7. Click **Save** to close the step dialog box.
8. Repeat step 5 and 6, for all the steps that you want to add to this business flow template.
9. If there is any error while adding steps, you will see a **Warning Sign** () on top of that step. Click on the **Warning Sign** and fix the error.
10. Click **Save** and wait until the **Save successful** message is displayed.
11. Click **Cancel** to return to the **Configurations : Business Flow Templates** dashboard.

Duplicate a Business Flow Template

Instead of creating a business flow template from scratch, you can also duplicate an existing template and make necessary changes to suit your business requirement.

You can use duplication functionality when there are minor differences between business flow templates.

1. Click **Menu** () and then click **Configurations**.
2. Click **Business Flow Templates** ().
3. Under **Configurations : Business Flow Templates** dashboard, select the business flow template that you want to duplicate from the list of templates in the left pane.
4. Click **Duplicate** () next to the name of the business flow template in the right pane.
5. In the **Duplicate : Business Flow Templates** area, enter the **Name** of the business template.
6. Click **Add Business Step** () if you want to add new business step to the existing template flow. For each new business step enter:
 - o **Step Name**: Specify the name of the step.
 - o **Document Type**: Select the document associated with the step from the drop-down. The drop-down lists all the document types that you had defined as part of *Create a New Document Type*.
 - o **Submitter Role**: Select the role of the trading partners who will be submitting the document for this step. The drop-down lists all the roles that you have defined as part of *Invite an Endorsing Trading Partner* and *Participating Trading Partner Tasks*. You can select multiple submitter roles.
7. Click **Edit** () if you want to modify any of the existing business steps.
8. Click **Save** to close the **Edit Template Step** dialog box.
9. Repeat step 5 and 6, for all the steps that you want to add to this business flow template.
10. If there is any error while adding steps, you will see a **Warning Sign** () on top of that step. Click on the **Warning Sign** and fix the error.
11. Click **Save** and wait until the **Save successful** message is displayed.
12. Click **Cancel** to return to the **Configurations : Business Flow Templates** dashboard.

Edit Business Flow Template

Edit a business flow template to add new steps, modify or delete the associated business steps.

1. Click **Menu** () and then click **Configurations**.
2. Click **Business Flow Template** ().
3. Under **Configurations : Business Flow Templates** dashboard, select the template that you want to edit from the list of templates in the left pane.

4. On the right hand pane, next to the name of template, click **Edit** ().
5. Edit the **Name**, if required.
6. To edit a business flow template:
 - o Identify the business step that you need to modify or delete.
 - o Click the business step and make the required changes.
 - o To delete the step, click **Delete Template Step**
 - o Click **Save**.
7. To add a new business step, identify the position of the new step in the flow, and then click (). In the dialog box, enter the required details and click **Save**.
8. Repeat Steps 6 and 7 for modifying or deleting any step and adding steps at any position in the flow respectively.
9. Click **Save** and wait until the **Save successful** message is displayed.
10. Click **Cancel** to return to the **Configurations : Business Flow Templates** dashboard.

Delete Business Flow Template

1. Click **Menu** () and then click **Configurations**.
2. Click **Business Flow Template** ().
3. Select the **Business Flow Template** that you want to delete from the list of templates in the left pane.
4. On the right hand pane, next to the name of the template, click **Delete** ().

Add and Manage Package Types

Oracle Intelligent Track and Trace supports tracking of serial-controlled and lot-controlled products that comprises items and packages. As a founder admin, you can create and manage package types.

Packages are boxes or containers that are used to encase items for shipping. Only the founder admin of a business network can create package types. The endorsing and participating trading partners of a business network cannot create package types.

Topics

- [Create a Package Type](#)
- [Edit a Package Type](#)
- [Duplicate a Package Type](#)
- [Delete a Package Type](#)

Create a Package Type

To enable Oracle Intelligent Track and Trace to track lot-controlled or serial-controlled products, as a founder admin, you need to create package types if needed, and enter their details, before they can be referenced in any transaction document submitted into the application.

As a founder admin, you should have the details, such as the name, description, one or more image files, attributes of a package that needs to be tracked in the business network by the application

1. Click **Menu** () and then click **Configurations**.
2. Click **Package Types** ().
3. On the **Configurations : Package Types** dashboard, click **Create New Package Type** ().
4. On the **New: Package Types** drawer, enter or select values for the following fields:
 - o **Name:** Enter the name of the item type
 - o (Optional) **Description:** Enter a description of the item type.
 - o (Optional) **Package Image:** Click **Choose Image**, browse to the location where you have saved the item's image file, select it, and then click **Open**. Repeat the step, if you have more image files to upload for this item type.
 - o **Attributes:** Click **Add Attribute**. Enter a name value pair in the text boxes. Click **Add Attribute** to add another attribute. To remove an attribute, click **Delete** () beside the added attribute.
5. Click **Save** and wait until the **Save successful** message is displayed.
6. Click **Close** to return to the **Configurations : Package Types** dashboard.

Results:

Verify that your package type is listed on the left navigation bar and its details are displayed on the central frame.

Edit a Package Type

After creating a package type, as a founder admin, you can modify its details and save the changes.

To edit a package type, you should know the name of the item type that you have created and needs to be edited.

1. Click **Menu** () and then click **Configurations**.
2. Click **Package Types** ().
The list of package types that you've created in the application are displayed.
3. On the **Configurations : Package Types** dashboard, from the left navigation bar, click the item type that you need to edit.
4. On the details section of the item type, click **Edit** ().
5. On the **Edit : Package Types** drawer, modify the value of the fields as required.
6. Click **Save** and wait until the **Save successful** message is displayed.
7. Click **Cancel** to return to the **Configurations : Package Types** dashboard.

Results:

Verify that your item type is listed on the left navigation bar and its updated details are displayed on the central frame.

Duplicate a Package Type

After creating a package type, as a founder admin you can duplicate it to create another similar package type.

To duplicate a package type, you should know the name of the package type that you have created and needs to be cloned.

1. Click **Menu** () and then click **Configurations**.
2. Click **Package Types** ().
The list of package types that you've created in the application are displayed.
3. On the **Configurations : Package Types** dashboard, from the left navigation bar, click the package type that you need to edit.
4. On the details section of the package type, click **Duplicate** ().
5. On the **Duplicate : Package Types** drawer, modify the value of the fields as required.
6. Click **Save** and wait until the **Save successful** message is displayed.
7. Click **Cancel** to return to the **Configurations : Package Types** dashboard.

Results:

Verify that your package type is listed on the left navigation bar and its updated details are displayed on the central frame.

Delete a Package Type

After creating a package type, as a founder admin, you can delete a package type when it is not required or not referenced in any transaction document submitted in the business network.

To duplicate a package type, you should know the name of the item type that you have created and needs to be cloned.

1. Click **Menu** () and then click **Configurations**.
2. Click **Package Types** ().
The list of item types that you've created in the application are displayed.
3. On the **Configurations : Package Types** dashboard, from the left navigation bar, click the item type that you need to edit.
4. On the details section of the item type, click **Delete** ().
5. On the **Confirm Delete** dialog box, click **Delete**.

Results:

Verify that your package type is not listed on the left navigation.

Configure Business Flows

Intelligent Track and Trace enables you to logically group related transactions.

Topics:

- [About Business Flows](#)
- [Create a New Business Flow Instance](#)
- [Edit a Business Flow](#)
- [Activate a Business Flow](#)

About Business Flow

A business flow is a logical grouping of business process steps that are recorded across multiple trading partners in a supply chain to achieve a specific outcome.

Intelligent Track and Trace lets you define a business flow which is based on a business flow template. When you configure a business flow, you can specify:

- The trading partners responsible for submitting the document and the trading partner who would receive the document.
- The viewers that are one or more trading partners who can view the document submitted for a step. Intelligent Track and Trace provides step level control to the founder or a document submitter to constrain the visibility of the document that is submitted in a business step.
- A document timeout value in minutes, hours, or days. When a business flow is activated and if a business step does not receive its associated document within a time interval after a specified document has arrived, then the document timeout event is generated. In response to this event, the event handler processes an action, which can be configured by you as an in-app notification, an email message, or an HTTP API call out.

Once the business flow has been activated, Intelligent Track and Trace receives documents for each of the business step involved in the flow. For more information on activation of a business flow, see [Activate a Business Flow](#).

Business Flow States

At any point of time, the business flow in Intelligent Track and Trace can be in any of the following states:

- **Created**—A new business flow has been created.
- **Editing**—The business flow is currently being edited.
- **Disabled**—The business flow has been edited. When a business flow is disabled, document submissions are rejected. and can be enabled for document submission. This state is reached by clicking **Finish Editing**. After a business flow is in the disabled state, it cannot be deleted.
- **Enabled for Document Submission**—The business flow is currently being activated. If the activation is successful, the status is set to Enabled which means that it can receive document submissions. If the activation failed, the status is set back to Editing. After a business flow is in the enabled state, it cannot be deleted.

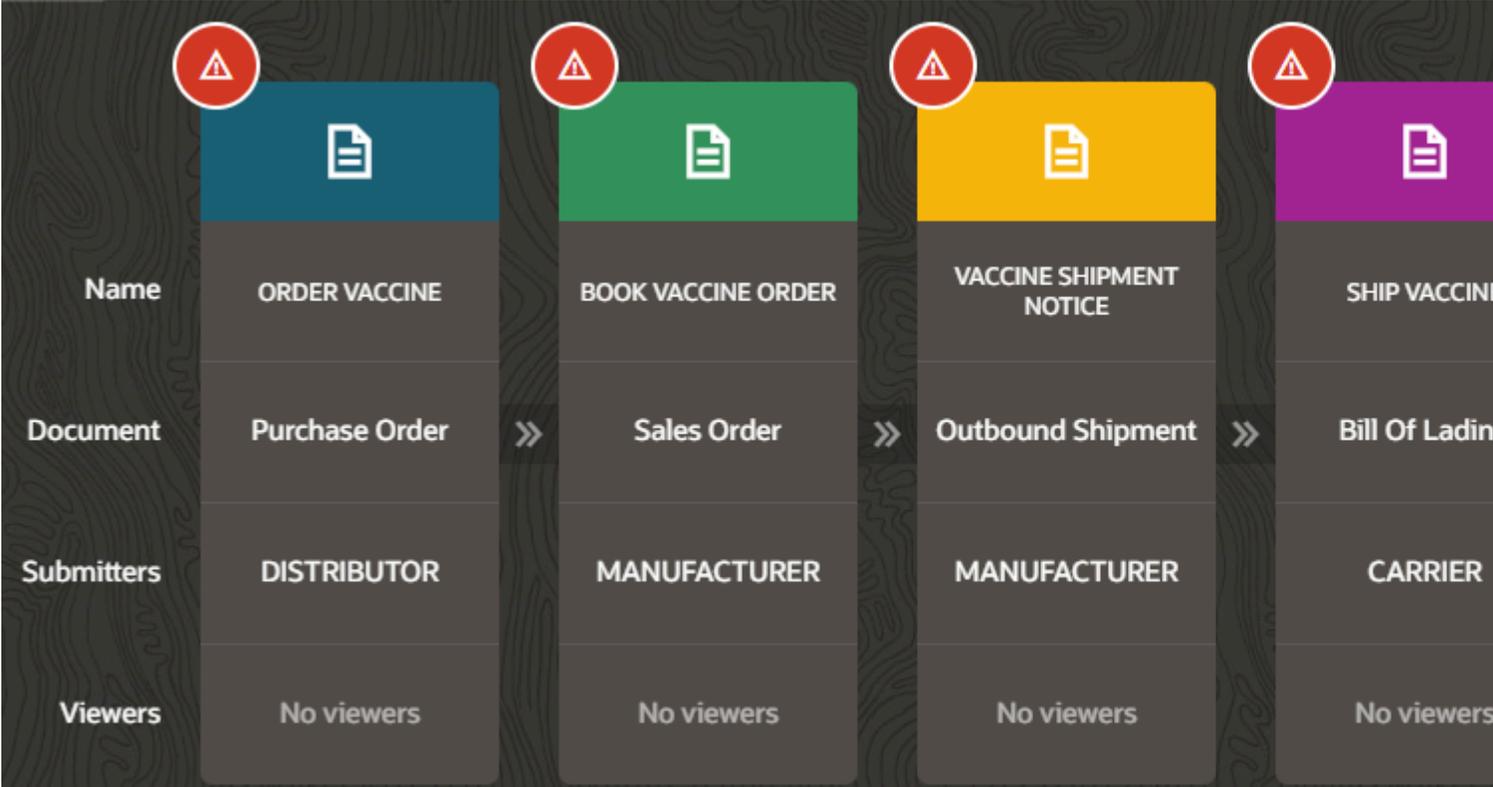
Create a New Business Flow Instance

As a founder, you can create a business flow instance from a business flow template, and provide details on the trading partners involved, their roles as viewers and submitters of the transaction documents.

In Intelligent Track and Trace, a business flow template is the starting point of creating any business flow instance. You should have completed the steps in *Create a Business flow Template* before you can create a business flow.

1. Click **Menu** () and then click **Configurations**.
2. Click **Business Flows** ().
3. Under **Configurations : Business Flows** dashboard, click **Create New Business Flow** ().
4. In the **New Business Flow** dialog box, enter a name in the **Name** field and select the **Template** from which you need to create a business flow.
5. Click **Create**.

The business flow instance based on the selected template opens in an edit mode.



	ORDER VACCINE	BOOK VACCINE ORDER	VACCINE SHIPMENT NOTICE	SHIP VACCINE
Name	ORDER VACCINE	BOOK VACCINE ORDER	VACCINE SHIPMENT NOTICE	SHIP VACCINE
Document	Purchase Order	Sales Order	Outbound Shipment	Bill Of Lading
Submitters	DISTRIBUTOR	MANUFACTURER	MANUFACTURER	CARRIER
Viewers	No viewers	No viewers	No viewers	No viewers

6. Click **Edit** ().
The **Edit : Business Flows > [Flow Name]** page is displayed.

7. Open each step of the business flow by clicking the flow step header () icon and provide the following information:
 - o **Submitters with role "BUYER"**: Select the trading partners who will be the document submitter for this step. You can select multiple submitters in a step. The drop-down lists all the trading partners with the user role specified in the template for the submitter of this step. For example, if you have selected "buyer" for this field in the template, then all the trading partners with the "buyer" role are listed in the drop-down.
 - o **Viewers**: Select Business Roles or Trading Partners or both to set step viewers. The document submitter and the founder can setup zero or more viewers for the business step.
 - **Business Roles**: Select viewers based on the assigned roles. All tradings partnters with the assigned roles will be grouped and become viewers of that step.
 - **Trading Partners**: Select specific trading partners who can view this business step and all the documents associated with it. The drop-down lists all the trading partners in the network.
 - o **Enable Document Versioning**: (Optional) This option enables you to submit multiple versions of a transaction document for a flow step of a business flow instance. For more details, see [Access Document Versions](#).
8. Click **Save** to close the **Business Flow Step Editor** drawer.
9. Repeat Step 7, for all the steps in a business flow.
10. If there is any error while adding steps or the configuration is incomplete, you see a **Warning** () icon on top of that step. Click **Warning** () and fix the error.
11. Click **Save** and wait until the **Save successful** message is displayed.
12. Click **Cancel** to return to the **Configurations : Business Flows** dashboard.

Results:

- Note:** If you've successfully completed the required configurations for all the steps of the new business flow, then:
- The **Finish Editing** button is enabled.
 - Click **Finish Editing** to change the state to **Disabled**.
 - You cannot delete the business flow after you have clicked **Finished Editing**.
 - When the business flow is ready to receive documents, use the **Document Submission** slide bar to enable it. The business flow gets activated in the **Enabled** state.

Edit a business flow instance

After you create a business flow, as a founder, you can edit it to add documents, submitters, and viewers to the steps of a business flow. As an endorsing trading partner, you can edit steps of a business flow if you have been added as a submitter in the steps.

If you have signed in as a founder, you can view and edit all the business flows of the network. For an endorsing trading partner, only those business flows are displayed for editing, in which the trading partner is a submitter in one or more business steps.

1. Click **Menu** () and then click **Configurations**.
2. Click **Business Flows** ().
3. On the **Configurations : Business Flows** dashboard, select the **Business Flow** that you want to edit from the list of business flows in the left navigation pane.
4. On the right hand pane, next to the name of the business flow, click **Edit** ().
The steps of the business flow are displayed.
5. On the **Edit: Business Flows > <Business Flow Name>** page, identify the step you need to edit. Click **Edit** () and provide the following information:
 - o **Submitters:** Select the trading partners who will be the document submitter for this step. You can select multiple submitters in a step. The drop-down lists all the trading partners with the user role specified in the template for the submitter of this step. For example, if you have selected "buyer" for this field in the template, then all the trading partners with the "buyer" role are listed in the drop-down.
 - o **Viewers:** Select Business Roles or Trading Partners or both to set step viewers. The document submitter and the founder can setup zero or more viewers for the business step.
 - **Business Roles:** Select viewers based on the assigned roles. All tradings partnters with the assigned roles will be grouped and become viewers of that step.
 - **Trading Partners:** Select specific trading partners who can view this business step and all the documents associated with it. The drop-down lists all the trading partners in the network.

As a founder, you can remove one or more existing viewers from the step even for an active business flow.
6. Click **Save** to close the edit pane.
7. Repeat Step 5 for all the steps in the business flow.
8. If there is any error while adding steps or the configuration is incomplete, you see a **Warning** () icon on top of that step. Click **Warning** () and fix the error.
9. Click **Save** and wait until the **Save successful** message is displayed.
10. Click **Cancel** to return to the **Configurations: Business Flows** dashboard.

Results:

Note: As a founder, if you have successfully completed the required configurations for all the steps of the new business flow, then:

- The **Finish Editing** button is enabled.
- Click **Finish Editing** to change the state to **Disabled**.
- You cannot delete the business flow after you have clicked **Finished Editing**.
- When the business flow is ready to receive documents, use the **Document Submission** slide bar to enable it. The business flow gets activated in the **Enabled** state.

Activate a Business Flow

As a founder, after creating and editing a business flow, you can activate it by enabling document submission for the business flow.

Before you can activate a business flow, it should be in disabled state, which you can achieve by clicking **Finish Editing** for the business flow.

1. Click **Menu** () and then click **Configurations**.
2. Click **Business Flows** ().
3. On the **Configurations : Business Flows** dashboard, from the left navigation bar, select the **Business Flow** that you want to activate.
4. Ensure that the state of the business flow is **Disabled**. Otherwise, in the **State** section of the business flow, click **Finish Editing**.

Note: After you click **Finish Editing**, you cannot delete a business flow.

5. To enable the business flow, in the **State** section, slide the **Document Submission** slide bar.
The state of the business flow changes to **Enabled**, which means trading partners can submit documents for the steps of this business flow.

Add and Manage Item Types

Oracle Intelligent Track and Trace supports tracking of serial-controlled and lot-controlled products that comprises items and packages. As a founder admin, you can create and manage item types.

An *Item Type* in Oracle Intelligent Track and Trace is a unique product, raw material, or a semi-finished product, and may be identified by stock keeping units (SKU)s, global trade item number (GTIN) or any other unique identifier.

The endorsing and participating trading partners of a business network cannot create item types. They can *Add Item Type Code* to an existing item type created by the founder.

Topics

- *Create an Item Type*
- *Edit an Item Type*
- *Duplicate an Item Type*
- *Delete an Item Type*
- *Upload Item Types from a CSV File*

Create an Item Type

To enable Oracle Intelligent Track and Trace to track lot-controlled or serial-controlled products, as a founder admin, you need to create item types and enter their details, before they can be referenced in any transaction document submitted into the application.

As a founder admin, you should have the details, such as the code, description, one or more image files, attributes of an item that needs to be tracked in the business network by the application.

1. Click **Menu** () and then click **Configurations**.
2. Click **Item Types** ().
3. On the **Configurations : Item Types** dashboard, click **Create New Item Type** ().
4. On the **New : Item Types** drawer, enter or select values for the following fields:
 - o **Name**: Enter the name of the item type.
 - o **Item Type Code**: Enter the id of the item type.
Note: For a founder, each item type code needs to be unique and the founder can use unique identifiers, such as, SKU, product codes, GTIN and so on. If trading partners use a different identifier to refer to this item, they need to add their identifier to this item in the application. See *Add Item Type Code*.
 - o (Optional) **Description**: Enter a description of the item type.
 - o (Optional) **Units of Measurement Class**: Select the UOM category for the item type.
 - o **Units of Measure Code**: Select the base unit for the selected UOM class.
 - o (Optional) **Item Image**: Click **Choose Image**, browse to the location where you have saved the item's image file, select it, and then click **Open**. Repeat the step, if you have more image files to upload for this item type.
 - o **Attributes**: Click **Add Attribute**. Enter a name-value pair in the text boxes. Click **Add Attribute** to add another attribute. To remove an attribute, click **Delete** () beside the added attribute.
Note: Attributes can be any name-value pair that provide additional information about the item. For example, a list of ingredients in the product that this item represents.
5. Click **Save** and wait until the **Save successful** message is displayed.
6. Click **Close** to return to the **Configurations : Item Types** dashboard.

Results:

Verify that your item type is listed on the left navigation bar and its details are displayed on the central frame.

Edit an Item Type

After creating an item type, as a founder admin, you can modify its details and save the changes.

To edit an item type, you should know the name of the item type that you have created and needs to be edited.

1. Click **Menu** () and then click **Configurations**.
2. Click **Item Types** ().
The list of item types that you've created in the application are displayed.
3. On the **Configurations : Item Types** dashboard, from the left navigation bar, click the item type that you need to edit.
4. On the details section of the item type, click **Edit** ().
5. On the **Edit : Item Types** drawer, modify the value of the fields as required.
6. Click **Save** and wait until the **Save successful** message is displayed.
7. Click **Close** to return to the **Configurations : Item Types** dashboard.

Results:

Verify that your item type is listed on the left navigation bar and its updated details are displayed on the central frame.

Duplicate an Item Type

After creating an item type, as a founder admin you can clone it to create another similar item type.

To clone an item type, you should know the name of the item type that you have created and needs to be cloned.

1. Click **Menu** () and then click **Configurations**.
2. Click **Item Types** ().
The list of item types that you've created in the application are displayed.
3. On the **Configurations : Item Types** dashboard, from the left navigation bar, click the item type that you need to edit.
4. On the details section of the item type, click **Duplicate** ().
5. On the **Duplicate : Item Types** drawer, modify the value of the fields as required.
6. Click **Save** and wait until the **Save successful** message is displayed.
7. Click **Close** to return to the **Configurations : Item Types** dashboard.

Results:

Verify that your item type is listed on the left navigation bar and its updated details are displayed on the central frame.

Delete an Item Type

After creating an item type, as a founder admin, you can delete an item type when it is not required or not referenced in any transaction document submitted in the business network.

To delete an item type, you should know the name of the item type that you have created and needs to be deleted.

1. Click **Menu** () and then click **Configurations**.
2. Click **Item Types** ().
The list of item types that you've created in the application are displayed.
3. On the **Configurations : Item Types** dashboard, from the left navigation bar, click the item type that you need to delete.
4. On the details section of the item type, click **Delete** ().
5. On the **Confirm Delete** dialog box, click **Delete**.

Results:

Verify that your item type is not listed on the left navigation.

Upload Item Types from a CSV file

In addition to creating new item types individually, now use the **Upload Item Types** option to add new item types in bulk to .

To upload item types, as a founder admin, first download the CSV file template, add item types inventory details, such as item name, type code, UOM code, and item type image, and attributes, and then upload the file in a zip format to .

1. Click **Menu** () and then click **Configurations**.
2. Click **Item Types** ().
3. On the **Configurations : Item Types** dashboard, you can either select **Create new Item Type** or **Upload Item Types**.
4. Click **Upload Item Types**.
A drawer will slide open from the right side of the **Configurations : Item Types** dashboard.
5. Click **Download CSV template**.
A CSV file template is downloaded on your computer.
6. In a CSV file, add the item types details as per the instructions given in the template file.
The following sample CSV file provides the structure of adding new item types.

RecordType	Name	Description	ItemTypeCode	UomCode	UomClass	Attr	Value
ITEM_TYPE	mask	facemask	m001	EA	quantity	material	cotton
ATTR						size	univer

7. (Optional) You can retain the default filename or rename as per your choice.

8. Add CSV file and image(s) file(s) in a ZIP bundle.

Note: Create a zip file directly by selecting CSV file and the referenced image files added in the CSV file, without adding them in to a folder.

9. Go to **Upload Item Types** drawer, select the zip file from your computer, drag and drop it over the **Drag and Drop** area.

You can view the upload status under the **Upload Details** area.

The upload status may vary based on the correctness of the zipped CSV file.

- o **Completed:** When the zipped file contains no errors.

Upload Item Types

Download CSV template

Download the template to upload your item types inventory.



Download CSV template

Upload Zip file

Upload populated CSV template with your data. Uploaded file will be rechecked for errors.

Drag and Drop

Select a file or drop one here.

Maximum Zip file size is 100 MB. Each image maximum size is 1 MB.

Upload Details

Selected File
Test1.zip

Upload Status
✔ Completed

Records Inserted
1

Row Error Count
0



View upload status of this file and check for errors in the [Upload Activity](#) ORACLE [Logs](#) at anytime.

- **Completed With Errors:** When the zipped CSV file data is populated correctly but the required reference file is not part of the zip bundle. For example, an image name is added in the CSV file but the image file is missing in the zip bundle.

Upload Item Types

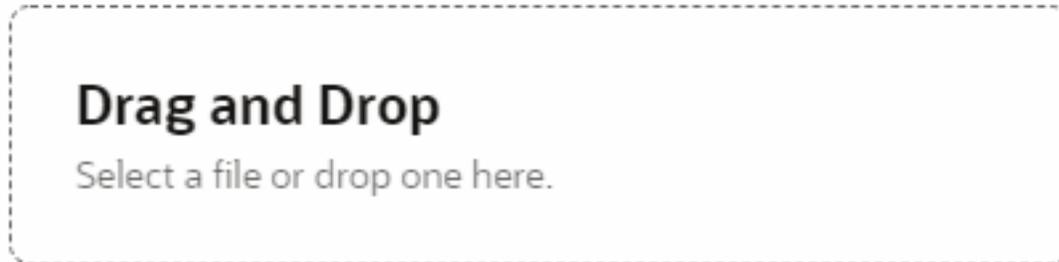
Download CSV template

Download the template to upload your item types inventory.



Upload Zip file

Upload populated CSV template with your data. Uploaded file will be reviewed for errors.



Maximum Zip file size is 100 MB. Each image maximum size is 1 MB.

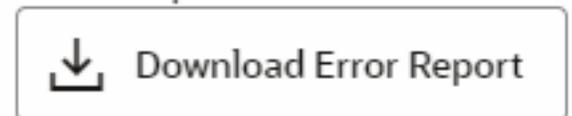
Upload Details

Selected File
Test2.zip

Row Error Count
2

Upload Status
Completed With Errors

Error Report

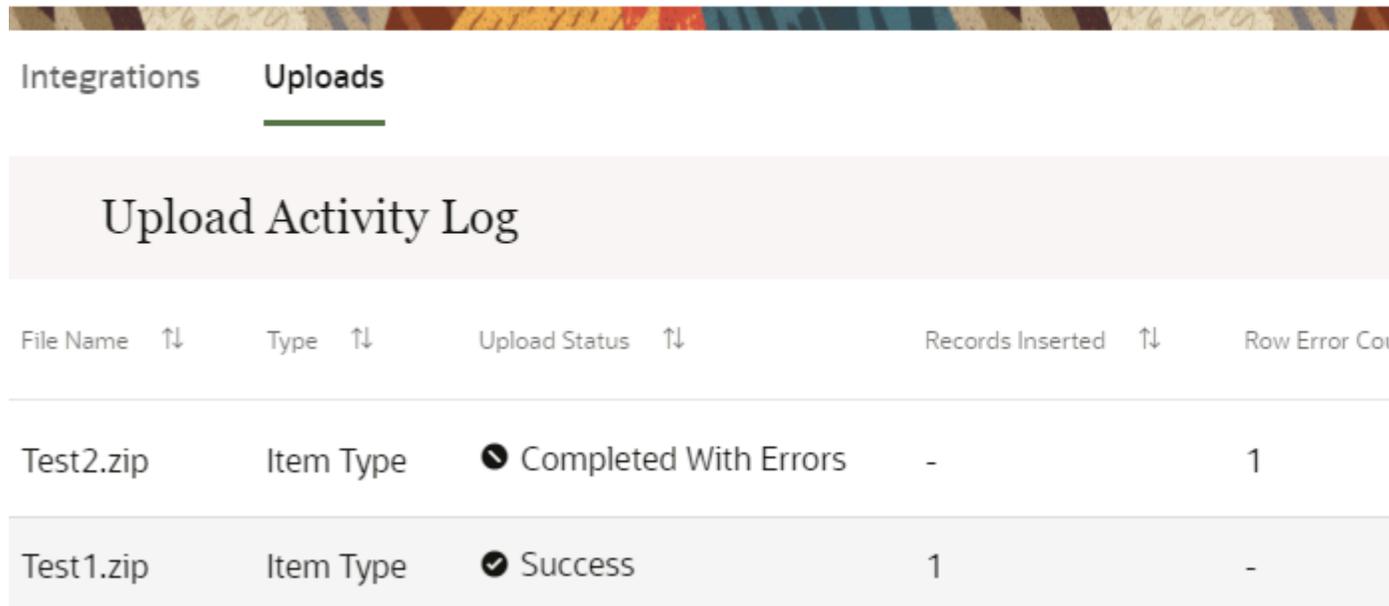


You can also download the error report by clicking the **Download Error Report**.

10. The overall upload activity status and error report information can be viewed by selecting one of the following options:
- Use the **Upload Activity Logs** link to view the upload status and error report.
 - Click the **Activity Log** () icon to view the upload status.

The () icon lets you download the error report.

Activity Log



File Name	Type	Upload Status	Records Inserted	Row Error Co
Test2.zip	Item Type	Completed With Errors	-	1
Test1.zip	Item Type	Success	1	-

11. Click **Close** to return to the **Configurations : Item Types** dashboard.

Results:

Verify that the item types added using the CSV file appears in the list of item types.

Configure Integrations

Intelligent Track and Trace supports integration with other Oracle applications for tracking transaction documents. It also enables you to integrate custom applications built in Oracle Visual Builder Studio to be viewed within Track and Trace UI.

Topics

- [Configure Document Integrations](#)

- [Configure Custom Views](#)

Configure Document Integrations

Intelligent Track and Trace supports integration with Oracle Fusion Cloud Applications, such as Oracle Fusion Cloud Transport Management, Oracle Fusion Cloud Manufacturing, Oracle Fusion Cloud Procurement, Oracle Fusion Cloud Inventory Management, Oracle Fusion Cloud Order Management, and Oracle IoT Fleet Monitoring Cloud. You configure document integrations and integration endpoints to establish the connection and exchange documents with these applications.

Topics

- [Integrate with Oracle Cloud Messaging Framework](#)
- [Integrate with Oracle Transportation Management](#)
- [Integrate with Oracle Manufacturing Cloud](#)
- [Integrate with Oracle Procurement](#)
- [Integrate with Oracle Inventory Management](#)
- [Integrate with Oracle Order Management](#)
- [Integrate with Oracle IoT Fleet Monitoring](#)
- [About Oracle Integration Cloud Adapter](#)
- [Integrate with Oracle Warehouse Management](#)

Built-in Integrations with Document Types Mapping

The configuration with other Oracle applications and services is based on the pre-seeded document types that enables you to configure the integrations using Intelligent Track and Trace.

Integration name	Document type	Document variant	Base URL
Oracle Cloud Messaging	Supported B2B documents: <ul style="list-style-type: none"> • Purchase order • Invoice • Shipping • Purchase order ack 	Default	NA
Oracle Transport Management	Planned shipment	Default	<pre>https:// <instance_name>:<host_name>/ logisticsRestApi/ resources-int/v2 For example: https://otmgtm-a577982- dev1.otm.us6.oraclecloud.com/ logisticsRestApi/ resources-int/v2</pre>
Oracle Manufacturing	Supported document types: <ul style="list-style-type: none"> • Process work order • Discrete work order 	Default	<pre>https://<instance_ name>:<host_ name>/fscmRestApi/ resources/11.13.18.05 For example:</pre>

Integration name	Document type	Document variant	Base URL
			https://fuscdrmsmc240-fa-ext.us.oracle.com/fscmRestApi/resources/11.13.18.05
Oracle Procurement	Purchase order	Fusion	<p><a href="https://<instance_name>:<host_name>/fscmRestApi/resources/11.13.18.05">https://<instance_name>:<host_name>/fscmRestApi/resources/11.13.18.05 For example:</p> <p>https://fuscdrmsmc240-fa-ext.us.oracle.com/fscmRestApi/resources/11.13.18.05</p>
Oracle Inventory Management	<p>Supported document types:</p> <ul style="list-style-type: none"> • Purchase order receipt • Recall receipt • Return to Supplier • RMA receipt • RMA return • Sales order issue • Sales order pick • Subinventory Transfer • Work process material issue • Work process product completion 	Default	<p><a href="https://<instance_name>:<host_name>/fscmRestApi/resources/11.13.18.05">https://<instance_name>:<host_name>/fscmRestApi/resources/11.13.18.05 For example:</p> <p>https://fuscdrmsmc240-fa-ext.us.oracle.com/fscmRestApi/resources/11.13.18.05</p>
Oracle Warehouse Management	<p>Supported document types:</p> <ul style="list-style-type: none"> • Container delivered • Container loaded • Container unloaded • Container received subject to qc • Container shipped • Iblpn lost • Ib shipment verified container variance • Ib shipment verified receipt variance • Inventory adjusted post verification • Inventory movement • Inventory received • Kitting inventory consumed • Load status change 	Default	<p><a href="https://<instance_name>:<host_name>/fscmRestApi/resources/11.13.18.05">https://<instance_name>:<host_name>/fscmRestApi/resources/11.13.18.05 For example:</p> <p>https://fuscdrmsmc240-fa-ext.us.oracle.com/fscmRestApi/resources/11.13.18.05</p>

Integration name	Document type	Document variant	Base URL
	<ul style="list-style-type: none"> Order detail status change Shipment status change Qc accepted Qc rejected Work order status change 		
Oracle Order Management	Sales orders	Default	<p><code>https://<instance_name>:<host_name>/fscmRestApi/resources/11.13.18.05</code> For example:</p> <p><code>https://fuscdrmsmc240-fa-ext.us.oracle.com/fscmRestApi/resources/11.13.18.05</code></p>
IoT Fleet Monitoring	IoT fleet monitoring	Default	NA

Integrate with Oracle Fusion Collaboration Messaging

This feature is not supported for this release.

Integrate with Oracle Transportaion Management Cloud

Oracle Intelligent Track and Trace provides an out-of-the-box integration with Oracle Transportation Management for receiving functional messages.

Oracle Transportation Management (OTM) is used by shippers and logistic providers for its transportation planning and execution capabilities. OTM integrates transportation planning, execution, freight payment, and business process automation in a single application across all modes of transportation.

Integrating with OTM, Oracle Intelligent Track and Trace provides the following advantages:

- Ability to track the state of a business process during its shipment phase when moving from order to fulfillment.
- Complete visibility and traceability to the shipment life-cycle.

The XML documents that are sent as messages from or to OTM are also known as the Transmission.

Transaction interface are definitions related to high level business object interfaces including orders, shipments, invoices. The Transmission primary document will contain one or more Transaction interface elements.

A Transmission can contain the following interfaces:

- **Shipment:** Carries information about the shipment, shipment Status, and stops
- **Order:** Specifies order related information
- **Finance:** Specifies billing related information
- **Document:** Specifies business documents, for example, Bill of Lading

Note: Currently, in the integration, the `shipment` document type is supported.

- [Configure Oracle Transportation Management](#)
- [Add Document Integration](#)
- [Configure Document Integration Endpoints](#)

Configure Oracle Transportation Management Cloud

You need to create an external system and configure an agent in Oracle Transportation Management (OTM) for it to send shipment details to Oracle Intelligent Track and Trace.

Create and configure the following entities in Oracle Transportation Management to enable integration with Oracle Intelligent Track and Trace:

- **External System:** Contains the endpoint and authentication details of Oracle Intelligent Track and Trace. The endpoint is
`/bca/api/tntIntegrations/v1/networks/local/otm`
- **Agent:** Configured with properties, qualifiers and triggers that are applied on the transactions. You configure the agent to send only the transaction envelope that contains the (*ShipmentGUID*) to the external system. The external system retrieves the relevant sub-component (Interface) of the referenced shipment by invoking the REST API.

Add Document Integration

As a trading partner administrator, you configure an integration channel between Intelligent Track and Trace and Oracle Transport Management. This enables your Track and Trace instance to receive shipment data from Oracle Transportation Management instance. You need to enter the setup details separately for the test instances and the production instances.

1. Click **Menu** () and then click **Configurations**.
2. Click **Integrations** ().
3. Under **Configurations : Integrations** dashboard, select **Document Integrations** tab and then click **Create New Document Integration** ().
4. Enter the following values:
 - **Name:** Specifies the integration name
 - **Oracle Cloud Applications:** Select **Logistics**.
 - **Interface:** Select **Shipments (OTM)**.

The associated document types are displayed under **Supported Documents**.

5. Enter the following in the **Test Instance** and **Production Instance** sections:
 - **Document Retrieval URL:** Specifies the endpoint that will be used by the application for periodic polling and retrieval of shipment documents from Oracle Transportation Management Cloud.
 - **Username :** Specifies the Oracle Transportation Management Cloud username to be used for authenticating requests.
 - **Password:** Specifies the Oracle Transportation Management Cloud password for authentication.

New : Document Integrations

Name

Oracle Cloud Applications
Logistics

Interface
Shipments (OTM)

Supported Documents

Planned shipment

Test Instance

Document Retrieval URL

Username

6. Click **Verify Test Connectivity** to test the connection between Intelligent Track and Trace test instance and the Oracle Transportation Management test instance.
7. Click **Verify Production Connectivity** to test the connection between Intelligent Track and Trace production instance and the Oracle Transportation Management production instance.

8. Click **Save** and wait until the **Save successful** message is displayed. You can see the OTM document integration configuration displayed on the dashboard.

Configurations : Document Integrations

<div style="text-align: right; border: 1px solid #ccc; padding: 5px; width: 40px; margin: 0 auto;">+</div>	<div style="text-align: right;"> Logis</div>
LogisticsUI Test	<div style="text-align: right;"> LINKED D Active:</div>
	<p>To send document in configured to point t</p> <hr/> <p>Oracle Cloud Applications Logistics</p> <p>Interface Shipments (OTM)</p> <p>Test Instance</p> <p>URL [Redacted]</p>
ORACLE	<p>79</p> <p>Username [Redacted]</p>

9. Click **Cancel** to return to the **Configurations : Integrations** dashboard.
10. To edit the configuration, click **Edit** (), modify the values, click **Save**, and then **Close**.
11. To delete the configuration, click **Delete** () and confirm.

Configure Document Integration Endpoints

As a trading partner administrator, you can associate a step of a business flow to the Oracle Transportation Management integration configuration, which is then used to pull shipment data for this business step from the Oracle Transportation Management instance. You can also configure various filters which enable you to uniquely identify the pulled documents associated with your business steps.

Before you can configure an integration endpoint, the concerned step of the business flow must use the Shipment document type.

1. Click **Menu** () and then click **Configurations**.
2. Click **Document Integration Endpoints** ().

3. Under **Configurations : Document Integration Endpoints** dashboard, select the business step for which you want to add document integration.

The right hand pane displays the REST endpoint URL for selected business step, along with an option to configure document integration.

Note: **Configure** button will only appear for the business steps which have been defined using the pre-seeded document types.

Configurations : Document Integration End

The screenshot shows a configuration page for Document Integration. On the left, there is a search bar with a magnifying glass icon. Below it, two breadcrumb-style links are visible: "Procure Granola Bars > ORDER PRODUCTS" (highlighted in green) and "Procure Granola Bars > RECEIVE ORDER".

On the right, there is a section titled "Procure" with a document icon containing up and down arrows. Below this, the text "SEND DOCUMENT" is visible, followed by "To send document" and "Please select docu".

There is a "Document Variant" field with a blurred selection. Below that, the text "HTTPS POST UR" is visible, followed by a text input field containing "https:". Below the input field, the text "The content paylo" is visible.

At the bottom right, there is a red text label "No data collectio".

The Oracle logo is in the bottom left corner, and a "Configure" button with a gear icon is in the bottom right corner.

4. Click **Configure** and specify the following parameters:
 - **Integration:** Specifies the document integration configuration to be used for retrieving documents for this business step.
 - **Activate:** Enable the slide bar to activate the configuration
 - **Additional Parameters:** Specifies the list of attributes that you can apply to filter the documents, pulled from Oracle Transportation Management, for this business step. These filters are especially helpful when the same document type is used across multiple business flows. You can distinguish the document associated with a specific business flow step based on a unique parameter(s). These parameters will then be used to filter the documents, which will be routed to this business step.

Integration

CMK UI Test

Activate



Additional Parameters



Select attributes to be used to filter the documents that will be routed to this step.



Filter

5. Click **Save** and wait until the **Save successful** message is displayed.
6. Click **Cancel** to return to the **Configurations : Document Integration Endpoints** dashboard.

Integrate with Oracle Manufacturing Cloud

Intelligent Track and Trace provides out-of-the-box integration with Oracle Manufacturing. Using this out-of-the-box integration, Intelligent Track and Trace polls for and tracks all updates to those work orders exchanged between trading partners but are created and stored in Oracle Manufacturing.

Oracle Manufacturing provides a supply chain solution for discrete manufacturing companies complementing other Oracle Supply Chain Management and Manufacturing Cloud applications. It lets you to set up, manage, execute, and cost your production operations.

In Oracle Manufacturing, a work order refers to a document that conveys the authority for the production of a specific product. It contains information about what, how, how many, and when to manufacture a product. The product item, work definition details, operations, resources, components, quantities, and dates are specified in the work order.

After you enable the Oracle Manufacturing integration, Intelligent Track and Trace will periodically poll for new or updated work orders. It filters the work orders, fetches and feeds them to the application. The work orders supported in Intelligent Track and Trace are:

- Discrete work orders
- Process work orders

Your Intelligent Track and Trace instance is pre-seeded with the discrete work order and process work order document types. As a founder or a trading partner, to integrate your application instance with Oracle Manufacturing, you must use these pre-seeded document types when defining your business flows.

To configure the out-of-the-box integration, you need to complete the following steps:

1. Configure Oracle Manufacturing.
2. Establish a communication channel between Intelligent Track and Trace and Oracle Manufacturing.
3. Associate integration endpoints and configure filters based on available keys in Intelligent Track and Trace.

It is assumed that you have already completed Step 1 and performed the procedures to *create work orders* in Oracle Manufacturing.

As a trading partner administrator, you must complete Steps 2 and 3 to establish an integration channel between Intelligent Track and Trace and Oracle Manufacturing.

- *Create Document Integration*
- *Configure Integration Endpoint*

Integrate with Oracle Order Management Cloud

Intelligent Track and Trace provides out-of-the-box integration with Oracle Order Management. Using this out-of-the-box integration, Intelligent Track and Trace polls for and tracks all updates to those sales orders exchanged between trading partners but are created and stored in Oracle Order Management.

Oracle Order Management provides a supply chain solution to improve order fulfillment for your business processes. It allows organizations to configure fulfillment monitoring, global availability, and enterprise-wide policies to increase customer satisfaction and profitability.

Oracle Order Management allow organizations to:

- Capture and fulfill sales orders
- Manage customer orders across channels (web, mobile, direct sales, and so on)
- Monitor end-to-end order progress
- Change and roll-back of orders

After you enable the Oracle Order Management integration, Intelligent Track and Trace will periodically poll for new or updated sales orders. It filters the sales orders, fetches the sales orders via REST API to retrieve the documents by initiating `statusCode='OPEN'` query, and then feeds them to the application. The document supported in Intelligent Track and Trace is Sales Orders.

Your Intelligent Track and Trace instance is pre-seeded with the sales order document types. As a founder or a trading partner, to integrate your application instance with Oracle Order Management, you **MUST** use the pre-seeded document types when defining your business flows.

To configure the out-of-the-box integration, you need to complete the following steps:

1. Configure Oracle Order Management.
2. Establish a communication channel between Intelligent Track and Trace and Oracle Order Management.
3. Associate integration endpoints and configure filters based on available keys in Intelligent Track and Trace.

It is assumed that you have already completed Step 1 and performed the procedures to *Create Sales Order* in Oracle Order Management.

As a trading partner administrator, you must complete Steps 2 and 3 to establish an integration channel between Intelligent Track and Trace and Oracle Order Management.

- *Create Document Integration*
- *Configure Integration Endpoint*

Integrate with Oracle Procurement Cloud

Intelligent Track and Trace provides out-of-the-box integration with Oracle Procurement. Using this integration, Intelligent Track and Trace polls for and tracks all updates to those purchase orders exchanged between trading partners but are created and stored in Oracle Procurement.

Oracle Procurement delivers comprehensive direct and in-direct sourcing, purchasing, and supplier management across any modern supply chain management system. By integrating with Oracle Procurement, Intelligent Track and Trace can provide complete visibility and traceability of purchase orders that appear in its business flows.

In Oracle Procurement, a purchase order refers to a document that is a formal authorization to purchase goods or services. It contains details of the goods or services that you require, estimated costs, quantities, delivery schedules, and accounting distributions.

After you enable the Oracle Procurement integration, Intelligent Track and Trace will periodically poll for new or updated purchase orders. It filters the purchase orders, fetches and feeds them to the application.

Your Track and Trace instance is pre-seeded with the purchase order document types. As a founder or a trading partner, to integrate your application instance with Oracle Procurement you **MUST** use this pre-seeded document type when defining your business flows.

To configure the out-of-the-box integration, you need to complete the following steps:

1. Configure Oracle Procurement module.
2. Establish a communication channel between Intelligent Track and Trace and Oracle Procurement.
3. Associate integration endpoints and configure filters based on available keys in Intelligent Track and Trace

It is assumed that you have already completed Step 1 and performed the procedures to *create purchase orders* in Oracle Procurement.

As a trading partner administrator, you must complete Steps 2 and 3 to establish an integration channel between Intelligent Track and Trace and Oracle Procurement.

- *Create Document Integration*
- *Configure Integration Endpoint*

Integrate with Oracle Inventory Management Cloud

Intelligent Track and Trace provides out-of-the-box integration with Oracle Inventory Management. Using this integration, Intelligent Track and Trace polls for and tracks all updates to those inventory transactions exchanged between trading partners but are created and stored in Oracle Inventory Management.

Oracle Inventory Management allows organizations to consolidate their inventory tracking and control systems into a single, global inventory management solution for materials in every stage of the product or production life-cycle across different business types.

In Oracle Inventory Management, the details of a completed transaction includes location details, transaction type, transaction date, transaction source, shipment details, purchase order, receipts, any user-defined fields and many more.

After you enable the Oracle Inventory Management integration, Intelligent Track and Trace will periodically poll for any updates on completed transactions. It filters the transactions, retrieves and feeds them to the application.

The following transaction document types are supported:

- Return To Supplier
- Subinventory Transfer
- Inventory Adjusted Post Verification
- Inventory Movement
- Inventory Received

Your Track and Trace instance is pre-seeded with the closed inventory transactions document types. As a founder or a trading partner, to integrate your application instance with Oracle Inventory Management, you **MUST** use these pre-seeded document types when defining your business flows.

To configure the out-of-the-box integration, you need to complete the following steps:

1. Configure Oracle Inventory Management.
2. Establish a communication channel between Intelligent Track and Trace and Oracle Inventory Management.
3. Associate integration endpoints and configure filters based on available keys in Intelligent Track and Trace.

It is assumed that you have already completed Step 1 and are familiar with the procedures to *review completed transactions* in Oracle Inventory Management.

As a trading partner administrator, you must complete Steps 2 and 3 to establish an integration channel between Intelligent Track and Trace and Oracle Inventory Management.

- *Create Document Integration*
- *Configure Integration Endpoint*

Create Document Integration

As an admin, you configure an integration between Intelligent Track and Trace and an Oracle Fusion Cloud application such as Oracle Manufacturing, Oracle Procurement, or Oracle Inventory Management. This enables Track and Trace instance to receive data from an Oracle Fusion Cloud application. You need to enter the setup details separately for the test instances and the production instances.

The integration supports the concerned documents and you need to create a document integration for each type of document that you submit for one or more business flow steps.

1. Click **Menu** () and then click **Configurations**.
2. Click **Integrations** (.

3. Under **Configurations : Integrations** dashboard, select **Document Integrations** tab and then click **Create New Document Integration** ().
4. Enter the following values:
 - o **Name:** Specifies the integration name.
 - o **Oracle Cloud Applications:** Select the cloud application for which you are configuring the integration.
 - o **Interface:** For Oracle Manufacturing, select the appropriate type of work order used in your business flows.

Notice that the associated document types are displayed under **Supported Documents**.

5. Enter the following in the **Test Instance** and **Production Instance** sections:
- **Document Retrieval URL:** Specifies the endpoint that will be used by the application for periodic polling and retrieval of relevant documents from the specific Oracle Fusion Cloud application.
 - **Username:** Specifies the particular Oracle Cloud application's username to be used for authenticating requests.
 - **Password:** Specifies the password for authentication.

New : Document Integrations

Name
Inventory Management UI Test

Oracle Cloud Applications
Inventory Management

Interface
Completed Transactions in Inventory

Supported Documents

Purchase order receipt

Recall receipt

Return to supplier

RMA receipt

Subinventory transfer

Work process material issue

Work process production

Test Instance

Document Retrieval URL
<https://divc1207-test.fradev.bcadev.oraclecorp.com/tntui/>

Polling Interval
1



Polling Interval ...
Minutes

6. Click **Verify Test Connectivity** to test the connection between Track and Trace test instance and the specific Oracle Fusion Cloud application's test instance.
7. Click **Verify Production Connectivity** to test the connection between Track and Trace production instance and the specific Oracle Fusion Cloud application's production instance.
8. Enter the **OrganizationId** of the test and production instance.
9. Click **Save** and wait until the **Save successful** message is displayed.
10. Click **Cancel** to return to the **Configurations : Integrations** dashboard. You can see the document integration configuration displayed on the dashboard.
11. To edit the configuration, click **Edit** (), modify the values, click **Save**, and then click **Close**.
12. To delete the configuration, click **Delete** () and confirm.

Configure Integration Endpoint

As a trading partner administrator, you can associate a step of a business flow to the specific Oracle Fusion Cloud application's integration configuration, which is then used to pull or receive a document for a business step from the concerned Oracle Fusion Cloud application instance. You can also configure various filters which enable you to uniquely identify the transaction documents associated with your business steps.

Before you can configure an integration endpoint, the concerned step of the business flow must use the specific pre-seeded document type.

1. Click **Menu** () and then click **Configurations**.
2. Click **Document Integration Endpoints** ().

3. Under **Configurations : Document Integration Endpoints** dashboard, select the business step for which you want to add document integration.

The right hand pane displays the REST endpoint URL for the selected business step, along with a button to configure the document integration.

Note: **Configure** button will only appear for the business steps which have been defined using the pre-seeded document types.

Configurations : Document Integration End

The screenshot displays the configuration page for Document Integration. On the left, a search bar is visible above a list of configuration items. The first item, "Procure Granola Bars > ORDER PRODUCTS", is highlighted in green. Below it is "Procure Granola Bars > RECEIVE ORDER". On the right, a sidebar contains a "Process" icon (a document with up and down arrows) and the text "SEND DOCUMENT". Below this, there is a description: "To send document Please select docu". A "Document Variant" field is present, followed by the text "HTTPS POST UR". Below that is a text input field containing "https:". Further down, the text "The content paylo" is visible. At the bottom right, there is a red text notice: "No data collectio". At the very bottom right, there is a "Configure" button with a gear icon.

Procure Granola Bars > ORDER PRODUCTS

Procure Granola Bars > RECEIVE ORDER

Process

SEND DOCUMENT

To send document
Please select docu

Document Variant

HTTPS POST UR

https:

The content paylo

No data collectio

ORACLE

Configure

4. Click **Configure** and specify the following parameters:
 - o **Integration:** Specifies the document integration configuration to be used for retrieving documents for this business step.
 - o **Activate:** Enable the slide bar to activate the configuration
 - o **Additional Parameters:** Specifies the list of attributes that you can apply to filter the documents, pulled from the specific Oracle Fusion Cloud application, for this business step. These filters are especially helpful when the same document type is used across multiple business flows. You can distinguish the document associated with a specific business flow step based on a unique parameter(s). These parameters will then be used to filter the documents, which will be routed to this business step.

Integration

CMK UI Test

Activate



Additional Parameters



Select attributes to be used to filter the documents that will be routed to this step.



Filter

5. Click **Save** and wait until the **Save successful** message is displayed.
6. Click **Cancel** to return to the **Configurations : Document Integration Endpoints** dashboard.

Integrate with Oracle IoT Fleet Management Cloud

Intelligent Track and Trace provides out-of-the-box integration with Oracle IoT Fleet Monitoring. Oracle IoT Fleet Monitoring monitors shipment data through vehicle sensors and periodically pushes the data to Intelligent Track and Trace, which is required for its business flows.

Oracle IoT Fleet Monitoring offers real-time monitoring of vehicles, drivers, shipments, and trips by providing real-time visibility of vehicle location, cost of operation, vehicle usage, and driving behavior.

After you configure and enable the integration in Oracle IoT Fleet Monitoring, it pushes periodic updates of shipment data, that contains geolocation, vehicle's sensor attributes, and date/time of events.

On configuring and enabling the integration in Intelligent Track and Trace, it will receive shipment data periodically. It filters the shipment documents, fetches and feeds them to the application.

Your Track and Trace instance is pre-seeded with the shipment document type. As a founder or a trading partner, to integrate your application instance with Oracle IoT Fleet Monitoring, you **MUST** use these pre-seeded document types when defining your business flows.

To configure the out-of-the-box integration, you need to complete the following steps:

1. Establish a communication channel between Intelligent Track and Trace and Oracle IoT Fleet Monitoring.
2. Configure Oracle Fleet Monitoring.
3. Associate integration endpoints and configure filters based on available keys in Intelligent Track and Trace application.

As a trading partner administrator, you must complete these steps to establish an integration channel between Intelligent Track and Trace and Oracle Fleet Monitoring.

To configure the integration in Oracle Fleet Monitoring, see *Integrate with Oracle Intelligent Track and Trace*.

- *Configure a Document Integration*
- *Configure Integration Endpoint*

Integrate with Oracle Warehouse Management Cloud

Intelligent Track and Trace provides out-of-the-box integration with Oracle Warehouse Management which provides visibility into a business' entire inventory and manages supply chain fulfillment operations from the distribution center to the store shelf.

Oracle Warehouse Management Cloud supports inventory management from the manufacturing source to the end user and can push inventory history transaction data of their managed facilities to Intelligent Track and Trace, which is used by Intelligent Track and Trace for tracking its business flows.

On configuring and enabling the Oracle Warehouse Management integration in Intelligent Track and Trace, you can obtain a specific endpoint URL. You use the URL to configure and enable the integration in Oracle Warehouse Management, which then pushes periodic updates of inventory history transaction data to Intelligent Track and Trace.

Intelligent Track and Trace receives inventory data as XML documents, filters and feeds them to the application.

Your Track and Trace instance supports 18 documents types of inventory history transactions and these document types are pre-seeded into your instance. As a founder or a trading partner, to integrate your application instance with Oracle Warehouse Management and receive the inventory data, you **MUST** use these pre-seeded document types when defining your business flows.

To configure the out-of-the-box integration, as a trading partner administrator, you need to complete the following steps:

1. Establish a communication channel between Intelligent Track and Trace and Oracle Warehouse Management. See *Configure a Document Integration*.
2. Associate integration endpoints and configure filters based on available keys in Intelligent Track and Trace. See *Configure Integration Endpoint*.
3. Configure Oracle Warehouse Management to schedule jobs that send data in XML format to your Track and Trace instance. See *Configure Oracle Warehouse Management*

Configure a Document Integration

As an admin, you configure an integration between Intelligent Track and Trace and an Oracle Fusion Cloud applications, such as Oracle Warehouse Management or Oracle IoT Fleet Monitoring, that pushes relevant data periodically to your Intelligent Track and Trace instance. This enables the Intelligent Track and Trace instance to receive data from Oracle Fusion Cloud application.

Complete the following steps to configure a document integration for Oracle Fusion Cloud applications, such as Oracle Warehouse Management or Oracle Fleet Monitoring, that push data to Intelligent Track and Trace.

1. Click **Menu** () and then click **Configurations**.
2. Click **Integrations** ().
3. On the **Configurations : Document Integrations** dashboard, select **Document Integrations** tab and then click **Create New Document Integrations** ().
4. Enter the following values:
 - o **Name:** Specifies the integration name.
 - o **Oracle Cloud Applications:** For integrating with Oracle Warehouse Management, select **Logistics** and for Oracle IoT Fleet Monitoring, select **IoT Intelligent Applications**.
 - o **Interface:** For Oracle Warehouse Management, select **Inventory History (WMS)** and for Oracle IoT Fleet Monitoring, select **Shipment Updates (FM)** .
 - o **Supported Documents:** Notice the list of document types whose documents your instance can accept and process.
5. Click **Save** and wait until the **Save successful** message is displayed.

On the **Configuration: Document Integrations** dashboard, the integration that you created is listed and its details are displayed.

Note the URL that is displayed, which is needed to configure the Oracle Fusion Cloud application that will integrate and push data to your Track and Trace instance.
6. Click **Cancel** to return to the **Configurations : Integrations** dashboard.

Configure Integration Endpoints

As a trading partner administrator, you can associate a step of a business flow to the specific Oracle Fusion Cloud application's integration configuration, which is then used to pull or receive a document for a business step from the concerned Oracle Fusion Cloud application instance. You can also configure various filters which enable you to uniquely identify the transaction documents associated with your business steps.

Before you can configure an integration endpoint, the concerned step of the business flow must use the specific pre-seeded document type.

1. Click **Menu** () and then click **Configurations**.
2. Click **Document Integration Endpoints** ().
3. Under **Configurations : Document Integration Endpoints** dashboard, select the business step for which you want to add document integration.

The right hand pane displays the REST endpoint URL for the selected business step, along with a button to configure the document integration.

Note: **Configure** button will only appear for the business steps which have been defined using the pre-seeded document types.

Configurations : Document Integration End

Search

Procure Granola Bars > ORDER PRODUCTS

Procure Granola Bars > RECEIVE ORDER



Procure

SEND DOCUMENT

To send document
Please select docu

Document Variant

HTTPS POST UR

https:

The content paylo

No data collectio



Configure

4. Click **Configure** and specify the following parameters:
 - **Integration:** Specifies the document integration configuration to be used for retrieving documents for this business step.
 - **Activate:** Enable the slide bar to activate the configuration
 - **Additional Parameters:** Specifies the list of attributes that you can apply to filter the documents, pulled from the specific Oracle Fusion Cloud application, for this business step. These filters are especially helpful when the same document type is used across multiple business flows. You can distinguish the document associated with a specific business flow step based on a unique parameter(s). These parameters will then be used to filter the documents, which will be routed to this business step.

Integration

CMK UI Test

Activate



Additional Parameters



Select attributes to be used to filter the documents that will be routed to this step.



Filter

5. Click **Save** and wait until the **Save successful** message is displayed.
6. Click **Cancel** to return to the **Configurations : Document Integration Endpoints** dashboard.

Configure Oracle Warehouse Management Cloud

Configure Oracle Warehouse Management to send outbound messages about inventory history records to Intelligent Track and Trace.

You should have noted the Track and Trace instance endpoint URL that you obtained in the *Configure a Document Integration* task. View *About Inventory History Transaction Codes* to know the 18 inventory history transaction (IHT) codes of Oracle Warehouse Management that are accepted by the Track and Trace instance.

You can create one job for all the 18 inventory history transactions or create multiple jobs with each job scheduled for a group of operations or transactions. For example, activity codes generated during work order processing could be grouped together under one scheduled job and activity codes generated during QC process could be grouped under another scheduled job. Alternatively, you can create a single scheduled job for all the activity codes. Alerts are automatically sent when the scheduled jobs are invoked.

Sign in to Oracle Warehouse Management as an administrator and perform the following steps to schedule a job for all the IHT codes, configure the output interface, and set the output interface target.

1. Click **Scheduled Jobs**. Enter or select the following:
 - o **Job Type**: Select **Generate Inventory History Extract**
 - o **Enabled**: Select the check-box to make the scheduled job active
 - o **Include activity IDs list**: Select the 18 IHT codes
 - o **Username**: Enter a Warehouse Management username with administrator privileges
2. In **Inventory History Activity Parameters**, for all the activity or IHT codes, ensure that **Auto Process Flag** and **Auto Send Flag** are set to **No**. If these flags are not set to **No**, then use **Disable Auto Process** or **Disable Auto Send** whichever is relevant, to turn the flags to **No**.

Note: When you set the flags, Oracle Warehouse Management prompts for the administrator password.

3. When the scheduled job is executed, it sends an alert by using the **Output Interface** setup. Click **Output Interface Configuration**. For **Inventory History Export**, set the **Interface Format** field to **XML**.
4. To open the **Output Interface Target** page, click the **Details** icon.
5. To create a target for **Inventory History Target**, click **Add** (**+**) and enter or select the following values:
 - o **URL**: Enter Intelligent Track and Trace endpoint URL that you obtained when you configured the integration in Intelligent Track and Trace. For example: `https://<instance name>/oraclecloud.com/bca/api/tntIntegrations/v1/networks/local/transaction/wms/1`
 - o **Interface Protocol**: Select **REST Web Service**
 - o **User name**: Enter the founder admin user name used in Intelligent Track and Trace.
 - o **Password**: Enter the password of the founder admin

Note: If the user credentials change in Intelligent Track and Trace, ensure that you update these fields.

Results:

When the scheduled job is executed, you can verify the outbound messages in the **Output Interface** page.

Output Interface					
Interface Logs		Resend	Download	Output Interface Target	
Facility Code	Company Code	Interface Type	Filename	Status	Message
OITT_FAC	OITT_COMP	Inventory History Export	IHTHGNOITT_COMPOITT_FAC0000050727.xml	Failed	Could not POS
OITT_FAC	OITT_COMP	Inventory History Export	IHTHGNOITT_COMPOITT_FAC0000023607.xml	Processed	
OITT_FAC	OITT_COMP	Inventory History Export	IHTHGNOITT_COMPOITT_FAC0000023034.xml	Processed	
OITT_FAC	OITT_COMP	Inventory History Export	IHTHGNOITT_COMPOITT_FAC0000023024.xml	Processed	
OITT_FAC	OITT_COMP	Inventory History Export	IHTHGNOITT_COMPOITT_FAC0000022997.xml	Processed	

For a **Failed** status, to obtain the details about the transmission of that message and reason for failure, select the message and click **Interface Logs**.

About Inventory History Transaction Codes

Oracle Warehouse Management Cloud captures all the activities or transactions occurring in its managed facilities as inventory history records and each record is associated with an Inventory History Transaction (IHT) code.

Oracle Intelligent Track and Trace supports 18 IHT codes of Oracle Warehouse Management Cloud and provides corresponding document type that maps to each IHT code.

This table provides the list of IHT codes and their mapping transactions that are supported and accepted by Oracle Intelligent Track and Trace.

IHT Code	Type of Transaction
IHT - 1	Inventory Received
IHT - 3	Container Shipped
IHT - 6	IB Shipment Container Verified - Receipt Variance
IHT - 7	IB Shipment Container Verified - Container Variance
IHT - 13	Container Loaded (Outbound Operation)
IHT - 17	Inventory Adjusted Post Verification
IHT - 40	IBLPN Lost
IHT - 48	Shipment Status Change
IHT - 51	Inventory Movement
IHT - 67	Work Order Status Changed
IHT - 70	Kitting Inventory Consumed
IHT - 72	Container Received Subject to QC
IHT - 73	QC Accepted

IHT Code	Type of Transaction
IHT - 74	QC Rejected
IHT - 80	Container Delivered
IHT - 83	Container Unloaded
IHT - 84	Load Status Change
IHT - 85	Order Details Status Change

About Oracle Integration Cloud Adapter

Oracle Integration Cloud (OIC) Adapters facilitates third party applications, Oracle Cloud applications, and Oracle's on-premise applications such as Oracle eBusiness Suite to easily integrate with each other. Applications that connect with Oracle Intelligent Track and Trace through Oracle Integration Cloud can effectively use the Oracle Intelligent Track and Trace OIC adapter. This adapter exposes relevant Oracle Intelligent Track and Trace REST endpoints to Oracle Integration Cloud.

Oracle Intelligent Track and Trace provides different end points for trading partners to submit business transaction documents such as purchase orders, sales orders, or work orders, which are tracked in its business flows. Trading partners can use the Oracle Intelligent Track and Trace OIC adapter to post these transactions documents from various business applications into Oracle Intelligent Track and Trace.

Benefits of Using the Oracle Intelligent Track and Trace OIC adapter

The Oracle Intelligent Track and Trace OIC adapter is one of the many predefined adapters included with Oracle Integration Cloud. The benefits of using this adapter are:

- The OIC mapping mechanism enables automated integration between Oracle Intelligent Track and Trace instances and different data sources.
- The adapter enables authorized users to push a variety of data to Oracle Intelligent Track and Trace document ingestion endpoint.
- The adapter can be configured as an invoke based connection when creating an integration in Oracle Integration Cloud.

Note: When you create a new business flow and want to use it in OIC adapter, you must refresh the metadata for the corresponding connection. In connection metadata, all entity references are stored that you can integrate with.

To configure an integration by using the Oracle Intelligent Track and Trace OIC adapter, see [Understand Oracle Intelligent Track and Trace Adapter](#).

Configure Custom Views

Integrate custom applications with Intelligent Track and Trace UI and view them as one single user interface.

What are Custom Views?

This feature extends Track and Trace User Interface to present customized views of transaction Documents and Items that are built using Oracle Visual Builder Studio or any other UI toolkit.

As a founder admin, you configure Custom Views by registering custom application URL that you want to embed into Track and Trace application UI.

Access to Custom Views require appropriate permissions. As a founder admin, you define access rights to users (participating or endorsing Trading Partners) to configure and/or view Custom Views.

The tasks that you can execute to configure Custom Views are:

Topics

- [Create a Custom View](#)
- [View Custom Views](#)
- [Edit Custom Views](#)
- [Delete Custom Views](#)

Create a Custom View

You create custom views to embed customizations of various transaction documents and items.

When you create a new custom views, you can integrate a non-contextual custom views or contextual, customized views built as an extension to Document types or Item types.

Before you start

You should have required permissions to create Custom Views.

Custom UI Views

To create non-contextual custom views:

Here's what to do

1. Click **Menu** () and then click **Configurations**.
2. Click **Integrations** ()

- Under **Configurations : Integrations** dashboard, select **Custom Views** tab and then click **Create Custom View**.

Create Custom View

Name
simple custom UI page

Description
test1

Status

Enabled

Data Source

URL
[Redacted]

Location

Custom View Listing Contextual Document Page Contextual Item Page

Note: **Custom View Listing** option is selected by default.

- Enter the following values:
 - Name:** Specifies a custom view name.
 - Description:** Specifies a brief description associated to a custom view.
 - Status:** To display or hide custom view listing from the target location specified in the *Location* option.
 - Data Source:** Specifies the URL of the application being embedded into Intelligent Track and Trace.
 - Location:** Specifies the target location where the custom views are available for viewing.

1. Contextual Custom Views

The two types of contextual custom views are:

- **Contextual Document Page:** It enables you to integrate customizations associated to transaction document types. The **Contextual Document Page** links the document specific custom views that you can access from the Documents dashboard alongside other details, such as business flows and trace view details.
- **Contextual Item Page:** It enables you to integrate customizations associated to Item types. The **Contextual Item Page** links item specific custom views that you can access from the Items dashboard.

5. To create custom views associated to document types:
 - a. Enter the required values of the attributes mentioned in Step 4 and toggle the **Location** attribute to *Contextual Document Page*.

Create Custom View

Name
Contextual Document Test

Description
Contextual custome view for transaction docum

Status
Enabled

Data Source

URL

Location

Custom View Listing Contextual Document Page Contextual Item Page

i Document Pages matching Types specified here will have an added link to this Custom View

URL Preview
`https://nodejs.org/en/download/?documentKey={{documentKey}}&documentNumber={{do`

- b. From the **Document Types** drop-down list, select one or more document types to which you want to link the associated custom views.

The **URL Preview** displays the key-value mapping of the selected documents for which the custom view pages will be linked and appear on the **Documents** dashboard.

6. To create custom views associated to Item types:
 - a. Enter the required values of the attributes mentioned in Step 4 and toggle the **Location** attribute to *Contextual Item Page*.

Create Custom View

Name Contextual Item Page Test	Description Contextual custom view for Items
-----------------------------------	---

Status
Enabled

Data Source

URL

Location

Custom View Listing Contextual Document Page Contextual Item Page

i Item Pages matching Types specified here will have an added link to this Custom View

URL Preview
`https://nodejs.org/en/download/?itemID={{id}}&itemType={{itemTypeId}}&controlType={{co`

- b. Select one or more item types for which you want to link the customized views.

The **URL Preview** displays the key-value mapping of the lot-controlled or serial-controlled item types that you select, for which the custom view pages will be linked and appear on the **Items** dashboard.

7. Click **Save** and wait until the **Save Successful** message appears.
8. Click **Cancel** to return to the **Configurations : Integrations** dashboard.

View Custom Pages

After you create Custom Views, they are listed under the respective dashboards.

Custom UI Views that are not specific to Documents or Item types can be viewed from the **Custom Views** dashboard.

Before you start

You should have required permissions to access **Custom Views** dashboard.

Custom UI Views

To view all custom UI views:

Here's what to do

1. Click **Menu** () and then click **Operations**.
2. Click **Custom Views** .
All the non-contextual custom views appear in the **Custom Views** dashboard.

Custom Views

Name 	Description
simple custom UI page	test1

Note: The contextual custom views are not listed under the **Custom Views** dashboard.

3. Click **View** ().
The custom view appears in an iFrame view.

1. Contextual Custom Views

Custom Views associated to Document and Item types can be accessed from the Documents and Items dashboard.

- 4. To access contextual document pages, go to the **Documents** dashboard.
An **Open Custom View** icon appears next to the selected Document types.

Documents



Document	Document Type	Document Variant	Document T
VAC-21-10001-VC	Purchase Order	Purchase Order Fusion	January 4, 2
SS-1020012/DD	Sales Order	Default	December 3
PPE-20-456012-SS	Purchase Order	Purchase Order Fusion	December 2

5. Click **Open Custom View** ().

Note: By default, **Open Custom View** icon is disabled. To enable it, set the **Status** attribute to `Enabled` when you create a custom view.

An embedded custom view for the given URL is displayed in an IFrame view.

Contextual Document Test



6. To access contextual Item pages, go to the **Items** dashboard.
An **Open Custom View** icon appears next to each of the selected Item type.

↑ Home

Items

🔍 Search



LOT CONTROLLED 11
UNASSIGNED CONTROLLED 3



10-DOSE VISION PHARMA VACCINE 5
SINGLE DOSE VISION PHARMA VACCINE 4
FLUID RESISTANT GOWN 2
N95 RESPIRATOR 2
SINGLE LAYER GLOVES 1

📄 Export As CSV

Item Type ▾

Serial ▾

Lot ▾

Batch ▾

Last Update ▾

N95 Respirator

February 15, 2021 5:30 AM

7. Click **Open Custom View ().**

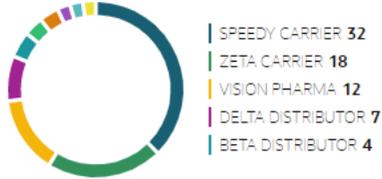
An embedded custom view for the given URL is displayed in an iFrame view.

You may have more than one custom view defined for a single document type or single item type. For such scenarios, the **Open Custom View** icon turns into a drop-down list and shows the list of custom views associated to the selected document or item type.

The following image illustrates a **Purchase order** document with multiple custom views.

↑ Home

Documents



Document	Document Type	Document Variant	Document Time	Submitter
 SVNPO-20210205-520	Purchase Order	Purchase Order Fusion	February 15, 2021 5:30 AM	SVN Pharmacy
 56920001224	Inbound Shipment	Default	February 13, 2021 3:40 PM	General Hospital
 ZCNY-589012-003	Transportation Telemetry	Default	February 13, 2021 12:30 AM	Zeta Carrier

A drop-down icon next to the **Open Custom View** shows two different custom views associated to a single **Purchase order** document.

Edit a Custom View

Based on your requirement, edit a custom view to provide different values to the previous configuration .

Before you start

You should have appropriate permissions to edit a **Custom View**.

To edit a custom view:

Here's what to do

1. Click **Menu** () and then click **Configurations**.
2. Click **Integrations** ().
3. Under **Configurations : Integrations** dashboard, select **Custom Views**.
4. Select the Custom View and click **Edit** ().
5. On the **Edit Custom Views** page, enter the values as required.

6. Click **Save** and wait until the **Save successful** message is displayed.
7. Click **Cancel** to return to the **Configurations : Integrations** dashboard.

Delete a Custom View

Remove Custom Views that are obsolete.

To delete custom views:

1. Click **Menu** () and then click **Configurations**.
2. Click **Integrations** ().
3. Under **Configurations : Integrations** dashboard, select **Custom Views**.
4. Choose the **Custom View** to be deleted and click **Delete** ().

Configure Report Templates

Report Templates enable you to define a structure to generate detailed information report to trace the selected lot-controlled and serial-controlled items in your supply chain network.

Topics:

- [About Report Templates](#)
- [Create a new Report Template](#)
- [Edit a Report Template](#)
- [Clone a Report Template](#)
- [Delete a Report Template](#)

About Report Templates

The Template allows you to define and customize the report layouts for item trace report.

The application provides two pre-seeded templates for item tracing:

- **Backward Trace Template:** To generate backward trace report of a lot-controlled or serial-controlled item. For example, information about various parts of product to its final assembly.
- **Forward Trace Template:** To generate forward trace report of a lot-controlled or serial-controlled item. For example, information about procuring raw material to a finished product or from finished product to its sale or distribution.

Create a New Report Template

Create a new report template.

Report Template is a structure defined for generating trace reports for the selected items.

1. Click **Menu** () and then click **Configurations**.
2. Click **Report Templates** ().
3. On the **Configurations : Report Templates** dashboard, click **Create New Report Template** ().
4. In the **New : Report Templates** area, enter values for the following fields:
 - o **Name**: Enter the name of the report template.
 - o (Optional) **Description**: Enter a description of the report template.
 - o **Template**: Enter the attributes in the **Template** metadata area.
5. Click **Save** and wait until the **Save successful** message is displayed.
6. Click **Cancel** to return to the **Configurations : Report Templates** dashboard.

Results:

Verify that a report template is listed on the left navigation bar and its details are displayed on the central frame.

Edit a Report Template

After creating a Report Template, as a founder admin, you can modify its details and save the changes.

To edit a report template, you should know the name of the report template that you have created and needs to be edited.

1. Click **Menu** () and then click **Configurations**.
2. Click **Report Templates** ().
The list of report templates that you've created in the application are displayed.
3. On the **Configurations : Report Templates** dashboard, from the left navigation bar, select the report template that you need to edit.
4. On the details section of the report template, click **Edit** ().
5. On the **Edit : Report Templates** page, modify the value of the fields as required.
6. Click **Save** and wait until the **Save successful** message is displayed.
7. Click **Cancel** to return to the **Configurations : Report Templates** dashboard.

Results:

Verify that your report template is listed on the left navigation bar and its updated details are displayed on the central frame.

Duplicate a Report Template

As a founder admin, you can duplicate an existing report template to create another similar template.

To duplicate an report template, you should know the name of the report template that you have created and needs to be cloned.

1. Click **Menu** () and then click **Configurations**.
2. Click **Report Templates** ().
The list of report templates that you've created are displayed.
3. On the **Configurations : Report Templates** dashboard, from the left navigation bar, select the report template that you need to clone.
4. On the details section of the report template, click **Duplicate** ().
5. On the **Duplicate : Report Templates** page, modify the value of the fields as required.
6. Click **Save** and wait until the **Save successful** message is displayed.
7. Click **Cancel** to return to the **Configurations : Report Templates** dashboard.

Results:

Verify that your report template is listed on the left navigation bar and its updated details are displayed on the central frame.

Delete a Report Template

After creating a report template, as a founder admin, you can delete a report template when it is not required.

To delete a report template, you should know the name of the report template that you have created and needs to be deleted.

1. Click **Menu** () and then click **Configurations**.
2. Click **Report Templates** ().
The list of report templates that you've created in the application are displayed.
3. On the **Configuration : Report Templates** dashboard, from the left navigation bar, click the report template that you need to delete.
4. On the details section of the item type, click **Delete** ().
5. On the **Confirm Delete** dialog box, click **Delete**.

Results:

Verify that your report template is not listed on the left navigation.

Configure Settings

Oracle Intelligent Track and Trace lets you integrate with third-party map providers. As a founder, you can customize the application to use the maps and search facility included by your map provider. When you select a third-party map provider, the built-in maps get replaced with the maps provided by your map provider.

Topics:

- [Add Third Party Map Providers](#)
- [Customize Application Appearance](#)
- [Configure Security Settings](#)
- [Define Business ID Types](#)

Add Third Party Map Providers

Oracle Intelligent Track and Trace lets you integrate with third-party map providers. The default map is **Oracle Maps**. The application also supports **HERE Maps** as a third-party map provider with high precision location search. You can switch between **Oracle Maps** and **HERE Maps** maps as per your requirement.

To use third party map provider:

1. Click **Menu** () and then choose **Configurations**.
2. Click **Settings** ().
3. In the **Configurations : Settings** dashboard, click **Edit** ().
4. Next to the **Map Provider** field, click **Edit** ().
5. Choose the **Map Provider** from the drop-down list.
The application currently support two map providers – **Oracle Maps** (default), and **HERE Maps**.
6. If you select **HERE Maps**, complete these fields:

Note: You configure HERE maps using OAuth mechanism. Instead of using HERE maps login credentials, such as **Application ID** and **Application Code**, generate an access token for authenticating to HERE maps. To generate the access token, you must first generate OAuth credentials (access key ID and access key secret) as described in the HERE Developer portal at <https://developer.here.com>.

- **Access Key ID:** This is the access key credential used for authenticating to HERE maps using OAuth mechanism. Generate and enter the access key from the <https://developer.here.com> website.
 - **Access Key Secret:** This is the secret credential used for authenticating to HERE maps using OAuth mechanism. Generate and enter the access key secret from the <https://developer.here.com> website.
7. Click **Validate**. After you receive a success message, click **OK** and close the window to return to the Settings page.
 8. Click **Save** and wait until the **Save successful** message is displayed.
 9. Click **Cancel** to return to the **Configurations : Settings** dashboard.

Results:

The Map page now starts using maps from your specified map provider in place of the built-in maps. With HERE Maps, you can choose to display the satellite or terrain view as well. Choose from amongst the following options on the map:

- **Classic**
- **Satellite**
- **Terrain**

The option to see points of interest is also available in all the HERE Maps layers.

If you wish to revert to using the built-in Oracle maps, you can choose Oracle Maps from the **Configurations : Settings** page.

Customize Application Appearance

Oracle Intelligent Track and Trace enables you to customize the appearance of your application instance. You can upload a customized image which represents your organization, and can also change the name of the application displayed in the title bar of the UI console.

To configure appearance:

1. Click **Menu** () and then click **Configurations**.
2. Click **Settings** ().
3. Under **Configurations : Settings** dashboard, click **Edit** ().
4. Under **APPEARANCE**, specify the following:
 - o **Application Name:** Name of the application which you want to be displayed in the title bar. By default **Oracle Intelligent Track and Trace** is displayed.
 - o **App Logo:** Application logo to be displayed on the title bar of the UI console. By default **Oracle** logo is displayed. Select **Custom** if you want to display a customized logo.
 - o **Choose Image File:** Upload a custom image which will be displayed in the title bar of the UI console. This option is enabled only when you select **Custom** in **App Logo**. Ensure that the image uploaded has a white

background, and image height is not more than 22 pixels. Images with height more than 22 pixels are scaled to fit and may appear distorted.

- **Show Application Name:** Select this option if you want to display application name in the title bar. Note that the name displayed is the same that you have specified in field **Application Name**.
- **Show Logo:** Select this option if you want to display the application logo in the title bar of the UI console. Note the logo displayed is the same that you have specified in **App Logo** field.

APPEARANCE

Application Name
Oracle Intelligent Track and Trace

App Logo

App Logo Type
Custom

 Choose Image File

Title Bar

Show Application Name Show Logo

5. Click **Save** and wait until the **Save successful** message is displayed.
6. Click **Cancel** to return to the **Configurations : Settings** dashboard.

Configure Security Settings

Oracle Intelligent Track and Trace allows you to customize the security settings of your application instance. You can provide a list of domains that can access your application instance.

As a founder admin you can restrict access to the application instance by specifying domains that can access the application. Complete the following steps to set this security setting:

1. Click **Menu** () and then click **Configurations**.
2. Click **Settings** ().
3. Under **Configurations : Settings** dashboard, click **Edit** ().
4. In the **Security** section, next to the text box, click **Edit** ().

5. On the **Security** dialog box, in the **Allow Access From Domain** text box, enter the address of the domain that can access your application and click **OK**.

The **Allow Access From Domain** functionality also supports Cross-Origin Resource Sharing (CORS), which allows you to add multiple domains that allow users of external applications, such as Visual Builder Studio etc., to access Track and Trace application APIs.

Note: The users of external applications must be a valid Track and Trace users.

6. Click **Save** and wait until the **Save successful** message is displayed.
7. Click **Cancel** to return to the **Configurations : Settings** dashboard.

Define Business ID Types

Oracle Intelligent Track and Trace enables you to add additional business ID types which you can use when you define locations of trading partners. The business IDs uniquely identify the locations of a trading partner within a business network.

As a founder admin, complete the following steps to add new or modify the existing business identifier types:

1. Click **Menu** () and then click **Configurations**.
2. Click **Settings** ().
3. On the **Configurations : Settings** dashboard, scroll within the **BUSINESS IDENTIFIER TYPES** section, and then click **Edit** ().
4. On the **Business Identifier Types** page, click **Add** ().
At the bottom of the existing list of business identifier types, two text boxes appear.
5. Under **Type**, in the new text box, enter the business ID type, and in the text box under **Description**, enter the information that describes the business ID type.
6. To delete any exiting business ID type, next to its description, click **Delete** () and then click **Confirm** to complete the deletion.
If required, you can modify the value of the existing business identifier types and their descriptions.
7. Click **Save** and wait until the **Save successful** message is displayed.
8. Click **Cancel** to return to the **Configurations : Settings** dashboard.

Configure User Defined UOM Codes

In addition to the standard Units of Measurement (UOM) codes, you can configure custom UOM codes specific to an item type. For example, for an item type **test-tube**, you may define a custom UOM code as **TB**.

Topics:

- About User Define UOM Code

- [Create a new UOM Code](#)
- [Edit a UOM Code](#)
- [Clone a UOM Code](#)

About User Define UOM Codes

Oracle Intelligent Track and Trace supports user defined UOM codes for lot-controlled or serial-controlled items in your supply chain network.

As a founder administrator, use the following properties to define a UOM code of your choice:

- **Code:** A string that uniquely identifies the UOM code. For example, *BAG*.
- **Label:** A string describing the UOM code, such as *sack*, *bag* and so on.
- **Description:** A statement describing the UOM code.
- **Conversion Factor:** A constant value by which the unit of measure is multiplied and converted to a base unit.

Scenario

Let us assume that the items shipped are packed in a carton and each carton contains 24 bottles. In this case, you can configure the user defined UOM code as:

Code	Label	Description	Conversion Factor
CT	carton	A carton of 24 bottles. Empty bottles used as raw material	24

The following table is an example of the category to which the code belongs and its corresponding base unit of measure.

Unit of Measure Class	Unit of Measure	Base Unit of Measure	Conversion Factor
Quantity	Carton	Each	24 (One carton = 24 each)

Create a New UOM Code

Create a new UOM code of your choice.

Note: The UOM code once created cannot be deleted.

1. Click **Menu** () and then click **Configurations**.
2. Click **Units Of Measure** ().

3. On the **Configurations : Units Of Measure** dashboard, click **Create New Unit Of Measure** ().
4. In the **New : Units Of Measure** area, enter values for the following fields:
 - o **Code:** Enter the name of the UOM code.
 - | **Note:** UOM code string is case-sensitive.
 - o **Label:** Enter the label describing the UOM code.
 - o **Description:** Enter a short description defining the usage of the UOM code.
 - o **Conversion Factor:** Enter the conversion factor to define the base unit of measure.
5. From the **Class** drop-down list, select the category to which the UOM code belongs.
For example, the **Class** attribute for a box of face masks is *Quantity*.
6. From the **Base Unit of Measure** drop-down list, select the base unit of measure associated to the selected class.
For example, the **Base Unit of Measure** of the *Quantity* class is *Each* or *Piece*.
7. Click **Save** and wait until the **Save successful** message is displayed.
8. Click **Cancel** to return to the **Configurations : Units of Measure** dashboard.

Results:

Verify that the new user defined code is listed on the left navigation bar and the updated details are displayed on the central frame.

Edit a UOM Code

After creating a UOM Code, as a founder admin, you can modify its details and save the changes.

1. Click **Menu** () and then click **Configurations**.
2. Click **Units Of Measure** ().
The list of UOM codes that you've created in the application are displayed.
3. On the **Configurations : Units Of Measure** dashboard, from the left navigation bar, select the UOM code that you need to edit.
4. On the details section of the Units of Measure, click **Edit** ().
5. On the **Edit : Units Of Measure** page, modify the value of the fields as required.
 - | **Note:** After a UOM code is created, the UOM **class** property cannot be modified.
6. Click **Save** and wait until the **Save successful** message is displayed.
7. Click **Cancel** to return to the **Configurations : Units Of Measure** dashboard.

Results:

Verify that your UOM code is listed on the left navigation bar and its updated details are displayed on the central frame..

Duplicate a UOM Code

As a founder admin, you can duplicate an existing UOM code to create another similar code.

To duplicate UOM code, you should know the name of the UOM code that you have created and needs to be cloned.

1. Click **Menu** () and then click **Configurations**.
2. Click **Units Of Measure** ().
The list of UOM codes that you've created are displayed.
3. On the **Configurations : Units Of Measure** dashboard, from the left navigation bar, select the UOM code that you need to duplicate.
4. On the details section of the Units of Measure, click **Duplicate** ().
5. On the **Duplicate : Units Of Measure** page, modify the value of the fields as required.
6. Click **Save** and wait until the **Save successful** message is displayed.
7. Click **Cancel** to return to the **Configurations : Units Of Measure** dashboard.

Results:

Verify that your UOM code is listed on the left navigation bar and its updated details are displayed on the central frame.

Endorsing Trading Partner Tasks

Founder sends invites to all the endorsing trading partners to join the Founder's Oracle Intelligent Track and Trace business network. Once you register with Oracle Intelligent Track and Trace, you can contribute to the founder's supply chain by submitting documents, and adding rules for validating business flow steps.

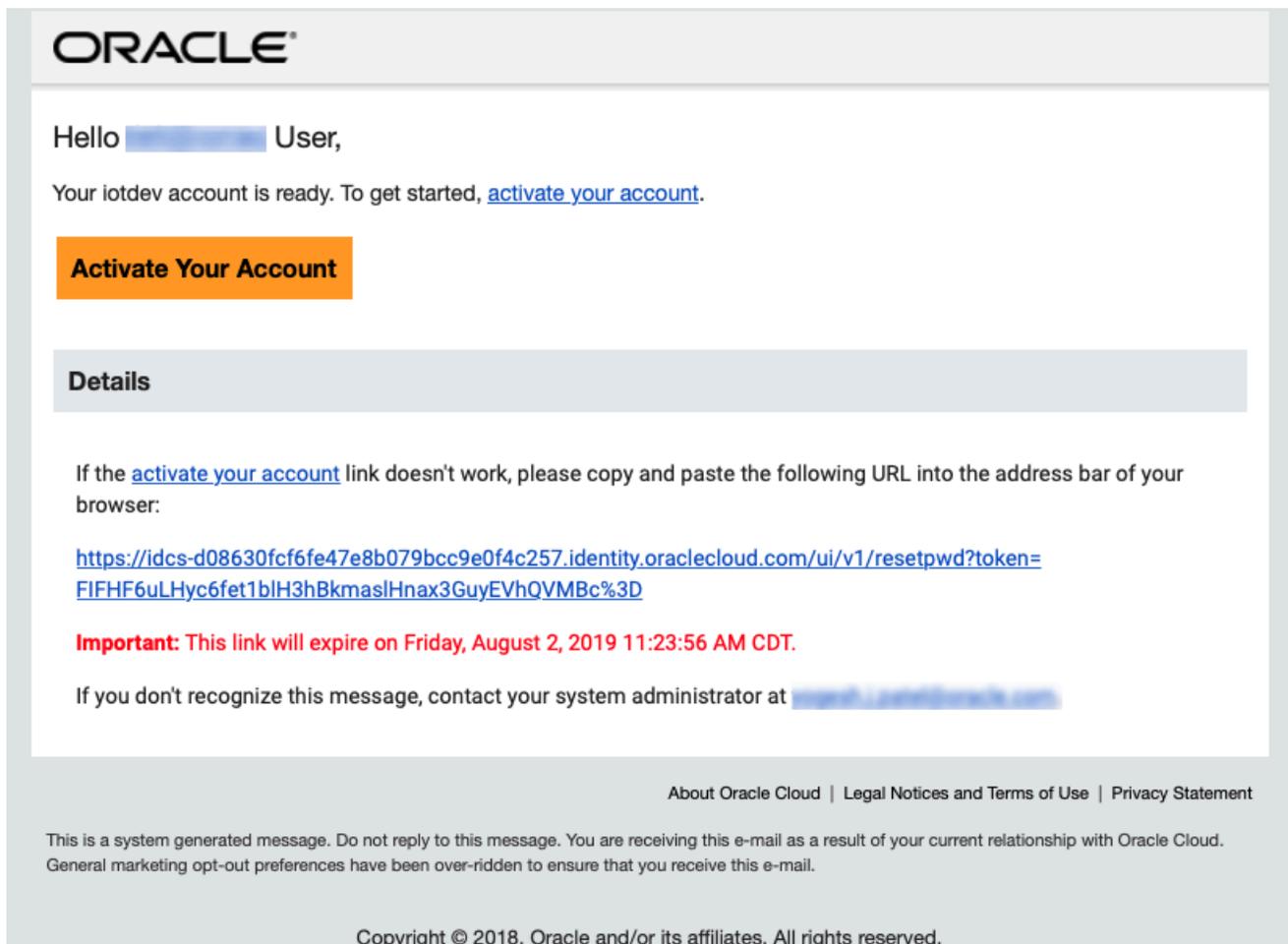
Topics:

- [Join Founder's Network](#)
- [Configure Business Flow Steps](#)
- [Submit Documents](#)
- [Manage Users for Endorsing Trading Partners](#)
- [Add Item Type Code](#)
- [View Package Types](#)

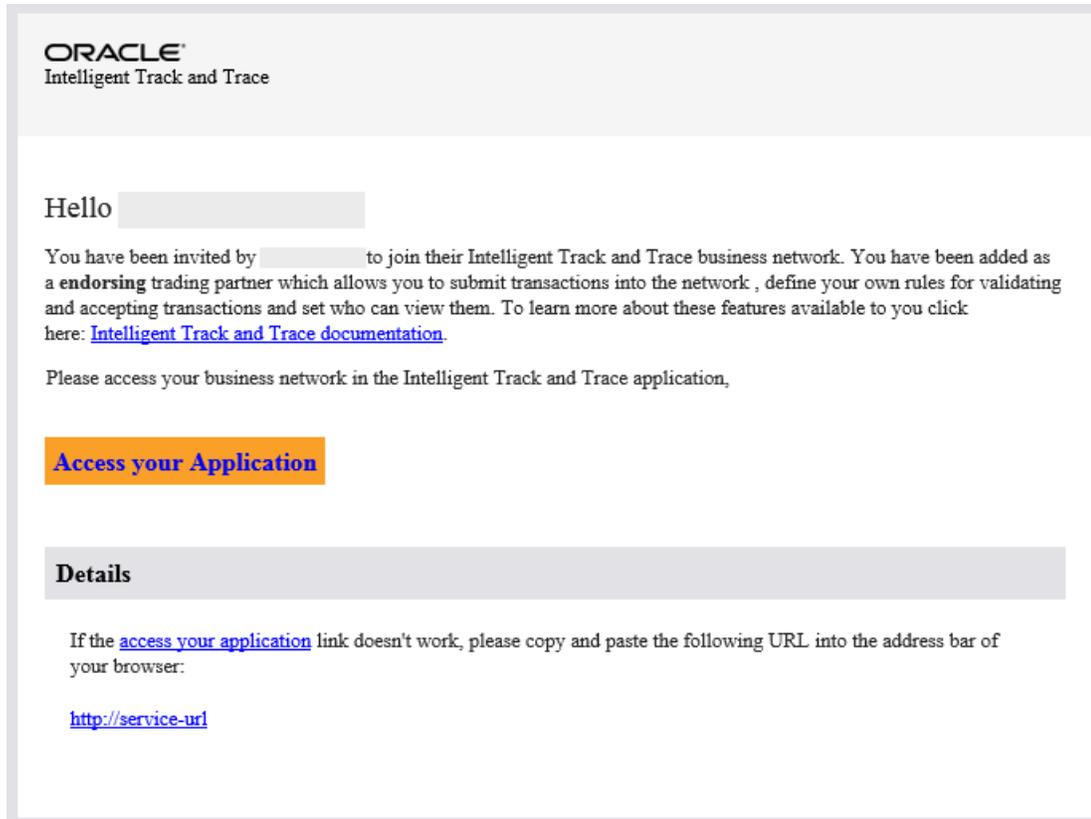
Join Founder's Network

Two automated emails are sent to all the trading partners as part of the invitation to join the founder's Oracle Intelligent Track and Trace business network.

The first email contains instructions to activate your account with Oracle Intelligent Track and Trace and setup your password. Follow the instructions provided in the email to setup and register your account. Here is the screenshot of a sample activation email:



The second email provides the steps to access Oracle Intelligent Track and Trace application. Here is a screenshot of the sample access email:



Configure Business Flow Steps

As an endorsing trading partner, you are responsible for configuring the business steps for which you have been identified as a document submitter.

An endorsing trading partner, as a document submitter can specify the viewers for a business step and configure the document timeout event.

Note: As a founder, you can modify the endorsing trading partner configuration to allow or restrict them to specify viewers for a business step. See *Modify a Trading Partner*.

A viewer has a read-only permission for all the transaction documents associated with the business step.

You can optionally configure the document timeout event that lets you select a time and a document. When the business flow is enabled for document submission and if the specified document does not arrive within the specified time limit, the document time-out event gets generated.

1. Click **Menu** () and then click **Configurations**.
2. Click **Business Flows** ().
3. On the **Configurations : Business Flows** dashboard, from the left navigation bar, select the business flow for which you need to add viewers.

- Click **Edit** () next to the name of the flow.
The steps of the business flow are displayed.

				
Name	ORDER VACCINE	BOOK VACCINE ORDER	VACCINE SHIPMENT NOTICE	SHIP VACCINE
Document	Purchase Order Versioning: Enabled	Sales Order	Outbound Shipment	Bill Of Lading
Submitters	Delta Distributor	Vision Pharma	Vision Pharma	Speedy Carrier
Viewers	Vision Pharma, Ro...	Delta Distributor	Speedy Carrier, De...	Delta Distributor

icon.

- Identify the step in which you need to add viewers, click the step's **Document** () icon, and provide the following information:
 - Viewers:** Select the trading partners who can view this business step and all the documents associated with it. The drop-down lists all the trading partners in the network. The document submitter and the founder can setup zero or more viewers for the business step.
 - **Business Roles:** Select viewers based on the assigned roles. All tradings partnters with the assigned roles will be grouped and become viewers of that step.
 - **Trading Partners:** Select specific trading partners who can view this business step and all the documents associated with it. The drop-down lists all the trading partners in the network.
- Click **Save** to close the step window.
- Repeat Step 5 and 6 for all the steps in the business flow that you need to edit.
- If there is any error while adding steps, you will see a **Warning Sign** () on top of that step. Click on the **Warning Sign** and fix the error.
- Click **Save**.
- If there is any error while configuring steps or the configuration is incomplete, you see a **Warning** () icon on top of that step. Click **Warning** and fix the error.
- Click **Save** and wait until the **Save successful** message is displayed.
- Click **Cancel** to return to the **Configurations : Business Flows** dashboard.

Submit Documents

Oracle Intelligent Track and Trace provides an application UI based and REST API based mechanism to the trading partners to submit documents into the network.

When a business flow is activated, Oracle Intelligent Track and Trace generates a REST endpoint for each of the business steps. You can integrate these REST endpoints with your REST clients or integration tools to post documents. You can only submit documents for the business steps for which you have been identified as a submitter. As a submitter, you can optionally attach files such as, image files, pdf files, or audio files, when submitting the documents using the *Submit document* REST API. Alternatively the submitter can login to the application and upload documents for the relevant business steps. The documents should follow a Oracle Intelligent Track and Trace defined JSON schema or CSV template, which are available for download. To submit a document, complete one of the following methods.

- *Upload Documents as JSON or CSV file*
- *View Document Integration Endpoints*

Manage Users For Endorsing Trading Partners

As an endorsing trading partner, your access to Oracle Intelligent Track and Trace is limited by the role you play in your organization.

Oracle Intelligent Track and Trace has three types of user roles defined for the trading partners—administrator, web application user, and integration user. You can read more about these roles and their access permissions in *Understand Roles and Users*.

To manage users in your Oracle Intelligent Track and Trace instance, see *Manage Users*

Add Item Type Code

A master list of items that need to be tracked through the network is defined by the founder. Each item is identified by an ID (item type code). These identifiers may not be the same that a trading partner used for the same item. Using this option, a trading partner can define their own product code/SKU/item ID for the item defined by the founder.

To add a code to an existing item type, as a trading partner admin, you should know the name of the item type to which you will associate a new code..

1. Click **Menu** () and then click **Configurations**.
2. Click **Item Types** ().
The list of item types in the application are displayed.
3. On the **Configurations : Item Types** dashboard, from the left navigation bar, click the item type for which you need to add an item code.
4. On the details section of the item type, click **Add Item Type Code** and enter your code and click **Save**.

Results:

Oracle Intelligent Track and Trace will create an association between the founder's item type code and the trading partner's item type code for the item type.

View Package Types

Endorsing trading partners and participating trading partners of a business network cannot create a package type. However, they can view the package types that the founder has created and can optionally use them in the documents that they submit.

As a trading partner admin, you can view the package types that the founder has created in the application.

1. Click **Menu** () and then click **Configurations**.
2. Click **Package Types** ().
The list of package types in the application are displayed.
3. On the **Configurations : Package Types** dashboard, from the left navigation bar, click the package type to view its details in read-only mode.

Results:

The details of the package type is displayed on the central frame.

Participating Trading Partner Tasks

Participating trading partners are lightweight trading partners in the founder network. Their access to Oracle Intelligent Track and Trace is limited to few operations such as document submission for a business step, and trace transaction documents for which they have been granted view access.

Topics:

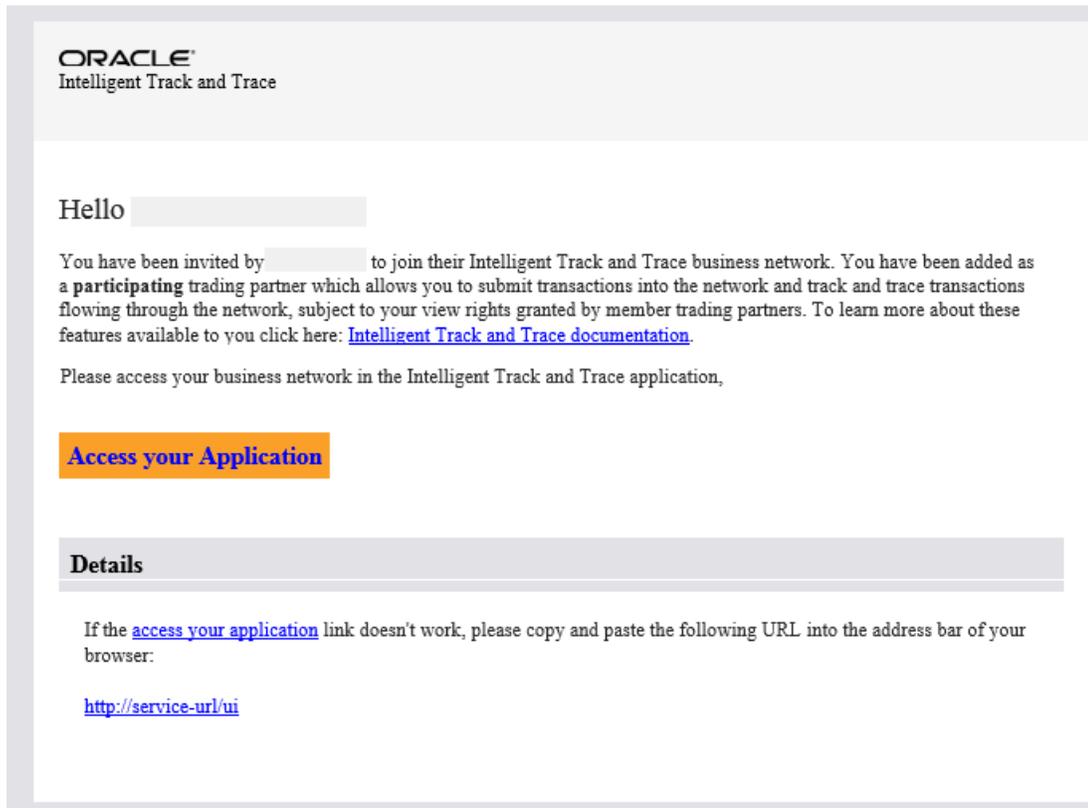
- [Join Founder's Network](#)
- [Submit Documents](#)
- [Manage Users for Participating Trading Partners](#)
- [Add Item Type Code](#)
- [View Package Types](#)

Join Founder's Network

Two automated emails are sent to all the participating trading partners as part of the invitation to join the founder's Oracle Intelligent Track and Trace business network. As a participating trading partner, you must follow the instructions in the emails to be able to start contributing to founder's supply chain.

The first email contains instructions to activate your account with Oracle Intelligent Track and Trace and setup your password. Follow the instructions provided in the email to setup and register your account.

The second email provides the steps to access Oracle Intelligent Track and Trace application. Here is a screenshot of the sample access email:



Submit Documents

Oracle Intelligent Track and Trace provides an application UI based and REST API based mechanism to the trading partners to submit documents into the network.

When a business flow is activated, Oracle Intelligent Track and Trace generates a REST endpoint for each of the business steps. You can integrate these REST endpoints with your REST clients or integration tools to post documents. You can only submit documents for the business steps for which you have been identified as a submitter. As a submitter, you can optionally attach files such as, image files, pdf files, or audio files, when submitting the documents using the *Submit document* REST API. Alternatively the submitter can login to the application and upload documents for the relevant business steps. The documents should follow a Oracle Intelligent Track and Trace defined JSON schema or CSV template, which are available for download. To submit a document, complete one of the following methods.

- *Upload Documents as JSON or CSV file*
- *View Document Integration Endpoints*

Manage Users for Participating Trading Partners

As a participating trading partner, your access to Oracle Intelligent Track and Trace is limited by the role you play in your organization.

Oracle Intelligent Track and Trace has three types of user roles defined for the trading partners—admin, application user, user. You can read more about these roles and their access permissions in [Understand Roles and Users](#).

To manage users in your Oracle Intelligent Track and Trace instance, see [Manage Users](#)

Add Item Type Code

A master list of items that need to be tracked through the network is defined by the founder. Each item is identified by an ID (item type code). These identifiers may not be the same that a trading partner used for the same item. Using this option, a trading partner can define their own product code/SKU/item ID for the item defined by the founder.

To add a code to an existing item type, as a trading partner admin, you should know the name of the item type to which you will associate a new code..

1. Click **Menu** () and then click **Configurations**.
2. Click **Item Types** ().
The list of item types in the application are displayed.
3. On the **Configurations : Item Types** dashboard, from the left navigation bar, click the item type for which you need to add an item code.
4. On the details section of the item type, click **Add Item Type Code** and enter your code and click **Save**.

Results:

Oracle Intelligent Track and Trace will create and association between the founder's item type code and the trading partner's item type code for the item type.

View Package Types

Endorsing trading partners and participating trading partners of a business network cannot create a package type. However they can view the package types that the founder has created and can optionally use them in the documents that they submit.

As a trading partner admin, you can view the package types that the founder has created in the application.

1. Click **Menu** () and then click **Configurations**.
2. Click **Package Types** ().
The list of package types in the application are displayed.
3. On the **Configurations : Package Types** dashboard, from the left navigation bar, click the package type to view its details in read-only mode.

Results:

The details of the package type is displayed on the central frame.

Use VSCode for Oracle Intelligent Track and Trace

Currently, to edit any document type definitions, Oracle Intelligent Track and Trace provides a browser based ACE editor that does not support features, such as auto-completion, in-place validation of syntax, instant previews of HTML templates etc.

Visual Studio Code (VSCode), a free and an open source Integrated Development Environment (IDE), is a powerful tool to create and edit Oracle Intelligent Track and Trace artifacts locally without connected to the Track and Trace application.

Topics:

- [About VS Code Extension](#)
- [Download and Install Oracle Intelligent Track and Trace Extension](#)
- [Configure Oracle Intelligent Track and Trace Extension for VS Code Editor](#)
- [Download Oracle Intelligent Track and Trace Artifacts](#)
- [Create Oracle Intelligent Track and Trace Artifacts](#)
- [Edit Oracle Intelligent Track and Trace Artifacts](#)

About VS Code Extension

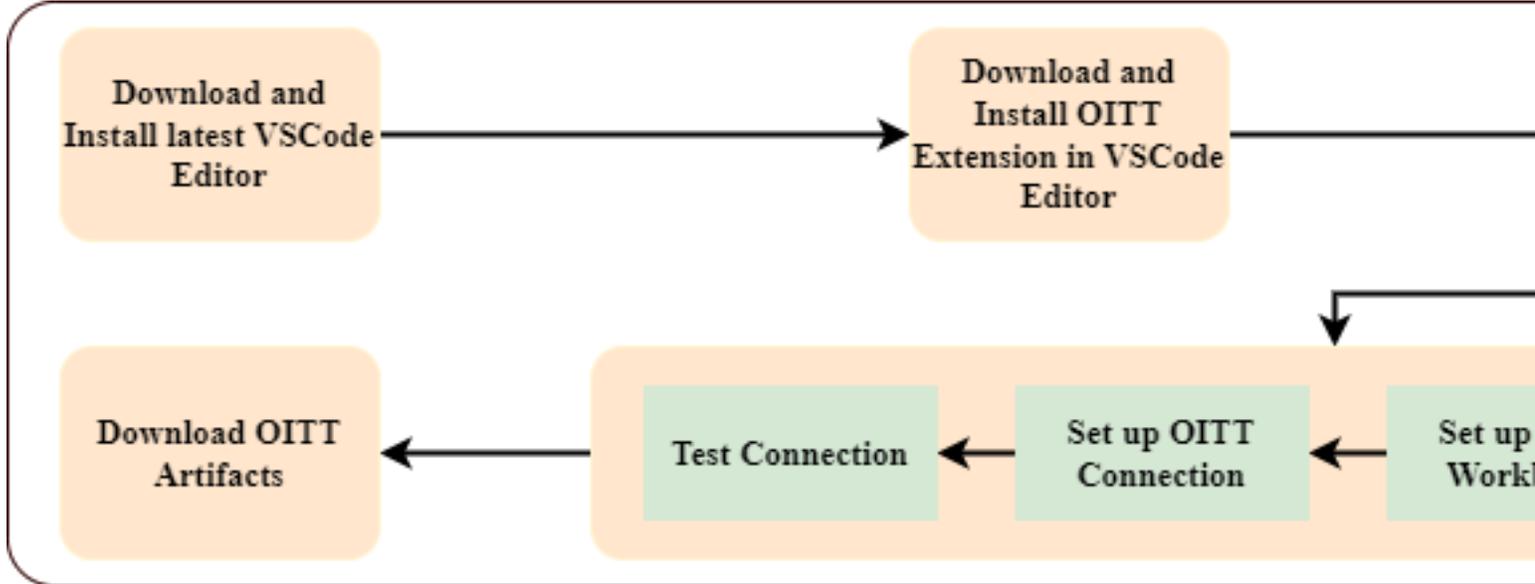
The VSCode editor extension for Oracle Intelligent Track and Trace helps you create, edit, or validate various pre-seeded documents or user-defined document type definitions, intuitively and efficiently.

Use the VSCode Extension to work with Oracle Intelligent Track and Trace artifacts in an offline mode, without connecting to the Oracle Intelligent Track and Trace instance.

The current version of the VSCode extension offers the following features:

- Download all or selected documents from Oracle Intelligent Track and Trace and edit them offline.
- Upload all or selected document to Oracle Intelligent Track and Trace.
- Create new document types offline and add them to the Oracle Intelligent Track and Trace documents list.
- In-place syntax validation by highlighting the errors, problem reporting, auto-completion for document definitions.
- Preview mode for metadata using test data generated from examples attributes in associated JSON schema.
- Preview mode for presentation templates using test data generated from examples attributes in associated JSON schema.
- Real-time previews while editing handlebar templates.
- Snippets for easy schema authoring.
- Snippets for Oracle Intelligent Track and Trace helpers in Handlebars templates.
- Code completion in Handlebars templates.

The following image represents the workflow for implementing VSCode extension for Oracle Intelligent Track and Trace application.



Download and Instal VSCode Extension

Download the VSCode Editor and the Extension from your Oracle Intelligent Track and Trace instance.

The following platforms are supported:

- Mac OSX
- Linux distributions (Debian and Red Hat)
- Windows 10

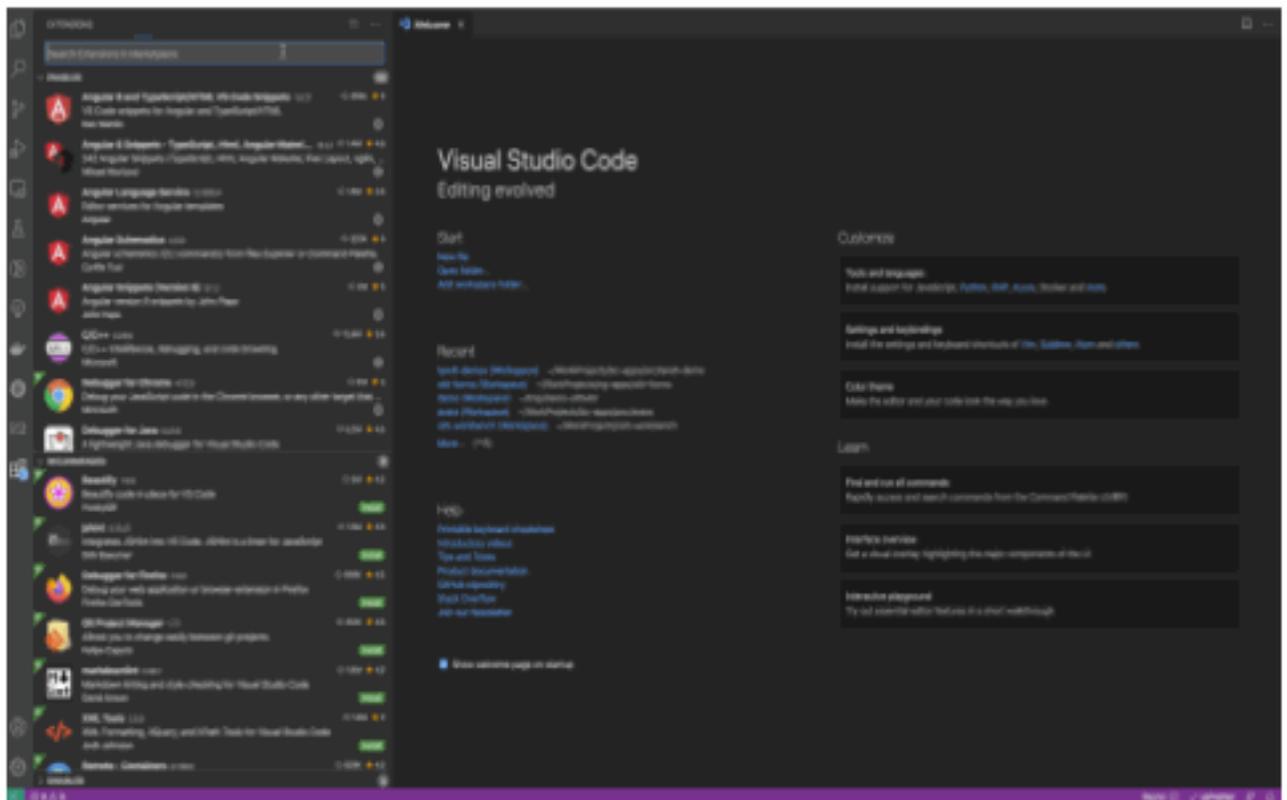
1. Click **User Menu** () and then click **Visual Studio Code Extension**.
The **Visual Studio Code Extension** installation information is displayed.



Visual Studio Code Extension

Setup instructions

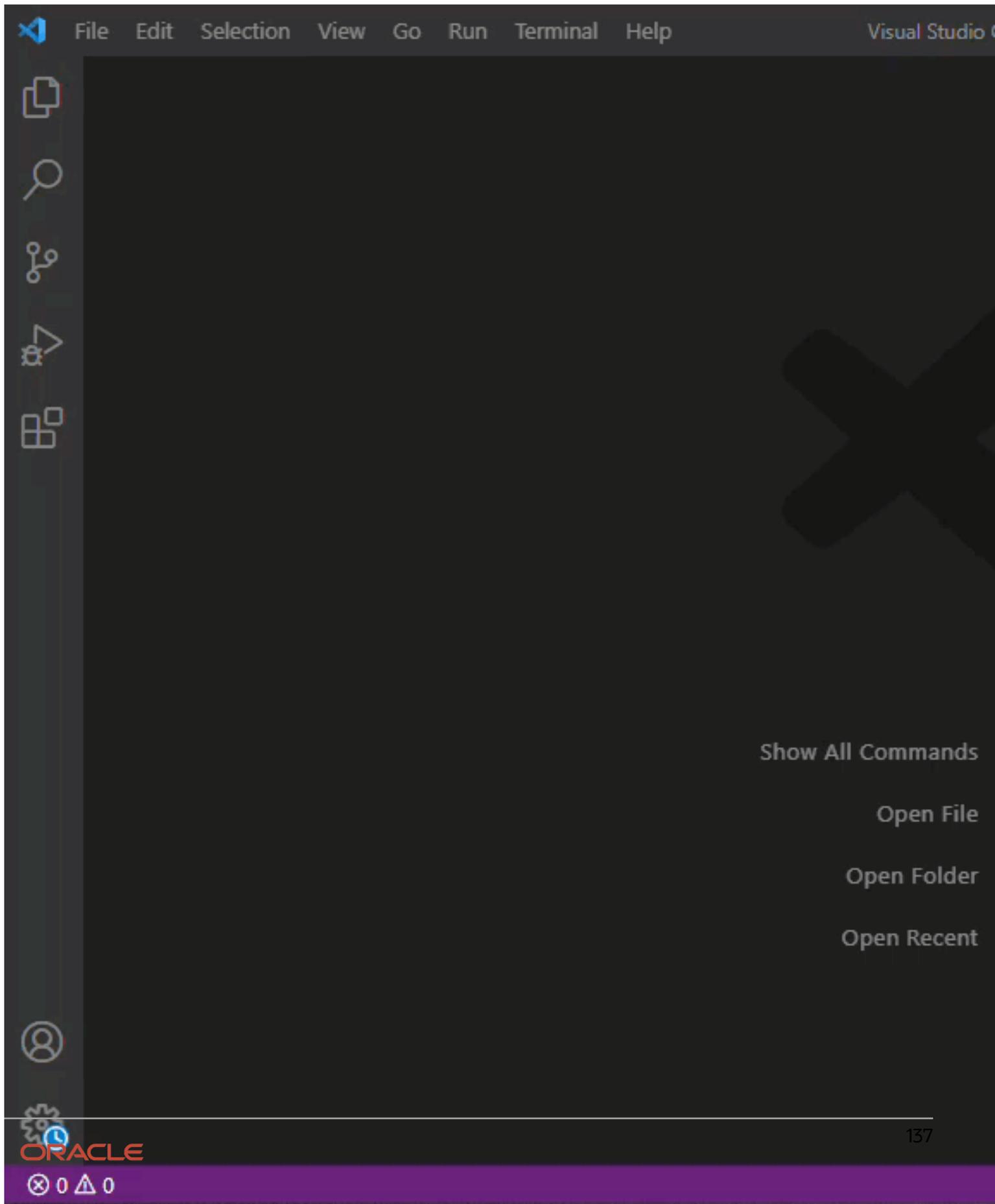
- Install the latest [Visual Studio Code](#)
- Download the extension [oittwbr-latest.vsix](#)
- Install the extension as shown below



2. Click **Install the latest Visual Studio Code**, download the editor to your local system and install it.
3. Download the latest Oracle Intelligent Track and Trace extension for VSCode Editor and click **OK** to close the window. For example, `oittwbr-latest.vsix` file.
4. In the VSCode Editor, click **Extensions** ().
5. In the top right corner of the **Extensions** panel, click **Views and More Actions...** () and select **Install from VSIX....**
6. Select the VSCode Extension file downloaded in Step 3 and click **Install**.
The Oracle Intelligent Track and Trace VSCode extension is installed.

Results:

The Oracle Intelligent Track and Trace VSCode extension () icon appears in the VSCode Editor navigation bar. The following animation shows how to download and install the OITT extension:



Configure Oracle Intelligent Track and Trace Extension for VS Code Editor

After you download and install the Oracle Intelligent Track and Trace extension, configure the required settings to work with your Oracle Intelligent Track and Trace instance.

For Oracle Intelligent Track and Trace extension to work, setup the following in your Visual Studio Code editor:

- Create Workspace for Oracle Intelligent Track and Trace extension
- Setup the Workbench for Oracle Intelligent Track and Trace extension
- Setup the connection with Oracle Intelligent Track and Trace instance

1. Create Workspace for Oracle Intelligent Track and Trace extension

Oracle Intelligent Track and Trace extension uses workspace to setup the workbench.

1. In the Visual Studio Code editor activity panel, click **Explorer** ().
2. In the **File** menu, click **Save Workspace As...**
The **Save Workspace** dialog box opens.
3. Create a new folder in the location of your choice and save the workspace file in it.
The new folder and workspace appears in the **Explorer** pane.

2. Setup the Workbench for Oracle Intelligent Track and Trace extension

4. In the Visual Studio Code editor activity panel, click () to activate the workspace.
The Oracle Intelligent Track and Trace extension will search for any existing workbench. Select the workbench to proceed.
5. If no existing workbench is found, click **Create new Workbench Definition** and enter a name for the Workbench in the text field.
The Workbench for the Oracle Intelligent Track and Trace artifacts is created.
For example, in the **DOCUMENT TYPES** panel, the system defined and user defined categories are created.

3. Setup the connection with Oracle Intelligent Track and Trace instance

- In the **INSTANCE** panel, click **Click to Setup** and then click **Connection Details**.
The **Connection Configuration** page is displayed.

Connection Configuration

Name: Test

Instance URL: https://[redacted]-test.fradev.bcadev.oraclecorp.com

Use Application Token:

Application Token: [blurred]

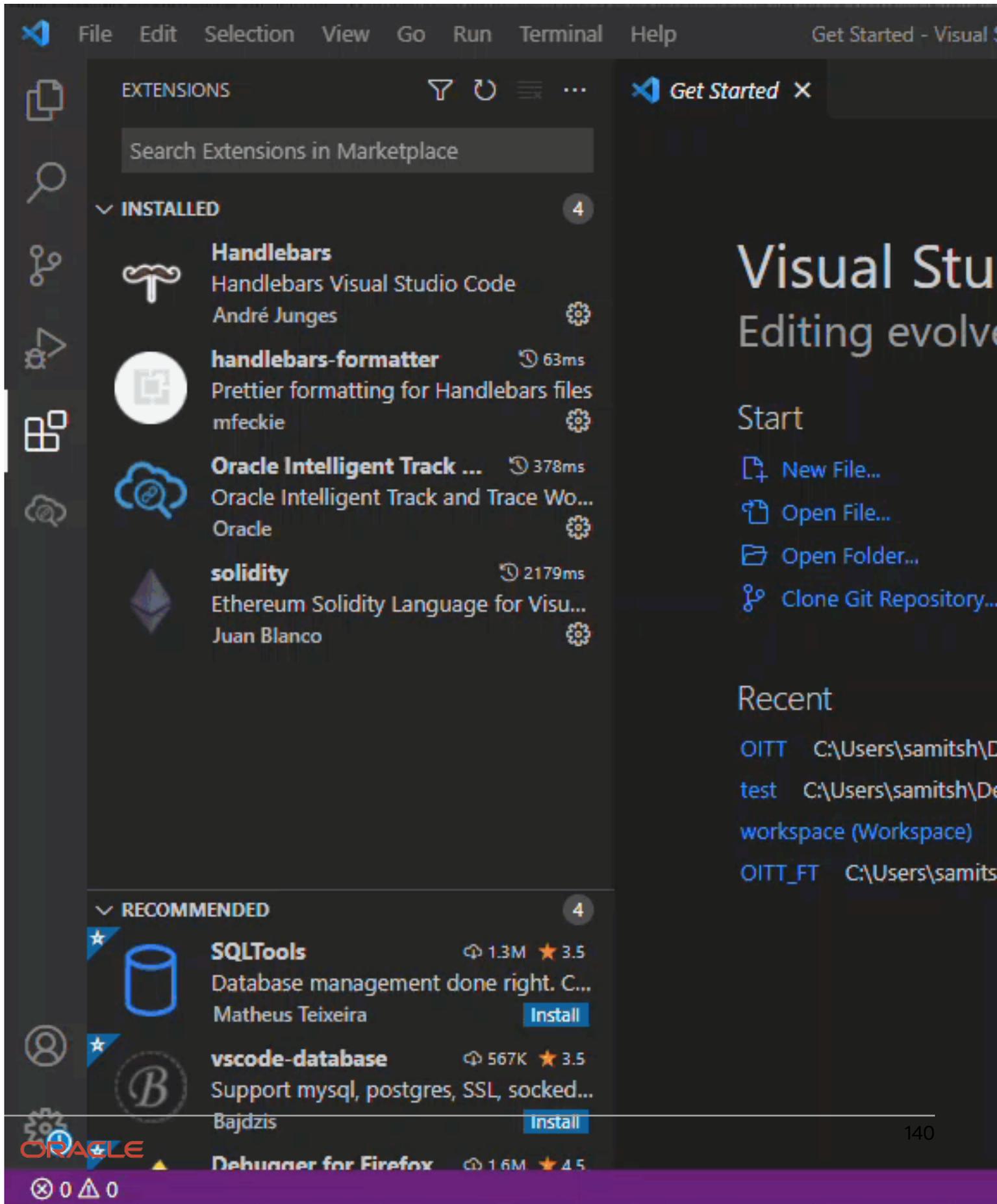
Network ID: local

Save

- To setup the connection with Oracle Intelligent Track and Trace instance, enter the following.
 - Name:** Enter the name for the connection.
 - Instance URL:** Enter your Oracle Intelligent Track and Trace URL.
 - Application Token:** Generate the authentication key from your Oracle Intelligent Track and Trace instance and enter in the text field.
 - Network ID:** Keep it as default value.
- Click **Save** to save the connection settings.
- In the **INSTANCE** panel, click connection name you have entered and then click **OITT: Test Connection**.
A **Connection to the Oracle Intelligent Track and Trace is successful** notification appears in the bottom right side of the configuration page.

Results:

The following animation shows how to configure Oracle Intelligent Track and Trace extension in VSCode Editor:



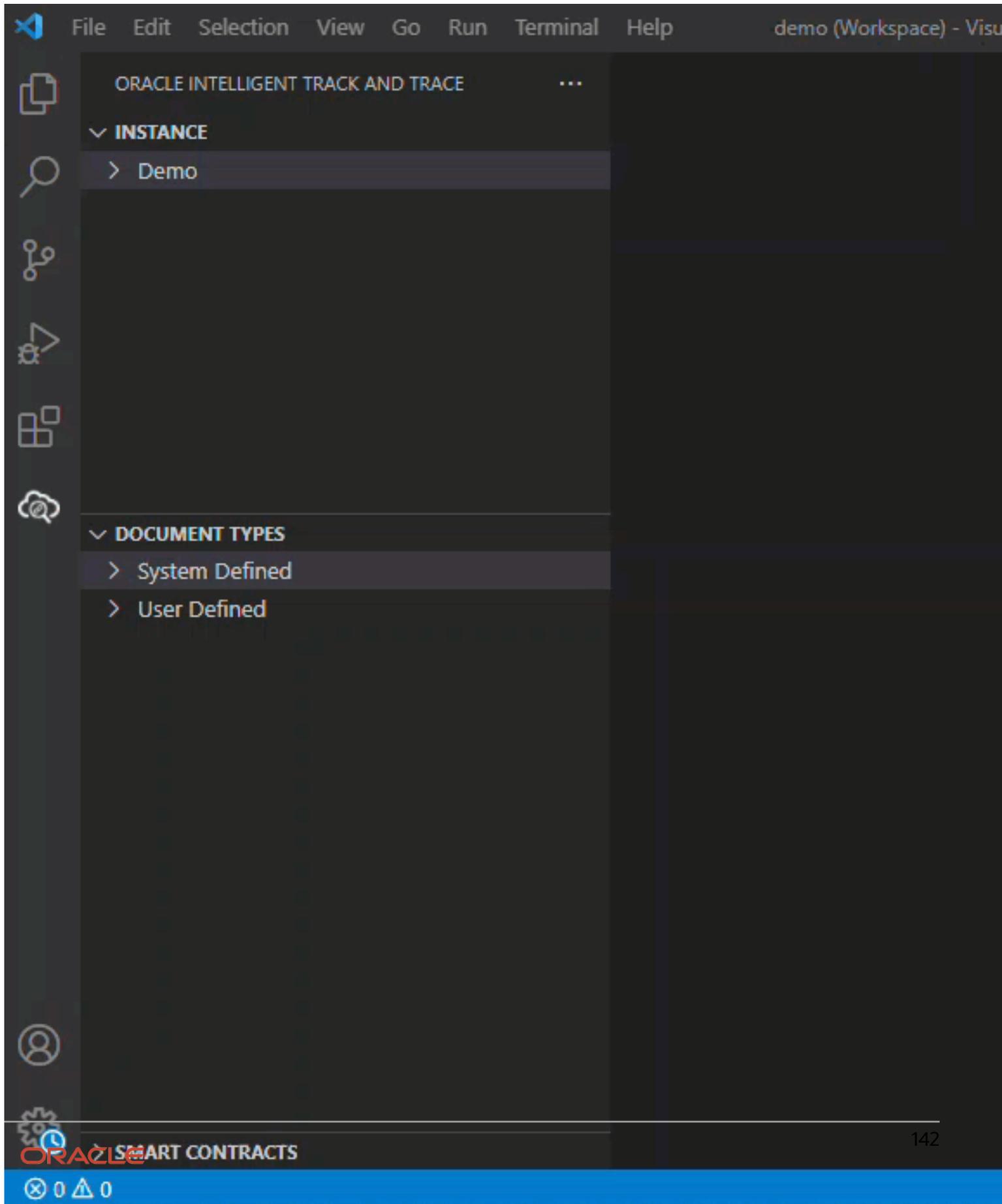
Download Oracle Intelligent Track and Trace Artifacts

Use the Oracle Intelligent Track and Trace extension to download the most common artifacts from and to the server, such as all the system defined and user defined documents, available on the server.

1. In the **Navigation** panel, click **Oracle Intelligent Track and Trace** extension ().
2. In the **DOCUMENT TYPES** section, click **OITT: Download All Document Types** ().
A **Downloading document types...** message appears on the notification area and wait until all the documents available on the server are downloaded.

Results:

The following animation shows the steps to download Document Type definitions:



Create Oracle Intelligent Track and Trace Artifacts

The Oracle Intelligent Track and Trace extension helps you create new document type definitions from scratch or by duplicating from the existing ones.

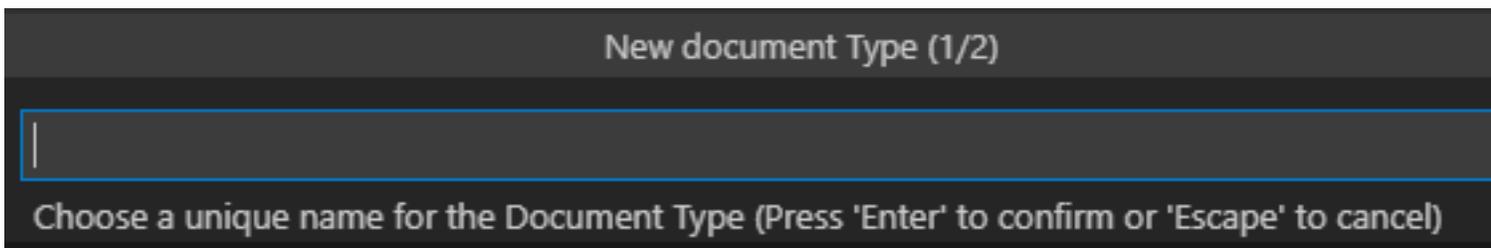
Topics:

- *Create a New Document Type*
- *Create a New Variant for an Existing Document Type*
- *Create a New Document Type by Cloning an Existing Document Type*

Create a New Document Type

Use Oracle Intelligent Track and Trace extension to create new document type from scratch in an offline mode.

1. In the **DOCUMENT TYPES** panel, click **OITT: Add New Document Type** ().

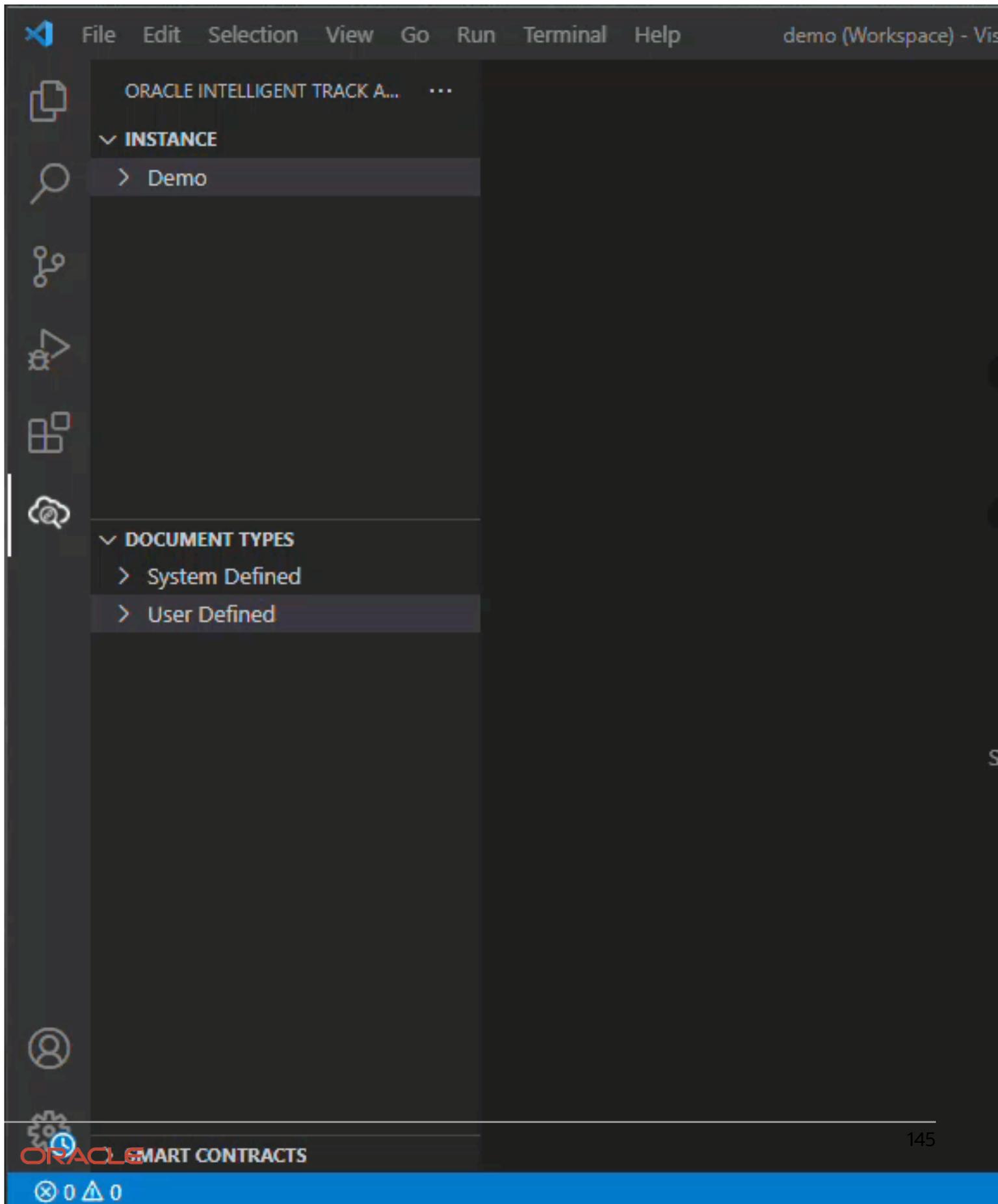


2. Enter the unique **New Document Type** name and ID, and then press **ENTER**.
A new **document type created** message is displayed in the notification area.
3. In the **DOCUMENT TYPES** panel, click **User Defined**.
Oracle Intelligent Track and Trace generates a new document type with all the template files.
4. For the new document type, define:
 - **JSON Schema**: You can either define the JSON schema from scratch or copy and paste from an existing document type.
 - **Metadata Template** structure. You can:
 - Define metadata from scratch. The VS Code editor features, such as auto-complete filtering, in-line syntax validation and so on helps you select the required handlebar helpers and associated properties and functions.
 - Type `{{#md:metadataDocument}}` and press ENTER. A template is added in to the editor window. You can modify the template based on your requirement.
 - Either define the **Simulation Templates** details for the document from scratch or right-click **Simulation Template** and click **Generate**.
An empty simulation template will be generated with all the details that you can modify as per requirement.
 - Define the **Presentation Template**.
5. After you define the structure, right-click and select **OITT: Upload Document Type** to upload it to the Oracle Intelligent Track and Trace instance.
6. Select **Keep** if the document is new or you do not want to overwrite an existing document.

7. Select **Overwrite** to save changes over existing document.
8. You can upload all variants or only the document type by selecting **Upload All Variants** or **Do not upload variants** option.
9. To verify if the new document type is successfully uploaded, you can:
 - Login to the Oracle Intelligent Track and Trace instance.
 - Click **Menu** () and then click **Configuration**.
 - Click **Document Types** ()
 - On the **Configuration : Document Types** dashboard, from the left panel, view the newly created document added to the list.
 - You can also modify the document definitions on the server and download the updated version. Right-click the newly added document type and select **OITT: Download Document Type** to download the newly added or updated documents and variants.
10. Right-click the newly added document type and select **OITT: Remove Document Type** to delete it from the document list.
11. Click **Yes** and then **Confirm** to delete the selected document type.

Results:

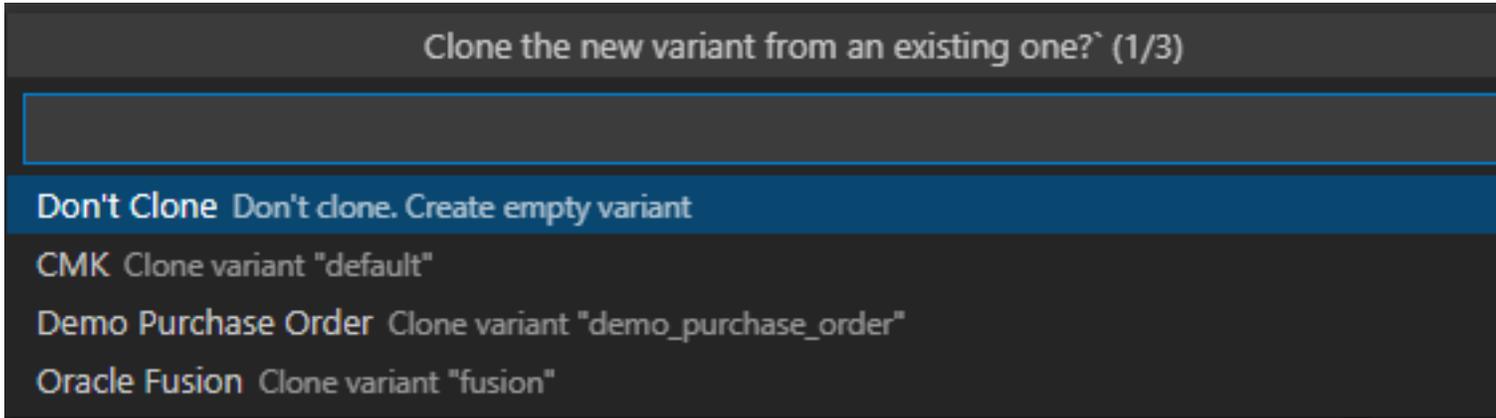
The following animation shows the steps to create new document type:



Create a New Variant for an Existing Document Type

Use Oracle Intelligent Track and Trace extension to create new document type variants in an offline mode.

1. In the **DOCUMENT TYPES** panel, select the document type, right-click and select **OITT: Add New Document Type Variant**.

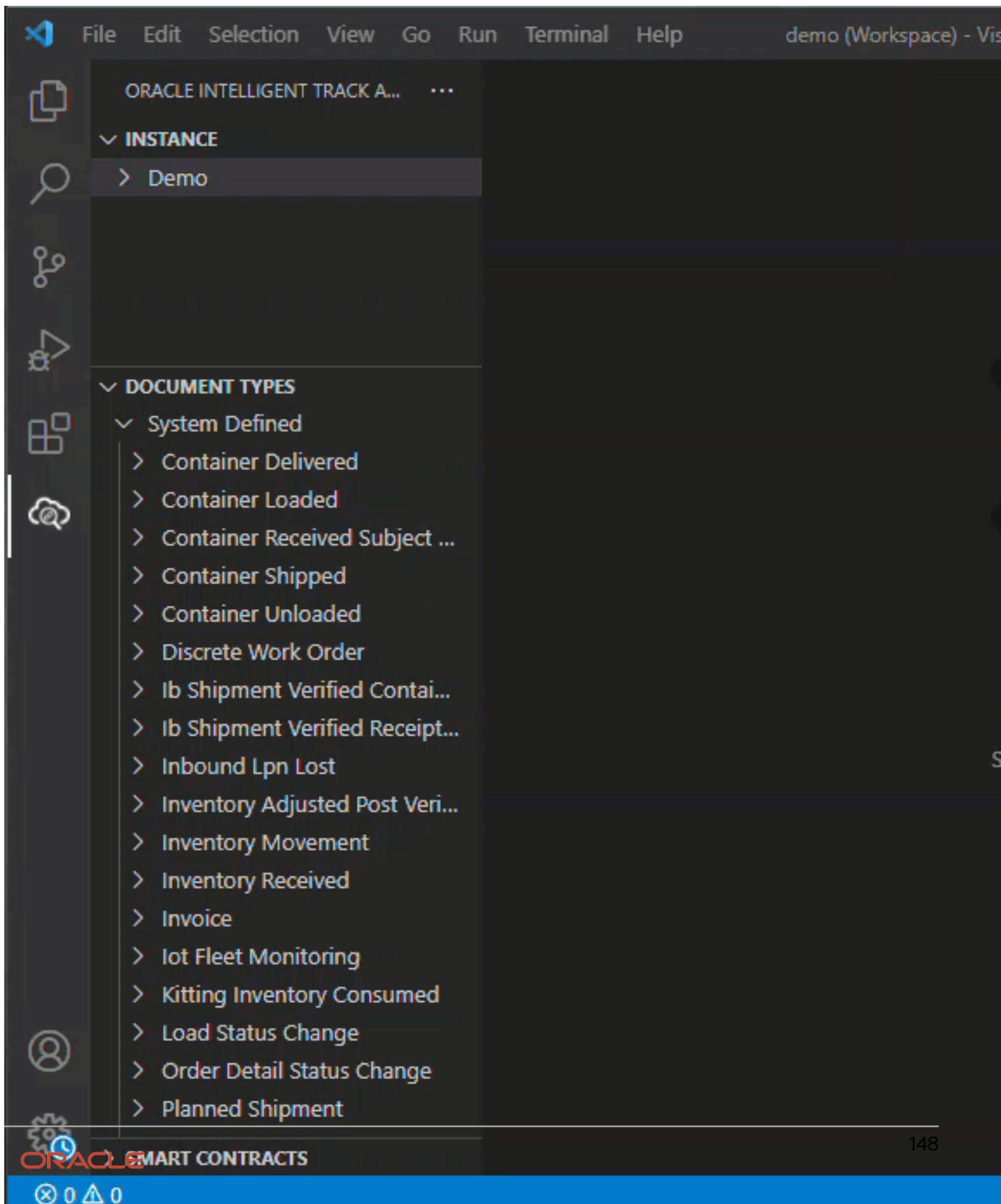


2. Select **Don't Clone** to create empty variant, enter a unique name and ID and then press Enter. Oracle Intelligent Track and Trace creates a new document type variant with all the template files.
3. For the new empty document type variant:
 - o Define **JSON Schema** from scratch or copy and paste from an existing document type.
 - o Modify **Metadata Template** mappings or type `{{#md:metadataDocument}}` and press Enter. A template is added in to the editor pane. You can modify the template based on your requirement.
 - o Either modify the existing **Simulation Templates** or right-click **Simulation Template** and then click **Generate**.

An empty simulation template will be generated with all the details that you can modify as per requirement.
 - o Modify or create a new **Presentation Template**.
4. After you define the structure, right-click and select **OITT: Upload Document Type Variant** to upload it to the Oracle Intelligent Track and Trace instance.
5. Select **Keep** if the document is new or you do not want to overwrite an existing document.
6. Select **Overwrite** to save changes over existing document.
7. To verify if the new variant is successfully added to the selected document type, you can:
 - o Login to the Oracle Intelligent Track and Trace instance.
 - o Click **Menu** () and then click **Configuration**.
 - o Click **Document Types** ().
 - o On the **Configuration : Document Types** dashboard, from the left panel, select the document type to view the uploaded variant.
 - o You can also modify the document definitions on the server and download the updated version. Right-click the newly added variant and select **OITT: Download Document Type Variant**.
8. Right-click the newly added document type variant and select **OITT: Remove Document Type Variant** to delete it from the document list.
9. Click **Yes** and then **Confirm** to delete the selected document type.

Results:

The following animation shows steps to create a new document variant from an existing document type:

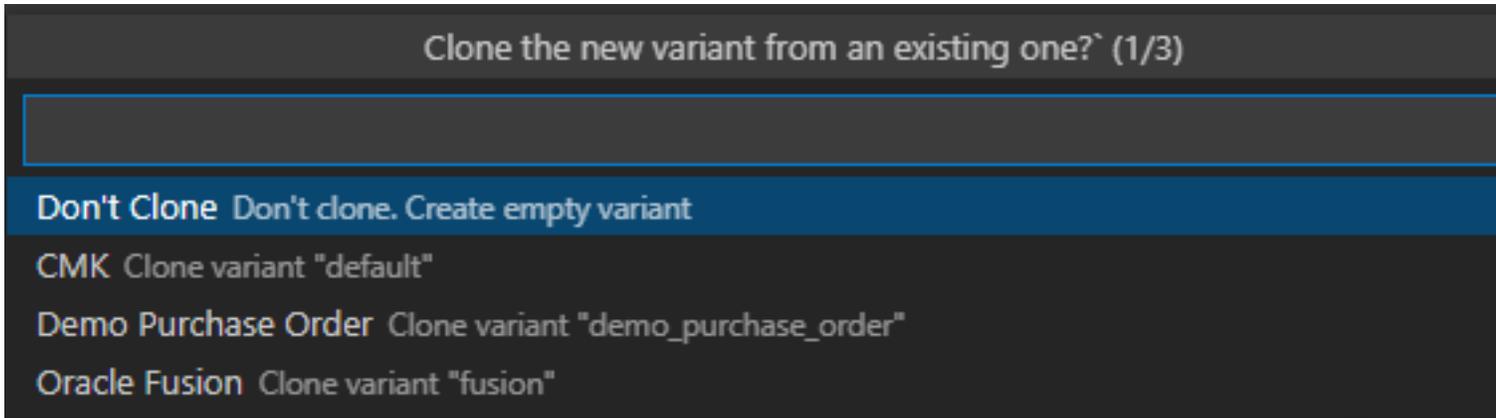


Create New Document Type by Cloning an Existing Document Type

You can clone a new document type from an existing document type.

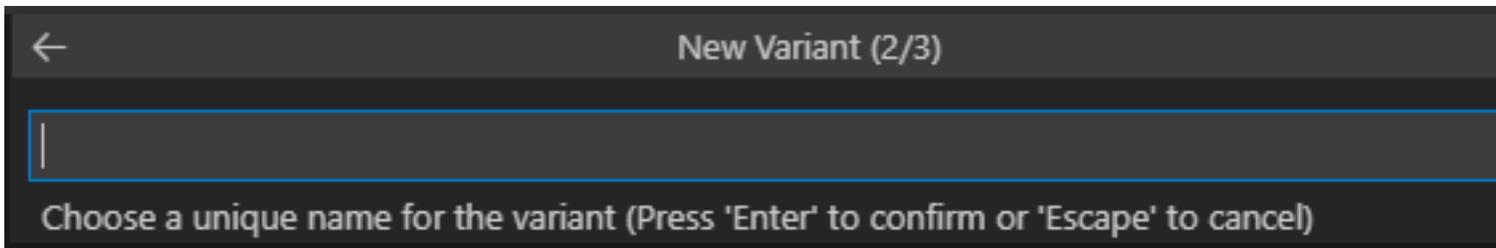
In situations, where the requirement to create a new document type almost similar to the existing document type, clone the new document type from an existing document type and do the necessary modifications on top of it to save time and effort to define the document structure from scratch, such as JSON schema and other template mappings.

1. In the **DOCUMENT TYPES** panel, right-click the document type you want to clone.
2. Click **OITT: Add Document Type Variant** from the context menu.



The **Don't Clone** option will create a new variant with empty schema and metadata templates.

3. Select the existing definition or variant that you want to clone.

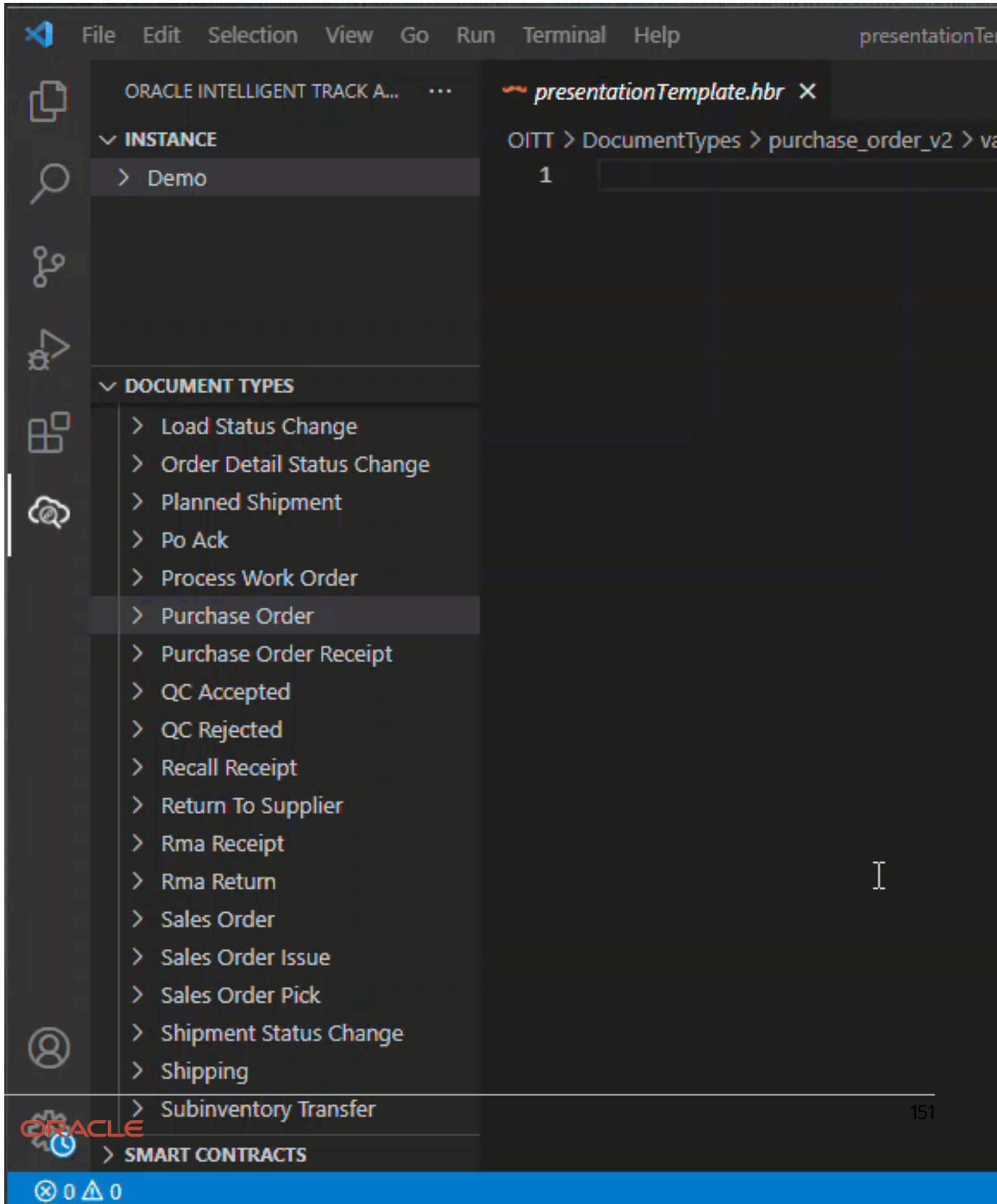


4. Enter the new variant name and press **ENTER**.
A new **document type variant created** message is displayed in the notification area.
5. Modify the document structure definition under Document Schema, Metadata Template, Simulator Template, or Presentation Template tabs.
6. Right-click the newly created variant and select **OITT: Upload Document Type Variant** to upload it to the Oracle Intelligent Track and Trace instance.
7. Select **Keep** if the document is new or you do not want to overwrite an existing document.
8. Select **Overwrite** to save changes over existing document.

9. To verify if the new variant is successfully added for the selected document type, you can:
 - o Login to the Oracle Intelligent Track and Trace instance.
 - o Click **Menu** () and then click **Configuration**.
 - o Click **Document Types** ().
 - o On the **Configuration : Document Types** dashboard, from the left panel, select the document type to view the cloned variant.
 - o You can also modify the document definitions on the server and download the updated version. Right-click the newly added variant and select **OITT: Download Document Type Variant**.
 - o Use one of the following options to download document types:
 - **Keep variant definitions:** Download only the new or updates document types.
 - **Overwrite variant definitions:** Download all the document types.
10. Right-click the newly add variant and select **OITT: Remove Document Type Variant** to delete it from the document list.
11. Click **Yes** and then **Confirm** to delete the selected document type.

Results:

The following animation shows steps to clone a document variant:



Edit Oracle Intelligent Track and Trace Artifacts

Use Oracle Intelligent Track and Trace extension to edit and validate document type definitions offline and then upload them on to the server.

Some of the key features are:

- In place validations and auto-complete JSON schema attributes
- Auto-completion of the document attributes for metadata templates
- Context sensitive auto-completion for simulation templates
- Validate metadata templates offline to view its run-time version
- Preview and edit presentation template in real-time

Topics:

- *Edit and Validate Document Type Definitions*

Edit and Validate Document Types

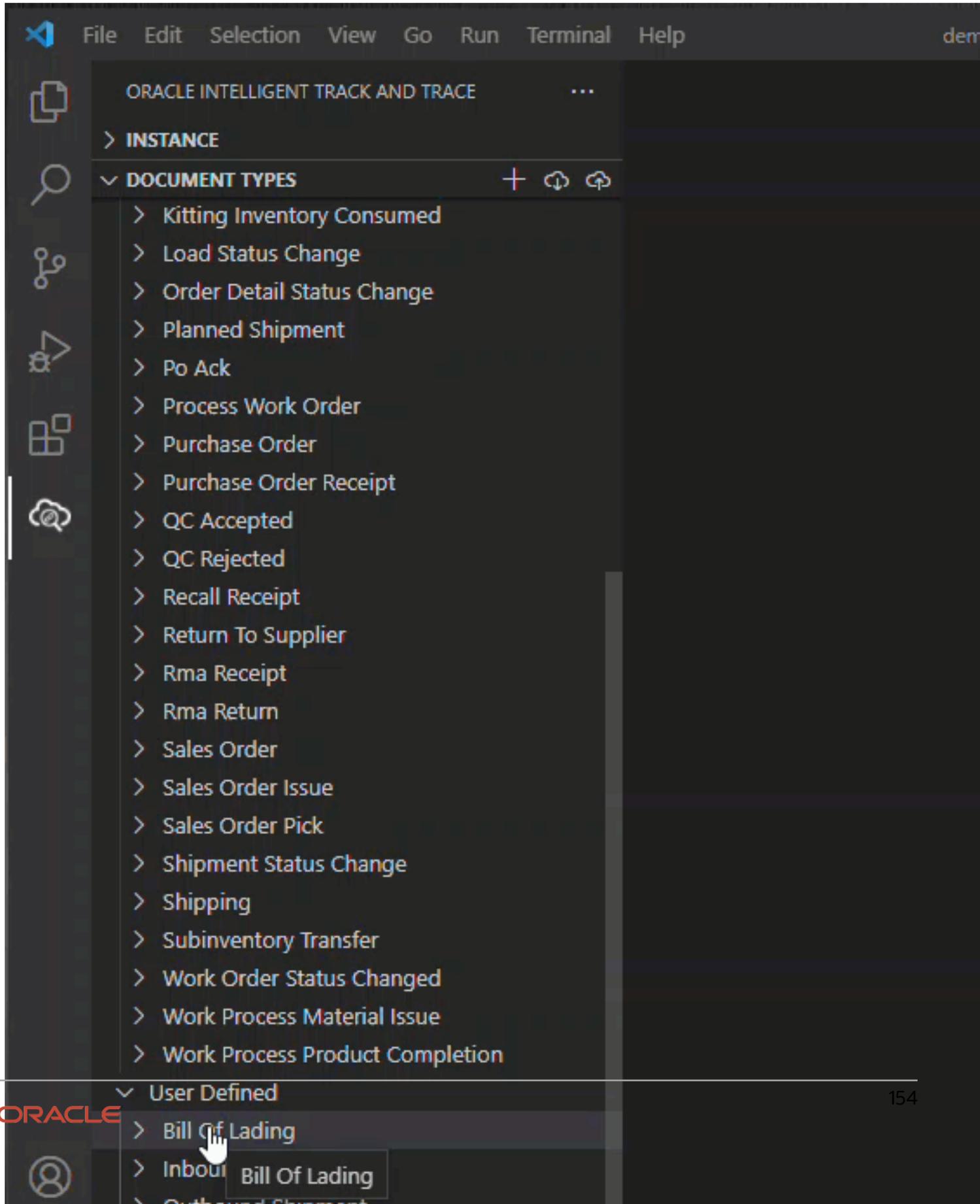
Use Oracle Intelligent Track and Trace extension to edit and validate the document type definitions offline and then upload them on to the server.

1. JSON Schema

1. In the **DOCUMENT TYPES** panel, select the document type and click the JSON **Schema** definition you want to edit.

2. Select the required attribute from the auto-complete list to modify the JSON schema.

Edit the JSON schema of a specific document type in VSCode editor by using Oracle Intelligent Track and Trace extension.



3. Hover-over the error or click **PROBLEMS** tab in the lower half of the editor pane to identify and fix the syntax errors.

```
{
  "country": {
    "title": "country",
    "type": "string"
  },
  "postalCode": {
    "title": "postalCode",
    "type": "string"
  },
  "GSTN": [
    {
      "title": "GSTN",
      "type": "string"
    }
  ]
},
"required": [
```

Colon expected json(515)
Either a string of one of the basic schema types (string, number, boolean, object, boolean, string) or an array of strings :
View Problem No quick fixes available

PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL

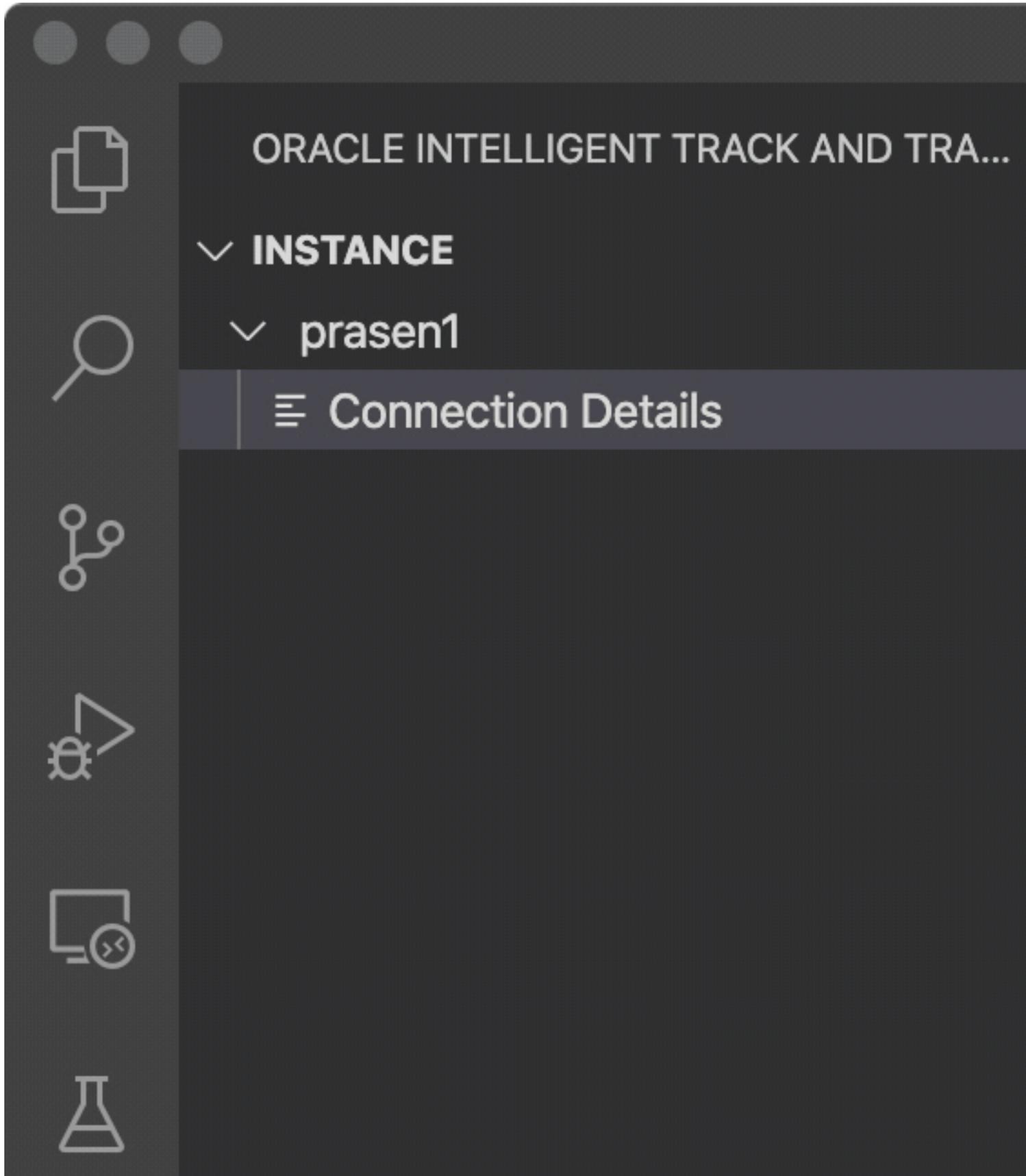
sourceDocumentSchema.json DocumentTypes\purchase_order_v2\variants\demo2 2

- Expected comma json(514) [35, 21]
- Colon expected json(515) [35, 28]

2. Metadata Template

4. In the **DOCUMENT TYPES** panel, select the document type and click the **Metadata Template** definition you want to edit.

Edit the metadata template of a specific document type in VSCode editor by using Oracle Intelligent Track and Trace extension.



5. Right-click and select **OITT: Validate Metadata** to test the changes.
The result shows the final structure of the document appears during run-time.
6. Click **PROBLEMS** tab in the lower half of the editor pane to identify and fix the syntax errors.
 3. **Presentation Template**
7. In the **DOCUMENT TYPES** panel, select the document type and click the **Presentation Template** definition you want to edit.
8. Select the required HTML tags from the auto-complete filtering list.
9. Add the required attributes and values associated to the selected tags.
10. Right-click and select **OITT: Preview Document Presentation** to validate and preview the changes.
The result shows the final format of the document as appears during run-time.
11. Click **PROBLEMS** tab in the lower half of the editor pane to identify and fix the syntax errors.
 4. **Simulation Template**
12. In the **DOCUMENT TYPES** panel, select the document type and click the **Simulation Template** definition you want to edit.
13. Select the required attributes and values from the auto-complete filtering list.
14. Click **PROBLEMS** tab in the lower half of the editor pane to identify and fix the syntax errors.

Use VBCS with Oracle Intelligent Track and Trace

By default, Intelligent Track and Trace application provides a robust functionality alongside an intuitive User Interface to support most of your business requirements. But you may have some specific user experience requirements, which may need extending the application UI.

For example, you might want to extend the existing Document View to show more contextual information from another external application.

All this is possible with help of Visual Builder Studio (VB Studio) application.

Topics:

- [What is Oracle Visual Builder Studio?](#)
- [What Can You Do with Oracle Visual Builder Studio?](#)
- [Set Up Intelligent Track and Trace Support in VBCS](#)

What is Oracle Visual Builder Studio?

Oracle Visual Builder Studio (VB Studio) is a robust application development platform that lets you build custom applications alongside Track and Trace application.

A rich browser-based visual designer tool that provides an out-of-the box functionality for you to effectively plan and manage customizations to create your own application UIs either by enhancing the existing UI components or by adding new ones to display and deliver information specific to the business needs of your organization and as desired by the end customer.

What Can You Do With Oracle VB Studio?

Using VB Studio, you might want to add additional capabilities into Track and Trace application by making various customizations that are managed as part of the same Intelligent Track and Trace web application.

Based on customer requirement, you might want to enhance the existing UI pages, such as displaying custom fields, create dynamic layouts or embedding custom content in a dynamic container in a page.

Example Use Case

Let's look at a common use case to understand how Visual Builder Studio helps you achieve the desired results.

A simple use case where as a textile industry, your customer wants to know if the silk or cotton balls used in the processed yarn are procured from a licensed plantations or would like to view the quality analysis report of the raw material to ensure that the procurement of raw material does not violate any legal or licensing obligations laid out by the government or regulatory body.

To fulfill such specific requirements, you might want to enhance the existing UI to provide licensing and QA information alongside what is currently provided for a given transaction flow. For such specific requirements, VB Studio gives you a freedom and control to access Intelligent Trace and Trace REST APIs with all the required tools to make necessary modifications of a document view to provide an end-to-end tracking of an entire procurement process followed by your organization.

Set up VBCS Project for Intelligent Track and Trace

To integrate Intelligent Track and Trace application with your Visual Builder application, you register services by using REST endpoints.

To access the REST APIs, you create service connection from an endpoint by using the base URL of your Track and Trace instance alongwith necessary authentication details.

To access REST APIs, you create a REST endpoint service in VBCS.

Topic:

- [Set Up a Service Connection in VBCS](#)

Create a Service Connection in VBCS

To create a service connection, Visual Builder application requires information about how to connect with the application. A Service Connection includes all the basic information about connection details, properties, and the REST endpoints that you want to use in your application.

Authentication and Connection Types

When you set up a new server or edit an existing server in your Visual Builder application, you configure the authentication and connection type used by the Intelligent Track and Trace application.

To create a service connection from an endpoint URL, you must select an appropriate authentication method and connection type to validate the logged in users. There are two ways to set up a authentication for service connections:

- *Identity Propagation Authentication*
- *Fixed credentials Authentication:*

Identity Propagation Authentication

In this method, user credentials will be passed on to the service and used for authentication and does not allow anonymous access.

When you use identity propagation, the following authentication mechanisms are available:

Authentication - Identity Propagation	Description
Oracle Cloud Account	In this case, for authentication, it uses Intelligent Track and Trace server URL as a default <i>scope</i> . For example, if the service's URL is <code>https://ab.oraclecloud.com/my-service</code> , the token will be created with the same base URL as <code>https://ab.oraclecloud.com/oauth2/v1/token</code>
OAuth 2.0 User Assertion	Requires user to sign in with a valid Oracle Identity Cloud Service user account. Here you can specify your own <i>scope</i> rather than using Intelligent Track and Trace URL as <i>scope</i> .

Fixed Credential Authentication

Using this method, a fixed user credentials will be passed on to the service. All requests sent from Visual Builder to the service will use the same app id for authentication.

Authentication - Fixed Credentials	Description
OAuth 2.0 Resource Owner Password Credentials	Use this option when you need a specific user's credentials to connect to Intelligent Track and Trace application. The authentication requires IDCS Client ID, Client Secret, and token URL.

Topics:

- [Connect to Intelligent Track and Trace APIs Using Identity Propagation](#)
- [Connect to Intelligent Track and Trace APIs Using Fixed Credentials](#)

Connect to Intelligent Track and Trace APIs Using Identity Propagation

This authentication method passes the logged in VBCS user credentials to Intelligent Track and Trace application and then enforce the appropriate access control while invoking Track and Trace REST APIs. For this type of authentication, the VBCS user must be a Track and Trace user.

To connect endpoint URLs by using *Oracle Cloud Account* or by using *OAuth 2.0 User Assertion (Single Sign-On)* authentication:

1. Create a Service Connection in VBCS

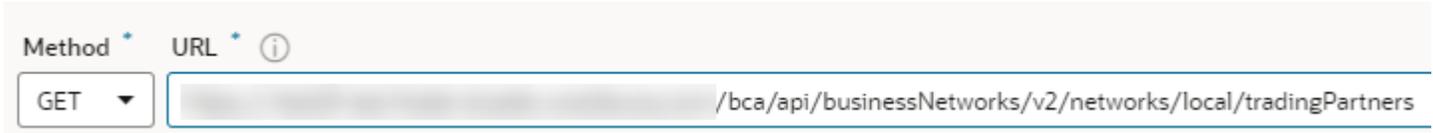
1. Sign in to the Visual Builder Studio from the Oracle Cloud home page.
2. From the **Navigator** bar, click **Services** ().

3. In the **Services** pane, click () and then click **Service Connection**.

4. Click **Define by Endpoint** as a service connection source.

5. Enter the endpoint URL of the Intelligent Track and Trace API.

To get response from the Trading Partners API, use the endpoint URL of your Intelligent Track and Trace instance URL. For example, `https://<OITT-Instance>/bca/api/businessNetworks/v2/networks/local/tradingPartners`



Method * URL * ⓘ

GET /bca/api/businessNetworks/v2/networks/local/tradingPartners

If you know what type of action you want to perform, select it in the Action Hint drop-down list. For example, if you select a GET method, you can choose Get Many to retrieve multiple records.

6. Click **Next**.

7. In the **Overview** tab, provide the *Service Name*, *Title*, and *Version*. Optionally, enter a description.

8. Click **Service** tab and provide the following **Authentication** details:

a. From the **Authentication** drop-down, select **Oracle Cloud Account** or **OAuth 2.0 User Assertion**.

b. Under **Scope**, enter the resource URL of the Intelligent Track and Trace API.

For example, `https://<OITT-Instance.oraclecloud.com>/bca/api`



Scope

/bca/api

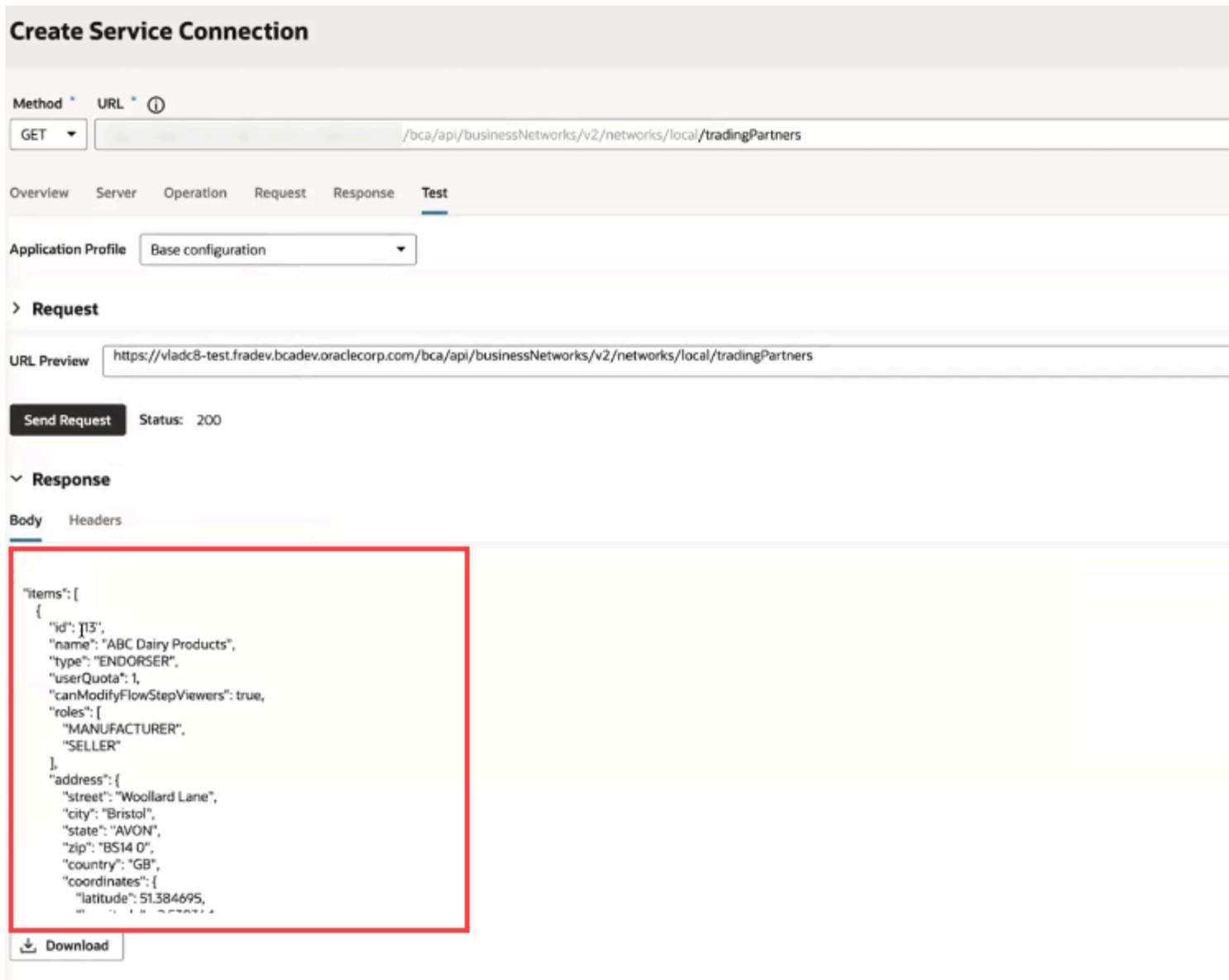
c. From the **Connection Type** drop-down, select *Dynamic*, *the service supports CORS*.

The Cross-Origin Resource Sharing (CORS) support allows VBCS users from the different identity domains to access the Intelligent Track and Trace REST services. This implements a Single Sign-On authentication instead of passing IDCS client IDs, client secrets, token URLs to authenticate VBCS users separately.

9. In the **Headers** section, click **Add Header** and enter the *Tenant ID* name and its corresponding value.

10. Under **Test** tab, click **Send Request**.

The response from the Trading Partner API is successful.



Connect to Intelligent Track and Trace APIs Using Fixed Credentials

This method allows a specific user to access all Track and Trace resources irrespective of who is using the VBCS application. This method is used in case of anonymous access to VBCS or where the VBCS user is not a Track and Trace user.

If you choose *OAuth 2.0 Resource Owner Password Credentials* authentication, then to register REST APIs in VBCS, you have to perform the following tasks:

Topics:

- [Access Oracle Identity Cloud Service](#)

- [Create IDCS Confidential Application](#)
- [Create a Service Connection in VBCS](#)

Access Oracle Identity Cloud Service

Access Oracle Identity Cloud Service through a service web console or the REST API.

To access Oracle Identity Cloud Service from the Oracle Cloud Infrastructure Console, see [Access Oracle Identity Cloud Service](#).

Add IDCS Client Application

For user authentication, create an Identity Cloud Service (IDCS) custom client application for authenticating your VBCS application.

You can use IDCS confidential application to obtain *Client ID* and *Client Secret*.

Before you start

To set up a custom application in IDCS, you must have the Identity Domain Administrator role.

Here's what to do

1. In the IDCS console, expand the **Navigation Drawer**, and then click **Applications**.
2. Click **Add**.
3. In the **Add Application** page, click **Confidential Application**.
4. On the **Add Confidential Application** wizard's **Details** page, under **App Details** section, provide a name for the application and then click **Next**.
 - a. Select **Configure this application as a client now** to configure authorization information for your application.
 - b. Under **Authorization**, select *Resource Owner*, *Client Credentials*, *JWT Assertion*, and *Refresh Token as Allowed Grant Types*.
 - c. Under **Token Issuance Policy**, keep the default Authorized resources.
 - d. Under **Resources**, click **Add Scopes**. Search for an appropriate resource for VBCS application to access APIs from Intelligent Track and Trace and then click **Add**.
5. On the **Add Confidential Application** wizard's **Resource** page:
 - a. To specify that no resources of your confidential application will be protected by OAuth 2.0, or to protect them at a later time, click **Skip for later**.
 - a. Click **Next**.
6. On the **Add Confidential Application** wizard's **Web Tier Policy** page, click **Next**.
7. On the **Add Confidential Application** wizard's **Authorization** page:
 - a. Select the **Enforce Grants as Authorization** if you want Oracle Identity Cloud Service to control access to the application based on grants to users and groups.
 - b. Click **Finish**.

The client application is added in a deactivated state.
8. Make a note of the **Client ID** and **Client Secret** and click **Close**

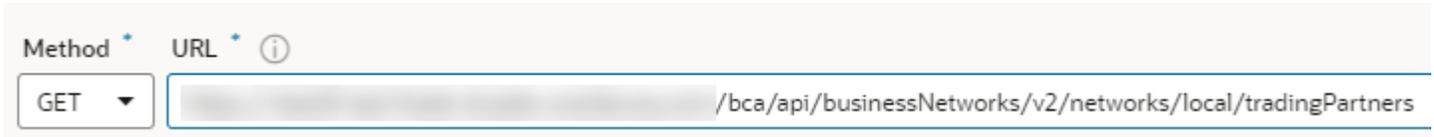
To integrate with your confidential application, use this ID and secret as part of your connection settings. The **Client ID** and **Client Secret** are equivalent to a credential (for example, an ID and password) that your application uses to communicate with Oracle Identity Cloud Service.
9. Click **Activate**.
10. Click **OK** in the confirmation dialog to activate the application..

Create a Service Connection

You create a service connection with Intelligent Track and Trace by providing an endpoint URL by using OAuth 2.0 Resource Owner Password Credentials

To create a service connection from the URL endpoint:

1. Sign in to the Visual Builder Studio from the Oracle Cloud home page.
2. From the **Navigator** bar, click **Services** ().
3. In the **Services** pane, click () and then click **Service Connection**.
4. Click **Define by Endpoint** as a service connection source.
5. Enter the endpoint URL of the Intelligent Track and Trace API.
To get response from the Trading Partners API, use the endpoint URL of your Intelligent Track and Trace instance URL. For example, `https://<OITT-Instance>/bca/api/businessNetworks/v2/networks/local/tradingPartners`



The screenshot shows two input fields. The first is labeled 'Method' with a dropdown menu set to 'GET'. The second is labeled 'URL' with an information icon and contains the text '/bca/api/businessNetworks/v2/networks/local/tradingPartners'.

If you know what type of action you want to perform, select it in the Action Hint drop-down list. For example, if you select a GET method, you can choose Get Many to retrieve multiple records.

6. Click **Next**.
7. In the **Overview** tab, provide the *Service Name*, *Title*, and *Version*. Optionally, enter a description.
8. Click **Service** tab and provide the following **Authentication** details:
 - a. From the **Authentication** section, from the drop-down, select **OAuth 2.0 Resource Owner Password Credentials** as an authentication option for logged-in users.
 - b. Click **Enter Username and Password** () to enter user login credentials.
 - c. Click **Enter Client ID and Client Secret** () to enter the *Client ID* and *Client Secret* created using IDCS confidential application.
 - d. Under **Scope**, enter the resource URL of the Intelligent Track and Trace API.
For example, `https://<OITT-Instance>/bca/api`



The screenshot shows a text input field labeled 'Scope' containing the text '/bca/api'.

- e. Under **Token URL**, enter the access token URL of the endpoint from your IDCS client application.
For example, `https://<IDCS-Service-Instance>.identity.oraclecloud.com/oauth2/v1/token`



The screenshot shows a text input field labeled 'Token URL' containing the text 'oauth2/v1/token'.

9. From the **Connection Type** drop-down, select *Dynamic, the service does not support CORS* and then click **Create**.

10. Under **Test** tab, click **Send Request**.

The response from the Trading Partner API is successful.

Create Service Connection

Method ^{*} URL [?] ⓘ

GET /bca/api/businessNetworks/v2/networks/local/tradingPartners

Overview Server Operation Request Response **Test**

Application Profile Base configuration

> Request

URL Preview https://v1adcb8-test.fradev.bcadev.oraclecorp.com/bca/api/businessNetworks/v2/networks/local/tradingPartners

Send Request Status: 200

Response

Body

```
"items": [
  {
    "id": "13",
    "name": "ABC Dairy Products",
    "type": "ENDORSER",
    "userQuota": 1,
    "canModifyFlowStepViewers": true,
    "roles": [
      "MANUFACTURER",
      "SELLER"
    ],
    "address": {
      "street": "Woollard Lane",
      "city": "Bristol",
      "state": "AVON",
      "zip": "BS14 0",
      "country": "GB",
      "coordinates": {
        "latitude": 51.384695,
```

Download

You can experiment with the different request parameters until you achieve the response you want. If your response returns an error, you will need to check the details of your connection, for example, ensure that you're using the correct credentials or Client ID and Client Secret.

5 Use Oracle Intelligent Track and Trace

This part contains the following chapters:

- *Production and Test Environment*
- *Track Your Assets and Documents*
- *Simulate a Business Flow*
- *Submit Documents*
- *Activity Log*
- *Troubleshoot Warnings and Failures*
- *View Application Version*

Production and Test Environment

Oracle Intelligent Track and Trace provides two types of types of working environments—Test and Production.

As a founder, when you subscribe to Oracle Intelligent Track and Trace, you receive two instance URLs—Test Service instance and Production Service instance. Production Service instance refers to the real-world business instance which is used by trading partners to submit and query transaction documents. Test Service instance refers to an instance which enables you to submit mock transaction documents and queries which simulate the real-world scenarios.

When you configure various business flows for your supply chain, you may want to simulate them to identify any potentials issues that may occur in production. The Test Service instance enables you to closely simulate the production environment by providing the **Simulator** functionality. For more information on Simulator, see *Simulate a Business Flow*.

In a test instance after creating the entities, activating the business flows, and verifying the network, you can migrate their configurations to the production instance by promoting the business flows.

Rest of the functionality between the production and test environment remains the same. You can switch between these two instances to access the test and production environments.

Topics:

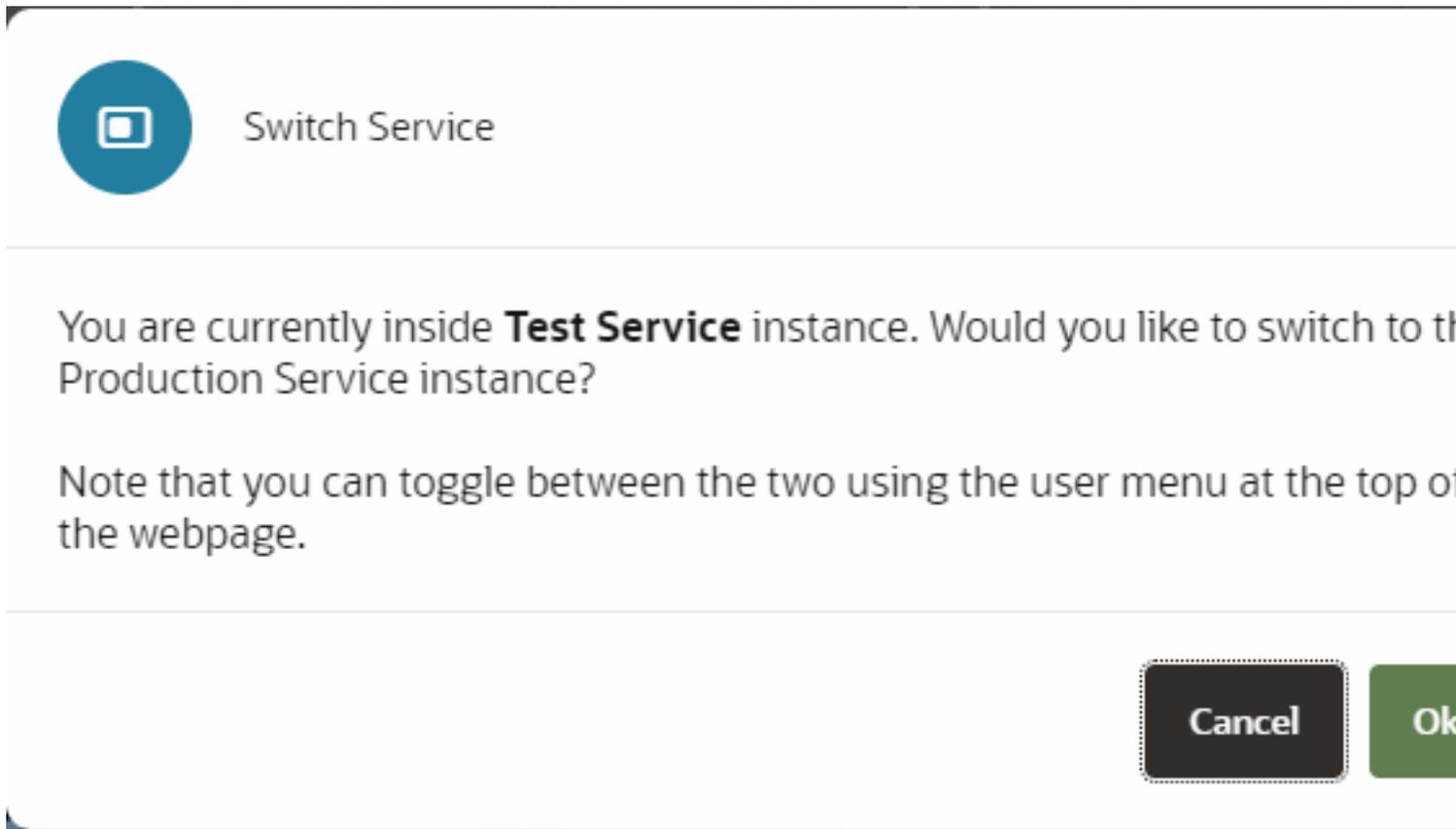
- *Switch From Test Service to Production Service Instance*
- *Switch From Production Service to Test Service Instance*
- *Promote Configurations from Test to Production Environment*

Switch From Test Service to Production Service Instance

Switch from the Test Service instance to Production Service instance.

1. Login to the test service instance URL.

2. Click **User Menu** () and select **Switch to Test Service**.
3. Under the **Switch Service** dialog box, click **OK**.



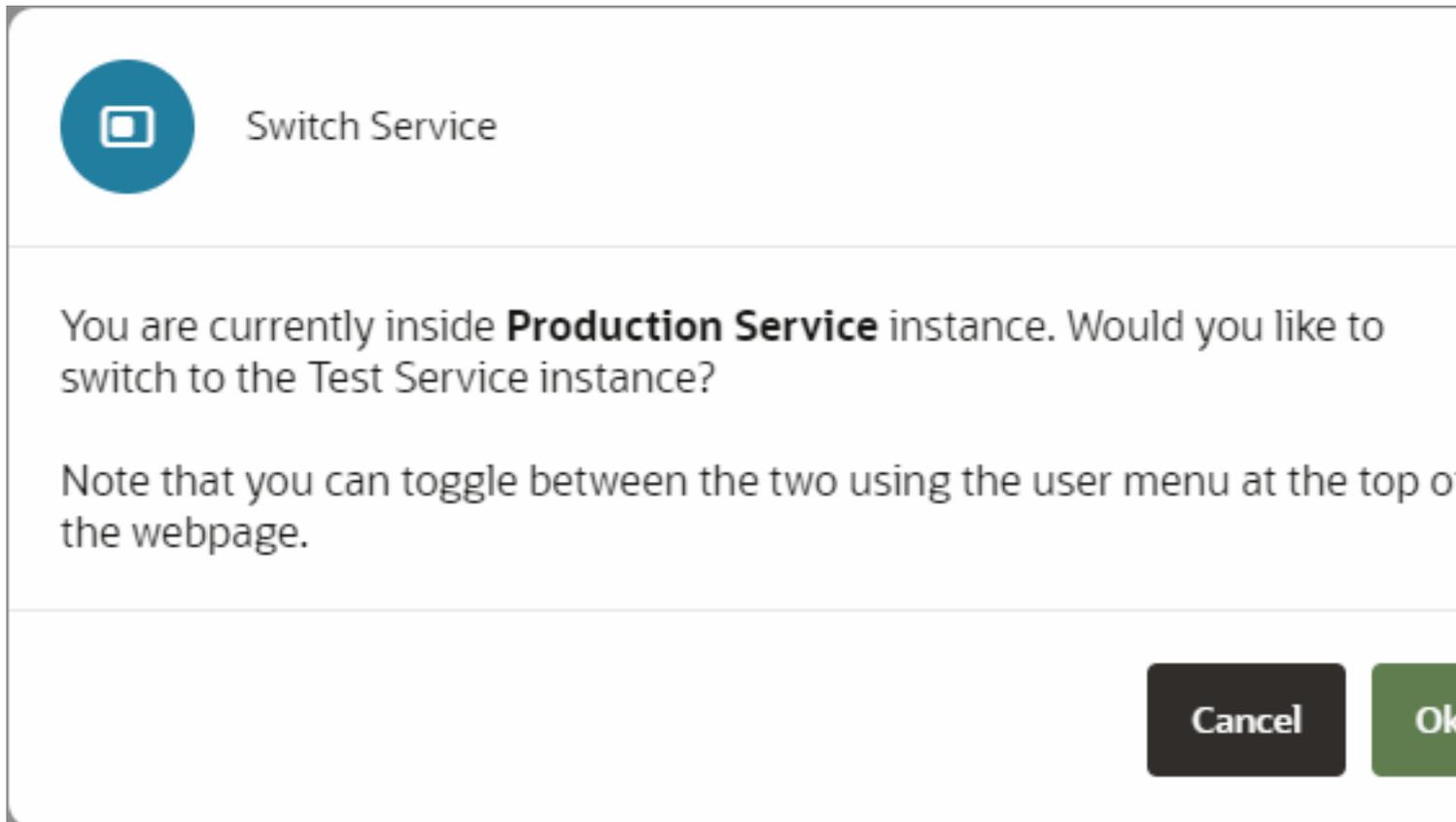
You will be redirected to the Production Service Instance.

Switch From Production Service to Test Service Instance

Switch from the Production Service instance to Test Service instance.

1. Login to the production service instance URL.
2. Click **User Menu** () and select **Switch to Test Service**.

3. Under the **Switch Service** dialog box, click **OK**.



You will be redirected to the Test Service Instance.

Promote Configuration from Test to Production Environment

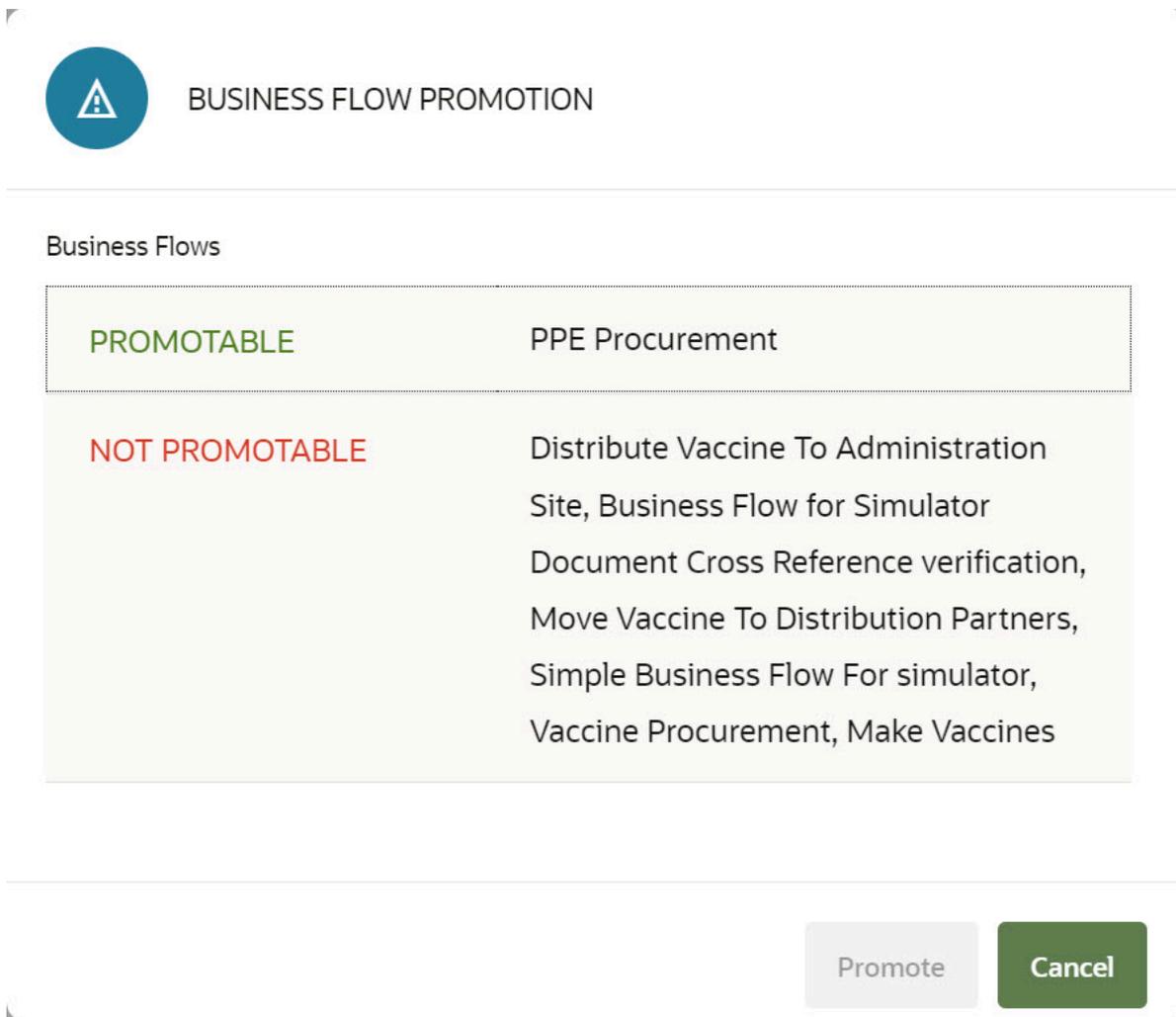
If you have created the required entities, activated flows, and verified the network in a test environment, you can now migrate and use them in the production environment by promoting the business flows.

When you promote a business flow from a test instance to a production instance, the following entities associated with the business flow also get promoted:

- Trading partner, locations and location business identifiers
- Flow templates
- Business rules
- Document type definitions
- Integrations

Note: When you promote a business flows from a Test to a Production instance, you must ensure that all of the business flows in the list with its associated entities are promotable. If any of the business flow entities are not promotable, the **Promote** button will be disabled until all the business flow entities are fixed for promotion.

The following image is an example of multiple business flows where if one of the business flow is not promotable, the **Promote** button is disabled. In this case, none of the business flow entities in the list can be promoted until the non-promotable business flow is fixed.



Business Flows	
PROMOTABLE	PPE Procurement
NOT PROMOTABLE	Distribute Vaccine To Administration Site, Business Flow for Simulator Document Cross Reference verification, Move Vaccine To Distribution Partners, Simple Business Flow For simulator, Vaccine Procurement, Make Vaccines

Promote Cancel

An existing entity in the production instance is overwritten during a promotion. In the test instance, when you initiate to promote a business flow, a list of its associated entities that would be overwritten is displayed, which you need to confirm before the promotion.

In a production instance, you need to explicitly activate a business flow that was promoted even if it was active in the test instance.

Promote a Business Flow in a Test Service Instance

Promote a business flow to migrate the business flow and all its associated entities from a test instance to a production instance.

Before you can migrate a business flow and its associated entities from a test service instance, a production service instance and a founder should already be provisioned.

1. On the test service instance, click **Menu** () and then click **Configurations**.

2. Click **Business Flows** ().
3. On the **Configurations : Business Flows** page, from the left navigation bar, select the business flow that you need to promote.

4. Click **Promote**.

Configurations : Business Flows

Business Flow	Status
Distribute Vaccine To Administration Site	Enabled
Make Vaccines	Enabled
Move Vaccine To Distribution Partners	Enabled
PPE Procurement	Enabled
Vaccine Procurement	Enabled

Search: +

Make STATE Document Submission

5. Select the **Click to Confirm** check-box and then click **Promote** and wait for the evaluation and promotion process.

Promote Business Flows to Production Instance



Promote information on your test instance to your production instance.



Be advised that Business Flows, Trading Partners, Document Types, Business Processes, and Event Actions previously promoted to the production instance will be

Click to confirm:

6. On the **Last Promoted** page, examine the success or error notifications about the promoted artifacts and click **OK**. You can fix the errors and repeat the promotion.



LAST PROMOTION

Promoted Entities:

Business Flows

SUCCESS Move Vaccine To Distribution Partners, Distribute Vaccine To Administration Site, Make Vaccines

Trading Partners

SUCCESS US Health & Human Services, Beta Distributor, General Hospital, Gamma Distributor, Delta Distributor, Speedy Carrier, Zeta Carrier, Community Clinic, SVN Pharmacy, Vision Pharmacy

Document Types

SUCCESS Purchase Order, Inbound Shipment, Bill Of Lading, Outbound Shipment, Transportation Telemetry, Process Work Order, Work Process Product Completion

Business Flow Templates

7. Click **Cancel** to return to the **Configurations : Business Flows** page.

Results:

Switch to the production instance and verify that the business flow and its associated entities have been migrated.

Track Your Products and Documents

Once you have configured your business network, setup and activated the business flows, the transaction documents start trickling in for each of the flow instances. As a founder or a trading partner, you can view this data at various level of details—business flow level, instance level, trading partner level, or even transaction document level.

Topics:

- [Trading Partners Dashboard](#)
- [Monitor Business Flows](#)
- [Monitor Flow Instances](#)
- [Trace Your Items and Packages](#)
- [Monitor Documents](#)
- [Trace Your Items and Packages](#)

Monitor Trading Partners

Trading partners form the business network of the founder's supply chain. They submit and receive documents for various business flows for which they are responsible.

You can track the activities of the trading partner by monitoring:

- Number of business flows in which they are submitter or receiver.
- Various roles assigned to the trading partner in the business network.
- Location and contact details.

Note: If you log in to Oracle Intelligent Track and Trace as a Trading Partner, then the Trading Partner Dashboard shows the business network associations between the logged in trading partner and its associated Trading Partners only, configured either as submitters or receivers, in a business flow.

Topics:

- [View Trading Partner Dashboard](#)

View Tradig Partner Dashboard

View details about a trading partner, including its role, contact details, and associated business flows. You can also view the trading partners in a map to identify its location.

1. Click **Menu** () and then click **Operations**.

2. Click **Users Management** ().



The upper pane gives a summary of all the trading partners in the business network.

The lower pane displays a graphical representation of trading partners and their association with each other.

3. Click the **Trading Partner** icon for which you want to view details.

Trading Partner General Hospital

BUSINESS FLOWS
2

ROLES
BUYER, VACCINE ADMINISTRATION SITE

LOCATIONS



ADDRESS
York Ave, New Yor, NY, 10021, US

LOCATIONS

Name	Business IDs
Main Office	
Warehouse 1	DC-ID 670981

Field	Description
Business Flows	Number of business flows the trading partner is associated with.

Monitor Business Flows

Business flows form the backbone of Oracle Intelligent Track and Trace application. Once the business flows are activated, any document submitted maps to a specific business step in business flows. Oracle Intelligent Track and Trace provides elaborate dashboards which display data and metrics for the activated flows in the application.

As a founder, you can monitor all the business flows by tracking multiple metrics:

- Number of active business flows
- Number of instances for a business flow
- Number of documents for each instance
- Name and number of each document type used in the business flow
- Summary overview for each business flow instance— completed or in-progress

As a founder, you can view the data and metrics for all the business flows and transaction documents.

As a trading partner, your visibility to the data is limited by your organization type in the founder's network—Endorsing trading partner, or participating trading partner. The visibility is further constrained by the user role assigned to you—web application user, integration user, or admin, See *Understand Roles and Users*.

All the dashboards are maintained in real time. As the transaction documents come in, the dashboards are updated with the relevant data.

Topics:

- [View Business Flow Dashboard](#)

View Business Flows Dashboard

View a high level overview of the active business flows in Oracle Intelligent Track and Trace application.

1. Click **Menu** () and then click **Operations**.

2. Click **Business Flows** ().
The business flow dashboard is displayed.

[↑ Home](#)

Business Flows

5 found

Flow

Distribute Vaccine To Administration Site



ORDER VACCINE
Purchase Order



VACCINE SHIPM...
Outbound Shipment



VACCINE SHIPM...
Bill Of Lading



Make Vaccines



MANUFACTURIN...
Process Work Order



WORK ORDER C...
Work Process Product ...

Move Vaccine To Distribution Partners



ORDER VACCINE ...
Purchase Order



VACCINE AND PP...
Outbound Shipment



VACCINE AND PP...
Bill Of Lading



PPE Procurement



ORDER PPE
Purchase Order



BOOK PPE ORDER
Sales Order



PPE SHIPMENT ...
Outbound Shipment



Vaccine Procurement



ORDER VACCINE
Purchase Order



BOOK VACCINE ...
Sales Order



VACCINE SHIPM...
Outbound Shipment



Business flow dashboard displays multiple types of metrics and statistics which provide you with the summary for all the business flows active in the application.

Metric	Description
Business Flows	Displays the number of active business flows.
Flow	Graphical representation of the active business flows along with their individual steps.
Flow Instances	Displays the progress of the flow instances associated with each business flow: <ul style="list-style-type: none"> ○ Completed ○ In Progress

Monitor Flow Instances

Each flow instance represents a single occurrence of the business flow, instantiated for recording all the transaction documents for a specific item or service in the founder's supply chain.

Each document received by the Oracle Intelligent Track and Trace corresponds to a specific business step of an instance. The transaction documents received may or may not be in the order in which the steps are defined for a business flow. Oracle Intelligent Track and Trace maps the transaction to the business step, and performs the necessary processing for ingesting the document and other data received as part of the transaction.

As a founder, you can monitor all the business flow instances individually. Oracle Intelligent Track and Trace provides a number of step-level statistics:

- Number of steps completed and pending for each instance.
- Statistics showing the list of trading partners as submitters for each instance.
- Provides a pictorial representation of how the instance are related to each other.
- Provides a timeline view to trace the transaction documents in a chronological order across multiple flow instances.
- Provides a map view to trace movement of assets and documents between different trading partner.

As a trading partner, your visibility to the data is limited by your organization type in the founder's network—endorsing trading partner, or participating trading partner. The visibility is further constrained by the user role assigned to you—admin, integration user, or web application user, See *Understand Roles and Users*.

Topics:

- [View Flow Instances Dashboard](#)
- [Trace a Flow Instance](#)

View Flow Instances Dashboard

View details about flow instances which includes number of documents completed, pending, or failed.

1. Click **Menu** () and then click **Operations**.
2. Click **Business Flows** ().
The **Business Flow** dashboard is displayed.

3. Click any business flow to view the flow instances.

↑ Business Flows

Distribute Vaccine To Administration Site

4 flow instances found

Flow

Distribute Vaccine To Administration Site



ORDER VACCINE
Purchase Order



VACCINE SHIPMENT NO...
Outbound Shipment

Flow Instances

🔍 Search

Status	Business Flow	Last Update
In Progress	Distribute Vaccine To Administration Site	February 15, 5:30:00 AM
Complete	Distribute Vaccine To Administration Site	February 13, 3:40:00 PM
Complete	Distribute Vaccine To Administration Site	February 11, 5:00:00 PM

Flow Instance dashboard displays a number of statistics which provide you with the summary for all the business flows active in the application.

Metric	Description
Flow Instance Summary	Displays the a summary of all the flow instances in the system: <ul style="list-style-type: none"> ○ Status summary—Status wise distribution of flow instances: <ul style="list-style-type: none"> - In Progress - Complete ○ Trading partner summary—For how many instances the trading partner is a document submitter. ○ Business flow summary—For each business flow, how many instances are active in the system.
Status	Displays the status of each flow instance whether in progress or completed.
Business Flows	Displays the active business flow instance name.
Last Updated	Displays when was the business flow instance last updated.
Progress	Displays the progress of each instance in the format <i><Number of steps completed>/<Total Number of steps></i> .
Trading Partner	Trading partner submitting the 1st document to the flow.
First Document	Displays the document details of the first step in the business flow.
Value	Displays the value of the order from the first document.
Flow Instance Detail	Displays the flow instance details of selected business flow.
Trace	Link to trace the instance

4. Click **Business Flow Instance Detail** () to view the flow instance details of the selected business flow.
5. Click **Trace** () to view the trace details. See *Trace a Flow Instance*.

Trace a Flow Instance

View a detailed trace of the flow instance which includes relationship with other instances, and time-line view.

1. Click **Menu** () and then click **Operations**.
2. Click **Business Flows** ().

3. Click **Trace** () icon against the business flow instance that you want to trace.

Three types of view are supported:

- **Flow Relations:** Shows the relationship of the selected business flow instance with other flow instances. Click each step to view its transaction details. The grayed-out boxes represents the pending steps, if any.
- **Chronological Trace:** Chronological display of all the steps for the selected flow instance and steps from related flow instances. As you scroll down the business steps, you can view the flow of documents between the submitter and receiver in the map. This view also displays any IoT event captured along the time-line. For example, if the geo-location information for the goods is available, the application shows the movement of goods from one location to another. If any corresponding metrics are available, they are shown as line charts in the **Details** panel.

The geo-location and any corresponding metric should be mapped to trackingData in the metadata template of the corresponding document type, for it to be displayed correctly and to have the metrics show up as a chart in the **Details** panel.

- **Visibility Grid:** Displays a swim-lane view of the flow instance showing those trading partners that have access to the submitted documents. The highlighted boxes represent the transactions which are submitted by the trading partner. The grayed-out boxes represent the transactions that the logged in trading partner has view access.

4. Click **Chronological Trace** on the upper right corner for the time-line view of the flow instance.

The time-line view of the business flow instance is displayed.

The screenshot displays a timeline view of a business flow instance. At the top left, there is a link '↑ Back to results'. The main title of the instance is 'Distribute Vaccine To Administration Site: Purchase Order CC-PO-1000291', with 'Community Clinic' listed below it. The timeline consists of several steps, each represented by a circle on the left and a corresponding event box on the right. The first step is 'Move Vaccine To Distribution Partners'. The second step is 'Distribute Vaccine To Administration Site', which is highlighted with a yellow border. This step contains a document icon, the text 'Purchase Order CC-PO-1000291', 'Community Clinic → Beta Distributor', and the timestamp 'January 20, 2021 3:30 PM'. Below this, there is another event box with a document icon, 'Purchase Order BDPO-VAC-2021-0010', 'Beta Distributor → Delta Distributor', and the timestamp 'January 25, 2021 1:30 PM'. The third step is 'Outbound Shipment DDS-2456630023', which contains a document icon, 'Delta Distributor → Beta Distributor (C', and the timestamp 'February 1, 2021 4:40 PM'. The Oracle logo is visible in the bottom left corner. The right side of the image shows a partial view of a map with the word 'aska' visible.

5. Click **Visibility Grid** on the upper right corner for the grid view of the flow instance.

The screenshot displays a grid of vaccine distribution events. Each event is represented by a card with a date and time on the left, a title, a 'Move Vaccine To ...' button, and a document icon with a file name. The events are organized into three columns: Beta Distributor, Community Clinic, and Delta Distributor. The cards are arranged in a grid, with some cards highlighted in white and others in grey. The background is dark with a wood-grain pattern.

Distributor	Date	Time	Event Title	Document Name
Beta Distributor	January 25, 2021	1:30:21 PM	ORDER VACCIN...	Purchase Order BDPO-VAC-2021-...
Community Clinic	February 1, 2021	4:40:00 PM	VACCINE AND ...	Outbound Shipment DDS-24566300234
Delta Distributor	February 1, 2021	11:50:00 PM	VACCINE AND ...	Bill Of Lading BOL-BF504221
Beta Distributor	February 1, 2021	11:50:00 PM	VACCINE AND ...	Bill Of Lading BOL-BF504221
Community Clinic	February 2, 2021	10:30:00 AM	IN-TRANSIT TE...	Transportation Tel. SC-UT6900123-0.
Delta Distributor	February 2, 2021	10:30:00 AM	IN-TRANSIT TE...	Transportation Tel. SC-UT6900123-0.
Beta Distributor	February 2, 2021	9:20:00 PM	RECEIVE SHIP...	Inbound Shipment 30000456098
Community Clinic	February 2, 2021	9:20:00 PM	RECEIVE SHIP...	Inbound Shipment 30000456098
Delta Distributor	February 2, 2021	9:20:00 PM	RECEIVE SHIP...	Inbound Shipment 30000456098

6. Click **Document** on the upper right corner for the associated document details of the flow instance.

Purchase Order: CC-PO-1000291

Summary

From Trading Partner
Community Clinic

To Trading Partner
Beta Distributor

Flow & Step
Distribute Vaccine To Administration Site
> ORDER VACCINE

Document
Purchase Order CC-
PO-1000291

Document Received
October 28, 2021 2:37
AM

Transaction Value
\$7,350.00

Document

Oracle

Order Number

CC-PO-1000291

196

Ship To

Vaccines Procurement

Vendor

Beta Distributor

Trace Your Items and Packages

Trace your serial-controlled or lot-controlled items and packages in Oracle Intelligent Track and Trace from the Items dashboard and the packages dashboard where you can determine their history, lot or serial number, item or package details, current status, all transactions, document references, associated trading partners, and business flow instances.

As a founder, you can keep track of all the lot-controlled or serial-controlled items in your supply chain and reference the transaction data for tracing it to the document, trading partner, or business flow instance.

Topics:

- [View Items Details](#)
- [Generate Items Trace Reports](#)
- [View the Packages Dashboard](#)
- [Export Items/Packages Data in CSV/Excel File](#)

View Item Details

View and trace the lot-controlled or serial-controlled items in your supply chain network.

1. Click **Menu** () and then click **Operations**.
2. Click **Items** ().
A snapshot view and list view of all the serial-controlled, lot-controlled, and batch-controlled items are displayed.

3. On the **Items** dashboard, to view the details of an item, click () for a specific item.
The lot, serial, or batch details, item details, shipping history details, and its transaction details are displayed.

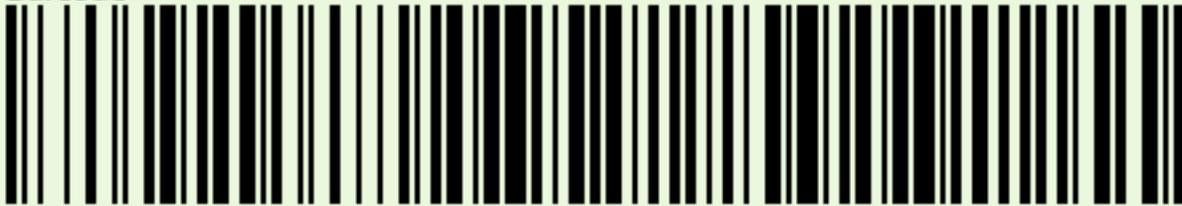
↑ Items

Lot

Number

FL-VAC-20210106-1201

Barcode



FL-VAC-20210106-1201

History

4. From the **History** pane:

- The **Graph** () icon lets you view the item trace for the selected lot-controlled and serial-controlled item as an interactive graph.
- Click any of the items in the interactive graph to view its forward or backward trace association. Click the documents link to view the documents associated to selected item.
- Click **History** () to view the important events on a time line for the selected lot-controlled and serial-controlled item.

5. Scroll down to the **Lot Transactions** section and view all the transactions for the selected item.

6. From the **Document Reference** field, click any document link to view the document details associated to the selected item.

7. From the **Packages** field, click any package link to view the associated package details.

8. To determine the business flow step that references a document, click **Trace** () and view the highlighted step in the associated business flow instance.

9. Click **Back** to go back to the **Items** dashboard.

Filter Items/Packages Data

Use filter bar to narrow down the list to view relevant information. Oracle Intelligent Track and Trace enables you to apply multiple filters to view relevant Items/Packages data based on timestamp, document type etc.

1. Click the **Filter** bar and select single or multiple field name(s) from the list.

2. From the selected column attribute drop-down, select the required operator.

The following operators are available based on the selected attribute type:

3. In the **Search Filter Criteria** field, enter the filter criteria and then click outside the filter box.

Results:

The following image illustrates the filtered items based on the given criteria.

Items

Item Type is **Single Dose Vision Pharma Vaccine** | ✕

Lot match phrase **VAC** | ✕

Last Update before **04/30/2023, 12:00 AM** | ✕

Filter



LOT CONTROLLED 3



SINGLE DOSE

Export As CSV

Item Type	Serial	Lot	Batch	Last Update
Single Dose Vision Pharma Vaccine VP-1-2001		ZL-VAC-20210102-90002		February 11, 2021 5:00 PM
Single Dose Vision Pharma Vaccine VP-1-2001		ZL-VAC-20210105-90003		January 28, 2021 1:10 AM
Single Dose Vision Pharma Vaccine VP-1-2001		ZL-VAC-20210106-90001		January 28, 2021 1:10 AM

Generate Items Trace Report

Generate the lot-controlled or serial-controlled item trace reports in your supply chain network.

1. Click **Menu** () and then click **Operations**.
2. Click **Items** ().
A snapshot view and list view of all the serial-controlled, lot-controlled, and batch-controlled items are displayed.

3. On the **Items** dashboard, to generate trace reports of an item, click () for a specific item. The **Generate Report** for the selected item is displayed.

Generate Report : 10-Dose Vision Pharma Va

Templates

Backward Report

Include

ALL

Memo

Generate Report

Genera

Name ↑↓

No data to di

4. On the **Generate Report** page, enter the values for the following fields:
 - o From the **Template** drop-down list, select the template to use to generate the report. See *About Report Templates*
 - o From the **Include** drop-down list, select the trace details you wish to include in the report, such as BACKWARD, FORWARD, ALL, or NONE.
 - o (Optional) From the **Expire In** date-time editor, update the date and time duration for the report to be retained in the system.
 - o In the **Memo** text field, enter the memo details of the selected item.
5. Click **Generate Report**.
A lot-controlled or serial-controlled trace report is generated based on the selected template type and appears under **Generated Reports** area.
6. Click **View** () to view the generated report.
7. Click **Download** () to download the report in your local system.
The item trace report will be downloaded in a PDF format.
8. Click **Delete** () to delete the generated report.
9. Click **Cancel** to close the **Generate Report** page.

View Packages Dashboard

View package details and trace the items in the package.

1. Click **Menu** () and then click **Operations**.
2. Click **Packages** ().
A snapshot view and list view of all the packages are displayed

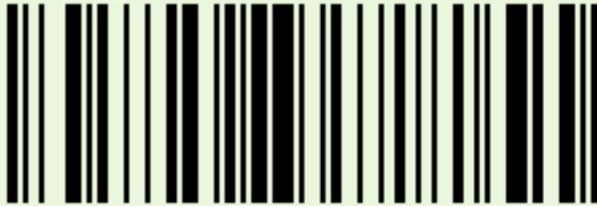
3. On the **Packages** dashboard, to view the details of a package, click **Show Details** () for a specific package. The package details, shipping history details, and the items in the package are displayed.

↑ Packages

Package

Number
VCX340504

Barcode



VCX340504

History



4. Scroll down to the **Items in this Package** pane and view all the items in the package.

For each **Item Type** column, to view the item details associated with the package, you can click **Show Details** (). See how to view details of an item from [View Items Details](#)

5. Use the breadcrumb information at the top to go back to the **Packages** dashboard.
6. On the **Packages** dashboard, to display or hide certain columns, click () **showHideColumns** and select or deselect the fields.

Export Items Data

Use the **Export** option to download the Items and/or Packages summary data out of the Intelligent Track and Trace in the form of CSV or XLSX file.

Scenario for Export

As a founder or trading partner admin, when you want to analyze the Items and/or Packages data ingested into Intelligent Track and Trace application in a simplified readable format.

1. Click **Menu** () and then click **Operations**.
2. For exporting Items and/or Packages summary data, click **Items** tab or **Packages** tab.
3. From the respective dashboards, above a summary data table, click **Export As CSV** or **Export As Excel** to download data in a required format.
4. (Optional) You can customize the download by adding filters in **Search** field or by selecting specific columns from the **showHideColumns** drop-down list.

Results:

The summary data file will be downloaded to your local system.

Monitor Documents

Every transaction document is associated with a business step in a flow instance. You can monitor the documents received by the Oracle Intelligent Track and Trace by keeping track of various parameters, such as document time stamp, document type, document variant, submitter and so on. If a submitter attaches additional files to a document when submitting the document using a REST API, then you can view the attached files and download them from the documents dashboard.

Topics:

- [View Document Summary](#)
- [Export Document Data in a CSV/Excel File](#)

View Documents Summary

1. Click **Menu** () and then click **Operations**.

2. Click **Documents** ().

Documents



Document 	Document Type 	Document Variant 	Submitter 
 89813164	Work Process Product Completion	Default	New UI Test T
 SSP650022 	Outbound Shipment	Default	Super Safety
 ZB-5256745-22	Bill Of Lading	Default	Zeta Carrier
 PPE-22-456012-SS 	Purchase Order	Purchase Order Fusion	Delta Distribu
 PPE-21-456012-SS 	Purchase Order	Purchase Order Fusion	Delta Distribu
 V-2200-934001 	Sales Order	Default	Super Safety
 SVNPO-20210205-520	Purchase Order	Purchase Order Fusion	SVN Pharmac

Note: Some documents may have multiple versions associated to them, if a document has versions, a version badge is shown next to the document number. No version badge is shown if the document does not have any associated version.

For example, **Purchase Order** document has multiple versions with a version badge showing the most recent version number.

3. To view document details:

- o Click any document number from the **Documents** column.
- o Click (**⋮**) icon to select any of the below option to view:
 - **Business Flow** for which this document is associated to.
 - **Documents** to view document details, list of attachments, or versions.
 - **Trace** to trace the document in its associated business flow instance.

Filter Documents Data

Filtering transaction documents helps you narrow down your search results on the focused set of document required to be viewed and exported as per your use case requirement.

1. Click the **Filter** bar and select single or multiple field name(s) from the list.
2. From the selected column attribute drop-down, select the required operator.
3. In the **Search Filter Criteria** field, enter the filter criteria and then click outside the filter box.

Results:

The following image illustrates the list of documents based on the given criteria.

Documents

Document	Document Type	Document Variant	Submitter	Business Flow	Document Issued	Document Received
ZCNY-589012-003	Transportation Telemetry	Default	Zeta Carrier	Distribute Vaccine To Administration Site	February 13, 2021 12:30 AM	April 4, 2021 11:56 AM
ZCNY-589012-002	Transportation Telemetry	Default	Zeta Carrier	Distribute Vaccine To Administration Site	February 12, 2021 10:30 PM	April 4, 2021 11:56 AM
ZCNY-589012-001	Transportation Telemetry	Default	Zeta Carrier	Distribute Vaccine To Administration Site	February 12, 2021 9:30 PM	April 4, 2021 11:56 AM
ZCNY-589012-000	Transportation Telemetry	Default	Zeta Carrier	Distribute Vaccine To Administration Site	February 12, 2021 8:50 PM	April 4, 2021 11:55 AM

View Attachments

As a Founder or Trading Partner admin and users, view a list of attachments for each document submitted for a business flow step directly on the **Documents** dashboard page.

Example Use case

In your supply chain network, as a Trading Partner, you frequently need to verify the road safety compliance certificate attached with the `shipping` documents submitted by the third party logistics service contractors or you want to ensure that a proof of delivery certificate is attached during document submission.

For such scenarios, Intelligent Track and Trace provides instant access to a list of attachments available for quick preview or download from **Documents** dashboard view.

Alternatively, attachments can also be viewed and downloaded from **Documents** summary details page or from **Documents** trace view.

The **Attachments** drawer provides the following information associated with each document and the attached files.

Page Element	Description
Document Name	Specifies the name of the document submitted for a business flow step.
Attachments	Specifies the number of attachments uploaded during document submission. The snapshot view provides the following details: <ul style="list-style-type: none"> Icon indicating file type Filename with file type extension Preview attachment  Download individual attachments 
Supported files	Thumbnail image of a supported file type, such as, PDF, PNG, TXT and so on. See Supported File Types .
Unsupported files 	N/A if the attachment belongs to an unsupported file type. See Unsupported File Types .
	If the file extension is not a supported media type.

Note: The maximum file size of an attachment is 375 MB.

Supported File Types

The following file types support both **Preview** and/or **Download** of attachments.

Media	Format
Images	PNG, GIF, TIFF, JPEG
Application	PDF
Video	MPEG, MP4

Media	Format
Text	TXT

Unsupported File Types

The following file types support only **Download** of attachments.

Media	Format
Images	BMP
Archive	ZIP
Binary	DAT
Text	DOC, DOCX

Note: In case of document versioning, attachments are tightly coupled with document versions. For example, let us assume that for a business flow you attached a few attachments with `Purchase Order` document, later you revised the `Purchase Order` document and submitted as version 2 without any attachments. In this case, you can only view attachments with `Purchase Order` document version 1 submitted previously and not with version 2 of the document.

Topics

The following views helps you view or download the attachments:

- [View Attachments from Document Details page](#)
- [View Attachments from Documents Trace Page](#)

View Attachments from Document Details Page

View additional files attached with a submitted document from the Documents details page.

To view a list of attachments:

1. Click **Menu** () and then click **Operations**.
2. Click **Documents** ().
3. From () drop-down, click **View Attachments** to view a list of files attached with a selected document type. The uploaded attachments appears under the **Attachments** tab for a selected document versions.

Note: Attachment preview is available only for certain file types. On the preview page, you can see the first page of a PDF document or a larger version of an image file. For information on file types, see [Access Document Attachments](#).

4. Click **Preview** () to open attachment in a file viewer.

5. Click **Download** () to download each attachment separately.
Optionally, you can **Download** and/or **Print** attachments from the file viewer.

View Attachments from Documents Trace Page

For improved accessibility, preview and download of attachments is also available from the **Documents** trace page without navigating to the documents dashboard view or documents details page.

To view a list of attachments:

1. Click **Menu** () and then click **Operations**.
2. Click **Documents** ().
3. From () drop-down, click **Trace** to open document trace view.
4. From the documents content panel, change **Map** view to **Document** view.
5. Click **Attachments** to open the attachments drawer.
 - Click **Preview** () and view the file content in attachment viewer.
Attachment preview is available only for certain file types. On the preview page, you can see the first page of a PDF document or a larger version of an image file. For information on file types, see [Access Document Attachments](#).
 - Click **Download** () to save the file in your local system.

Optionally, you can **Download** and/or **Print** attachments from the file viewer.

6. Click **Cancel** to return to the **Documents** trace view page.

Export All Attachments For A Selected Document/Trace

Use the attachment export feature to download all attachments related to a selected document or trace in a single zip file.

Some of the key elements this feature offers are:

- **Optimized user experience:** In scenarios where there are large number of attachments uploaded for a single document or trace, downloading each attachment separately is a time intensive activity. Using bulk export feature, you now have the option to download all the attachments in a single zip archive which improves efficiency and saves time and effort to traverse through large set of attachments.
- **Effective file organization:** All the files are exported in a zip format with a well-organized directory structure with a directory for each document and its associated versions.
- **Detailed summary report:** A separate CSV file containing a complete download summary of the zip archive, such as document name, document number, the business flow and flow step for which it was submitted, document version and so on.
- **Access control:** Provides permission based access to allow or restrict users from viewing and downloading attachments pertaining to the most recent version or for the entire version history.
- **Track export status:** - Provides efficient tracking functionality to check the export activity status and subsequently download the archive files.

The export archive includes the following:

- The folder structure of the ZIP file and the naming conventions used are as follows:

- The default name of the exported archive is the normalized `ledgerKey` name, that is `<normalized-ledger-key>-<num-suffix>.zip`. For example, `PurchaseOrder:PPE-22-456012-SS-01.zip`. You can rename the default normalized export file to the name of your choice.
 - The default top level folder name uses the default normalized `ledgerKey` name of the selected document. For example, `PurchaseOrder:PPE-22-456012-SS-01`.
 - The second level folder(s) is a folder dedicated to each version of the document. For example, first level folder in a zip file is the default normalized name of the selected `PurchaseOrder:PPE-22-456012-SS-01` document and the second level folder might be the multiple versions of the same document, such as `v1`, `v2` and so on.
- A CSV file with a detailed summary of the archive data.
 - The default size of the exported archive is 2GB, if the archive size exceeds 2GB (configurable), the zip file splits into multiple files.
 - If the file size of an attachment exceeds the specified limit, it does not split between multiple files. In this case, the attachment will be archived in a separate zip file.

Before you start

Note: You must have valid permissions to export document attachments.

Export attachments for selected document

Here's what to do

1. Click **Menu** () and then click **Operations**.
2. Click **Documents** ()
3. To export document attachments, navigate to the documents summary page using one of the following choices:
 - Click the document number from the **Documents** column.
 - Click  icon and select **View Document**.

4. To initiate attachment export, click **Export Attachments**.
The **Export All Document Attachments?** dialog box appears.



Export All Document Attachments?

Exporting Attachments may take a while. Go to Activity Log to check Export status and download the Attachments.

Export Name

Purchase Order PurchaseOrder PPE-22-456012-SS-01

Specify which attachments you wish to download.

- Attachments only for the latest Document versions
- All Attachments including version history

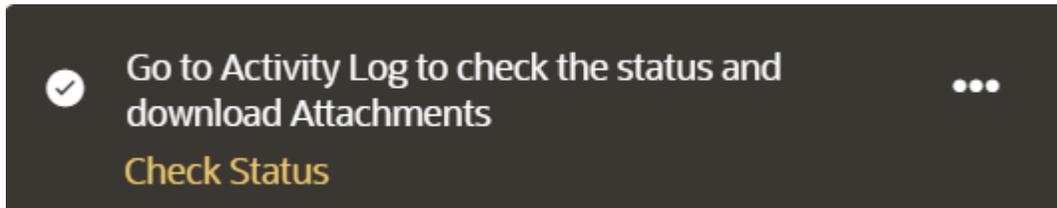
Cancel

St

5. Do the following tasks to start the attachment export:

- a. (Optional) In the **Export Name** field, you can either retain the prefilled name or can enter a new name of your choice.
- b. You can download attachments for the most recent version of the selected document or all the attachments uploaded for all the previously submitted versions of the document that is the entire version history of the selected document.
- c. Click **Start Export**.

The attachment export status message appears.



- 6. Choose any one of the following options to view exported archive status and download the attachments:
 - o Click **Check Status** link from the export status message to directly jump to the **Activity Log - Attachments Export** page.
 - o Go to **Monitoring** -> **Activity Log**, and then click **Attachment Exports**.

Activity Log

Integrations (0) Uploads (0) **Attachments Exports (1)**

 Filter

Name	Size	Export Type / Versions	Export Date
▼ Purchase Order Purch...	183.33 KB	Documen...	June 6, 2...
 Purchase Order Pu...	183.02 KB		
 export-info.csv	318.00 b...		

In this example, the export is triggered for the most recent version of the `Purchase order` document. The export includes a zip file and a csv file ready for download.

1. Export all attachments from selected document trace

7. To export all attachments specific to a business flow, navigate to the business flow page by using one of the following choices:
 - Click the document number from the **Documents** column and then click **Business Flow** from the document summary page.
 - Click **...** icon and select **View Business Flow**.
8. Repeat Step 4 to Step 9 to view the export status and download the zip archive to your local system.

Access Document Versions

Document version support allows submission of the same document multiple times. Every new submission of a document with the same document number is recorded as new version of the document.

What is Document Versioning?

Document Versioning means to have multiple versions of a document that you submit for a specific transaction. It enables you to submit a new version of a document, submitted earlier for each flow step in a business flow. When you submit a document with a document number submitted previously, Intelligent Track and Trace creates a new version and maintains a revision history to view and track the transaction data as needed.

Why do I need Document Versioning?

In your supply chain network, consider a situation where due to change in customer requirement, an existing invoice sent to the supplier to procure raw material needs a revision. For seamless operations, you would initiate a fresh invoice with new requirements.

In a business flow, a document may go through various states, such as New, Open, Closed etc. If its important to record the document in all these states, versioning is needed as the same document will need to be recorded multiple times.

For such use cases, Intelligent Track and Trace provides document versioning feature with the following capabilities:

- **Efficient Tracking:** Provides the most recent version of the document to ensure accurate and up-to-date information about the transaction data. This improves efficiency and transparency of business flows in your supply chain network.
- **Better visibility:** A version history is maintained that provides increased visibility to track end-to-end information of a specific transaction submitted for a business flow.
- **Improved customer experience:** Provides access to the most recent transaction data available for all the stakeholders in your supply chain network for better decision making and tracking.
- **Access Control:** Provides permission based access to allow or restrict users from viewing document versions based on their organizational roles.

How Document Versioning is implemented?

Document Versioning is implemented only if it is enabled for a specific flow step in a business flow.

When you submit a new version of a document, Intelligent Track and Trace verifies the `ledgerKey` and its `documentTimestamp` attribute values. If the `ledgerKey` and the `documentTimestamp` attribute value of a new version is same as the previously submitted document, the application rejects the incoming document, marks it as duplicate, and list it under **Document Diagnostics**.

If the document `ledgerKey` attribute value of the two documents is same but the `documentTimestamp` attribute value is different, the application creates a new version and adds version number label adjacent to the document name.

How to enable Document Versioning?

As founder admin, when you create a new business flow instance, you can also enable or disable document versioning for each flow step. If document versioning is enabled, each step in a business flow then shows `Versioning: Enabled` information underneath document name.

The following image shows a sample business flow instance with Document Versioning status as Enabled.

	ORDER PPE	BOOK PPE ORDER	PPE SHIPMENT NOTICE	PPE SHIPMENT NOTICE
Name	ORDER PPE	BOOK PPE ORDER	PPE SHIPMENT NOTICE	PPE SHIPMENT NOTICE
Document	Purchase Order Versioning: Enabled	Sales Order Versioning: Enabled	Outbound Shipment Versioning: Enabled	Bill Of Materials Versioning: Enabled
Submitters	Delta Distributor	Super Safety Prod...	Super Safety Prod...	Zeta Carrier
Viewers	Super Safety Prod...	Delta Distributor	Zeta Carrier	Super Safety Prod...
Document Time...	None	None	None	None

For more details on how to enable/disable document versioning, see [Create a New Business Flow Instance](#).

How do I access Document Versions?

Document Versioning is access controlled, which means, to view all the versions of a document, you must have required permissions. If you do not have necessary permissions, you can view only the latest version of a document.

As founder, Trading Partner admin or user, you must have appropriate permissions to view latest or all the versions of a document. For information on access permissions, see [Fine-grained Access Control](#).

How to view Document Versions?

All transaction documents are listed under **Documents** summary dashboard. Documents that have versions, will have a version number badge.

For example, the following image shows the `Purchase Order` document with a version number badge alongside document number.

Documents



 Export As CSV  Export As Excel

Document 	Document Type 
V-2200-934001 v.2	Sales Order
PPE-21-456012-SS v.3	Purchase Order

Here, `Purchase Order` document has three different versions shown in version badge as **v.3**. The most recent version of a document shows a version badge as **<version number>(latest version)**. In this example, if version 3 is the most recent version of the `Purchase Order` document, the version badge shows **v.3(latest version)** in document details page

You can view and track different versions of a document from **Documents** summary dashboard. Intelligent Track and Trace implements document versioning at the following component levels:

- Document Details Page
- Business Flow view
- Document Trace view

Topics:

- [View Document Versions on the Document Details Page](#)
- [Track Document Versions in Business Flows](#)
- [Track Document Versions from Trace View](#)

View Document Versions from Document Details Page

View document versions directly on the **Document** details page.

Before you start

Ensure that Document Versioning is enabled in a flow step of the selected business flow instance.

Here's what to do

1. Click **Menu** () and then click **Operations**.

2. Click **Documents** ().
Document summary dashboard opens.
3. Click document number with a version badge attached to it.
The selected document opens with **Document Details** drawer.

[↑ Back](#)

Purchase Order v.3 (latest version)

PPE-22-456012-SS



[Document](#) [Source](#) [Metadata](#)

Oracle

Purchase Order

Vendor
[Super Safety Products](#)

Order Number	Order Date
PPE-22-456012-SS	2023-02-24T14:45:00Z

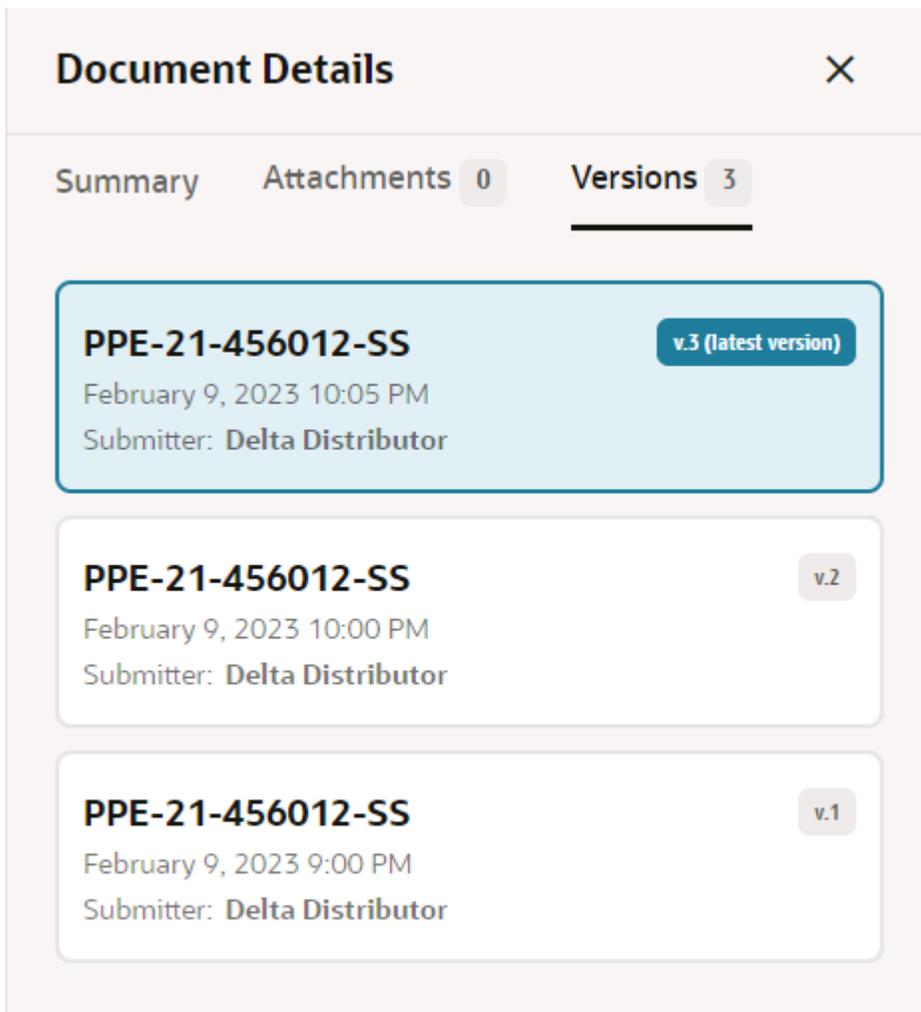
Ship To
General Procurement

Bill To
Vaccines Procurement
Redwood Shores

Procurement BusinessUnit General Procurement	Requisitioning BusinessUnit	Order Type
FOB Destination	Freight Terms Collect	Carrier Zeta Carrier
Payment Terms Net 60	Reference # Refl	Currency

Item	Description	Quantity	Unit	Price
PPE-M-12001	N95 Respirator	2500	EA	3.5
PPE-FG-400110033022	Fluid Resistant Gown	2500	EA	4

4. Click **Versions** tab to view a specific version of the document.



5. Click the version card to load document details in the content panel.

Note:

- o You do not require any access permission to view the latest version of a document.
- o To select a version card of the previous versions and view them in the content panel, you must have valid access permissions.

Track Document Versions in Business Flow View

Track all versions of a transaction document submitted for each flow step in a business flow instance.

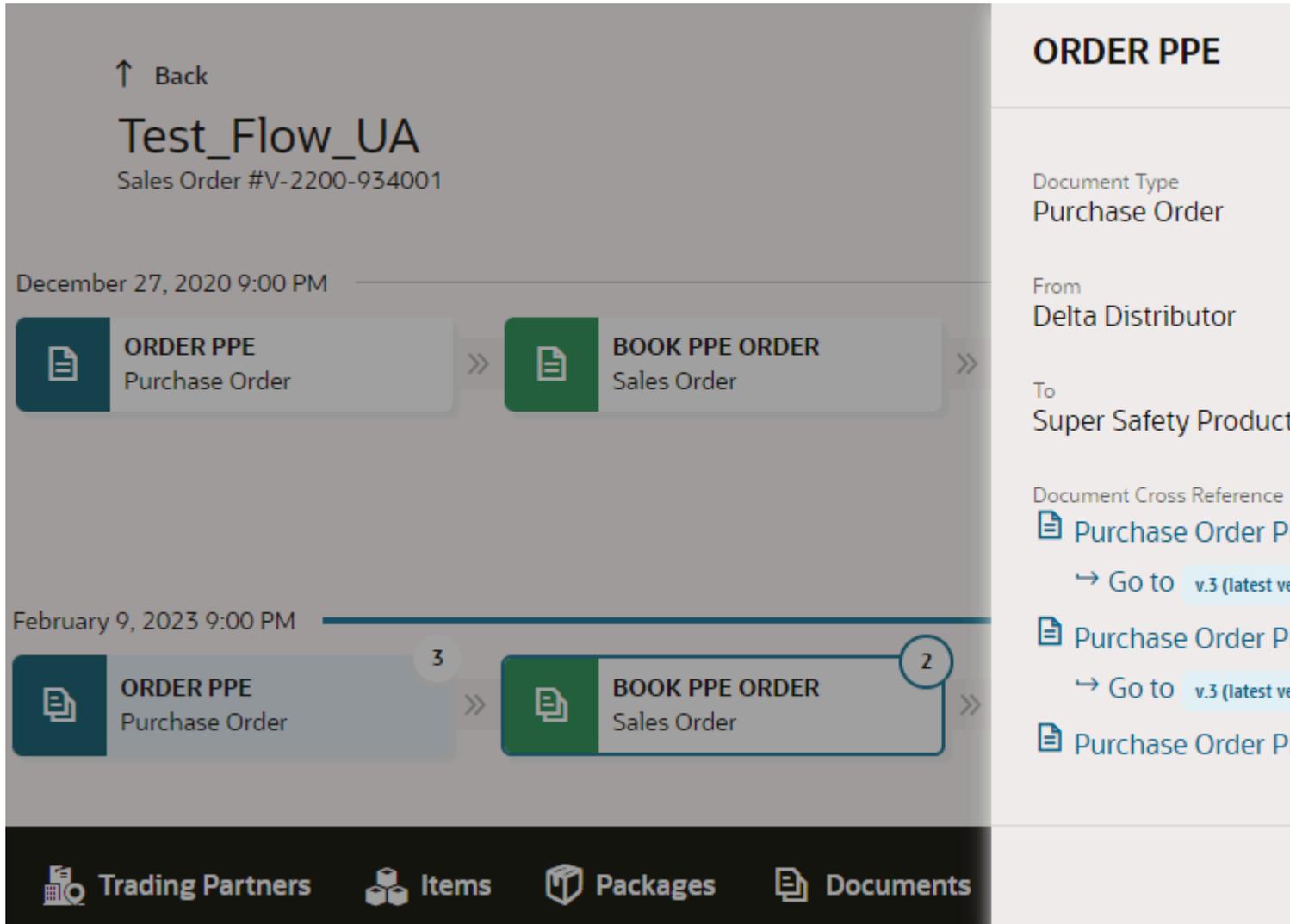
Before you start

Ensure that Document Versioning is enabled in a flow step of the selected business flow instance.

Here's what to do

1. Click **Menu** () and then click **Operations**.

2. Click **Documents** (📄).
Document summary dashboard opens.
3. Click document number with a version badge attached to it.
The selected document opens with **Document Details** drawer.
4. Click **Business Flow** tab and select one of the business flow steps.
A drawer appears showing transaction data.



The **Document Cross Reference** lists all the submitted versions of a transaction document for a selected flow step. To view any specific version, the following criteria should be met.

- If you have permissions to view document versions, each document version appears as an active link. The version badge in gray box indicates the version number.
- If you do not have permissions to view document versions, the document name and badge do not provide an active link and a tooltip is shown with a message **You do not have permission to view this version.**
- To view latest version, click **Go to <latest version>** available under each version.

5. Click **Cancel** to close the drawer.

Track Document Versions from Document Trace View

Track all versions of a transaction document from the document trace view.

Before you start

Ensure that Document Versioning is enabled in a flow step of the selected business flow instance.

Here's what to do

1. Click **Menu** () and then click **Operations**.
2. Click **Documents** ().
Document summary dashboard opens.
3. Click document number with a version badge attached to it.
The selected document opens with **Document Details** drawer.
4. Click **Trace** tab.
The Document trace view opens.
5. Click **Map** drop-down and select **Documents**.

- From the Trace timeline, click any version card to view the transaction details submitted for a flow step. The following image shows the multiple versions of the `Purchase Order` document.

↑ Back

UA_Test_Flow1

Purchase Order #PPE-22-456012-SS

↑ Back

Trace: Purchase Order PPE-22-456012-SS

UA_Test_Flow

UA_Test_Flow1

- Inbound Shipment 6510034** v.1 (latest version)
Delta Distributor → Delta Distributor
January 15, 2021 4:00
- Purchase Order PPE-21-456012-SS** v.1
Delta Distributor → Super Safety Products
Go to Latest Version
February 20, 2023 5:10
- Purchase Order PPE-21-456012-SS** v.2
Delta Distributor → Super Safety Products
Go to Latest Version
February 22, 2023 4:10
- Purchase Order PPE-21-456012-SS** v.3 (latest version)
Delta Distributor → Super Safety Products
February 24, 2023 6:10

Now
Future

Purchase Order: PPE-21-456012-SS

Summary

From Trading Partner	Document
Delta Distributor	Purchase Order
To Trading Partner	Document ID
Super Safety Products	February 20, 2023
Flow & Step	Document Reference
UA_Test_Flow > ORDER PPE	February 20, 2023
	Transaction Amount
	\$17,400.00

Document

Oracle

Vendor
Super Safety Products

Note: If you do not have the required permissions to access document versions, you can only view the latest version of the document.

Export Document Data in a CSV/Excel File

Use the **Export** option to download the transaction summary data out of the Oracle Intelligent Track and Trace in the form of CSV or XLSX file.

Scenario for Export

As a founder or trading partner admin, when you want to analyze the transaction data ingested into Oracle Intelligent Track and Trace application in a simplified readable format.

1. Click **Menu** () and then click **Operations**.
2. Click **Documents** ().
3. From the **Documents** dashboard, above a summary data table, click **Export As CSV** or **Export As Excel** to download data in a required format.
4. (Optional) You can customize the download by adding filters in **Search** field or by selecting specific columns from the **showHideColumns** drop-down list.

Results:

The selected file will be downloaded in your local system.

Working with Filters

You create filters to extract and view precise data from a large number of records.

When you apply filters, you generate focused results to optimize your search. Filter based search helps you retrieve various combinations of data by adding predefined filters. It reduces the effort to retrieve specific set of records related to various items, packages, and transaction documents. You can then export the search results as a CSV or Excel file which save the effort to first download the entire summary and then apply filters to narrow down what is needed.

You can provide values for the attributes that you want to filter on and the operator to use for filtering. The available operators depends on the attribute's data type. For example, operators for filtering text values are different than the operators for filtering date ranges. Filters are combined together using **and** logic, which means only those records that meet all filter criteria are displayed.

Typical operators include the following:

- *starts with*
- *match phrase*
- *does not match*
- *is/is not*
- *Before/After*

You can apply filters by using the following search techniques:

- **Search complete words** - If you're searching an item with multiple words in the name, enter any of the words. For example, a search keyword as *N95 Respirator* and *Surgical Mask* would retrieve all the items where the type matches the given keyword.
- **Search exact phases** - Use *Match Phrase* to search data by entering a sub-string within a given value that exactly matches the attribute value. For example, a search sub-string *002* from a document number would retrieve all the documents that contains *002* in it regardless of their document types.
- **Filter by Dates** - Use calendar controls to query the list based on date fields. For example, filter the list of documents that are submitted *before* or *after* a specified date and time.

Currently, the filter based search is available on the following component dashboards:

Module	Component Dashboard
Operations	Documents
	Items/Packages
Monitoring	Document Diagnostics
Configurations	User Management - Trading Partners
	User Management - Users tab
	User Management - Groups tab

Simulate Business Transaction Workflow

As a founder, Oracle Intelligent Track and Trace enables you to test out the activated business flows by simulating the transaction documents for each of the flow steps.

Oracle Intelligent Track and Trace depends on the trading partners to send transaction documents to the founder's network in a specific document format. Each of the trading partner must setup and configure an appropriate integration process to extract the documents from their enterprise applications, transform them to the document format defined by the business network, and transmit it to the founder's network in a reliable and secure manner.

It is therefore a little challenging for you to test these business flows which span across multiple trading partners. Oracle Intelligent Track and Trace provides a simulator tool which generates mock transaction documents from the trading partners which help you to:

- Test the business flow
- Identify potential issues with document ingestion
- Validate KPI computation and analytics
- Demonstrate to the trading partner how the business flow process works in real time

Note: Simulator functionality is available only in the Test Service instance. For more information, see *Production and Test Environment*

Topics:

- [Create a Simulation](#)
- [Edit a Simulation](#)
- [Clone a Simulation](#)
- [Run Simulations](#)

Create a Simulation

Create a simulation to test out the business flows and identify any potential issues or errors.

When you define a business flow, all the flow steps have an associated document type. The document type specifies the document structure in which data will be received for that step. Each document type defined also contains a simulator template. This template is used to create data for the simulated transaction documents.

1. Click **Menu** () and then click **Monitoring**.
2. Under **Monitoring : Simulations** dashboard, click **Create New Simulations** ().

3. In the **New : Simulations** page, specify the value of these fields:

- **Name:** Enter the name of the simulation.
- **Document Generation Interval:** Enter the frequency at which the document is generated.
- **Document Generation Interval Unit:** Enter the unit of frequency at which the document is generated. For example, if the frequency is specified as 30 and the unit is specified in minutes, then a document is generated every 30 minutes.
- **Maximum Number of Runs:** Enter a value between 1 and 10.

If the value for **Maximum Number of Runs** is higher than 1, then specify the following:

- **Repetition Interval:** Enter the frequency at which the simulation should run.
- **Repetition Interval Unit:** Enter the unit of frequency at which the simulation should run.
- **Business Flows:** Select the business flows that you want to simulate as part of this simulation. For each flow selected, application displays:
 - All the steps of the business flow(s).
 - Simulation template for each business step.
 - The simulation template attributes of the first step in the business flow.

New : Simulations

Name
Test

Maximum Number Of Runs
1

Business Flows

Move Vaccine To Distribution Partners ×

Distribute Vaccine To Administr



Document Type
Purchase Order

▼ **ORDER VACCINE AND PPE: CUSTOM SIMULATED ATTRIBUTES**

result_acceptanceDueDate

4. Select the **Business Step** from the business flow chart in the bottom pane, to modify the simulation template attributes. All the attributes are populated with the default values defined in the template.
5. Click the text box next to the **Search** () icon and select the attributes from the list, which you need to modify.
6. To modify an attribute, click **Edit** () next to the attribute.
7. On the **Choose Simulation** dialog box, click the **Simulation Type** drop-down and select one of the following:
 - o **Constant Value:** Select this option to generate constant values.
 - o **Random from list:** Select this option to provide a list from which random values need to be generated.
 - o **Random String:** Select this option to provide random string values that follow a pattern.
 - o **Trading Partner:** Select this option to provide a specific trading partner name.
 - o **Trading Partner's Location:** Select this option to provide a specific location.
 - o **Index Based Template String:** Select this option if the attribute is part of a repeating element. You can use either the index as a string value for the attribute or the index in a template string.
 - o **Sequence From List:** Select this option to generate a sequence of a specific type from a list that you need to provide.
8. Make the required changes to the other relevant field values, and click **OK**. Repeat Steps 6 through 8 for all the attributes that you want to modify for the selected **Business Step**.
9. Repeat Steps 4 through 9 for all the business steps of the selected business flow.
10. Click **Save** and wait until the **Save successful** message is displayed.
11. Click **Cancel** to return to the **Monitoring : Simulations** dashboard. You should see the new simulation that you have added in the simulation list.
12. Click **Stop All** if you wish to stop all the simulations in running state.

Results:

You can also create simulation for an end-to-end workflow involving multiple business flows. Apart from customizing the business step attributes for all the business flows, you can define the relationships between the various business flows including their dependencies. Ensure that the relationships between the business flows that you define in the simulator should be same as the ones you have defined when creating the document types.

Edit a simulation

Edit an existing simulation.

1. Click **Menu** () and then click **Monitoring**.
2. Under the **Monitoring : Simulations** dashboard, click **Edit** () against the name of the simulation you want to modify.
3. Make the necessary changes and click **Save**. Wait until the **Save successful** message is displayed.
4. Click **Cancel** to return to the **Monitoring : Simulations** dashboard.

Clone a Simulation

You can clone an existing simulation to create a new one.

1. Click **Menu** () and then click **Monitoring**.
2. Under the **Monitoring : Simulations** dashboard, click **Clone** () against the name of the simulation you want to clone.
3. In the **Clone : <Simulation Name>** page, enter the value for these fields:
 - o **Name:** Enter the name of the simulation.
 - o **Document Generation Interval:** Enter the frequency at which the document is generated. For example, if the frequency is specified as 30 minutes, a document is generated every 30 min.
 - o **Business Flows:** Select the business flows that you want to simulate as part of this simulation. For each flow selected, application displays:
 - All the steps of the business flow(s).
 - Simulation template for each business step.
4. Make the changes to the attributes for each business step for the selected business flows.
5. Click **Save** and wait until the **Save successful** message is displayed.
6. Click **Cancel** to return to the **Monitoring : Simulations** dashboard.

Run a Simulation

Run a simulation to test the business flows.

1. Click **Menu** () and then click **Simulations**.
2. Under **Monitoring : Simulations** dashboard, click **Run** ().
3. Click **Stop** if you want to stop the simulation.
4. Click **Trace** to trace the simulation.

Delete a Simulation

Delete an existing simulation.

1. Click **Menu** () and then click **Monitoring**.
2. Under **Monitoring : Simulations** dashboard, click **Delete** () on the right of the simulation that you want to delete.

Submit Documents

Oracle Intelligent Track and Trace provides a REST API based mechanism and a application based user interface to the trading partners to submit documents for a step, into the network.

When a business flow is activated, Oracle Intelligent Track and Trace generates a REST endpoint for each of the business steps. Trading partners integrate these REST endpoints with their REST clients or integration tools to post documents. Trading partners can submit documents only for the business steps for which they have been identified as a submitter. A submitter can optionally attach files such as, image files, pdf files, or audio files, when submitting the documents using the *Submit document* REST API. Alternatively, the submitter can login to the application and upload documents for the relevant business steps. The documents should follow a Oracle Intelligent Track and Trace defined JSON schema or CSV template, which are available for download.

In addition to REST and CSV/JSON file uploads, you also have the option of manually entering the data for document to be submitted using the auto-generated forms.

The HTML form is dynamically generated based on the JSON schema of all the pre-seeded document types and variants or custom document types and variants. See *Upload Documents as JSON Form*.

- [Download a CSV Template or a JSON Schema](#)
- [About the CSV Data Format](#)
- [Upload Documents](#)
- [View Document Integration Endpoints](#)

For more information on how to use REST APIs, see *REST API for Oracle Intelligent Track and Trace*

Download a CSV Template or a JSON Schema

A submitter can upload a document for a step of a business flow, which can be a CSV file or a JSON file. Oracle Intelligent Track and Trace provides specific csv template and JSON schema for each document type that you can download and use.

Before you upload a transaction document for a step of a business flow, you can download its CSV template or JSON schema, and use it to create the transaction document

1. Sign in to your Oracle Intelligent Track and Trace instance as a trading partner or the founder.
2. Click **Menu** () and then click **Operations**.
3. On the bottom navigation bar, click **Document Submission** ().
The **Document Submission** dashboard shows the business flows, its business steps, and the corresponding document type names for which you are a submitter.
4. Identify the business flow and its step for which you need its CSV template or its JSON schema. Hover your mouse over the **DocumentEndpointsPost** record and click the **Upload** ().
The **Post Document** page is displayed.

- To download the pre-defined JSON schema, on the **Post Document** page, from the **Post as** drop-down list, select



JSON, and then click the **Download** (). Browse to the desired location, and save the schema file for later use.

- To download the pre-defined CSV template, on the **Post Document** page, from the **Post as** drop-down list, select



CSV, and then click the **Download** (). Browse to the desired location, and save the template file for later use. See [About the CSV Data Format](#).

- Click **Close** to return to the **Document Submission** dashboard, click.

About the CSV Data Format

Oracle Intelligent Track and Trace accepts transaction documents in CSV format and provides a predefined template for CSV documents, which you can download from the application.

If you are not familiar with JSON schema, you can use a pre-defined csv template to create and upload a csv transaction document for a step of a business flow. The CSV file can either be a comma separated file, which supports the US and UK format or a semi-colon separated file, which supports the European format specifically Germany, France, Italy, and Czech Republic.

Example of a Document in CSV Format

record identifier	result/order Number	result/orderDate	result/currencyCode	result/orderLine/itemNumber
	string	integer	string	list[object(number)]
1	X118654	1614955016	USD	
1				
1				
2	X118566	1614955385	GBP	
2				

Apply the following rules and format when you create a document in CSV format:

Rows

- The first row, header row, is mandatory and must be always present in the CSV file. It lists (in a flattened format) all possible fields from the document schema.
- The second row, hint row, is optional. It doesn't need to be necessarily present in the uploaded CSV file. This row is only for informational purpose for the user to define what data type is expected.

- Remaining rows are dedicated for the data itself.

Columns

- The first column is a special column, containing **record identifier(s)**. The Document can span over multiple CSV rows, that is necessary for arrays. Number of rows over which the document spans is dictated by this column. Value of cells in this column have no restrictions. Parser reads the CSV file row by row. If it encounters a unique record identifier, all rows, which have the same (or none) record identifier, belong to the currently processed document.
- All other columns correspond to properties from document type schema.

Header Row

- The first column is called **record identifier**
- Remaining columns are generated using the following algorithm:
 - If the field type is an object, all inner properties are flattened using / (forward slash).
 - If the field type is an array of primitive types, the field name is used, which can be nested in an object.
 - If the field type is array of objects, `<arrayFieldName>/<innerObjectName>` notation is used, objects having nested properties are supported and follow the generic rule for objects.
 - For all other field types, the field name is used.

Hint Row

The cells represent the `<dataType>`. If the data type is an array of primitives, `list[<primitive Type>]` is used. If it's an array of simple objects, `list[object(<fieldFromObject>)]` is used. If the hint row is present, the first column, which is a record identifier for a row, must be empty.

Data Validation

Users will represent null values by leaving the corresponding cells empty.

Not Supported JSON Schema Draft 7 Constructs

The CSV format does not support the following JSON constructs of the document variant schema.

Note: Document type variants that violate one or more of the rules cannot support CSV data upload and therefore the UI will not show an option to upload in CSV format.

- `allOf`
- `anyOf`
- `oneOf`
- `not`
- `if`
- `then`
- `else`
- `array in type field (allowed only single nullable types), e.g. type: ["string", "integer"]` is forbidden
- `arrays inside arrays`

The CSV files gets translated to JSON documents.

Processing of the uploaded CSV file is not transactional. If one of the records in the uploaded CSV file is incorrect due to the record rows not being converted to JSON or the JSON validation fails, the processing of the remaining records won't be affected.

The sample CSV files get translated to the following JSON documents:

JSON Document 1

```
{
  "result": {
    "orderNumber": "X118566",
    "orderDate": 1614955385,
    "currencyCode": "GBP",
    "orderLine": [
      {
        "itemNumber": 1,
        "quantity": 5,
        "itemDescription": "LAPTOP"
      },
      {
        "itemNumber": 2,
        "quantity": 3,
        "itemDescription": "MOUSE"
      }
    ]
  }
}
```

JSON Document 2

```
{
  "result": {
    "orderNumber": "X118566",
    "orderDate": 1614955385,
    "currencyCode": "GBP",
    "orderLine": [
      {
        "itemNumber": 1,
        "quantity": 5,
        "itemDescription": "LAPTOP"
      },
      {
        "itemNumber": 2,
        "quantity": 3,
        "itemDescription": "MOUSE"
      }
    ]
  }
}
```

Upload Documents

A submitter of a step in a business flow can submit documents by uploading the transaction document either in JSON format, in CSV format, or as an HTML form. You can download and use the sample schema or template for both the formats.

Topics

- [Upload Documents as JSON or CSV file](#)
- [Upload Documents as JSON Form](#)

Upload Documents as JSON or CSV file

As a trading partner or the founder, you need to be a submitter in the business step for which you'll upload the transaction document.

Your document can be a JSON or CSV file that follows the predefined schema provided by Oracle Intelligent Track and Trace. To download the predefined format, see [Download a CSV Template or a JSON Schema](#).

1. Sign in to your Oracle Intelligent Track and Trace instance as a trading partner or the founder.
2. Click **Menu** () and then click **Operations**.
3. On the bottom navigation bar, click **Document Submission** ().
The **Document Submission** dashboard displays the business flows, its business steps, and the corresponding document type names for which you are a submitter.
4. Identify the business flow and its step for which you'll upload a document. Hover your mouse over the record and click **Post** ().
The **Post Document** page is displayed.
5. On the **Post Document** page, select or click the following:
 - o **Variants:** Click the drop-down list and select the name of the document type definition.
 - o **Post as:** Select JSON or CSV depending on the format of your document. Ensure that the JSON file follows the JSON schema or the CSV file follows the CSV template provided by Oracle Intelligent Track and Trace. Know about the CSV template from [About the CSV Data Format](#).

Note: Document type variants that violate one or more of the rules cannot support CSV data upload and therefore the UI will not show an option to upload CSV.
6. Click **Upload**, browse to the location, and select your document.
Optionally, you can add attachments to the documents uploaded in either JSON format or in CSV format. To add attachments, see [Add Attachments](#).
7. Click **Post** and wait until the **Save successful** message is displayed.
8. Click **Close** to return to the **Document Submission** dashboard.

Upload Documents as JSON Form

As a submitter in the business flow step, you have the option to fill document data directly in to a JSON form and then submit the transaction document.

The form is an HTML representation of the predefined schema definition used for a specific document type provided by Oracle Intelligent Track and Trace.

1. Sign in to your Oracle Intelligent Track and Trace instance as a trading partner or the founder.
2. Click **Menu** () and then click **Operations**.
3. On the bottom navigation bar, click **Document Submission** ().
The **Document Submission** dashboard displays the business flows, its business steps, and the corresponding document type names for which you are a submitter.
4. Identify the business flow and its step for which you'll upload a document. Hover your mouse over the record and click **Post** ().
The **Post Document** page is displayed.

5. On the **Post Document** page, select or click the following:
 - o **Variant:** Click the drop-down list and select the name of the document type definition.
 - o From the **Post as** drop-down list, select **JSON Form**.

A simplified HTML form is displayed.

Post Document : Product Returns > RETU

Document Type
Rma Receipt

Variant
Simplified

Post as
JSON Form

RMA RECEIPT SIMPLIFIED FORM

ReceiptNumber
R00012

TransactionId
1323434

TransactionDate
2022-02-22T18:30:00.000Z

PurchaseOrderNumber
P002

Ensure that JSON Form follows the JSON schema provided by Oracle Intelligent Track and Trace. The following JSON constructs are not supported in the JSON schema definition.

Unsupported JSON schema constructs

- null
- union
- anyOf
- oneOf
- allOf
- not
- media types

For example, line 39 to 47 in the sample `DEMO PURCHASE ORDER` document schema definition shows unsupported schema constructs.

```
1 {
2 "$schema": "http://json-schema.org/draft-07/schema",
3 "$id": "http://oitt-ns.oracle.com/demos/fr/demo_purchase_order",
4 "definitions": {
5 "Address": {
6 "title": "Address",
7 "type": "object",
8 "properties": {
9 "addressLine1": {
10 "title": "addressLine1",
11 "type": "string"
12 },
13 "addressLine2": {
14 "title": "addressLine2",
15 "type": "string"
16 },
17 "city": {
18 "title": "city",
19 "type": "string"
20 },
21 "state": {
22 "title": "state",
23 "type": "string"
24 },
25 "country": {
26 "title": "country",
27 "type": "string"
28 },
29 "postalCode": {
30 "title": "postalCode",
31 "type": "string"
32 },
33 "FileContents": {
34 "format": "binary",
35 "type": "string",
36 "description": "Contents of the attachment file.",
37 "title": "File Contents"
38 },
39 "termsAndConditions": {
40 "anyOf": [
41 {
42 "type": "string"
43 },
44 {
```

```

45 "type": "array",
46 "items": {
47 "type": "integer"
48 }
49 }
50 ]
51 }
52 },

```

In this case, the `DEMO PURCHASE ORDER FORM` will not be generated and the following error will be displayed.

Document Type
Purchase Order

Variant
Demo Purchase Order ▼

Post as
JSON Form ▼

PURCHASE ORDER DEMO PURCHASE ORDER FORM

 The following schema properties have unsupported schema definition:

Property	Violation
Address.FileContents	"binary" format is not supported.
Address.termsAndConditions	"anyOf" is not supported.

Please refer to "Using the Oracle Intelligent Track and Trace" online document for JSON schema restrictions for JSON Forms.

Note: Here, the `PURCHASE ORDER FORM` is the name of the document for which the schema document restrictions are being violated.

Additionally, in a document schema, if an object type property is defined as optional but one or more of its property node objects is defined as required, then the whole property is considered as a required field.

For example, in the following sample JSON schema, the `totalOrderAmount` object type property is not defined as required, but the `currencyCode` and `Amount` sub-fields for `moneyType` property is defined as required, hence the `totalOrderAmount` object type property is considered as a required property.

```

"definitions": {
  "moneyType": {
    "title": "moneyType",
    "type": "object",
    "properties": {
      "currencyCode": {
        "title": "currencyCode",
        "type": "string"
      },
      "amount": {
        "title": "amount",

```

```
"type": "number"
},
"required": [
  "currencyCode",
  "amount"
],
"additionalProperties": false
},
"link": {
  "properties": {
    "href": {
      "type": "string",
      "description": "The URI to the related resource.",
      "title": "hyperlink reference"
    },
    "rel": {
      "type": "string",
      "description": "The name of the relation to the resource instance. Example: self.",
      "title": "relation"
    }
  },
  "type": "object",
  "additionalProperties": false
},
"properties": {
  "totalOrderAmount": {
    "$ref": "#/definitions/moneyType"
  }
},
```

6. Optionally, you can add or remove multiple **LineItems** by clicking the () or () icons.
7. Before you upload the document, click **Validate** to verify the entered data.
The document type data entered is validated against the document schema definitions and all the wrong entries must be fixed before the final upload.
8. Optionally, you can add attachments to the documents. To add attachments, see [Add Attachments](#).
9. Click **Post** and wait until the **Save successful** message is displayed.
10. Click **Close** to return to the **Document Submission** dashboard.

Results:

Verify that submitted document appears in the **Documents** dashboard.

Add Attachments

As a submitter of a step in a business flow, add additional documents as attachments.

You can attach a single or multiple files to a single document upload.

Note: The file size of the attachments including root files (JSON or CSV) must not exceed 500 MB in total.

Add attachments for documents in JSON format

1. To upload documents, follow step 1 to step 5 given in the [Upload Documents as JSON or CSV file](#).
After you upload the root JSON file, the **Attachments** panel is displayed.

2. (Optional) From the **Number of attachments** bar, click **Upload**, browse to the location, and select your document.

The file(s) gets added in to the **Attachment** list.

Post Document : Vaccine Procurement > OR



Document Type
Purchase Order

Variant
CMK

Post as
JSON

 Download JSON Schema

 Upload

File Name
Document.json (1KB)

Attachments

▼ **Document Endpoints**

 Upload

outbound_shipment.json

806KB

Resume.pdf

195KB

3. Click **Delete** () to remove any file from the attachment list.
4. Click **Post** and wait until the **Save successful** message is displayed..
5. Click **Close** to return to the **Document Submission** dashboard.

1. **Add attachments for documents in CSV format**

6. To upload the document in CSV format, follow step 1 to step 5 given in the *Upload Documents as JSON or CSV file*.

After you upload the root CSV file, an **Attachments** table with three **Entry Identifier** panels is displayed.

Post Document : Vaccine Procurement > ORI

Document Type
Purchase Order

Variant
CMK

Post as
CSV

Download CSV Template

Upload

File Name
Inbound Shipment.csv (115bytes)

Attachments

Entry Identifier	Upload
Document Endpoints	
Entry Identifier	Upload
Document Endpoints	
Entry Identifier	Upload
Document Endpoints	

For each **Entry Identifier**, you can upload either single or multiple files.

7. (Optional) Click **Upload**, browse to the location, and select your document.
The file(s) gets added under **Entry Identifier** list.
8. Click **Delete** () to remove any file from the attachment list.
 2. **Add attachments for documents created using JSON form**
9. To create and upload document using JSON Form, see *Upload Documents as JSON Form*.
After you add document data in the form, **Attachments** section appears underneath the JSON form.
10. Click **Upload**, browse to the location, and select your document.
The file(s) gets added under **Number of attachments** list.
11. Click **Delete** () to remove any file from the attachment list.
12. Click **Post** and wait until the **Save successful** message is displayed.
13. Click **Close** to return to the **Document Submission** dashboard.

View Document Intergartion Endpoints

1. Click **Menu** () and then click **Configuration**.
2. Click **Document Integration Endpoints** ().
3. **Note:** Only the business steps for which you have been identified as the submitter are displayed on this dashboard.

Under **Configuration:Document Integration Endpoints** dashboard, select the business step for which you want to submit the document.

The right hand pane displays the REST endpoint URL for selected business step. It also provides information about the document that needs to be posted.

4. From the **Document Variant** drop-down select the definition for which you need to submit a document.
You can copy this URL to your integration tool or REST client to POST your documents.
To download the JSON schema of the document click the **Download Schema** icon and save it in your system.
5. Click **Back** to return to the **Configuration: Document Integration Endpoints** dashboard.

Activity Log

Activity Log displays the status of activities that occur while executing a specific task and provides required information to troubleshoot errors and failures.

Oracle Intelligent Track and Trace supports the following two activity logs:

- Built-In Integrations Activity Log
- Upload Activity Log
- Attachments Exports

Topics

- [View Activity Log for Built-In Integrations](#)
- [View Upload Activity Log](#)
- [View Attachments Export Status](#)

Monitor Built-in Integration Activity Logs

Use Activity Log to check the status of all integration activities and required information to troubleshoot errors, such as missing documents or transmission failures that occurs during document ingestion.

As a founder or trading partner admin user, the activity log helps you view:

- Data sent from the built-in integrations, such as destination application/system, document type, timestamp, transmission status, and document contents.
- Data received by Oracle Intelligent Track and Trace, such as sending application, document types, timestamp, status, receiving errors if any, and document contents.

Activity log records the following error activities:

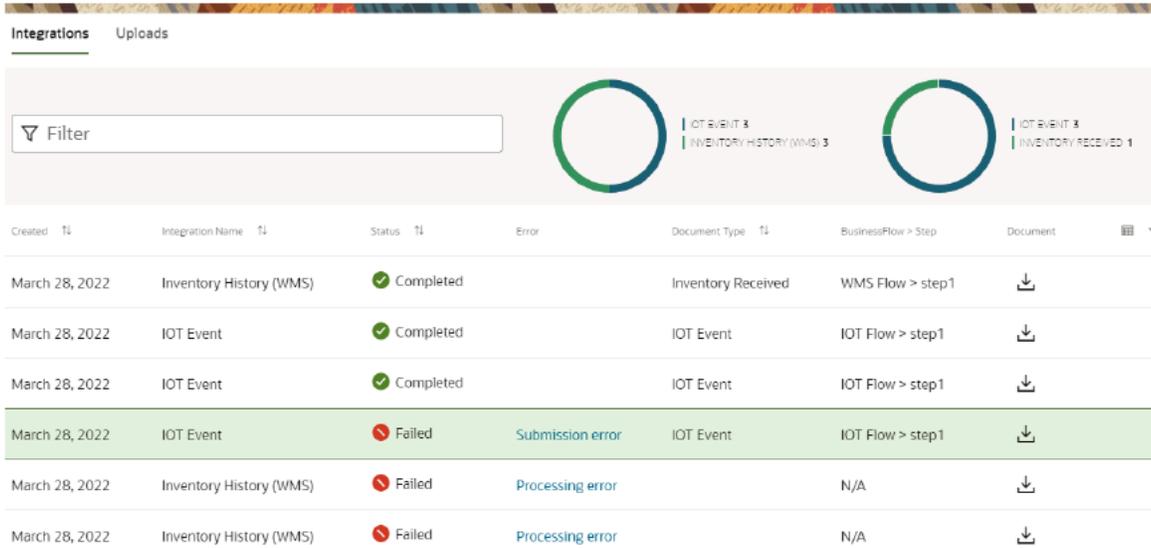
Error name	Type
Connection error	Authorization error
	Credential Retrieval error
	Incorrect URI error
Processing error	Transformation error/Parsing XML
	Processing error while receiving response
Submission error	Resolution Error in mapping flow step
	Error while posting the document to document Receive
Activity without document	Empty response during poll

1. Click **Menu** () and then click **Monitoring**.

2. Click **Activity Log** ().

The details of all the activities for built-in integrations are listed under the **Integrations** tab.

Activity Log



Created	Integration Name	Status	Error	Document Type	BusinessFlow > Step	Document
March 28, 2022	Inventory History (WMS)	Completed		Inventory Received	WMS Flow > step1	
March 28, 2022	IOT Event	Completed		IOT Event	IOT Flow > step1	
March 28, 2022	IOT Event	Completed		IOT Event	IOT Flow > step1	
March 28, 2022	IOT Event	Failed	Submission error	IOT Event	IOT Flow > step1	
March 28, 2022	Inventory History (WMS)	Failed	Processing error		N/A	
March 28, 2022	Inventory History (WMS)	Failed	Processing error		N/A	

- Errors related to connection, processing, or submission activities are displayed under **Errors** column. Click the error type link to view additional details.

For example:

Processing error is reported when the document is successfully received but Oracle Intelligent Track and Trace application fails to process the document.

Error Details

Error

Processing error

Description

Document Xml parsing error

Integration Name

Inventory History (WMS)

Integration Type

WMS

Close

A Submission error is reported when Oracle Intelligent Track and Trace application processes the document successfully but fails to route the processed document to a specific flow step.

- To download the error report, click **Download** ().
The file can be downloaded in JSON or XML format.
- To search for specific integration log details, click **Filter** () and use the **Select Filter** and **Select Filter Criteria** drop-downs to provide a search criteria on the various fields appearing on the list, such as status, integration name, document type, and business flow step etc.
For more information about filters, see [Use Filters to search data](#).
- Sort the log entries as per timestamp, **Integration Name**, **Status**, and **Document Type** to view required data.

Monitor Activity Logs

Use the upload activity log to check the status of the CSV zip file and to download the error report in a CSV format.

1. Click **Menu** () and then click **Monitoring**.
2. Click **Activity Log** ().
3. On the **Activity Log** page, click **Uploads** tab.
The details of uploaded CSV file activities are listed under the **Uploads** tab.

Activity Log

Integrations **Uploads**

Upload Activity Log

File Name 	Type 	Upload Status 	Records Inserted 	Row Error Count 
TestE.zip	Item Type	 Completed With Errors	-	1
TestE.zip	Item Type	 Completed With Errors	-	1
TestE.zip	Item Type	 Completed With Errors	-	1
ErrorReport0.zip	Item Type	 Success	2	-

4. To download the error report, click **Download** ().
The file is downloaded in a CSV format.

Monitor Attachments Export Status

Use Activity Log to view and download the exported archives initiated by you to download all attachments for the selected transaction documents.

Navigate to the **Attachments Exports** tab to view the archive status and download the zip and csv file containing all attachments and archive summary.

1. Click **Menu** () and then click **Monitoring**.
2. Click **Activity Log** ().
3. On the **Activity Log** page, click **Attachments Exports** tab and download the files in your local system. The list of exported archives are available for download.

Activity Log

Integrations (0)		Uploads (0)		<u>Attachments Exports (3)</u>	
<input type="text" value="Filter"/>					
Name	Size	Export Type / Versions	Export Date	Status	
▼ Inbound Shipment inbound_ship...	730.23 KB	Document / L...	June 12, 2023 ...	Comp	
 Inbound Shipment inbound_s...	729.94 KB				
 export-info.csv	301.00 bytes				
> Sales Order SalesOrder V-2200-...	709.12 KB	Trace / All	June 12, 2023 ...	Comp	
> Inbound Shipment inbound_ship...	733.24 KB	Trace / All	June 8, 2023 1...	Comp	

4. Click **Delete** to remove downloaded files and to de-clutter the log view.

Troubleshoot Warnings and Failures

Oracle Intelligent Track and Trace displays the list of warnings and failures in case any transaction documents received fails during processing.

Topics:

- [View Document Processing Diagnostics](#)
- [Troubleshoot Common Error Scenarios](#)

View Document Processing Diagnostics

View detailed diagnostics data for all failed document submissions.

Documents submitted to Oracle Intelligent Track and Trace can fail due to multiple reasons, such as document processing failure, blockchain processing failure, simulator processing failure, or business flow processing failure. As a document submitter, you should be able to identify the reason of failure, and retry submitting the document once the error is fixed. **Diagnostic** functionality enables you to identify the submitted transaction documents that have not been successfully processed and recorded. You can also view the processing stage at which the error occurred, along with the various generated artifacts to help you diagnose the error.

As a founder, you can see all the transaction documents submitted by you and all trading partners. However, once the error is fixed, you can re-submit only those documents for which you are the submitter.

As a trading partner, you can view, retry, or discard document submission for which you are the submitter.

1. Click **Menu** () and then click **Monitoring**.

2. Click **Document Processing Diagnostics** ().
The **Document Processing Diagnostics** dashboard is displayed.

Document Processing Diagnostics



<input type="checkbox"/>	Timestamp ↑↓	Event Type ↑↓	Document ↑↓
<input type="checkbox"/>	November 10, 2021 2:19:00 AM	Business Flow Processing	 Document
<input type="checkbox"/>	November 10, 2021 2:18:59 AM	Business Flow Processing	 Document
<input type="checkbox"/>	November 10, 2021 2:18:57 AM	Business Flow Processing	 Document
<input type="checkbox"/>	November 10, 2021 2:18:55 AM	Business Flow Processing	 Document

Document Processing Diagnostic dashboard provides a birds-eye-view of all the failed document submissions in the application.

Metric	Description
Document Processing	Specifies the number of documents failed during document processing.
Business Flow Processing	Specifies the number of documents failed during business flow processing.
Blockchain Processing	Specifies the number of documents failed during recording data on blockchain.
Document Type Metrics	Specifies the number of documents failed for each document type configured in the application.
Integration Processing	Specifies the number of documents failed during integration processing.
Simulator Processing	Specifies the number of documents failed during simulator processing. This error is recorded when simulator fails to generate document or if the generated document fails validation.

A detailed list of all failed event types is displayed which enables you to diagnose the error and retry the document submission once the error is resolved.

Field	Description
Submitter	Specifies the name of the submitter.
Timestamp	Specifies the date and time when the failure is observed.
Event Type	Specifies the event during which the Document failure was observed—Document Processing, Business Flow Processing, Simulator Processing or Blockchain Processing.
Document	Specifies the document id associated with the failed Document.
Document Type	Specifies the type of document.
Document Variant	Specifies the definition variant name of the document type.
Business Flow	Specifies the name of the business flow in which the failure occurred.
Last Replayed	Specifies the date and time when the document is submitted again after fixing the error.

3. Click **Document** () icon to download and view the document in which the error is observed.
4. Click **Show Diagnostic Details** () to view the details about the error occurred.
5. Click **Replay document** () to retry submitting the document once the error is resolved.
6. Click **Discard error** () to discard failed document.
7. Click **Refresh** to retry all Documents.
8. To replay submission of selective documents, click the **Selected** check boxes for the specific failure records, and click **Replay Selected Documents**.
9. To delete a few failure records, click the **Selected** check boxes for the specific failure records, and click **Discard Selected Errors**.

Filter Diagnostic Data

Use filters to narrow down the list to view relevant information. Oracle Intelligent Track and Trace enables you to apply multiple filters to view relevant diagnostic data based on timestamp, document type etc.

In addition to the existing filters, a new **Submitter** filter has been added for you to narrow down the diagnostic data list to view the failed document submissions by submitter. To apply this filter:

1. Click the **Filter** bar and select **Submitter**.
2. From the **Submitter** drop-down list, select the required operator, such as *starts with*, *matches*, or *does not match*.
3. In the **Type Filter Criteria** field, enter the filter criteria. For example, submitter name.

Results:

The following image shows the filtered diagnostic data where submitter name starts with *Vision Pharma*.

Document Processing Diagnostics

 Submitter starts with Vision Pharma | X

Filter



<input type="checkbox"/>	Submitter ↑↓	Timestamp ↑↓	Event Type ↑↓	Document ↑↓	Doc
<input type="checkbox"/>	Vision Pharma	April 27, 2022 2:18:48 PM	Document Processing	 DDS-24566655908	Ou
<input type="checkbox"/>	Vision Pharma	April 27, 2022 2:05:04 PM	Document Processing	 UI-WO-612848	Pro
<input type="checkbox"/>	Vision Pharma	April 27, 2022 2:03:56 PM	Document Processing	 V-2100-934001	Sal

Troubleshoot Common Error Scenarios

The table lists the common errors and exceptions which you may encounter while using the Oracle Intelligent Track and Trace application. For each scenario, a detailed description along with resolution steps are also provided.

Event Type	Error/Exception Scenario	Scenario Description	Res
Document Processing	Submitted document not complaint with schema	This error may be caused due to any of the following two reasons:	1.

Event Type	Error/Exception Scenario	Scenario Description	Reso
		<ol style="list-style-type: none"> Invalid Schema The JSON schema of the document type is incorrect. Incorrect Submitted document The submitted document is in invalid format and is not complaint with the document type JSON schema. 	2.
Document Processing	Error storing transaction in document store.	<p>This error is observed when the document with the specified key already exists. Duplicate ingestion of the same document is not supported.</p> <p>Example: Document with ledger key 'PurchaseOrder: 44443941' has been already stored.</p>	Reso key. Defi
Document Processing	Unexpected error while processing event	Unexpected error happened with the system.	Con
Business Flow Processing	Error receiving document from object storage	The application is unable to fetch the document from OCI object storage, possibly due to network issue during connectivity.	Con
Business Flow Processing	Invalid hash of Object store document	Invalid document fetched from OCI document storage, possibly due to corrupted document.	Con
Business Flow Processing	Invalid JSON produced for metadata	Application of Handlebars template on the document produced invalid JSON. This could possibly be due to an issue with the metadata template.	Veri been also valid Edit erro sub
Business Flow Processing	Unexpected error while processing the document metadata. <code>java.net.SocketException: Network is unreachable</code>	This error is observed when there is a connectivity Issue with the infrastructure.	Con
Blockchain Processing	Error invoking BCS transaction proxy <code>Unauthorized OBCS admin example@example.com</code>	Incorrect BCS configuration.	Con sub
This is not an exception event	Documents show up in separate flow instances	This is a potential error which may be caused due to incorrect document cross-reference mapping in the metadata template.	Veri sub mat You inco succ this bloc

Event Type	Error/Exception Scenario	Scenario Description	Res
This is not an exception event	Flow instance view shows incorrect flow relationships	This is a potential error which may be caused due to incorrect cross references between the documents.	Veri insta in th sche You inco succ this bloc

View Application Version

After you deploy Oracle Intelligent Track and Trace in your environment, the current running version is available for your viewing.

Topics:

[View Oracle Intelligent Track and Trace Version](#)

View Oracle Track and Trace Version

Oracle Intelligent Track and Trace version gives an information about the current version in your environment.

1. Login to the Oracle Intelligent Track and Trace instance URL.

2.

On the bottom right corner of the navigation bar, click **About** ().

The Oracle Intelligent Track and Trace version window is displayed.



3. Click **Details** to view the versions of all the microservices running in the backend.

4. Click **Close** () to return to the Oracle Intelligent Track and Trace application.

6 Define Document Schemas, Mappings and Simulator Templates

As part of configuring the Oracle Intelligent Track and Trace, founder defines a set of document types which are then used to define business flows. A document received in any business transaction belongs to one of these document types.

Each document type consists of multiple data structures which help the application to process and ingest the document received in a transaction. As a founder, you must accurately define these document types and provide association between them in case they have any dependency.

Oracle Intelligent Track and Trace provides pre-seeded document types which can be used directly to define business flow steps. You can also define your own customized document types in case the pre-seeded types do not fulfill your business requirements.

This chapter provides the instructions on how to define your own customized document type.

- [Define Document Schema JSON](#)
- [Define Metadata Template](#)
- [Define Metadata Schema](#)
- [Define Simulator Template](#)
- [Define Presentation Template](#)

Define Document Schema JSON

Oracle Intelligent Track and Trace supports JavaScript Object Notation (JSON) based document structures, thereby providing you the flexibility to define your own customized document type schema which suits your business needs and wants.

JSON is a data-interchanged language which is relatively easy for humans to read and write, and easy for software to parse and generate. It is often used for serializing structured data and exchanging it over a network, typically between a server and web applications.

Oracle Intelligent Track and Trace currently supports JSON Schema Draft 7 specification for parsing and validating the incoming transaction documents. As a founder, when you define your own document type structure, it must be JSON Schema draft 7 compliant. You can read more about the JSON and the current specifications at <http://www.json.org/> and <http://json-schema.org/specification-links.html>.

Once you have defined your document schema, you can upload it to Oracle Intelligent Track and Trace by following the instructions provided in [Create a New Document Type](#).

Usage Example

This is an example of a JSON schema for document type *Shipping*.

```
{
  "$schema": "http://json-schema.org/draft-07/schema#",

```

```
"type": "object",
"$id": "urn:GetAdvancedShipmentNoticeDataResponse",
"properties": {
  "result": {
    "type": "object",
    "$id": "urn:ASNShipmentResult",
    "properties": {
      "message": {
        "type": "array",
        "items": {
          "type": "object",
          "$id": "urn:ServiceMessage",
          "properties": {
            "code": {
              "type": "string"
            },
            "message": {
              "type": "string"
            },
            "severity": {
              "type": "string"
            },
            "detail": {
              "type": "array",
              "items": {
                "type": "object"
              }
            }
          },
          "additionalProperties": false
        },
        "value": {
          "type": "object",
          "$id": "urn:ASNShipment",
          "required": [
            "deliveryId",
            "billOfLadingNumber"
          ],
          "properties": {
            "deliveryId": {
              "type": "integer"
            },
            "deliveryName": {
              "type": "string"
            },
            "initialPickupDate": {
              "type": "integer",
              "format": "utc-millisec"
            },
            "initialPickupLocationId": {
              "type": "integer"
            },
            "shipFromAddress1": {
              "type": "string"
            },
            "shipFromAddress2": {
              "type": "string"
            },
            "shipFromAddress3": {
              "type": "string"
            },
            "shipFromAddress4": {
              "type": "string"
            },
            "shipFromCity": {
```

```
"type": "string"
},
"shipFromCountry": {
  "type": "string"
},
"shipFromCountryName": {
  "type": "string"
},
"shipFromCountryDescription": {
  "type": "string"
},
"shipFromCounty": {
  "type": "string"
},
"shipFromPostalCode": {
  "type": "string"
},
"shipFromState": {
  "type": "string"
},
"ultimateDropoffLocationId": {
  "type": "integer"
},
"shipToAddress1": {
  "type": "string"
},
"shipToAddress2": {
  "type": "string"
},
"shipToAddress3": {
  "type": "string"
},
"shipToAddress4": {
  "type": "string"
},
"shipToCity": {
  "type": "string"
},
"shipToCountry": {
  "type": "string"
},
"shipToCountryName": {
  "type": "string"
},
"shipToCountryDescription": {
  "type": "string"
},
"shipToCounty": {
  "type": "string"
},
"shipToPostalCode": {
  "type": "string"
},
"shipToState": {
  "type": "string"
},
"ultimateDropoffDate": {
  "type": "integer",
  "format": "utc-millisecc"
},
"actualShipDate": {
  "type": "integer",
  "format": "utc-millisecc"
},
"freightTermsCode": {
  "type": "string"
}
```

```
    },
    "freightTermsName": {
      "type": "string"
    },
    "fobCode": {
      "type": "string"
    },
    "fobName": {
      "type": "string"
    },
    "waybill": {
      "type": "string"
    },
    "grossWeight": {
      "type": "number"
    },
    "netWeight": {
      "type": "number"
    },
    "weightUOMCode": {
      "type": "string"
    },
    "weightUOMName": {
      "type": "string"
    },
    "volume": {
      "type": "number"
    },
    "volumeUOMCode": {
      "type": "string"
    },
    "volumeUOMName": {
      "type": "string"
    },
    "dockCode": {
      "type": "string"
    },
    "shippingMethodName": {
      "type": "string"
    },
    "carrierId": {
      "type": "integer"
    },
    "carrierName": {
      "type": "string"
    },
    "carrierNumber": {
      "type": "string"
    },
    "organizationId": {
      "type": "integer"
    },
    "organizationCode": {
      "type": "string"
    },
    "organizationName": {
      "type": "string"
    },
    "loadingSequence": {
      "type": "number"
    },
    "loadingOrderType": {
      "type": "string"
    },
    "loadingOrderTypeName": {
      "type": "string"
    }
  }
}
```

```
  },
  "numberOfLPN": {
    "type": "number"
  },
  "serviceLevel": {
    "type": "string"
  },
  "serviceLevelName": {
    "type": "string"
  },
  "modeOfTransport": {
    "type": "string"
  },
  "modeOfTransportName": {
    "type": "string"
  },
  "earliestPickupDate": {
    "type": "integer",
    "format": "utc-millsec"
  },
  "latestPickupDate": {
    "type": "integer",
    "format": "utc-millsec"
  },
  "earliestDropoffDate": {
    "type": "integer",
    "format": "utc-millsec"
  },
  "latestDropoffDate": {
    "type": "integer",
    "format": "utc-millsec"
  },
  "shipToPartyId": {
    "type": "integer"
  },
  "shipToPartyName": {
    "type": "string"
  },
  "shipToPartyNumber": {
    "type": "string"
  },
  "soldToPartyId": {
    "type": "integer"
  },
  "soldToPartyName": {
    "type": "string"
  },
  "soldToPartyNumber": {
    "type": "string"
  },
  "outsourcerPartyId": {
    "type": "integer"
  },
  "outsourcerPartyName": {
    "type": "string"
  },
  "outsourcerPartyNumber": {
    "type": "string"
  },
  "billOfLadingNumber": {
    "type": "string"
  },
  "packingSlipNumber": {
    "type": "string"
  },
  "tareWeight": {
```

```
"type": "number"
},
"transportationReason": {
  "type": "string"
},
"rcvShipmentNumber": {
  "type": "string"
},
"shipToPartySiteId": {
  "type": "integer"
},
"asnOuterPackingUnit": {
  "type": "array",
  "items": {
    "type": "object",
    "$id": "urn:ASN PackingUnit",
    "properties": {
      "lpnId": {
        "type": "integer"
      },
      "licensePlateNumber": {
        "type": "string"
      },
      "deliveryId": {
        "type": "integer"
      },
      "inventoryItemId": {
        "type": "integer"
      },
      "itemNumber": {
        "type": "string"
      },
      "itemDescription": {
        "type": "string"
      },
      "parentLPNId": {
        "type": "integer"
      },
      "parentLicensePlateNumber": {
        "type": "string"
      },
      "outermostLPNId": {
        "type": "integer"
      },
      "outermostLicensePlateNumber": {
        "type": "string"
      },
      "grossWeightUOMCode": {
        "type": "string"
      },
      "grossWeightUOMName": {
        "type": "string"
      },
      "grossWeight": {
        "type": "number"
      },
      "containerVolumeUOMCode": {
        "type": "string"
      },
      "containerVolumeUOMName": {
        "type": "string"
      },
      "containerVolume": {
        "type": "number"
      },
      "tareWeightUOMCode": {
```

```
"type": "string"
},
"tareWeightUOMName": {
  "type": "string"
},
"tareWeight": {
  "type": "number"
},
"packingInstructions": {
  "type": "string"
},
"containerTypeCode": {
  "type": "string"
},
"containerTypeName": {
  "type": "string"
},
"sealCode": {
  "type": "string"
},
"unitHeight": {
  "type": "number"
},
"unitLength": {
  "type": "number"
},
"unitWidth": {
  "type": "number"
},
"dimensionUOMCode": {
  "type": "string"
},
"dimensionUOMName": {
  "type": "string"
},
"netWeightUOMCode": {
  "type": "string"
},
"netWeightUOMName": {
  "type": "string"
},
"netWeight": {
  "type": "number"
},
"asnShippingCost": {
  "type": "array",
  "items": {
    "type": "object",
    "$id": "urn:ASNShippingCost",
    "properties": {
      "freightCostId": {
        "type": "integer"
      },
      "freightCostTypeCode": {
        "type": "string"
      },
      "freightCostTypeName": {
        "type": "string"
      },
      "amount": {
        "type": "object",
        "$id": "urn:AmountType",
        "properties": {
          "value": {
            "type": "number"
          }
        }
      }
    }
  }
}
```

```
"currencyCode": {
  "type": "string"
},
"additionalProperties": false
},
"currencyCode": {
  "type": "string"
},
"currencyName": {
  "type": "string"
},
"conversionTypeCode": {
  "type": "string"
},
"conversionTypeName": {
  "type": "string"
},
"conversionDate": {
  "type": "integer",
  "format": "utc-millisecc"
},
"conversionRate": {
  "type": "number"
}
},
"additionalProperties": false
}
},
"additionalProperties": false
}
},
"asnInnerPackingUnit": {
  "type": "array",
  "items": {
    "type": "object"
  }
},
"asnShipmentItem": {
  "type": "array",
  "items": {
    "type": "object",
    "$id": "urn:ASNShipmentItem",
    "anyOf": [
      {
        "required": [
          "itemNumber"
        ]
      },
      {
        "required": [
          "inventoryItemId"
        ]
      }
    ],
    "required": [
      "itemDescription",
      "requestedQuantity",
      "salesOrderNumber"
    ],
    "properties": {
      "deliveryDetailId": {
        "type": "integer"
      },
      "deliveryId": {
```

```
"type": "integer"
},
"sourceHeaderId": {
  "type": "integer"
},
"sourceLineId": {
  "type": "integer"
},
"sourceHeaderNumber": {
  "type": "string"
},
"customerPONumber": {
  "type": "string"
},
"inventoryItemId": {
  "type": "integer"
},
"itemNumber": {
  "type": "string"
},
"itemDescription": {
  "type": "string"
},
"requestedQuantity": {
  "type": "object",
  "$id": "urn:MeasureType",
  "required": [
    "value"
  ],
  "properties": {
    "value": {
      "type": "number"
    },
    "unitCode": {
      "type": "string",
      "enum": [
        "ANN",
        "BOX",
        "BX5",
        "Box",
        "C",
        "CEL",
        "CFT_I",
        "CIN_I",
        "CM",
        "cm",
        "CM2",
        "CM3",
        "CMQ",
        "CMT",
        "CYD_I",
        "D",
        "DAY",
        "DEGF",
        "DZ",
        "EA",
        "Ea",
        "F",
        "FOT",
        "FT",
        "ft",
        "FT2",
        "FT3",
        "FT_I",
        "G",
        "GAL",
```

```

"GR",
"HR",
"IN",
"in",
"IN2",
"IN3",
"INH",
"IN_I",
"K",
"KG",
"KM",
"km",
"KM2",
"KTM",
"L",
"LB",
"LB_AV",
"Lbs",
"M",
"m",
"M2",
"M3",
"MG",
"MI",
"MI2",
"MI_I",
"miles",
"ML",
"MM",
"mm",
"MM2",
"MMT",
"MO",
"MON",
"MTK",
"MTN",
"MTR",
"OZ",
"OZ_AV",
"PT",
"QT",
"QTR",
"S",
"SEC",
"SF",
"SFT_I",
"SI",
"SIN_I",
"SY",
"SYD_I",
"TNE",
"TON",
"YD",
"YD2",
"YD3",
"YD_I",
"YR",
"YRD"
]
},
"additionalProperties": false
},
"requestedQuantityUOM": {
"type": "string"
},

```

```
"requestedQuantityUOMName": {
  "type": "string"
},
"shippedQuantity": {
  "type": "object",
  "$id": "urn:MeasureType",
  "properties": {
    "value": {
      "type": "number"
    },
    "unitCode": {
      "type": "string"
    }
  },
  "additionalProperties": false
},
"subinventory": {
  "type": "string"
},
"revision": {
  "type": "string"
},
"lotNumber": {
  "type": "string"
},
"dateRequested": {
  "type": "integer",
  "format": "utc-millsec"
},
"requestDateTypeCode": {
  "type": "string"
},
"requestDateTypeName": {
  "type": "string"
},
"dateScheduled": {
  "type": "integer",
  "format": "utc-millsec"
},
"loadSequenceNumber": {
  "type": "number"
},
"shipmentPriorityCode": {
  "type": "string"
},
"shipmentPriorityName": {
  "type": "string"
},
"customerItemId": {
  "type": "integer"
},
"customerItemNumber": {
  "type": "string"
},
"customerItemDescription": {
  "type": "string"
},
"netWeight": {
  "type": "number"
},
"weightUOMCode": {
  "type": "string"
},
"weightUOMName": {
  "type": "string"
},
},
```

```
"volume": {
  "type": "number"
},
"volumeUOMCode": {
  "type": "string"
},
"volumeUOMName": {
  "type": "string"
},
"shippingInstructions": {
  "type": "string"
},
"packingInstructions": {
  "type": "string"
},
"parentLPNId": {
  "type": "integer"
},
"parentLPNName": {
  "type": "string"
},
"sourceLineNumber": {
  "type": "string"
},
"grossWeight": {
  "type": "number"
},
"preferredGrade": {
  "type": "string"
},
"earliestPickupDate": {
  "type": "integer",
  "format": "utc-millsec"
},
"latestPickupDate": {
  "type": "integer",
  "format": "utc-millsec"
},
"earliestDropoffDate": {
  "type": "integer",
  "format": "utc-millsec"
},
"latestDropoffDate": {
  "type": "integer",
  "format": "utc-millsec"
},
"salesOrderLineNumber": {
  "type": "string"
},
"salesOrderNumber": {
  "type": "string"
},
"salesOrderShipmentNumber": {
  "type": "string"
},
"sourceLineType": {
  "type": "string"
},
"sourceLineTypeName": {
  "type": "string"
},
"shipToContactPartyId": {
  "type": "integer"
},
"shipToContactPartyName": {
  "type": "string"
}
```

```
    },
    "shipToContactPartyNumber": {
      "type": "string"
    },
    "shipToContactPhoneNumber": {
      "type": "string"
    },
    "shipToContactEmailAddress": {
      "type": "string"
    },
    "soldToContactPartyId": {
      "type": "integer"
    },
    "soldToContactPartyName": {
      "type": "string"
    },
    "soldToContactPartyNumber": {
      "type": "string"
    },
    "soldToContactPhoneNumber": {
      "type": "string"
    },
    "soldToContactEmailAddress": {
      "type": "string"
    },
    "tareWeight": {
      "type": "number"
    },
    "asnShippingCost": {
      "type": "array",
      "items": {
        "type": "object"
      }
    },
    "asnProratedShippingCost": {
      "type": "array",
      "items": {
        "type": "object",
        "$id": "urn:ASNProratedShippingCost",
        "properties": {
          "proratedFreightCostId": {
            "type": "integer"
          },
          "freightCostTypeCode": {
            "type": "string"
          },
          "freightCostTypeName": {
            "type": "string"
          },
          "proratedAmount": {
            "type": "object"
          },
          "currencyCode": {
            "type": "string"
          },
          "currencyName": {
            "type": "string"
          }
        }
      },
      "additionalProperties": false
    },
    "asnSerialNumber": {
      "type": "array",
      "items": {
        "type": "object",
```

```
  "$id": "urn:ASNSerialNumber",
  "properties": {
    "fromSerialNumber": {
      "type": "string"
    },
    "toSerialNumber": {
      "type": "string"
    }
  },
  "additionalProperties": false
},
"additionalProperties": false
},
"asnShippingCost": {
  "type": "array",
  "items": {
    "type": "object"
  }
},
"additionalProperties": false
},
"additionalProperties": false
},
"additionalProperties": false
}
```

Define Metadata Template

For Oracle Intelligent Track and Trace to understand the submitted JSON document, you must provide a mapping of the attributes in the document to the application native schema template.

A metadata template extracts key pieces of information from the received document and maps this information to a normalized schema. This enables the Oracle Intelligent Track and Trace application to process and ingest this information which is then written to the ledger. This extracted data is used for defining tracking, tracing, and determining data insights.

Topics:

- [About Handlebar Helpers](#)
- [Sample Structures of Item Tracking Metadata Helper Functions](#)

About Handlebar Helpers

You define metadata templates using helper functions which are based on Handlebar, a popular framework for templates.

Use the Handlebar helpers and application specific helper functions in the template for generating the metadata document. For each attribute in the JSON schema for the metadata, there is an associated helper function.

Using these helper functions significantly eases the creation of metadata templates as you don't need to know JSON syntax. This approach is backward compatible.

To define metadata document:

- Enclose a metadata document within the following element.

```
{{#metadataDocument}}  
... {{/metadataDocument}}
```
- You can use all native Handlebar helpers, such as `{{#if}}`, `{{#each}}`, `{{#with}}` for iterations and conditions.
- Use utility helpers, such as `concat`, `toTimestamp`, etc. for string concatenation, data conversion, lookups, etc.
- Each helper function that is associated with an attribute of the metadata's JSON schema, has the same name as the attribute and is prefixed by `md:`. For example, the helper function for the `documentNumber` attribute is `md:documentNumber`.
- Use the metadata helper functions in any order.
- You can use two types of helper functions:
 - a. Use single-line helper functions for simple attributes that require a single value or for simple objects that don't have nested objects. The helper functions can have position based parameters where the order of parameters is important or named parameters where the order is not important.
 - b. Use block helper functions for complex attributes, such as object type attributes. A block helper function can contain single-line helpers or nested block helper functions within it. These helper functions have start (`#`) and end (`/`) modifiers.
- You can associate the source document's attribute with the `document` keyword.

Hierarchy of Helper Functions

The following image represents the hierarchical structure of using the helper functions in a metadata document.



Description of Document related helpers

This table describes the document helper functions used in to define metadata document:

Name	Arguments	Description	Mandatory (Yes/No)
<code>md:documentNumber</code>	Has a single parameter with a value	To uniquely identify the document. Example: <pre>{ {md:documentNumber document.OrderNumber} }</pre>	Yes
<code>md:ledgerKey</code>	Has a single parameter with a value	Unique value that acts as a key for a document in the distributed ledger. Example: <pre>{ {md:ledgerKey (concat "purchase_ order:"document.OrderNumber</pre>	Yes
<code>md:documentTypeId</code>	Has a single parameter with a value	Determines the chronological order of a document in a trace. Document issue date, document creation date, and so on are typical attributes that may provide the value for this helper. If this helper is not used in the template, then the value defaults to the time, the document was received by Oracle Intelligent Track and Trace. Number to identify the type of document. Example: <pre>{ {md:documentTypeId "purchase_order" } }</pre>	Yes
<code>md:documentTimestamp</code>	Has a single parameter with a value	Transaction date whose value determines the chronological order of the document in a trace. Example: <pre>{ {md:documentTimestamp (orDefault document.result.orderDate document.result.creationDate</pre>	Yes
<code>md:transactionValue</code>	Has a single parameter with a value	Captures the value of the transaction, such as total order value or total invoice amount. Set	Yes

Name	Arguments	Description	Mandatory (Yes/No)
		<p>it to zero if the document's value doesn't need to be tracked. Example:</p> <pre> {{#md:transactionValue}} {{md:currencyCode (orDefault document.declaredValue.curr "USD")}} {{md:amount (orDefault document.declaredValue.amou 0)}} {{/ md:transactionValue}} </pre>	
md:documentCrossRef	DocumentNumber , DocumentTypeId, LedgerKey	<p>Contains zero or more references to other documents that have been recorded or will be recorded in the ledger. This vital value is used by the application to correlate transactions and business flows. Example:</p> <pre> {{md:documentCrossRef documentNumber=document.res documentTypeId="SalesOrder" ledgerKey=(concat "SalesOrder:" document.result.vendorOrder </pre>	No
md:receiver	tradingpartnerId and locationId	<p>Captures the trading partner Id of the intended receiver of the source document. This is typically used for documents that are part of B2B transactions, such as Purchase Order, Advanced Shipping Notice and so on. Example:</p> <pre> {{md:receiver document.result.value.shipT by="name"}} </pre>	No
md:documentData	Has a single parameter with a value.	<p>This helps to specify field names and their values. This helper is used to copy arbitrary data from the source document to the normalized documents.</p>	No

Name	Arguments	Description	Mandatory (Yes/No)
		<p>Note: you need to define the type of data and the attribute names in the "Metadata Schema" for any other post processing.</p> <p>Example:</p> <pre>{ {md: documentData "billofLadingNumber" document.result.value.billo</pre>	
#md: documentData	md: documentData	This is the block helper version of the md: documentData helper that enables capturing of attributes that are part of an object property defined in the Metadata Schema.	No
md: reference	Has a single parameter with a value	<p>Enables you to create a reference key if it has not been created in the system before or if a key with the same value already exists in the system then this document will be linked to that key.</p> <p>Example:</p> <pre>Purchase Order document { {#metadataDocument} } { {md: documentNumber document.OrderNumber} } { {md: ledgerKey (concat "PurchaseOrder:" document.OrderNumber) } } Sales Order document { {#metadataDocument} } { {md: documentNumber document.OrderNumber} } { {md: ledgerKey (concat "SalesOrder:" document.OrderNumber) } } { {md: documentCrossRef ledgerKey= (concat "PurchaseOrder:" document.CustomerPONumber) } } { {md: reference document.CustomerPONumber} }</pre>	No

Name	Arguments	Description	Mandatory (Yes/No)
		<p>Delivery document <code>Delivery</code> <code>(TransactionId,</code> <code>deliveryDate)</code> <code>{ {ledgerKey =</code> <code>"delivery:TransactionId"}}</code> <code>{ {md:reference</code> <code>document.TransactionId} }</code></p> <p>Here, the Purchase Order and Sales Order documents are correlated based on <code>md:documentCrossRef</code> value that exactly matches the ledger key value.</p> <p>The Delivery document does not have data to link with Purchase Order or Sales Order document using ledger key. So, the correlation is formed using the reference key when the reference key attribute value (<code>document.CustomerPONumber</code>) of the Sales Order document in a business flow matches with the reference key attribute value (<code>document.TransactionId</code>) of the Delivery document.</p>	

Tracking Data (IoT) Related Helpers

These helper functions are used to represent IoT related data of items, such as the geographic location, temperature, pressure, or vibration, which are obtained from various sensor attributes linked to the items or packages..

- `#md:trackingData`
- `md:geolocation`
- `#md:metric`

Description of Tracking Data (IoT) related helpers

This table describes the Tracking Data (IoT) related helper functions used in to define metadata document:

Name	Arguments	Description	Mandatory (Yes/No)
<code>md:trackingdata</code>	An object with several nested objects as seen in this structure	Used for tracking IoT data. If <code>trackingData</code> is used, <code>geolocation</code> must be specified. The <code>metrics</code> array is a list of	No

Name	Arguments	Description	Mandatory (Yes/No)
	<pre> {{#md:trackingData}} {{md:timestamp 0}} {{md:geoLocation lat=0 lon=0 alt=0}} {{#md:metric}} {{md:name ""}} {{md:label ""}} {{md:quantity unitCode="" value=0}} {/md:metric}} {/md:trackingData} </pre>	<p>different measurements, such as pressure, temperature, vibration, and so on, recorded at the current point in time and at current location.</p> <p>Example:</p> <pre> {{#md:trackingData}} {{md:timestamp (toTimestamp document.EventData.Timestamp {{#md:geoLocation}} {{md:lat document.EventData.GeoLocat {{md:lon document.EventData.GeoLocat {{md:alt document.EventData.GeoLocat {/md:geoLocation}} {{#each document.EventData.SensorVa as item }} {{#md:metric}} {{md:name item.Name}} {{md:label item.Name}} {{#md:quantity}} {{md:unitCode item.Value.unitCode}} {{md:value item.Value.value}} {/md:quantity}} {/ md:metric}} {/each}} {/ md:trackingData}} </pre>	

Item Tracking Related Helpers

These helper functions are used to capture item tracking, package tracking, or batch tracking data.

Description of Item Tracking related helpers

This table describes the Item Tracking related helper functions used in to define metadata document:

Name	Arguments	Description	Mandatory (Y/N)
<code>md:itemTrackingData</code>	No arguments but either of these qualifiers: <code>lotControlled</code> , <code>serialControlled</code> , <code>unassignedControlled</code>	The content of this item tracking block helper function depends on the qualifier used in this block. View a typical structure in Sample Structures of Item Tracking Metadata Helper Functions .	No

Name	Arguments	Description	Mandatory (Y/N)
<code>md:packageTrackingData</code>	<code>packageControlled</code>	This helper is used to capture packaging related information present in the source document. View typical structures in <i>Sample Structures of Item Tracking Metadata Helper Functions</i> .	No
<code>md:batchTrackingData</code>	<code>batchControlled</code>	This helper is used to capture batch or (parent lot) data available in the source document. A batch is either a collection of lots or collection of serial numbers. View typical structures in <i>Sample Structures of Item Tracking Metadata Helper Functions</i> .	No
<code>md:itemTypeId</code>	a single value that is typically retrieved by using a nested helper <code>mapItemType</code>	Declares the ID of the item type that needs to be tracked. An item referenced in a document needs to mapped to the appropriate item type registered in the application. This mapping is done by the look-up helper function <code>mapItemType</code> . Example: <pre>{ {md:itemTypeId (mapItemType item.itemNumber (lookupSubmitter)) }</pre>	Yes
<code>md:itemEventType</code>	Values from: <code>CREATED</code> , <code>USING</code> , <code>ORDERED</code> , <code>RECEIVED</code> , <code>SHIPPED</code> , <code>MOVED</code> , <code>RETURNED</code>	This line helper function defines the value of the event type. Example: <pre>{ {md:itemEventType "SHIPPED" }</pre>	Yes
<code>md:description</code>	A string value that describes the item.	This line helper function defines the description of the item. Example: <pre>{ {md:description item.itemDescription }</pre>	No
<code>md:serialNumber</code>	A single value	This line helper function is used with serial-controlled item tracking data. Example: <pre>{ {md:serialNumber itemSerial.fromSerialNumber</pre>	Yes
<code>md:currentCustody</code>	A single value	Defines the details of the organization that currently has custody of the item. Example: <pre>{ {#md:currentCustody} { {md:custodyChangeReason "UNASSIGNED TRANSFERRED SOLD RETURNED SHIPPED" } } { {#md:tradingPartner}</pre>	Yes

Name	Arguments	Description	Mandatory (Y/N)
		<pre> {{md:tradingPartnerId ""}} {{/md:tradingPartner}} {{#md:tradingPartner}} {{md:tradingPartnerName ""}} {{/ md:tradingPartner}} {{#md:location}} {{md:locationId ""}} {{/md:location}} {{#md:location}} {{md:locationAddress ""}} {{/md:location}} {{/ md:currentCustody}} </pre>	
md:custodyChangeReason	A single value	Defines the reason for which the custody of the item changed. Example: <pre> {{md:custodyChangeReason "UNASSIGNED TRANSFERRED SOLD RETURNED SHIPPED"}} </pre>	Yes
md:tradingPartner	A single value	Defines the details of the trading partner that has custody of the item. Example: <pre> {{#md:tradingPartner}} {{md:tradingPartnerId ""}} {{/md:tradingPartner}} </pre>	No
md:tradingPartnerId	A single value	It is used if the trading partner is part of the network. The trading partner ID can be looked up using the trading partner's name or an ID using either <code>lookupSubmitter</code> , <code>lookupReceiver</code> , or <code>lookupTradingPartner</code> utility helpers as appropriate. In addition to look-up the trading partner ID, the <code>output</code> parameter in the <code>lookupSubmitter</code> and <code>lookupTradingPartner</code> helpers also returns other attributes, such as trading partner address along with its longitude, and latitude details in JSON format or only the trading partner ID. Example <pre> {{md:location locationId=(lookupTradingPa "DC-ID" document.ShipToOrganization by="location" output="locId" whenMissing="fail") "id": "12", "tradingPartnerId": "12", "locationId": "44",locations "id": "12", "name": "Delta Glass", </pre>	Yes

Name	Arguments	Description	Mandatory (Y/N)
		"address": "Phoenix, E Euclid Ave, AZ, 85042, US", "coordinates": { "latitude": 47.98889, "longitude": 8.79116 }}}	
md:tradingPartnerName	A single value	It is used if the trading partner that has custody of the item is not part of the Oracle Intelligent Track and Trace network. Example, see md:currentCustody	Yes
md:location	A single value	Defines the location for trading partner that is part of the network who has custody. The location details can be looked up using the <code>lookupTradingPartner</code> utility helper function. Example, see md:currentCustody	No
md:locationAddress	A single value	This is used for a trading partner that is not part of the network and defines the address of the location of the trading partner that has custody. Example, see md:currentCustody	Yes
md:lotNumber	A single value	This identifies the unique lot number of the items. Example: <pre>{{md:lotNumber item.lotNumber}}</pre>	Yes
md:quantity	A single value	This block helper function has two line helper functions, <code>md:unitCode</code> and <code>md:value</code> . Example: <pre>{{#md:quantity}} {{md:unitCode (orDefault item.shippedQuantity.unitCo "Ea")}} {{md:value (orDefault item.shippedQuantity.value 0)}} {{/md:quantity}}</pre>	No
md:unitCode	A single value	This line helper function is used underneath <code>md:quantity</code> . Example: <pre>{{md:unitCode (orDefault item.shippedQuantity.unitCo "Ea")}}</pre>	Yes
md:value	A single value	This line helper function is used underneath <code>md:quantity</code> . Example:	Yes

Name	Arguments	Description	Mandatory (Y/N)
		<pre> {{md:value (orDefault item.shippedQuantity.value 0) }} </pre>	
md:comments	A string value	This line helper function is used for providing additional information as comments.	No
md:serialEventType	A single value	This helper is used to capture serialization events, such as "COMMISSION", "DECOMMISSION" and so on.	Yes
mapItemType	Have two arguments. The first parameter is a string value representing the item code. The second parameter is a string value of the internal id of the trading partner, which typically retrieved by using another helper function.	<p>This helper function is used to lookup the internal ID for the item type referenced in the source document. An item type can be looked up either in the master catalog (founder's item types list) or in the submitting trading partner's list. Based on where you need to lookup, use <code>lookupFounder</code> or <code>lookupSubmitter</code> appropriately. Examples:</p> <pre> {{mapItemType ItemTypeCode=shipmentLine.I tpId=(lookupFounder) }} {{mapItemType ItemTypeCode=shipmentLine.I tpId=(lookupSubmitter) }} {{mapItemType ItemTypeCode- shipmentLine.ItemNumber "something" }} </pre> <p>If the item type code is not found in the submitting trading partner's list, the <code>whenMissing</code> parameter allows the helper to use item type code from the founder's list.</p> <p>Example:</p> <pre> {{mapItemType ItemTypeCode=shipmentLine.I tpId=(lookupSubmitter) whenMissing='ignore' {{mapI ItemTypeCode=shipmentLine.I tpId=(lookupFounder) }} </pre>	Yes
md:packageTypeId	A single parameter string value that is retrieved from another helper <code>mapPackageType..</code>	<p>This nested helper function represents an internal id of the package type that is retrieved from another helper <code>mapPackageType</code>. Example:</p> <pre> {{md:packageTypeId (mapPackageType "box") }} </pre>	Yes

Name	Arguments	Description	Mandatory (Y/N)
<code>mapPackageType</code>	A single parameter with a value.	This line helper function returns a string that represents the internal id of a package type and it accepts the name of the package type created by a founder. Example: <pre>{ {mapPackageType PackageType=packingUnit . Pac</pre>	yes
<code>md:packageEventType</code>	a value from: PACKED , STORED , SHIPPED	Defines if a package is packed, waiting to be shipped, or received and stored. Example: <pre>{ {md:packageEventType "SHIPPED" }</pre>	No
<code>md:referencedItem</code>	Depends on the context of its usage	This helper allows capture of parent/child relationships of items. It should be used to capture ingredient or component usage to produce or manufacture semi-finished or finished products. Example: <pre>{ {#md:referencedItem:lotCon { {md:itemTypeId (mapItemType shipmentLine.Item (lookupFounder)) } } { {md:lotNumber shipmentLine.LotNumber} } { {md:quantity (orDefault shipmentLine.RequestedQuant "EA") (orDefault shipmentLine.ShippedQuantit 0)} } { {/ md:referencedItem:lotContro</pre>	No. For batch controlled metadata, it is mandatory.

Common Utility Helpers

- `jsonItem`
- `toTimestamp`
- `Sum`
- `Find`
- `split`
- `regexpFind`
- String helpers
- Condition helpers

Description of Common Utility related helpers

This table describes the Tracking Data (IoT) related helper functions used in to define metadata document:

Name	Arguments	Description	Mandatory (Yes/No)
<code>jsonItem</code>	Has a single parameter with a value	Prints json without quotes. For more information, see https://github.com/jknack/handlebars.java#jackson-2x	No
<code>toTimestamp</code>	Has a single parameter with a value	Converts date/time-formatted string to timestamp number. Supported hash parameters <ul style="list-style-type: none"> <code>format</code> - String format as defined in <code>java.time.format.DateTimeFormatter</code> or ISO instant, if not defined. <code>zone</code> - timezone if required by <code>format</code> or GMT, if not defined. <code>locale</code> - locale if required by <code>format</code> or <code>root</code> locale, if not defined. 	No
<code>sum</code>	Has multiple parameters with values	Sum all arguments in the format <code>{{sum a.value b.value c.value}}</code>	No
<code>find</code>	Has a single parameter with a value	Finds an element with the property set to a particular value.	No
<code>split</code>	Have single or multiple parameters	Extract a sub-string from a given text by specifying a separator. Supported parameters <ul style="list-style-type: none"> text (required) - text value to be split into segments. delimiter (optional) - the delimiting regular expression (regexp). Default value is <code>'\s+'</code>. index (optional) - a negative or a non-negative integer specifying the position of a segment. Negative values starts from the end of the string and positive values from the start of the string. For example, -1 is last and -2 is one before the last and so on. <p>Note: If index is missing, entire array is returned.</p>	No

Name	Arguments	Description	Mandatory (Yes/No)
		<ul style="list-style-type: none"> • whenMissing (optional) - Specifies the behavior when index or delimiter is incorrect. The default value is 'fail'. <p>See <i>Examples of Utility Helper Functions</i></p>	
regexFind	Have single or multiple parameters	<p>Extract a single or multiple occurrences of a sub-string from a given text that matches the regular expression.</p> <p>Supported parameters</p> <ul style="list-style-type: none"> • text (required) - text value to be split into segments. • pattern (required) - the regular expression pattern. • index (optional) - a negative or a non-negative integer specifying the position of a segment. Negative values starts from the end of the string and positive values from the start of the string. For example, -1 is last and -2 is one before the last and so on. <p>Note: If index is missing, entire array is returned.</p> <ul style="list-style-type: none"> • group (optional) - an integer or string value capturing the group index/name. In case group is a string value, it specifies the name of the named capturing group. <p>Note: For name capturing group syntax, see https://docs.oracle.com/javase/8/docs/api/java/util/regex/Pattern.html</p> <ul style="list-style-type: none"> • whenMissing (optional) - Specifies the behavior when index or delimiter is incorrect. The default value is 'fail'. <p>See <i>Examples of Utility Helper Functions</i></p>	No
String helpers	Have single or multiple parameters	String helper functions publicly available at https://github.com/	No

Name	Arguments	Description	Mandatory (Yes/No)
		<i>jknack/handlebars.java#string-helpers</i>	
Conditional helpers	Have single or multiple parameters	Conditional helper function publicly available at https://github.com/jknack/handlebars.java#conditional-helpers	No

Common Helpers

These helper functions are used across all helpers including item tracking helper functions, as sub helpers.

- `md:name`
- `md:label`
- `#md:quantity`
- `md:unitCode`
- `md:value`
- `md:comments`

Description of Common Helpers

This table describes the Common helper functions used in to define metadata document:

Name	Arguments	Description	Mandatory (Yes/No)
<code>md:quantity</code>	A single value	This block helper function has two line helper functions, <code>md:unitCode</code> and <code>md:value</code> . Example: <pre>{{#md:quantity}} {{md:unitCode (orDefault item.shippedQuantity.unitCode "Ea")}} {{md:value (orDefault item.shippedQuantity.value 0)}} {{/md:quantity}}</pre>	No
<code>md:unitCode</code>	A single value	This line helper function is used underneath <code>md:quantity</code> . Example: <pre>{{md:unitCode (orDefault item.shippedQuantity.unitCode "Ea")}}</pre>	Yes

Name	Arguments	Description	Mandatory (Yes/No)
<code>md:value</code>	A single value	This line helper function is used underneath <code>md:quantity</code> . Example: <pre>{{md:value (orDefault item.shippedQuantity.value 0)}}</pre>	Yes
<code>md:comments</code>	A string value	This line helper function is used for providing additional information as comments.	No
<code>md:name</code>	A string value	This line helper function is used underneath <code>md:trackingData</code>	No
<code>md:label</code>	A string value	This line helper function is used underneath <code>md:trackingData</code>	No

Single-Line Helper Functions

Description of Single-Line Helpers

This table describes the Tracking Data (IoT) related helper functions used in to define metadata document:

Name	Arguments	Description	Mandatory(Yes/No)
<code>md:documentNumber</code>	Has a single parameter with a value	Number to identify the document. Example: <pre>{ {md:documentNumber document.OrderNumber} }</pre>	Yes
<code>md:DocumentTypeId</code>	Has a single parameter with a value	Number to identify the type of document. Example: <pre>{ {md:documentTypeId "purchase_order" } }</pre>	Yes
<code>md:ledgerKey</code>	Has a single parameter with a value	Unique value that acts as a key for a document in the distributed ledger. Example: <pre>{ {md:ledgerKey (concat "purchase_order:" document.OrderNumber</pre>	Yes

Name	Arguments	Description	Mandatory(Yes/No)
md:documentCrossRef	DocumentNumber, DocumentTypeId,LedgerKey	<p>Contains zero or more references to other documents that have been recorded or will be recorded in the ledger. This vital value is used by the application to correlate transactions and business flows. Example of position based parameters</p> <pre>{ {md:documentCrossRef document.SupplierOrderNumbe (concat "sales_ order:"document.SupplierOrd "sales_order"}}</pre> <p>Example of named parameters</p> <pre>{ {md:documentCrossRef documentNumber=document.Supp documentTypeId=(concat "sales_ order:"document.SupplierOrd ledgerKey="sales_order"}}</pre>	No

Note: For the descriptions of the helper functions, review the following table and for their examples, view Usage Examples

Examples of Block Helper Functions

A block helper function with single-line helpers

```
{{#md:documentCrossRef}}
  {{md:documentNumber document.SupplierOrderNumber}}
  {{md:documentTypeId (concat "sales_order:"document.SupplierOrderNumber)}}
  {{md:ledgerKey "sales_order"}}
{{/md:documentCorssRef}}
```

A nested block helper function

```
{{#md:itemTrackingData:lotControlled}}
  {{md:itemTypeId (mapItemType itemTypeCode=document.ProductCode tpId=(lookupFounder))}}
  {{md:lotNumber document.LotNumber}}
  {{#md:quantity}}
    {{md:unitCode document.UnitCode}}
    {{md:value document.Quantity}}
  {{/md:quantity}}
  {{md:itemEventType "CREATED"}}
  {{#each document.ReceivedLots as |receivedLot|}}
    {{#md:referencedItem:lotControlled}}
      {{md:itemTypeId (mapItemType itemTypeCode=receivedLot.ProductCode tpId=(lookupFounder))}}
      {{md:lotNumber receivedLot.LotNumber}}
      {{md:quantity unitCode=receivedLot.UnitCode value=(orDefault receivedLot.Quantity 0)}}
    {{/md:referencedItem:lotControlled}}
  {{/each}}
```

```

{{/each}}
{{#md:attributes}}
{{md:classification document.ClassificationCode}}
{{/md:attributes}}
{{/md:itemTrackingData:lotControlled}}

```

Examples of Utility Helper Functions

sum helper function

Example

```

##Example JSON:
{
  "Attr1": "some value",
  "Qty1": 10,
  "Qty2": 200,
  "anArray": [
    {
      "name": "Temperature",
      "value": 40
    },
    {
      "name": "Pressure",
      "value": 14
    },
    {
      "name": "Humidity",
      "value": 45
    }
  ]
}
##Example of sum and find:
{
  "total": {{sum document.Qty1 document.Qt2}},
  {{find document.anArray "name" "Pressure" as |reading| }}
  "pressureReading":reading.value
  {{/find}}
}
##Example Result:
{
  "total": 120,
  "pressureReading": 14
}

```

find helper function

Example

```

{{#find some.array "x" "yy" as |o i| }}{{o.n }} {{i}} {{@key}} {{@index}}
{{else}}na{{/find}}

```

Find object in an array (or object) with field "x": "yy". Inside the block, `o` is referencing the object found, `i` is the index of the object. Both can be named differently. Also, special keys are available inside the block, with self-explanatory names: `@key`, `@index`, where key has the same value as index in arrays. It is modeled in the similar fashion as handlebars "each" helper, including the "else" block. Most of these parameters are optional, the minimal find helper is `{{find arr "x" "yy"}}` prints the object with "x": "yy" field.

The `split` helper function uses the following syntax:

```

{{split text delimiter=<regex> index=<index> whenMissing=<fail|ignore>}}

{{split 'a b'}} // resolved as '[a, b]'
{{split 'a b' index=0}} // resolved as 'a'

```

```

{{split 'a b' index=1}} // resolved as 'b'
{{split 'a b' index=-1}} // resolved as 'b'
{{split '/shipment/shipmentID' delimiter='/' index=3 whenMissing='fail'}} // fails with error: Invalid index
parameter: '3'
{{split '/shipment/shipmentID' delimiter='/' index=3 whenMissing='ignore'}} // resolved as '' (empty string)

```

Example

```

## Sample Document

{
  "Name" : {
    "firstName" : "Testabcd",
    "lastName" : "Helperefgh"
  },
  "uri": "shipment/shipmentId",
  "BillofLadingNumber": "80000000099",
  "CarrierName": "Zeta Carrier",
  "Consignment": [
    {
      "PONumber": "GHPO-21029000123",
      "LPN": "ZXR40034501",
      "ContainerType": "CONTAINER-8",
      "PackageCount": 1,
      "Weight": {
        "unitCode": "KG",
        "value": 980
      }
    }
  ],
}

```

In the document schema, *uri* is set to "uri": "/shipment/shipmentId" and you want to extract the last sub-string of the *uri* text.

In a metadata document, the `split` helper function helps you extract a sub-string from the given text.

```

{{md:documentData "uri-last" (split document.uri delimiter='/' index=-1 whenMissing='ignore' )}}

{{#each document.Consignment as |consignment|}}
  {{#md:packageTrackingData}}
    {{md:controlType "PACKAGE_CONTROLLED"}}
    {{md:packageNumber consignment.LPN}}
    {{md:packageTypeId (mapPackageType consignment.ContainerType)}}
    {{md:packageEventType "SHIPPED"}}
    {{/md:packageTrackingData}}
  {{/each}}

```

As a result, the following data processed by the metadata template:

```

"documentData": {
  "uriLast": "shipmentId"
}

```

`regexpFind` helper function uses the following syntax:

```

{{regexpFind text pattern index=<index> group=<groupIndex or groupName> whenMissing=<fail|ignore>}}

{{regexpFind '/a1/b2/C3/d4' '[a-z0-9]+'}} // result: [a1, b2, 3, d4] (all segments matching the pattern)
{{regexpFind '/a1/b2/C3/d4' '[a-z0-9]+' index=0}} // result: 'a1' (first segment matching the pattern)
{{regexpFind '/a1/b2/C3/d4' '[a-z0-9]+' index=-1}} // result: 'd4' (last segment matching the pattern)
{{regexpFind '/a1/b2/C3/d4' '[a-z0-9]+' index=2}} // result: '3' (third segment matching the pattern)
{{regexpFind '/a1/b2/C3/d4' '(?i)[a-z0-9]+' index=2}} // result: 'C3' (case insensitive pattern is used)
{{regexpFind '/a1/b2/C3/d4' '[a-z0-9]+' index=-1 group=0}} // result: 'd4' (last segment matching the
pattern)

```



```

},
"requestBodyRef": {
  "location": {
    "bucket": "requests_ascus_test",
    "object": "39_43_d0ba0327-0f95-4896-8e2d-af2d62c73d2e/document"
  },
  "documentHash":
    "81b7c39fcee7302868c2771fe029b3beb70fb4f47bb27e0188795c08688ead7f736ccf994f83b05a5a2cb0e6b70a5430a8a77e196522f0f65f",
  },
  "attachmentsRefs": [],
  "receivedTimestamp": 1639390270482,
  "documentTimestamp": 1620436086047,
  "submitter": {
    "tradingPartnerId": "21"
  },
  },
  "receiver": {
    "tradingPartnerId": "29",
    "locationId": "32"
  },
  "itemTrackingData": [
    {
      "itemTypeId": "Eftw5QPDFrBVgaxxH1B7Rw",
      "lotNumber": "OAT-4001-1231",
      "quantity": {
        "unitCode": "KG",
        "value": 400,
        "normalized": {
          "unitCode": "kg",
          "value": 400,
          "class": "MASS"
        }
      },
      "itemEventType": "SHIPPED",
      "controlType": "LOT_CONTROLLED"
    },
    ],
    "packageTrackingData": [
      {
        "controlType": "PACKAGE_CONTROLLED",
        "packageNumber": "DM-P-3512-4001",
        "packageTypeId": "predefined_package",
        "packageEventType": "SHIPPED",
        "referencedItems": [
          {
            "itemTypeId": "Eftw5QPDFrBVgaxxH1B7Rw",
            "lotNumber": "OAT-4001-1231",
            "quantity": {
              "unitCode": "KG",
              "value": 400,
              "normalized": {
                "unitCode": "kg",
                "value": 400,
                "class": "MASS"
              }
            },
            "controlType": "LOT_CONTROLLED"
          }
        ],
        "controlType": "PACKAGE_CONTROLLED",
        "packageNumber": "DM-P-3512-4000",
        "packageTypeId": "predefined_pallet",
        "packageEventType": "SHIPPED",
        "referencedItems": [
          {

```

```

"packageTypeId": "predefined_package",
"packageNumber": "DM-P-3512-4001",
"controlType": "PACKAGE_CONTROLLED"
}
]
},
"transactionValue": {
"currencyCode": "USD",
"amount": 0
},
"documentData": {},
"documentCrossRefs": [
{
"documentNumber": "DMSO-32512",
"ledgerKey": "sales_order:DMSO-32512",
"documentTypeId": "sales_order"
},
{
"documentNumber": "NFPO-71512",
"ledgerKey": "purchase_order:NFPO-71512",
"documentTypeId": "purchase_order"
}
]
}

```

Item Tracking Metadata Document Example

This example is a metadata document of **Work process product completion** document type and represents lot controlled and serial controlled item tracking data.

```

{{#metadataDocument}}
{{md:documentNumber document.TransactionId}}
{{md:ledgerKey (concat "WorkProcessProductCompletion:" document.TransactionId)}}
{{#if document.SourceReference}}
{{md:documentCrossRef documentNumber=document.SourceReference documentTypeId="process_work_order"
ledgerKey=(concat "ProcessWorkOrder:" document.SourceReference)}}
{{/if}}
{{md:documentTimestamp (toTimestamp document.TransactionDate)}}
{{#each document.lots as |item|}}
{{#md:itemTrackingData:lotControlled}}
{{md:itemTypeId (mapItemType document.Item (lookupFounder)) whenMissing='ignore'}}
{{md:description document.ItemDescription}}
{{md:lotNumber item.LotNumber}}
{{#md:quantity}}
{{md:unitCode (orDefault document.TransactionUOMCode "Ea")}}
{{md:value (orDefault item.TransactionQuantity 0)}}
{{/md:quantity}}
{{md:itemEventType "CREATED"}}
{{/md:itemTrackingData:lotControlled}}
{{/each}}
{{#each document.serials as |item|}}
{{#md:itemTrackingData:serialControlled}}
{{md:itemTypeId (mapItemType document.Item (lookupSubmitter)) whenMissing='ignore'}}
{{mapItemType ItemTypeCode=shipmentLine.ItemNumber tpId=(lookupFounder)}}
{{md:description document.ItemDescription}}
{{md:serialNumber item.SerialNumber}}
{{md:serialEventType "COMMISSIONED"}}
{{md:itemEventType "CREATED"}}
{{/md:itemTrackingData:serialControlled}}
{{/each}}
{{md:transactionValue "USD" 0}}
{{md:documentData "TransactionSourceType" document.TransactionSourceType}}
{{md:documentData "TransactionAction" document.TransactionAction}}

```

```
{{/metadataDocument}}
```

The following is an example of the generated metadata JSON schema for a submitted **Work process product completion** document.

```
{
  "documentTypeId": "work_process_product_completion",
  "ledgerKey": "WorkProcessProductCompletion:90002001801",
  "documentNumber": "90002001801",
  "originalDocumentRef": {
    "location": {
      "bucket": "documents_demovacl_test",
      "object": "42_45_d5d68001-b426-491e-a3a0-6a463bd375d5/document"
    },
    "documentHash":
      "6b34d8d9e26ef5a6cd8ea7ec8f145743f69ac1dee284306c87f77c11673536f0460379c8cf2ed93f5d347c8c1cfcfae39ae1e58102b22ece24"
  },
  "attachmentsRefs": [],
  "receivedTimestamp": 1616613435457,
  "documentTimestamp": 1608804600000,
  "submitter": {
    "tradingPartnerId": "98"
  },
  "receiver": {
    "tradingPartnerId": "98"
  },
  "itemTrackingData": [
    {
      "itemTypeId": "63gCmnAXAGoKCSWtyppx2K",
      "description": "10-Dose Flu Vaccine",
      "lotNumber": "FL-VAC-20210106-12012",
      "quantity": {
        "unitCode": "EA",
        "value": 3000
      },
      "itemEventType": "CREATED",
      "controlType": "LOT_CONTROLLED"
    }
  ],
  "transactionValue": {
    "currencyCode": "USD",
    "amount": 0
  },
  "documentData": {
    "TransactionSourceType": "PROCESS WORK ORDER",
    "TransactionAction": "WORK ORDER COMPLETION"
  },
  "documentCrossRefs": [
    {
      "documentNumber": "WO-3400122",
      "documentTypeId": "process_work_order",
      "ledgerKey": "ProcessWorkOrder:WO-3400122"
    }
  ]
}
```

Metadata Document Generation Process

The metadata template is used by the application to generate a normalized document from the incoming document at runtime. This normalized document is the one that is used for processing information written to the blockchain platform.

Unidirectional Reference Keys For Document Cross-References

As a founder, in a document metadata, you can now define unidirectional references to create one-to-one or one-to-many correlations between different transaction documents across multiple business flows.

Limitations of Bi-directional Reference Model

Currently, all internal references between transaction documents are defined using a document `ledgerKey`. If the `ledgerKey` is not known, then bi-directional references are defined by using the `references` field, an array of strings that holds reference keys.

Bi-directional Reference Model - Metadata Template Structure

In the following sample metadata `test` document, the `references` field at line number 29 to line number 31 defines cross-references to the sample document `A` and document `B`.

```
1 {
2 "documentTypeId": "test",
3 "documentVariantId": "default",
4 "ledgerKey": "Shipping:Test doc",
5 "documentNumber": "Test doc",
6 "originalDocumentRef": {
7 "location": {
8 "bucket": "requests_xyz_test",
9 "object": "6_8_46072df1-f9d2-4a87-a00f-bc9d52060358/document"
10 },
11 "documentHash":
12 "f3ef1009f7dbc45ee9b40d446b3290d85b299735477a0cc753125196ea26ba3c25c15d232972fc3a60973c22ce4372d10f2a81e9b86aad35e9",
13 "requestBodyRef": {
14 "location": {
15 "bucket": "requests_xyz_test",
16 "object": "6_8_46072df1-f9d2-4a87-a00f-bc9d52060358/document"
17 },
18 "documentHash":
19 "f3ef1009f7dbc45ee9b40d446b3290d85b299735477a0cc753125196ea26ba3c25c15d232972fc3a60973c22ce4372d10f2a81e9b86aad35e9",
20 "attachmentsRefs": [],
21 "receivedTimestamp": 1682579505251,
22 "documentTimestamp": 1682579505251,
23 "submitter": {
24 "tradingPartnerId": "xyz_test"
25 },
26 "receiver": {
27 "tradingPartnerId": "xyz_test"
28 },
29 "references": [
30 "A",
31 "B"
32 ],
33 "transactionValue": {
34 "currencyCode": "USD",
35 "amount": 0
36 },
37 "documentData": {}
38 }
```

In the following sample metadata, document `B` defines a cross-reference to sample document `C` and also creates a recursive cross-reference back to itself as shown line number 30.

```
1 {
2 "documentTypeId": "test",
```

```
3 "documentVariantId": "default",
4 "ledgerKey": "Shipping:Test doc B",
5 "documentNumber": "Test doc B",
6 "originalDocumentRef": {
7 "location": {
8 "bucket": "requests_xyz_test",
9 "object": "6_8_cd9e9d30-d440-4471-8fbf-13c47064c40a/document"
10 },
11 "documentHash":
12 "afd9c9a32c16c87decf1ab39393fa0353021c48576c18c5285be5215092ff9c43c2ff02818fa822344913cf8b71b80e74fcfc1db4e47652ca0",
13 "requestBodyRef": {
14 "location": {
15 "bucket": "requests_xyz_test",
16 "object": "6_8_cd9e9d30-d440-4471-8fbf-13c47064c40a/document"
17 },
18 "documentHash":
19 "afd9c9a32c16c87decf1ab39393fa0353021c48576c18c5285be5215092ff9c43c2ff02818fa822344913cf8b71b80e74fcfc1db4e47652ca0",
20 "attachmentsRefs": [],
21 "receivedTimestamp": 1682579594052,
22 "documentTimestamp": 1682579594052,
23 "submitter": {
24 "tradingPartnerId": "xyz_test"
25 },
26 "receiver": {
27 "tradingPartnerId": "xyz_test"
28 },
29 "references": [
30 "B",
31 "C"
32 ],
33 "transactionValue": {
34 "currencyCode": "USD",
35 "amount": 0
36 },
37 "documentData": {}
38 }
```

For large number of documents ingested into Oracle Intelligent Track and Trace, bi-directional correlations adds higher complexity due to recursive correlations. For better flexibility, you can now add unidirectional cross-references that enables you to define one-way correlations between transaction documents.

Unidirectional Reference Model

Unidirectional reference model extends fine-grained correlations between documents, it provides higher flexibility to define internal cross-references with the following benefits.

- One-way reference to address the bi-directional recursion limitation.
- Simplified metadata template definition for creating internal references. For example, the usage of `referenceKeys` instead of `references` field to define correlations.
- No dependency on the document/ledger keys to define correlations.

To define unidirectional references, use the following reference key definitions:

- `referenceKeys`: An array of strings that contains the reference keys that other documents can use to reference the document.

- `documentCrossRefs`: The `documentCrossRefs` object definition uses the following two modes:
 - `ledgerKey`: The primary key of the document to be referenced.
 - `referenceKey`: Reference Key defined in another document to reference.

Sample metadata structure with unidirectional reference using `referenceKey` field

In this sample metadata document, line number 8 shows the `documentCrossRef` object definition having `referenceKey` field to create unidirectional reference.

```

1 {(#metadataDocument)}
2 {md:documentNumber document.InvoiceNumber}}
3 {md:ledgerKey (concat "invoice:" document.InvoiceNumber)}}
4 {md:documentTimestamp (toTimestamp (concat document.InvoiceDate "T00:00:00Z"))}}
5 {md:transactionValue currencyCode=document.CurrencyCode amount=document.Amount}}
6 {md:receiver document.Customer by="name"}}
7 {md:documentData "Customer" document.Customer}}
8 {md:documentCrossRef referenceKey = (concat "LOTNUMBER:" lot.LotNumber)}}
9
10 ...
11{/metadataDocument}}

```

Sample metadata structure with unidirectional references using `referenceKeys` field.

In this sample metadata document, line number 5 shows the `referenceKey` definition that other documents can use to reference this document.

```

## Document to be referenced from another document

1 {(#metadataDocument)}
2 {md:documentNumber (concat "QA-" document.Id)}}
3 {md:ledgerKey (concat "QA-" document.Id)}}
4 {!-- Reference Keys --}}
5 {md:documentCrossRef referenceKey = (concat "woodmove:" document.Centro ":" (split document.DataFimLote
delimiter="T" index=0))}}
6 {md:referenceKey (concat "LOTNUMBER:" LotNumber)}}
7 ...
8{/metadataDocument}}

```

Note: The existing `references` field will be only be available in the older metadata documents and cannot be migrated to the latest metadata template using unidirectional references. All bi-directional references using the `references` field will be removed and replaced by the unidirectional references that are defined using the `referencesKeys` and `documentCrossRef` fields.

Usage Examples

For practical understanding and implementation of unidirectional correlations, let us consider transaction document `QA` and transaction document `CI` as two sample documents in a same business flow.

1. In the sample metadata of the `QA` document, line number 35 shows the reference key definition of a sample document `QA-020`. This reference key is used by the `CI` document to create unidirectional cross-reference.

```

1 {
2 "documentTypeId": "QA",
3 "documentVariantId": "default",
4 "ledgerKey": "QA-120457611717-v1",
5 "documentNumber": "QA-120457611717",
6 "originalDocumentRef": {

```

```

7 "location": {
8 "bucket": "requests_test01",
9 "object": "61_63_bed15e8a-061b-4231-8feb-d9b72208e3c5/document"
10 },
11 "documentHash":
12 "3183f0382ede82b0b64d44202d5501ea692f8f208aded107adaa7ea764824f33b4a35f82a4d308a4c65b16d5dbd4d0f2ec904672bfb457",
13 },
14 "requestBodyRef": {
15 "location": {
16 "bucket": "requests_test01",
17 "object": "61_63_bed15e8a-061b-4231-8feb-d9b72208e3c5/document"
18 },
19 "documentHash":
20 "3183f0382ede82b0b64d44202d5501ea692f8f208aded107adaa7ea764824f33b4a35f82a4d308a4c65b16d5dbd4d0f2ec904672bfb457",
21 },
22 "attachmentsRefs": [],
23 "receivedTimestamp": 1684256302360,
24 "documentTimestamp": 1656719643000,
25 "submitter": {
26 "tradingPartnerId": "test01"
27 },
28 "receiver": {
29 "tradingPartnerId": "test01"
30 },
31 "documentCrossRefs": [
32 {
33 "referenceKey": "WM-011"
34 },
35 ],
36 {{!-- Reference Keys --}}
37 "referenceKeys": [
38 "QA-020"
39 ],
40 ...
41 }
42 }

```

- In this sample metadata of the `ci` document, line number 29 to line number 39 shows a unidirectional references defined for documents `QA-001`, `QA-020`, and `QA-032`.

```

!-- referenceKey field in documentCrossRefs object definition
1 {
2 "documentTypeId": "CI",
3 "documentVariantId": "default",
4 "ledgerKey": "invoice:INV-383834405697",
5 "documentNumber": "INV-383834405697",
6 "originalDocumentRef": {
7 "location": {
8 "bucket": "requests_test01",
9 "object": "61_64_b22ee1f7-df48-4976-826b-e213d92be3ca/document"
10 },
11 "documentHash":
12 "7e3afd69450679758f7fef300418b1cf8e737a0136a707c45b3d3296ba90635becfb64ef740d6fbdc7b7370e5f5324c17bd9303f85925b",
13 },
14 "requestBodyRef": {
15 "location": {
16 "bucket": "requests_test01",
17 "object": "61_64_b22ee1f7-df48-4976-826b-e213d92be3ca/document"
18 },
19 "documentHash":
20 "7e3afd69450679758f7fef300418b1cf8e737a0136a707c45b3d3296ba90635becfb64ef740d6fbdc7b7370e5f5324c17bd9303f85925b",
21 },
22 }

```

```
20 "attachmentsRefs": [],
21 "receivedTimestamp": 1684256587845,
22 "documentTimestamp": 1656979200000,
23 "submitter": {
24   "tradingPartnerId": "test01"
25 },
26 "receiver": {
27   "tradingPartnerId": "25"
28 },
29 "documentCrossRefs": [
30 {
31   "referenceKey": "QA-001"
32 },
33 {
34   "referenceKey": "QA-020"
35 },
36 {
37   "referenceKey": "QA-032"
38 }
39 ]
40 ],
41
42 ...
43
44 }
45}
```

In this case, the cross-reference defined in line number 34 forms a direct reference to the sample document QA-020.

Examples for Product Tracking Metadata Helper Functions

View item tracking metadata helper functions used for various scenarios.

Various combinations of helper functions are used based on the value of the qualifier used in the parent helper function.

Serial-Controlled Item Tracking

For `md:itemTrackingData` with `serialControlled` as the qualifier, the following helper functions are used within it.

```
{{#md:itemTrackingData:serialControlled}}
  {{md:itemTypeId ""}}
  {{md:description ""}}
  {{md:serialNumber ""}}
  {{md:serialEventType ""}}
  {{md:itemEventType ""}}
  {{#md:currentCustody}}
  {{md:custodyChangeReason ""}}
  {{#md:tradingPartner}}
  {{md:tradingPartnerId ""}}
  {{/md:tradingPartner}}
  {{#md:tradingPartner}}
  {{md:tradingPartnerName ""}}
  {{/md:tradingPartner}}
  {{#md:location}}
  {{md:locationId ""}}
  {{/md:location}}
  {{#md:location}}
  {{md:locationAddress ""}}
  {{/md:location}}
  {{/md:currentCustody}}
```

```

{{#md:referencedItem:unassignedControlled}}
{{md:itemTypeId ""}}
{{/md:referencedItem:unassignedControlled}}
{{#md:referencedItem:serialControlled}}
{{md:itemTypeId ""}}
{{md:serialNumber ""}}
{{/md:referencedItem:serialControlled}}
{{#md:referencedItem:lotControlled}}
{{md:itemTypeId ""}}
{{md:lotNumber ""}}
{{#md:quantity}}
{{md:unitCode ""}}
{{md:value 0}}
{{/md:quantity}}
{{/md:referencedItem:lotControlled}}
{{md:comments ""}}
{{/md:itemTrackingData:serialControlled}}

```

Lot-controlled Item Tracking

For `md:itemTrackingData` with `lotControlled` as the qualifier, the following helper functions are used within it.

```

{{#md:itemTrackingData:lotControlled}}
{{md:itemTypeId ""}}
{{md:description ""}}
{{md:lotNumber ""}}
{{#md:quantity}}
{{md:unitCode ""}}
{{md:value 0}}
{{/md:quantity}}
{{md:itemEventType ""}}
{{#md:currentCustody}}
{{md:custodyChangeReason ""}}
{{#md:tradingPartner}}
{{md:tradingPartnerId ""}}
{{/md:tradingPartner}}
{{#md:tradingPartner}}
{{md:tradingPartnerName ""}}
{{/md:tradingPartner}}
{{#md:location}}
{{md:locationId ""}}
{{/md:location}}
{{#md:location}}
{{md:locationAddress ""}}
{{/md:location}}
{{/md:currentCustody}}
{{#md:referencedItem:unassignedControlled}}
{{md:itemTypeId ""}}
{{/md:referencedItem:unassignedControlled}}
{{#md:referencedItem:serialControlled}}
{{md:itemTypeId ""}}
{{md:serialNumber ""}}
{{/md:referencedItem:serialControlled}}
{{#md:referencedItem:lotControlled}}
{{md:itemTypeId ""}}
{{md:lotNumber ""}}
{{#md:quantity}}
{{md:unitCode ""}}
{{md:value 0}}
{{/md:quantity}}
{{/md:referencedItem:lotControlled}}
{{md:comments ""}}
{{/md:itemTrackingData:lotControlled}}

```

Unassigned-controlled Item Tracking

For `md:itemTrackingData` with `unassignedControlled` as the qualifier, the following helper functions are used within it. Unassigned controlled items are those items that do not have any serial or lot numbers associated with them.

```

{{#md:itemTrackingData:unassignedControlled}}
  {{md:itemTypeId ""}}
  {{md:description ""}}
  {{md:itemEventType ""}}
  {{#md:currentCustody}}
  {{md:custodyChangeReason ""}}
  {{#md:tradingPartner}}
  {{md:tradingPartnerId ""}}
  {{/md:tradingPartner}}
  {{#md:tradingPartner}}
  {{md:tradingPartnerName ""}}
  {{/md:tradingPartner}}
  {{#md:location}}
  {{md:locationId ""}}
  {{/md:location}}
  {{#md:location}}
  {{md:locationAddress ""}}
  {{/md:location}}
  {{/md:currentCustody}}
  {{#md:referencedItem:unassignedControlled}}
  {{md:itemTypeId ""}}
  {{/md:referencedItem:unassignedControlled}}
  {{#md:referencedItem:serialControlled}}
  {{md:itemTypeId ""}}
  {{md:serialNumber ""}}
  {{/md:referencedItem:serialControlled}}
  {{#md:referencedItem:lotControlled}}
  {{md:itemTypeId ""}}
  {{md:lotNumber ""}}
  {{#md:quantity}}
  {{md:unitCode ""}}
  {{md:value 0}}
  {{/md:quantity}}
  {{/md:referencedItem:lotControlled}}
  {{#md:quantity}}
  {{md:unitCode ""}}
  {{md:value 0}}
  {{/md:quantity}}
  {{md:comments ""}}
{{/md:itemTrackingData:unassignedControlled}}

```

Package Tracking Helper Functions

With `md:packageTrackingData` parent helper, view the helpers that can be used within it.

```

{{#md:packageTrackingData}}
  {{md:controlType ""}}
  {{md:packageNumber ""}}
  {{md:packageTypeId ""}}
  {{md:packageEventType ""}}
  {{#md:referencedItem:serialControlled}}
  {{md:itemTypeId ""}}
  {{md:serialNumber ""}}
  {{/md:referencedItem:serialControlled}}
  {{#md:referencedItem:lotControlled}}
  {{md:itemTypeId ""}}
  {{md:lotNumber ""}}
  {{#md:quantity}}
  {{md:unitCode ""}}

```

```
{md:value 0}
{/md:quantity}
{/md:referencedItem:lotControlled}
{#md:referencedItem:batchControlled}
{md:itemTypeId ""}
{md:batchNumber ""}
{/md:referencedItem:batchControlled}
{#md:referencedItem:packageControlled}
{md:packageTypeId ""}
{md:packageNumber ""}
{/md:referencedItem:packageControlled}
{#md:currentCustody}
{md:custodyChangeReason ""}
{#md:tradingPartner}
{md:tradingPartnerId ""}
{/md:tradingPartner}
{#md:tradingPartner}
{md:tradingPartnerName ""}
{/md:tradingPartner}
{#md:location}
{md:locationId ""}
{/md:location}
{#md:location}
{md:locationAddress ""}
{/md:location}
{/md:currentCustody}
{/md:packageTrackingData}
```

Define Metadata Schema

Oracle Intelligent Track and Trace enables you to track any additional document attributes that are not part of the metadata template.

Metadata schema is a set of user-defined attributes that extend the system-defined normalized data. The normalized data is generated from the source document by applying the metadata template. If the metadata template declares any `documentData` attributes, then these attributes and their type must be defined in the **Metadata Schema**.

Note: Currently Oracle Intelligent Track and Trace supports only the following data types for the attributes in the **Metadata Schema**—string, integer, and object. Arrays are not currently supported.

Once you have defined the metadata schema, you can upload it to Oracle Intelligent Track and Trace by following the instructions provided in [Create a New Document Type](#).

Usage Example:

This example shows the definition of all the `documentData` attributes defined for document type *QA Inspection*.

```
{
  "$schema": "http://json-schema.org/draft-07/schema#",
  "$id": "http://itt-ns.oracle.com/qa-inspection-md",
  "type": "object",
  "properties": {
    "InspectionType": {
      "type": "string"
    },
    "SamplingQty": {
      "type": "number"
    },
    "QtyInspected": {
```

```

    "type": "number"
  },
  "QtyReject": {
    "type": "number"
  },
  "InspectionDate": {
    "type": "string",
    "format": "date-time"
  }
}

```

Define Simulator Template

A simulator template enables you to generate mock data using which you can test your business flows and identify potential issues.

Oracle Intelligent Track and Trace enables this simulation functionality by providing you a mechanism to define a simulator template for each document type in your business flow. In a simulator template, you specify a list of values for the JSON schema attributes, using which the application generates mock documents. You can specify values for all the JSON schema attributes, or can choose a few important ones which are essential for metadata template and schema generation.

To facilitate the generation of mock data, Oracle Intelligent Track and Trace provides a list of attribute types which you can use to assign random values to the JSON attributes in the simulator template.

Note: All the parameters specified in the column **Type Definition/Syntax** are mandatory unless specified explicitly.

Type	Type Definition/Syntax	Example
Constant	<pre> { "type" : "CONSTANT", "name" : "<property name>" , "label" : "<string>", "value" : "<string>" } </pre>	<pre> "#/properties/OrderHeader/properties/ProcurementBusinessUnit" : { "type" : "CONSTANT", "name" : "#/properties/OrderHeader/properties/ProcurementBusinessUnit", "label" : "Creator_Org", "value" : "Alpha Chemicals" } </pre> <p>To support "CONSTANT_DATE", specify "values" : "<YYYY-MM-DD>T<HH:MM:SS>". For example: "values" : 2018-06-20T21:42:02.0Z</p>
Random Date	<pre> { "type" : "RANDOM_DATE", "name" : "<property name>", "label" : "<string>", "value" : "[PAST CURRENT FUTURE] ", </pre>	<p>valueThresholdInDays is optional. It puts a limit on how much back / forward the generated value can be. Default value is 5</p>

Type	Type Definition/Syntax	Example
	<pre>"valueThresholdInDays" : <number>, "format" : "[date-time date]" }</pre>	<p>format is optional. Default value is "date".</p> <p>Example:</p> <pre>"#/properties/OrderHeader/properties/ OrderDate" : { "type" : "RANDOM_DATE", "name" : "#/properties/OrderHeader/ properties/OrderDate", "label" : "Timestamp", "value" : "PAST", "valueThresholdInDays" : 3, "format" : "date-time" }</pre>
Random Number	<pre>{ "type" : "RANDOM_NUMBER", "name" : "<property name>", "label" : "string", "lowLimit" : <number>, "highLimit" : <number> }</pre>	<p>lowLimit is inclusive while highLimit is exclusive</p> <p>Example:</p> <pre>"#/properties/OrderHeader/properties/ POHeaderId" : { "type" : "RANDOM_NUMBER", "name" : "#/properties/OrderHeader/ properties/POHeaderId", "label" : "OrderNumber", "lowLimit" : 1, "highLimit" : 5000 }</pre> <p>decimals is optional and specifies maximum number of digits after the decimal point. If specified, random numbers with decimals are generated.</p>
Random From List	<pre>{ "type" : "RANDOM_FROM_LIST", "name" : "<property name>", "label" : "<string>", "values" : [<array of strings>] }</pre>	<p>Example:</p> <pre>"#/properties/OrderHeader/properties/ Supplier" : { "type" : "RANDOM_FROM_LIST", "name" : "#/properties/OrderHeader/ properties/Supplier", "label" : "Supplier", "values" : ["Alpha Chemicals", "Beta Chemicals", "Gamma Chemicals"] }</pre> <p>To support "Random Boolean from List", specify "values" : ["true", "false"]</p>

Type	Type Definition/Syntax	Example
Random Money	<pre>{ "type" : "RANDOM_MONEY", "name" : "<property_name>", "label" : "<string>", "minValue" : <number>, "maxValue" : <number>, "decimals" : <number>, "currencies" : [<array of allowed standard currency codes>] }</pre>	<pre>"#/properties/OrderHeader/properties/ InvoiceValue" : { "type" : "RANDOM_MONEY", "name" : "#/properties/OrderHeader/ properties/InvoiceValue", "label" : "TransactionAmount", "minValue" : 100, "maxValue" : 5000, "decimals" : 2, "currencies" : ["USD", "GBP", "EUR"] }</pre> <p>Decimals is optional. If not specified, only whole numbers (i.e, non-fractional) are generated.</p>
Random Measure	<pre>{ "type" : "RANDOM_MEASURE", "name" : "<property_name>", "label" : "<string>", "minValue" : <number>, "maxValue" : <number>, "decimals" : <number>, "measures" : [<array of strings>] }</pre>	<p>Example:</p> <pre>"#/properties/OrderHeader/properties/ Quantity" : { "type" : "RANDOM_MEASURE", "name" : "#/properties/OrderHeader/ properties/Quantity", "label" : "TransactionQuantity", "minValue" : 100, "maxValue" : 5000, "decimals" : 2, "measures" : ["KG", "LB"] }</pre> <p>Decimals is optional. If not specified, only whole numbers (i.e, non-fractional) are generated.</p>
Random String	<pre>{ "type" : "RANDOM_STRING", "name" : "<property name>", "label" : "<string>", "prefix" : "<string>", "suffix" : "<string>", "minLength" : <number>, "maxLength" : <number> }</pre>	<p>Example:</p> <pre>"#/properties/OrderHeader/properties/ SenderName" : { "type" : "RANDOM_STRING", "name" : "#/properties/OrderHeader/ properties/SenderName", "label" : "Sender", "prefix" : "S-", "suffix" : "-ORG" "minLength" : 8, "maxLength" : 12 }</pre> <ul style="list-style-type: none"> For a random string of fixed length, specify the same value for "minLength" and "maxLength". The length fields (minLength, maxLength) include the prefix and suffix.

Type	Type Definition/Syntax	Example
		<ul style="list-style-type: none"> To generate numbers as filling characters, "numeric" doesn't need to be specified (by default, it's true). To generate characters (both lower and upper case included) as filling characters, specify → "numeric" : false

Usage Example

This is an example of the simulator template for document type *QA Inspection*:

```
{
  "attributes": [
    {
      "field": "#/properties/IpEventId",
      "label": "IpEventId",
      "modelDefault": {
        "type": "RANDOM_NUMBER",
        "lowLimit": 10,
        "highLimit": 100000
      }
    },
    {
      "field": "#/properties/weightInKilograms" : {
        "label": "weightInKilograms",
        "modelDefault": {
          "type": "RANDOM_NUMBER",
          "lowLimit": 72,
          "highLimit": 80.5,
          "decimals": 3
        }
      }
    },
    {
      "field": "#/properties/EventType",
      "label": "EventType",
      "modelDefault": {
        "type": "RANDOM_FROM_LIST",
        "values": [
          "MANUFACTURING",
          "RECEIVING",
          "STANDALONE"
        ]
      }
    },
    {
      "field": "#/properties/InspectionPlanId",
      "label": "InspectionPlanId",
      "modelDefault": {
        "type": "RANDOM_NUMBER",
        "lowLimit": 10,
        "highLimit": 100000
      }
    },
    {
      "field": "#/properties/InspectionLevelId",
      "label": "InspectionLevelId",
      "modelDefault": {
        "type": "RANDOM_NUMBER",
        "lowLimit": 10,

```

```
"highLimit": 100000
}
},
{
"field": "#/properties/IpCriteriaId",
"label": "IpCriteriaId",
"modelDefault": {
"type": "RANDOM_NUMBER",
"lowLimit": 10,
"highLimit": 100000
}
},
{
"field": "#/properties/SourceLineQty",
"label": "SourceLineQty",
"modelDefault": {
"type": "RANDOM_NUMBER",
"lowLimit": 10,
"highLimit": 100000
}
},
{
"field": "#/properties/UomCode",
"label": "UomCode",
"modelDefault": {
"type": "RANDOM_STRING",
"minLength": 10,
"maxLength": 20,
"numeric": false,
"prefix": null,
"suffix": null
}
},
{
"field": "#/properties/QtyRequested",
"label": "QtyRequested",
"modelDefault": {
"type": "RANDOM_NUMBER",
"lowLimit": 10,
"highLimit": 100000
}
},
{
"field": "#/properties/SamplingQty",
"label": "SamplingQty",
"modelDefault": {
"type": "RANDOM_NUMBER",
"lowLimit": 10,
"highLimit": 100000
}
},
{
"field": "#/properties/QtyInspected",
"label": "QtyInspected",
"modelDefault": {
"type": "RANDOM_NUMBER",
"lowLimit": 10,
"highLimit": 100000
}
},
{
"field": "#/properties/QtyAccepted",
"label": "QtyAccepted",
"modelDefault": {
"type": "RANDOM_NUMBER",
"lowLimit": 10,
```

```
"highLimit": 100000
}
},
{
"field": "#/properties/QtyRejected",
"label": "QtyRejected",
"modelDefault": {
"type": "RANDOM_NUMBER",
"lowLimit": 10,
"highLimit": 100000
}
},
{
"field": "#/properties/OriginalDisposition",
"label": "OriginalDisposition",
"modelDefault": {
"type": "RANDOM_STRING",
"minLength": 10,
"maxLength": 20,
"numeric": false,
"prefix": null,
"suffix": null
}
},
{
"field": "#/properties/InspectionStatus",
"label": "InspectionStatus",
"modelDefault": {
"type": "RANDOM_STRING",
"minLength": 10,
"maxLength": 20,
"numeric": false,
"prefix": null,
"suffix": null
}
},
{
"field": "#/properties/InlineFlag",
"label": "InlineFlag",
"modelDefault": {
"type": "RANDOM_STRING",
"minLength": 10,
"maxLength": 20,
"numeric": false,
"prefix": null,
"suffix": null
}
},
{
"field": "#/properties/DraftFlag",
"label": "DraftFlag",
"modelDefault": {
"type": "RANDOM_STRING",
"minLength": 10,
"maxLength": 20,
"numeric": false,
"prefix": null,
"suffix": null
}
},
{
"field": "#/properties/InspectedBy",
"label": "InspectedBy",
"modelDefault": {
"type": "RANDOM_STRING",
"minLength": 10,
```

```
"maxLength": 20,
"numeric": false,
"prefix": null,
"suffix": null
},
{
  "field": "#/properties/InspectionDate",
  "label": "InspectionDate",
  "modelDefault": {
    "type": "RANDOM_DATE",
    "value": "PAST"
  }
},
{
  "field": "#/properties/DispositionDate",
  "label": "DispositionDate",
  "modelDefault": {
    "type": "RANDOM_DATE",
    "value": "PAST"
  }
},
{
  "field": "#/properties/InventoryItemId",
  "label": "InventoryItemId",
  "modelDefault": {
    "type": "RANDOM_NUMBER",
    "lowLimit": 10,
    "highLimit": 100000
  }
},
{
  "field": "#/properties/OrganizationId",
  "label": "OrganizationId",
  "modelDefault": {
    "type": "RANDOM_NUMBER",
    "lowLimit": 10,
    "highLimit": 100000
  }
},
{
  "field": "#/properties/RevisionId",
  "label": "RevisionId",
  "modelDefault": {
    "type": "RANDOM_NUMBER",
    "lowLimit": 10,
    "highLimit": 100000
  }
},
{
  "field": "#/properties/ItemRevision",
  "label": "ItemRevision",
  "modelDefault": {
    "type": "RANDOM_STRING",
    "minLength": 10,
    "maxLength": 20,
    "numeric": false,
    "prefix": null,
    "suffix": null
  }
},
{
  "field": "#/properties/CategorySetId",
  "label": "CategorySetId",
  "modelDefault": {
    "type": "RANDOM_NUMBER",
```

```
"lowLimit": 10,  
"highLimit": 100000  
},  
{  
"field": "#/properties/CategoryId",  
"label": "CategoryId",  
"modelDefault": {  
"type": "RANDOM_NUMBER",  
"lowLimit": 10,  
"highLimit": 100000  
}  
},  
{  
"field": "#/properties/WorkOrderId",  
"label": "WorkOrderId",  
"modelDefault": {  
"type": "RANDOM_NUMBER",  
"lowLimit": 10,  
"highLimit": 100000  
}  
},  
{  
"field": "#/properties/WoOperationId",  
"label": "WoOperationId",  
"modelDefault": {  
"type": "RANDOM_NUMBER",  
"lowLimit": 10,  
"highLimit": 100000  
}  
},  
{  
"field": "#/properties/OperationSeqNumber",  
"label": "OperationSeqNumber",  
"modelDefault": {  
"type": "RANDOM_NUMBER",  
"lowLimit": 10,  
"highLimit": 100000  
}  
},  
{  
"field": "#/properties/DispatchStatus",  
"label": "DispatchStatus",  
"modelDefault": {  
"type": "RANDOM_STRING",  
"minLength": 10,  
"maxLength": 20,  
"numeric": false,  
"prefix": null,  
"suffix": null  
}  
},  
{  
"field": "#/properties/WorkCenterId",  
"label": "WorkCenterId",  
"modelDefault": {  
"type": "RANDOM_NUMBER",  
"lowLimit": 10,  
"highLimit": 100000  
}  
},  
{  
"field": "#/properties/WorkAreaId",  
"label": "WorkAreaId",  
"modelDefault": {  
"type": "RANDOM_NUMBER",
```

```
"lowLimit": 10,
"highLimit": 100000
},
{
"field": "#/properties/ResourceId",
"label": "ResourceId",
"modelDefault": {
"type": "RANDOM_NUMBER",
"lowLimit": 10,
"highLimit": 100000
}
},
{
"field": "#/properties/SubinventoryCode",
"label": "SubinventoryCode",
"modelDefault": {
"type": "RANDOM_STRING",
"minLength": 10,
"maxLength": 20,
"numeric": false,
"prefix": null,
"suffix": null
}
},
{
"field": "#/properties/LocatorId",
"label": "LocatorId",
"modelDefault": {
"type": "RANDOM_NUMBER",
"lowLimit": 10,
"highLimit": 100000
}
},
{
"field": "#/properties/LotNumber",
"label": "LotNumber",
"modelDefault": {
"type": "RANDOM_STRING",
"minLength": 10,
"maxLength": 20,
"numeric": false,
"prefix": null,
"suffix": null
}
},
{
"field": "#/properties/TransactionType",
"label": "TransactionType",
"modelDefault": {
"type": "RANDOM_STRING",
"minLength": 10,
"maxLength": 20,
"numeric": false,
"prefix": null,
"suffix": null
}
},
{
"field": "#/properties/SourceOrgId",
"label": "SourceOrgId",
"modelDefault": {
"type": "RANDOM_NUMBER",
"lowLimit": 10,
"highLimit": 100000
}
}
```

```

},
{
  "field": "#/properties/SupplierId",
  "label": "SupplierId",
  "modelDefault": {
    "type": "RANDOM_NUMBER",
    "lowLimit": 10,
    "highLimit": 100000
  }
},
{
  "field": "#/properties/SupplierSiteId",
  "label": "SupplierSiteId",
  "modelDefault": {
    "type": "RANDOM_NUMBER",
    "lowLimit": 10,
    "highLimit": 100000
  }
},
{
  "field": "#/properties/CustomerId",
  "label": "CustomerId",
  "modelDefault": {
    "type": "RANDOM_NUMBER",
    "lowLimit": 10,
    "highLimit": 100000
  }
},
{
  "field": "#/properties/DocType",
  "label": "DocType",
  "modelDefault": {
    "type": "RANDOM_STRING",
    "minLength": 10,
    "maxLength": 20,
    "numeric": false,
    "prefix": null,
    "suffix": null
  }
},
{
  "field": "#/properties/DocNumber",
  "label": "DocNumber",
  "modelDefault": {
    "type": "RANDOM_STRING",
    "minLength": 10,
    "maxLength": 20,
    "numeric": false,
    "prefix": null,
    "suffix": null
  }
},
{
  "field": "#/properties/DocLineNumber",
  "label": "DocLineNumber",
  "modelDefault": {
    "type": "RANDOM_NUMBER",
    "lowLimit": 10,
    "highLimit": 100000
  }
},
{
  "field": "#/properties/DocScheduleNumber",
  "label": "DocScheduleNumber",
  "modelDefault": {
    "type": "RANDOM_STRING",

```

```
"minLength": 10,
"maxLength": 20,
"numeric": false,
"prefix": null,
"suffix": null
},
{
"field": "#/properties/ReceiptNum",
"label": "ReceiptNum",
"modelDefault": {
"type": "RANDOM_STRING",
"minLength": 10,
"maxLength": 20,
"numeric": false,
"prefix": null,
"suffix": null
}
},
{
"field": "#/properties/ShipmentHeaderId",
"label": "ShipmentHeaderId",
"modelDefault": {
"type": "RANDOM_NUMBER",
"lowLimit": 10,
"highLimit": 100000
}
},
{
"field": "#/properties/ShipmentLineId",
"label": "ShipmentLineId",
"modelDefault": {
"type": "RANDOM_NUMBER",
"lowLimit": 10,
"highLimit": 100000
}
},
{
"field": "#/properties/SupplierLotNum",
"label": "SupplierLotNum",
"modelDefault": {
"type": "RANDOM_STRING",
"minLength": 10,
"maxLength": 20,
"numeric": false,
"prefix": null,
"suffix": null
}
},
{
"field": "#/properties/InterfaceTransactionId",
"label": "InterfaceTransactionId",
"modelDefault": {
"type": "RANDOM_NUMBER",
"lowLimit": 10,
"highLimit": 100000
}
},
{
"field": "#/properties/CreatedBy",
"label": "CreatedBy",
"modelDefault": {
"type": "RANDOM_STRING",
"minLength": 10,
"maxLength": 20,
"numeric": false,
```

```

    "prefix": null,
    "suffix": null
  },
  {
    "field": "#/properties/CreationDate",
    "label": "CreationDate",
    "modelDefault": {
      "type": "RANDOM_DATE",
      "value": "PAST"
    }
  }
],
"fixedValues": []
}

```

Define Presentation Template

Intelligent Track and Trace enables you to view the transaction source document data in an easy to read rich text format.

A presentation template defines the rich text view structure of the document using HTML tags. This template is then applied to every incoming document to generate a rich text view as defined in the HTML structure.

All the preseeded document types have a predefined presentation template. For any new document types, you should provide a presentation template definition to generate a rich text view of the source document.

To define a presentation template, you must have a basic understanding of HyperText Markup Language (HTML) and how to construct a basic HTML document using supported elements and attributes.

Presentation Template Structure

Presentation template has an HTML document structure. Intelligent Track and Trace currently supports a limited set of HTML elements listed in the following table.

Note: When you define a presentation template you must only use the HTML elements and attributes listed the following table.

Tag	Description
Block Elements	
<p>	Defines a paragraph.
<div>	Defines a section in a document
<h1> to <h6>	Defines HTML headings
	Defines an unordered list
	Defines an ordered list
	Defines a list item

Tag	Description
<blockquote>	Defines a section that is quoted from another source
Inline Elements	
<a>	Defines a hyperlink in a text or image format to link one page to another
Formatting Elements	
	Defines bold text
<i>	Defines a part of text in an alternate voice or mood
	Defines font, color, and size for text
<s>	Defines text that is no longer correct
<u>	Defines text that should be stylistically different from normal text
<sup>	Defines superscripted text
<sub>	Defines subscripted text
<ins>	Defines a text that has been inserted into a document
	Defines text that has been deleted from a document
	Defines important text
<strike>	Defines strikethrough text
<tt>	Defines teletype text
<code>	Defines a piece of code
<big>	Defines big text
<small>	Defines smaller text
 	Defines single line break
	Defines a section in a document
	Defines emphasized text
Table Elements	
<table>	Defines a table
<tr>	Defines a row in a table
<td>	Defines a cell in a table
<th>	Defines a header cell in a table

Tag	Description
<colgroup>	Specifies a group of one or more columns in a table for formatting
<caption>	Defines a table caption
<col>	Specifies column properties for each column within a <colgroup> element
<thead>	Groups the header content in a table
<tbody>	Groups the body content in a table
<tfoot>	Groups the footer content in a table
Style and Semantics Elements	
Flex layout	Provides complete control over the alignment, direction, order, and size of content.

Alongside the HTML tags, you can also use helper functions *About Handlebar Helpers* to define the presentation template.

Once the presentation template is defined, you can upload it to Intelligent Track and Trace by following the instructions provided in *Create a New Document Type*.

Usage Example

The following is a sample presentation template for a pre-seeded document type *PO ACK*. If you define a presentation template for your custom document types, you can refer to the presentation templates of any of the pre-seeded documents.

```

<!DOCTYPE html>
{{#*inline "bodyStyle"}}
background-color: rgba(255, 255, 255, 0.877);
padding: 5px;
{/inline}}

{{#*inline "tdStyle"}}
color: rgb(61,53,177);
font-size: 12px;
font-weight: bold;
padding-left: 10px;
{/inline}}

{{#*inline "thStyle"}}
color: rgb(8, 8, 8);
background-color: rgb(199, 199, 199);
text-align: left;
padding: 10px;
{/inline}}

{{#*inline "numberValueStyle"}}
padding-right: 10px;
{/inline}}

{{#*inline "valueStyle"}}
color: rgb(61,53,177);
font-size: 12px;
font-weight: bold;

```

```

padding-left: 5px;
font-family: monospace;
{/inline}}

{#{inline "labelStyle"}}
color: rgb(6, 2, 17);
font-size: 14px;
padding: 5px;
{/inline}}

<!-- Main container -->
<div style="{>bodyStyle}">
  <!-- Outermost container -->
  <div style="display: flex; flex-direction: column;">
    <!-- Titles container -->
    <div style="display: flex; flex-direction: row;">
      <div style="flex-grow: 3;">
        <span style="color: red; font-size: 20px;">Oracle</span>
      </div>
      <div style="flex-grow: 1; text-align: right;">
        <span style="color: rgb(43, 43, 46); font-size: 24px;">Order Confirmation</span>
      </div>
    </div>

    <!-- Main body container -->
    <div style="display: flex; flex-direction: row; justify-content: space-between;">
      <!-- Ship To -->
      <div style="display: flex; flex-direction: row; justify-content: right">
        <div style="min-height: 100px; border: 1px solid; border-radius: 10px; border-color:rgb(5, 2, 44); justify-content:center; width: 300px;">
          <div style="display: flex; {>labelStyle}">
            <div style="flex: 0 0 400px;">Ship To</div>
          </div>
          <div style="display: flex; {>valueStyle}">
            <div style="flex: 0 0 400px;">{{{document.result.shipToLocationName}}}</div>
          </div>
          <div style="display: flex; {>valueStyle}">
            <div style="flex: 0 0 400px;">{{{document.result.soldToLeAddressLine1}}}</div>
          </div>
          <div style="display: flex; {>valueStyle}">
            <div style="flex: 0 0 400px;">{{{document.result.soldToLeTownOrCity}}}
              {{{document.result.soldToLeStateProvn}}} {{{document.result.soldToLePostalCode}}}</div>
          </div>
        </div>

      <!-- Bill To -->
      <div style="display: flex; flex-direction: row; justify-content: right;">
        <div style="min-height: 100px; border: 1px solid; border-radius: 10px; border-color:rgb(5, 2, 44); justify-content:center; width: 300px;">
          <div style="display: flex; {>labelStyle}" ;>
            <div style="flex: 0 0 400px;">Bill To</div>
          </div>
          <div style="display: flex; {>valueStyle}" ;>
            <div style="flex: 0 0 400px;">{{{document.result.billToBuName}}}</div>
          </div>
          <div style="display: flex; {>valueStyle}">
            <div style="flex: 0 0 400px;">{{{document.result.soldToLeAddressLine1}}}</div>
          </div>
          <div style="display: flex; {>valueStyle}">
            <div style="flex: 0 0 400px;">
              {{{document.result.soldToLeTownOrCity}}} {{{document.result.soldToLeStateProvn}}}
              {{{document.result.soldToLePostalCode}}}</div>
          </div>
        </div>
      </div>
    </div>
  </div>
</div>

```

```

</div>

<!-- Document number and date -->
<div style="display: flex; flex-direction: row; justify-content: right;">
<div style="border: 1px solid; border-radius: 10px; border-color:rgb(5, 2, 44); justify-content:center;
width: 300px;">
<div style="display: flex;">
<div style="flex: 0 0 200px; {>labelStyle}">Order Date</div>
<div style="flex: 0 0 200px; {>valueStyle}">{{{document.result.poHeaderId}}}</div>
</div>
<div style="display: flex;">
<div style="flex: 0 0 200px; {>labelStyle}">Purchase Order Date</div>
<div style="flex: 0 0 200px; {>valueStyle}">{{{document.result.orderDateDisplay}}}</div>
</div>
<div style="display: flex;">
<div style="flex: 0 0 200px; {>labelStyle}">Customer Number</div>
<div style="flex: 0 0 200px; {>valueStyle}">{{{document.result.orderDateDisplay}}}</div>
</div>
<div style="display: flex;">
<div style="flex: 0 0 200px; {>labelStyle}">Buyer/Contact</div>
<div style="flex: 0 0 200px; {>valueStyle}">{{{document.result.orderDateDisplay}}}</div>
</div>
</div>
</div>
</div>

<!-- Header Container -->
<div style="display: flex; flex-direction:column; border: 1px solid; border-radius: 10px; border-
color:rgb(5, 2, 44); min-height: 90px; margin-top: 10px;">
<div style="text-align: center;">
<h1>ACKNOWLEDGEMENT AND ACCEPTANCE OF ORDER</h1>
</div>

<!-- Items container -->
<div style="display: flex; flex-direction:column; min-height: 90px;">
<table style="border-collapse: collapse;">
<thead>
<tr>
<th style="{>thStyle}">Quantity</th>
<th style="{>thStyle}">Description</th>
<th style="{>thStyle}">Item #</th>
<th style="{>thStyle}">Unit Price</th>
<th style="{>thStyle}">Unit</th>
<th style="{>thStyle}">Total</th>
</tr>
</thead>
<tbody>
{{{#each document.result.pdfDraftPurchaseOrderLine as |item n|}}
<tr>
<td style="{>tdStyle}">{{{item.itemNumber}}}</td>
<td style="{>tdStyle}">{{{item.itemDescription}}}</td>
<td style="{>tdStyle}" {>numberValueStyle}">{{{item.quantity}}}</td>
<td style="{>tdStyle}" {>numberValueStyle}">{{{item.uomCode}}}</td>
<td style="{>tdStyle}" {>numberValueStyle}">{{{item.unitPrice}}}</td>
<td style="{>tdStyle}" {>numberValueStyle}">{{{item.uomCode}}}</td>
<td style="{>tdStyle}" {>numberValueStyle}">{{{item.unitPrice}}}</td>
</tr>
{/each}}
</tbody>
</table>
</div>

<!-- Total line -->
<div style="display: flex; flex-direction: row; justify-content: right; margin-top: 5px;">
<div style="flex: 1 0 auto;"></div>

```

```
<div style="flex: 0 0 200px; border-top: 1px solid rgb(5, 2, 44); border-left: 1px solid rgb(5, 2, 44); justify-content:center;">
<div style="display: flex; align-content: space-between;">
<div style="{{>labelStyle}}flex: 1 0 50px; align-self: center;">Total</div>
<div style="{{>valueStyle}}flex: 1 0 auto; text-align: right; margin-right: 10px; align-self: center;">{{document.result.ordered}}</div>
</div>
<div style="display: flex;{{>valueStyle}}"></div>
</div>
</div>
</div>
</div>
</div>
</div>
```

Common Utility Helper Functions

As a founder admin, use the following helper functions to edit the presentation template of any pre-seeded or custom document type to generate the hyperlinks.

The rich text view of the transaction source document supports easy navigation to various data elements, such as serial-controlled, lot-controlled, or unassigned items, packages, and any other document associated to the business flow.

Name	Argument	Description	Mandatory (Yes/No)
itemUrl	Has two parameters with a value. lotNumber/serialNumber	Navigate to any specific item type (lot-controlled or serial-controlled).	Yes
itemTypeUrl	Has two parameters with a value. itemTypeCode, tpId	Navigate to any specific item type.	Yes
packageUrl	Has three parameters with a value. packageType, packageNumber, tpId	Navigate to a specific package.	Yes
documentUrl	Has a single parameter with a value. ledgerKey	Navigate to an associated document.	Yes

Note: If the item type code is not found in the submitter trading partner's list, the `whenMissing` attribute enables to reference the item type code of the founder's list. For example: `{{itemTypeUrl ItemTypeCode=shipmentLine.Item (lookupSubmitter) whenMissing='ignore' {{itemTypeUrl ItemTypeCode=shipmentLine.ItemNumber tpId=(lookupFounder)}}`

Usage Example

In the following sample, line numbers 155 to 158 shows the helper functions used to generate the hyperlinks to the items, packages, and document for a custom document type *Outbound Shipment*.

```
1 {{#inline "bodyStyle"}}
2 background-color: rgba(255, 255, 255, 0.877);
3 padding: 5px;
4 {{/inline}}
```

```

5
6 {#{*inline "tdStyle"}}
7 color: rgb(65,61,61);
8 font-size: 12px;
9 font-weight: bold;
10 padding-left: 10px;
11 {{/inline}}
12
13 {#{*inline "thStyle"}}
14 color: rgb(8, 8, 8);
15 background-color: rgb(199, 199, 199);
16 text-align: left;
17 padding: 10px;
18 {{/inline}}
19
20 {#{*inline "numberValueStyle"}}
21 padding-right: 10px;
22 {{/inline}}
23
24 {#{*inline "valueStyle"}}
25 color: rgb(44,43,43);
26 font-size: 12px;
27 font-weight: bold;
28 padding-left: 5px;
29 font-family: monospace;
30 {{/inline}}
31
32 {#{*inline "labelStyle"}}
33 color: rgb(6, 2, 17);
34 font-size: 14px;
35 padding: 5px;
36 {{/inline}}
37
38
39
40 <!-- Main container -->
41 <div style="{>bodyStyle}">
42 <!-- Outermost container -->
43 <div style="display: flex; flex-direction: column;">
44 <!-- Titles container -->
45 <div style="display: flex; flex-direction: row;">
46 <div style="flex-grow: 3;"><span style="color: red; font-size: 20px;">Oracle</span></div>
47 <div style="flex-grow: 1; text-align: right;">
48 <span style="color: rgb(43, 43, 46); font-size: 24px">Outbound Shipment</span>
49 </div>
50 </div>
51
52 <div style="display: flex; flex-direction: row; justify-content: space-between; margin-top: 10px;">
53 <!-- Ship To -->
54 <div style="display: flex; flex-direction: row; justify-content: right;">
55 <div
56 style="min-height: 200px; border: 1px solid; border-radius: 10px; border-color:rgb(5, 2, 44); justify-
57 content:center; width: 400px;"
58 >
59 <div style="display: flex;">
60 <div style="flex: 0 0 200px; {>labelStyle}">Shipment Number</div>
61 <div style="flex: 0 0 200px; {>valueStyle}">{{{document.Shipment}}}</div>
62 </div>
63 <div style="display: flex;">
64 <div style="flex: 0 0 200px; {>labelStyle}">Ship by</div>
65 <div style="flex: 0 0 200px; {>valueStyle}">{{{document.LatestPickupDate}}}</div>
66 </div>
67 <div style="display: flex;">
68 <div style="flex: 0 0 200px; {>labelStyle}">Shipping Type</div>
69 <div style="flex: 0 0 200px; {>valueStyle}">{{{document.ShippingMethod}}}</div>
70 </div>

```

```

70
71 <div style="display: flex; {>labelStyle}">
72 <div style="flex: 0 0 400px;">Shipped From</div>
73 </div>
74 <div style="display: flex; {>valueStyle}">
75 <div style="flex: 0 0 400px;">{{{document.ShipFromAddress1}}}</div>
76 </div>
77 <div style="display: flex; {>valueStyle}">
78 <div style="flex: 0 0 400px;">{{{document.ShipFromAddress2}}}</div>
79 </div>
80 <div style="display: flex; {>valueStyle}">
81 <div style="flex: 0 0 400px;">{{{document.ShipFromAddress3}}}</div>
82 </div>
83 <div style="display: flex; {>valueStyle}">
84 <div style="flex: 0 0 400px;">{{{document.ShipFromAddress4}}}</div>
85 </div>
86 <div style="display: flex; {>valueStyle}">
87 <div style="flex: 0 0 400px;">{{{document.ShipFromCity}}} {{{document.ShipFromState}}}
  {{{document.ShipFromPostalCode}}}</div>
88 </div>
89 </div>
90 </div>
91
92 <!-- Document number and date -->
93 <div style="display: flex; flex-direction: row; justify-content: right;">
94 <div
95 style="border: 1px solid; border-radius: 10px; border-color:rgb(5, 2, 44); justify-content:center; width:
  400px;"
96 >
97 <div style="display: flex;">
98 <div style="flex: 0 0 200px; {>labelStyle}">Ship Date</div>
99 <div style="flex: 0 0 200px; {>valueStyle}">{{{document.ActualShipDate}}}</div>
100 </div>
101 <div style="display: flex;">
102 <div style="flex: 0 0 200px; {>labelStyle}">Ship Mode</div>
103 <div style="flex: 0 0 200px; {>valueStyle}">{{{document.ModeOfTransport}}}</div>
104 </div>
105 <div style="display: flex; {>labelStyle}">
106 <div style="flex: 0 0 400px;">Shipped To</div>
107 </div>
108 <div style="display: flex; {>valueStyle}">
109 <div style="flex: 0 0 400px;">{{{document.ShipToAddress1}}}</div>
110 </div>
111 <div style="display: flex; {>valueStyle}">
112 <div style="flex: 0 0 400px;">{{{document.ShipToAddress2}}}</div>
113 </div>
114 <div style="display: flex; {>valueStyle}">
115 <div style="flex: 0 0 400px;">{{{document.ShipToAddress3}}}</div>
116 </div>
117 <div style="display: flex; {>valueStyle}">
118 <div style="flex: 0 0 400px;">{{{document.ShipToAddress4}}}</div>
119 </div>
120 <div style="display: flex; {>valueStyle}">
121 <div style="flex: 0 0 400px;">{{{document.ShipToCity}}} {{{document.ShipToState}}}
  {{{document.ShipToPostalCode}}}</div>
122 </div>
123 </div>
124 </div>
125 </div>
126
127 <!-- Header Container -->
128 <div
129 style="display: flex; flex-direction:column; border: 1px solid; border-radius: 0px; border-color:rgb(5,
  2, 44); min-height: 90px; margin-top: 10px;"
130 >
131

```

```

132 <!-- Items container -->
133 <div
134 style="display: flex; flex-direction:column; min-height: 90px;"
135 >
136 <table style="border-collapse: collapse;">
137 <thead>
138 <tr>
139 <th style="{{>thStyle}}">Line</th>
140 <th style="{{>thStyle}}">Order Number</th>
141 <th style="{{>thStyle}}">Item Number</th>
142 <th style="{{>thStyle}}">Item Description</th>
143 <th style="{{>thStyle}}">Lot</th>
144 <th style="{{>thStyle}}">Package</th>
145 <th style="{{>thStyle}}" text-align:right; padding-right: 10px;">Shipped Quantity</th>
146 <th style="{{>thStyle}}">UOM</th>
147 </tr>
148 </thead>
149 <tbody>
150 {{#each document.outerPackingUnits as |outerPackingUnit n1|}}
151 {{#each outerPackingUnit.innerPackingUnits as |innerPackingUnit|}}
152 {{#each innerPackingUnit.shipmentLines as |shipmentLine n|}}
153 <tr>
154 <td style="{{>tdStyle}}">{{shipmentLine.ShipmentLine}}</td>
155 <td style="{{>tdStyle}}"><a href={{documentUrl ledgerKey=(concat "PurchaseOrder:"
shipmentLine.PONumber)}}>{{shipmentLine.PONumber}}</a></td>
156 <td style="{{>tdStyle}}"><a href={{itemTypeUrl itemTypeCode=shipmentLine.Item
tpId=(lookupFounder)}}>{{shipmentLine.Item}}</a></td>
157 <td style="{{>tdStyle}}"><a href={{itemUrl lotNumber=shipmentLine.LotNumber control="LOT"
tpId=(lookupFounder)}}>{{shipmentLine.LotNumber}}</a></td>
158 <td style="{{>tdStyle}}"><a href={{packageUrl packageType=innerPackingUnit.ContainerItem
packageNumber=innerPackingUnit.LicensePlateNumber
tpId=(lookupFounder)}}>{{innerPackingUnit.LicensePlateNumber}}</a></td>
159 <td style="{{>tdStyle}}">{{shipmentLine.ItemDescription}}</td>
160 <td style="text-align:right; padding-right: 10px; {{>tdStyle}}
{{>numberValueStyle}}">{{shipmentLine.ShippedQuantity}}</td>
161 <td style="{{>tdStyle}}">{{shipmentLine.RequestedQuantityUOMCode}}</td>
162 </tr>
163 {{/each}}
164 {{/each}}
165
166 {{/each}}
167 </tbody>
168 </table>
169 </div>
170 </div>
171</div>

```

Show/Hide Transaction Data

For a business use case, you may want your trading partner users to view transaction data conditionally, received during document submission. As a founder admin, you can modify document presentation template to show or hide the source transaction data by using the following attribute values.

- Current logged in user
- Access permissions
- Business identifiers

Usage Example

The handlebar attributes from line 182 to line 207 in the following *Purchase Order Fusion* sample document are used to retrieve the current user data.

In line 208, the conditional statement checks the current user type, such as founder or trading partner user.

```
40 <html>
41 <title>Purchase Order</title>
42
43 <body>
44 <!-- Main container -->
45 <div style="{>bodyStyle}">
46 <!-- Outermost container -->
47 <div style="display: flex; flex-direction: column;">
48 <!-- Titles container -->
49 <div style="display: flex; flex-direction: row;">
50 <div style="flex-grow: 3;"><span style="color: red; font-size: 20px;">Oracle</span></div>
51 <div style="flex-grow: 1; text-align: right;">
52 <span style="color: rgb(43, 43, 46); font-size: 24px">Purchase Order</span>
53 </div>
54 </div>
55
56 <!-- Document number and date -->
57 <div style="display: flex; flex-direction: row; justify-content: right; margin-top: 50px;">
58 <div style="flex: 1 0 auto;"></div>
59 <div
60 style="flex: 0 0 420px; border: 1px solid; border-radius: 10px; border-color:rgb(5, 2, 44); justify-
content:center;"
61 >
62 <div style="display: flex; {> labelStyle}">
63 <div style="flex: 0 0 200px;">Order Number</div>
64 <div style="flex: 0 0 200px;">Order Date</div>
65 </div>
66 <div style="display: flex; {>valueStyle}">
67 <div style="flex: 0 0 200px;">{{{document.result.poHeaderId}}}</div>
68 <div style="flex: 0 0 200px;">{{{document.result.orderDateDisplay}}}</div>
69 </div>
70 </div>
71 </div>
72
73 <!-- Vendor, Ship To -->
74 <div style="display: flex; flex-direction: row; justify-content: right; margin-top: 5px;">
75 <div style="flex: 1 0 auto;">
76 <span style="{> labelStyle}">Vendor</span>
77 <div style="{>valueStyle}">{{{document.result.supplierPartyDisplayedName}}}</div>
78 <div style="{>valueStyle}">{{{document.result.supplierSiteAddress1}}}</div>
79 <div style="{>valueStyle}">{{{document.result.supplierSiteAddress2}}}</div>
80 <div style="{>valueStyle}">{{{document.result.supplierSiteCity}}}</div>
81 <div style="{>valueStyle}">{{{document.result.supplierSiteState}}}
{{{document.result.supplierSitePostalCode}}}</div>
82 <div style="{>valueStyle}">{{{document.result.supplierSiteCountry}}}</div>
83 </div>
84 <div
85 style="flex: 0 0 420px; min-height: 100px; border: 1px solid; border-radius: 10px; border-color:rgb(5, 2,
44); justify-content:center;"
86 >
87 <div style="display: flex; {> labelStyle}">
88 <div style="flex: 0 0 400px;">Ship To</div>
89 </div>
90 <div style="display: flex; {>valueStyle}">
91 <div style="flex: 0 0 400px;">{{{document.result.shipToLocationName}}}</div>
92 </div>
93 <div style="display: flex; {>valueStyle}">
94 <div style="flex: 0 0 400px;">{{{document.result.soldToLeAddressLine1}}}</div>
95 </div>
96 <div style="display: flex; {>valueStyle}">
97 <div style="flex: 0 0 400px;">{{{document.result.soldToLeTownOrCity}}}
{{{document.result.soldToLeStateProvn}}} {{{document.result.soldToLePostalCode}}}</div>
```

```

98 </div>
99 </div>
100 </div>
101
102 <!-- Bill To -->
103 <div style="display: flex; flex-direction: row; justify-content: right; margin-top: 5px;">
104 <div style="flex: 1 0 auto;"></div>
105 <div
106 style="flex: 0 0 420px; min-height: 100px; border: 1px solid; border-radius: 10px; border-color:rgb(5,
  2, 44); justify-content:center;"
107 >
108 <div style="display: flex; {> labelStyle}" ;>
109 <div style="flex: 0 0 400px;">Bill To</div></div>
110 <div style="display: flex; {> valueStyle}" ;>
111 <div style="flex: 0 0 400px;">{{{document.result.billToBuName}}}</div>
112 </div>
113 <div style="display: flex; {> valueStyle}">
114 <div style="flex: 0 0 400px;">{{{document.result.billToLocAddressLine1}}}</div>
115 </div>
116 <div style="display: flex; {> valueStyle}">
117 <div style="flex: 0 0 400px;">{{{document.result.billToLocTownOrCity}}}
  {{{document.result.billToLocStateProvn}}} {{{document.result.billToLocPostalCode}}}</div>
118 </div>
119 </div>
120 </div>
121
122 <!-- Header Container -->
123 <div
124 style="display: flex; flex-direction:column; border: 1px solid; border-radius: 10px; border-color:rgb(5,
  2, 44); min-height: 90px; margin-top: 5px;"
125 >
126 <!-- First row -->
127 <div style="display: flex; flex-direction: row; min-height: 30px;">
128 <div
129 style="flex-direction: column; border-bottom: 1px solid; border-right: 1px solid; border-color:rgb(5, 2,
  44); flex: 1 0 200px;"
130 >
131 <div style="flex: 1 0 auto;"><span style="{> labelStyle}">Procurement BusinessUnit</span></div>
132 <div style="flex: 1 0 auto;"><span style="{> valueStyle}">{{{document.result.procurementBuName}}}</
span></div>
133 </div>
134 <div
135 style="flex-direction: column; border-bottom: 1px solid; border-right: 1px solid; border-color:rgb(5, 2,
  44); flex: 1 0 200px;"
136 >
137 <div style="flex: 1 0 auto;"><span style="{> labelStyle}">BusinessUnit</span></div>
138 <div style="flex: 1 0 auto;"><span style="{> valueStyle}">{{{document.result.billToBuName}}}</span></
div>
139 </div>
140 <div style="flex-direction: column; border-bottom: 1px solid; border-color:rgb(5, 2, 44); flex: 1 0
  200px;">
141 <div style="flex: 1 0 auto;"><span style="{> labelStyle}">Order Type</span></div>
142 <div style="flex: 1 0 auto;"><span style="{> valueStyle}">{{{document.result.typeLookupCode}}}</span></
div>
143 </div>
144 </div>
145 <!-- second row -->
146 <div style="display: flex; flex-direction: row; min-height: 30px;">
147 <div
148 style="flex-direction: column; border-right: 1px solid; border-bottom: 1px solid; border-color:rgb(5, 2,
  44); flex: 1 0 200px;"
149 >
150 <div style="flex: 1 0 auto;"><span style="{> labelStyle}">FOB</span></div>
151 <div style="flex: 1 0 auto;"><span style="{> valueStyle}">{{{document.result.fobDescription}}}</span></
div>
152 </div>

```



```
209 <!-- Items container -->
210 <div
211 style="display: flex; flex-direction:column; border: 1px solid; border-radius: 10px; border-color:rgb(5,
2, 44); min-height: 90px; margin-top: 5px;"
212 >
213 <table>
214 <thead>
215 <tr>
216 <th style="{{>thStyle}}">Item</th>
217 <th style="{{>thStyle}}">Description</th>
218 <th style="{{>thStyle}} {{> numberValueStyle}}">Quantity</th>
219 <th style="{{>thStyle}}">Unit</th>
220 <th style="{{>thStyle}} {{> numberValueStyle}}">Price</th>
221 </tr>
222 </thead>
223 <tbody>
224 {{#each document.result.pdfDraftPurchaseOrderLine as |item n|}}
225 <tr>
226 <td style="{{>tdStyle}}">{{item.itemNumber}}</td>
227 <td style="{{>tdStyle}}">{{item.itemDescription}}</td>
228 <td style="{{>tdStyle}} {{>numberValueStyle}}">{{item.quantity}}</td>
229 <td style="{{>tdStyle}}">{{item.uomCode}}</td>
230 <td style="{{>tdStyle}} {{>numberValueStyle}}">{{item.unitPrice}}</td>
231 </tr>
232 {{/each}}
233 </tbody>
234 </table>
235 </div>
236{{/if}}
237 <!-- Total line -->
238 <div style="display: flex; flex-direction: row; justify-content: right; margin-top: 5px;">
239 <div style="flex: 1 0 auto;"></div>
240 <div
241 style="flex: 0 0 200px; border: 1px solid; border-radius: 10px; border-color:rgb(5, 2, 44); justify-
content:center;"
242 >
243 <div style="display: flex; align-content:space-between;">
244 <div style="{{> labelStyle}}flex: 1 0 50px; align-self: center;">Total</div>
245 <div style="{{>valueStyle}}flex: 1 0 auto; text-align: right; margin-right: 10px; align-self:
center;">{{document.result.ordered}}</div>
246 </div>
247 <div style="display: flex;{{>valueStyle}}">
248
249 </div>
250 </div>
251 </div>
252 </div>
253
254 </div>
255 </body>
256</html>
```

In the following image, the `user.tradingPartner.type` attribute value is `FOUNDER`, so all the transaction attributes are viewable to the founder user.

Oracle

Purchase Or

Vendor
Delta Distributor

Order Number	Order Date
GDPO-VAC-2021-0290001	2021-02-04T10:00:00Z

Ship To
Vaccines Procurement

Bill To
Vaccines Procurement
Falls Church

Procurement BusinessUnit Vaccines Procurement	Requisitioning BusinessUnit	Order Type
FOB Destination	Freight Terms Collect	Carrier Speedy Carrier
Payment Terms Net 60	Reference # SVNPO-20210205-012	Currency

User Property	Value
user.name	tntsql_ww+founder1@oracle.com
user.tradingPartner.name	amcus01_test
user.tradingPartner.type	FOUNDER

Item	Description	Quantity	Unit	Price
VP-1-2001	Single-Dose Flu Vaccine	2000	EA	
PPE-M-12001	N95 Respirator	500	EA	
PPE-FG-400110033022	Fluid Resistant Gowns	500	EA	

In following image, the `user.tradingPartner.type` attribute value is ENDORSER, so no transaction attributes are available for viewing for the endorser.

Oracle

Purchase O

Vendor
Delta Distributor

Order Number	Order Date
GDPO-VAC-2021-0290001	2021-02-04T10:00:00Z

Ship To
Vaccines Procurement

Bill To
Vaccines Procurement
Falls Church

Procurement BusinessUnit Vaccines Procurement	Requisitioning BusinessUnit	Order Type
FOB Destination	Freight Terms Collect	Carrier Speedy Carrier
Payment Terms Net 60	Reference # SVNPO-20210205-012	Currency

User Property	Value
user.name	sidhkid@gmail.com
user.tradingPartner.name	125
user.tradingPartner.type	ENDORSER

Total

