# JD Edwards EnterpriseOne Tools

## Notifications Guide

9.2

JD Edwards EnterpriseOne Tools
Notifications Guide

9.2

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# Preface

# 1 Understanding JD Edwards EnterpriseOne Notifications

## Welcome

Welcome to the *JD Edwards EnterpriseOne Tools Notifications Guide* . This guide has been updated for JD Edwards EnterpriseOne Tools Releases 9.2.2.1, 9.2.2.4, 9.2.3, 9.2.3.2, 9.2.3.3, 9.2.4, 9.2.6, 9.2.7.4, 9.2.8, and 9.2.8.3.

**Audience**

This guide is intended for business analysts or project managers responsible for designing notifications for use with JD Edwards EnterpriseOne.

## Overview

JD Edwards EnterpriseOne Notifications enable you to improve your business efficiency through the use of proactive notifications that are actionable. Proactive notifications enable the system to notify users of business events as they happen without the need for the user to be online.

As a notification designer, you decide and implement the notifications that provide pertinent business information to your users. Users can then choose to subscribe to available notifications and receive updates within EnterpriseOne, as browser pop-up messages, through the Work Center, by email, or by email to SMS (Short Message Service).

Starting with Release 9.2.3, users can also view these messages in the Message Center and on the My Worklist page. See *"Message Center"* in the *JD Edwards EnterpriseOne Tools Foundation Guide* for more information.

By creating notifications that are valuable to your subscribers, you enable them to know when key transactions or events occur without even having to log into EnterpriseOne. This close monitoring helps them respond quickly and perform their jobs more efficiently.

With the JD Edwards EnterpriseOne Orchestrator Studio, you can devise processes called notifications that enable the transformation of data into actionable business processes in JD Edwards EnterpriseOne. For example, you can create notifications that enable EnterpriseOne to:

- Alert users to a required activity.
- Alert users when a Watchlist threshold has been surpassed.
- Broadcast an informational message to users.

Notifications that you create in the Orchestrator Studio are saved to EnterpriseOne. The JD Edwards EnterpriseOne Orchestrator then processes the notifications based on how often you schedule them to run and sends notification messages to subscribers.

# How It Works

Notifications use inputs, such as counts from Watchlists or data collected through orchestrations, and apply rules to decide whether a notification message should be dispatched to subscribers. You define what these inputs are, assign them default values if necessary, or allow subscribers to override the inputs so that they can receive notifications more specific to their needs. For example, you might have a notification for when a customer exceeds their credit limit and you allow subscribers to identify specific customers that they want to monitor.

You can use variables and shortcuts in the notification message to give the subscriber more specific information and direct access to an application, enabling the subscriber to respond to the information quickly.

As you create a notification, you define whether it should be unique for each subscriber or if one uniform message to all subscribers meets your business needs.

You can create three types of notifications based on what you are trying to accomplish. The Orchestrator Studio is the tool that you use to create all three types of notifications:

- **Simple Notification**. A simple notification provides a way to send reminders or updates and include shortcuts to applications in a notification message. This type of message is not dependent on any business event tied to the data in JD Edwards EnterpriseOne.
- **Watchlist-based Notification**. A notification based on a Watchlist enables you to use existing Watchlists to send notification messages that include threshold levels, counts, and application shortcuts to subscribers.
- **Orchestration-based Notification**. A notification based on an orchestration enables you to use all of the functionality available in an orchestration and proactively deliver the data to subscribers in a notification message.

  You can also create a notification step within an orchestration.

  See the *JD Edwards EnterpriseOne Tools Orchestrator Guide* for more information on orchestrations and notification steps in an orchestration.

# Using Schedules

A schedule defines how often the system executes a notification. You can define a schedule using minutes, hours, days, or a Cron string (for example, every Tuesday at 2:00 pm). The schedule is then attached to a notification to determine how often the notification runs. You can attach the same schedule to multiple notifications.

As a notification designer you can assign your notifications to existing schedules by picking a schedule from the drop-down list. You may also have privileges to create new schedules, in which case the **New Schedule** button will be active for you. Schedules are managed as User Defined Objects (UDOs), so you can publish and share your schedules for others to use, and you can use schedules that others have published.

The task of starting, stopping, and managing the scheduler itself is a system administrator task. The scheduler runs as a process on the Application Interface Services (AIS) server. The scheduler is managed using a set of REST APIs, which are documented with all other JD Edwards REST APIs:

*JD Edwards EnterpriseOne Tools REST API for the Application Interface Services Server Guide Guide*

# 2 Getting Started

## Certifications(Formerly Known as Minimum Technical Requirements)

Customers must conform to the supported platforms for the release, which can be found in the Certifications tab on My Oracle Support: *https://support.oracle.com*. Specifically for the EnterpriseOne Orchestrator, refer to the certifications for the JD Edwards EnterpriseOne AIS Server product. For certifications for the Orchestrator Studio, refer to the JD Edwards EnterpriseOne ADF Foundation product.

For more information about JD Edwards EnterpriseOne Minimum Technical Requirements, see the following document on My Oracle Support: JD Edwards EnterpriseOne Minimum Technical Requirements Reference (Doc ID 745831.1), which is available here:

*https://support.oracle.com/rs?type=doc&id=745831.1*

## Prerequisites

Complete the following prerequisites:

- You must be running a minimum of EnterpriseOne Tools Release 9.2.4 and apply any required ESUs for EnterpriseOne 9.2 as described on My Oracle Support.

  Always apply the latest EnterpriseOne Tools software update to be able to use the latest available features.
- Deploy an Application Interface Services (AIS) Server.

  You can use an existing AIS Server or deploy a new AIS Server instance through Server Manager for the sole purpose of running orchestrations. It is recommended that you set up two AIS Server instances for an Orchestrator configuration, one for testing notifications and one for production. See *"Create an Application Interface Services (AIS) Server as a New Managed Instance"* topic in the *JD Edwards EnterpriseOne Tools Server Manager Guide* .

  For an AIS Server deployed on Oracle WebLogic Server, there is an additional required configuration that enables the Orchestrator Client (the tool for testing orchestrations) to run properly. See *"Configuring Oracle WebLogic Server Domain for HTTP Basic Authentication"* topic in the *JD Edwards EnterpriseOne Application Interface Services Server Reference Guide* .
- Deploy the JD Edwards EnterpriseOne Orchestrator Studio 9.2.4. See *"Getting Started"* topic in the *JD Edwards EnterpriseOne Tools Orchestrator Guide* for details on the latest release. (Release 9.2.4.0)

  For the previous versions of the Orchestrator Studio, download the Orchestrator components from the Update Center on My Oracle Support: https://updatecenter.oracle.com/. See *"Setting Up the Orchestrator Studio"* topic in the *JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior* for details.
- Ensure that the Notifications feature is enabled and that all related UDO security is set up properly.

  For more information, see:

  - *"Managing UDO Feature Security"* topic in the *JD Edwards EnterpriseOne Tools Security Administration Guide*
  - *"Define Allowed Actions for UDO Types"* topic in the *JD Edwards EnterpriseOne Tools Security Administration Guide*
  - *"Setting up UDO Security for Orchestrator Studio Users"* topic in the *JD Edwards EnterpriseOne Tools Orchestrator Guide*

- Ensure that the EnterpriseOne HTML Server and AIS Server keystores are set so that both are either using the demo keystore or using the same certificate.

  If you want to configure your own keystore, see *"Configuring EnterpriseOne HTML Server for JSON Web Token (JWT) (Release 9.2.3.2)"* or *"Configuring EnterpriseOne HTML Server for JSON Web Token (JWT) (Release 9.2.0.5)"* topic in the *JD Edwards EnterpriseOne Tools Security Administration Guide*

- Ensure that the HTML Server is configured as a trusted node for the Security Server. This is necessary if you plan to use the "Run As Subscriber" functionality with your notifications.

  See *"Setting Up JD Edwards EnterpriseOne Single Sign-On Overview"* topic in the *JD Edwards EnterpriseOne Tools Security Administration Guide*

- Ensure that shortcuts are enabled for the default HTML Server so that any shortcuts emailed in notification messages function properly.

  For more information, see:

  - *"Configuring Shortcuts"* topic in the *JD Edwards EnterpriseOne Tools Workflow Tools Guide*
  - *"Defining Shortcut Links"* topic in the *JD Edwards EnterpriseOne Tools Workflow Tools Guide*

- Update the Enterprise Server Email (SMTP) Configuration to ensure that email functions properly.

  See *"Updating the JDE.ini file on the Workstation and the Enterprise Server"* topic in the *JD Edwards EnterpriseOne Tools Workflow Tools Guide*

- If allowing subscribers to specify email addresses as a delivery method in Subscription Manager, ensure that the setting in Server Manager specifies this. To do so, go to the **Notifications** section of Server Manager configuration settings, and make sure that the **Allowed External Delivery Methods** setting contains the value "email." This is the default value for this setting. (Release 9.2.2.1)

# Installing Delivered Notification Content (Release 9.2.2.4)

Many notifications have been created and delivered for your use via UDOs. Each system has its own set of notifications that can be downloaded from the Update Center or by using Change Assistant. For a complete list of available notifications, along with additional information about them, see the JD Edwards EnterpriseOne Delivered Notifications document (2365066.1) on My Oracle Support. It can be accessed here:

***https://support.oracle.com/epmos/faces/DocumentDisplay?id=2365066.1***

# Test the Orchestrator Studio Implementation for Notifications

To test the Orchestrator Studio implementation for notifications, you can create and run a simple notification to ensure that everything is working correctly. This section walks you through creating a very simple notification to test your set up.

To test the Orchestrator Studio implementation for notifications:

1. Sign on to Orchestrator Studio.
2. Click the **Notifications** icon.
3. Click the **New** button on the side panel, if you are using the Orchestrator Studio 9.2.4.

   If you are using the previous version of the Orchestrator Studio, click the New Notification button.
4. Give the new Notification a name (such as Test Notification).
5. Leave the Notification Type as "Simple."
6. Click the triangle to open the Message section of the Notification design page.
7. Type a subject and a body for the notification.
8. Click the **Save** icon.
9. Click the **Tools** link.
10. Click the **JD Edwards EnterpriseOne** icon to launch the EnterpriseOne web client in a new browser tab.
11. Sign on to EnterpriseOne using the same user ID you used to sign on to Orchestrator Studio.
12. Click the drop-down list under the user ID in the upper-right hand corner and choose **My Subscriptions**.
13. Click **Add Subscription** and choose the notification you created in the Orchestrator Studio.
14. Click the **Save** icon.
15. Return to the Orchestrator Studio browser tab.
16. Click the Notification link in the top-left corner and return to the notification you created.
17. Click the **Test** button.
18. Click the switch to Dispatch Notifications.
19. Click the **Execute** button.

    You should receive a response that looks like this:

    ```
    {
      "success": true,
      "received": false
    }
    ```
20. Go back to the browser tab with your EnterpriseOne web client session.
21. Click the **X** button to close the Subscription Manager form.
22. In the EnterpriseOne menu bar, click the Notification List (bell) icon to open the notification list. Verify that you received the notification you created.

# Set Up Security for Notification Designers Using Orchestrator Studio

Notification designers will use the Orchestrator Studio to build and test notifications. After setting up the Orchestrator Studio and testing the Orchestrator implementation, you need to set up security to grant notification designers access to the Orchestrator Studio design pages and features. See *"Administering the Orchestrator Studio and Orchestrations" in the JD Edwards EnterpriseOne Tools Orchestrator Guide* for more information.

# Tuning Your Configuration (Release 9.2.2.4)

After you have your notifications up and running, you may want to revisit some of the configuration settings to ensure that you are using the best setup for your organization.

## Roles and Purging User Cache

Depending on how often role assignments change or how often users join and leave your organization, you should consider adjusting the User Cache Purge Interval in the Notifications section of the Server Manager configuration settings. The default value is 1440 minutes (24 hours).

If users are not seeing their changes, this could mean that role or enabled user changes are not in effect because this value is set too high and there is too much time between user cache purges.

If users are experiencing delays in receiving their notifications, this could be due to the value for this setting being too low and the system's resources being consumed by too many user cache refreshes.

## Discrepancy in Results Between Notification Messages and Applications or Watchlists

If users are seeing a different number of records in their notification message than in the associated application or Watchlist, this could be the result of the notification being run as a proxy user rather than as the subscriber. In other words, the notification designer did not enable the **Run as Subscriber** option when creating the notification. If the data security settings differ between the proxy user (the person who started the notification job on the AIS Server) and the subscriber, this discrepancy can occur. If you decide not to use the **Run As Subscriber** option for a particular notification, consider any security implications and data discrepancies. Although running as a proxy user may improve performance, it can also create discrepancies in results. Because each notification is unique to your organization, you must decide what is appropriate on a case-by-case basis.

# 3 Designing a Notification

## Understanding the Notification Design Process

You might already have a business process that involves notifying users when an event has occurred, or you might have a business process in EnterpriseOne that involves Watchlists that provide alerts to users. Now you want to take the next step and improve your business efficiency by proactively sending the information to users anytime and anywhere. Notifications allow JD Edwards EnterpriseOne to be a proactive system and accelerate the time to complete business processes by setting notifications to run on a predefined schedule and send messages to subscribers via work center, email, text messages, or browser pop-up messages.

Before you can create a notification, you need to perform an analysis to:

- Identify the problem and the solution.
- Identify the type of notification you need for the information you want to share.
- Provide the ability for users to enter inputs to further define what they want to see.
- Identify what type of schedule makes sense.
- Name the notifications so subscribers easily understand what they provide and how often.

You can use a simple worksheet for your analysis or you could use a storyboard, flow chart, or a combination of methods depending on the complexity of your notification. Use the information captured from your analysis to configure notifications in the Orchestrator Studio as described in *Creating Notifications with Orchestrator Studio 9.2.4 (Release 9.2.4.0)*.

## Identifying the Problem and Solution

Begin the analysis by identifying what condition or event will trigger the notification, what information the subscriber should see in the message, and optionally, which JD Edwards application the subscriber should launch to take action.

**Example: Company A's Problem and Solution**

**Problem**

Some of Company A's employees have been forgetting to enter their work hours or entering them late.

**Solution**

Company A's manager wants to schedule a notification message to be sent each Friday to hourly employees to remind them to enter their hours. The manager can create a notification:

- Use a simple notification and define the notification message text to remind users to enter their time.
- Add a shortcut to the time entry application from the notification message.
- Allow employees to subscribe to that notification message if they need a reminder.

**Example: Company B's Problem and Solution**

**Problem**

During Month End Close the accounting managers at Company B must be available at all times to approve month-end adjustment entries that are being made by many different groups. They need to be notified whenever there are batches awaiting approval, even while they are away from their desks or away from the office. Today, Watchlists serve this purpose well, but the accounting managers must be logged into EnterpriseOne to see the Watchlist. Receiving an e-mail or text message on their mobile device will enable them to be away from their desk and still perform their jobs.

**Solution**

Company B wants to design a notification that will send the information to the accounting managers even if they are not currently signed into EnterpriseOne. Company B can create a notification:

- Use a Watchlist type notification and define the notification message text to explain that there are batches needing review and approval.
- Add a shortcut to the Work with Batches application from the notification message.
- Allow the accounting managers to subscribe to the notification and select the email delivery option.

**Example: Company C's Problem and Solution**

**Problem**

Company C often orders items from its suppliers that are important, expensive, or critical to business processes. For example, an asset manager might order an expensive piece of equipment, or a maintenance manager might be waiting for a part to complete a repair. These individuals want to be notified quickly and proactively when their order is at a status of "Received."

**Solution**

Company C wants to design a notification based on an orchestration that uses the purchase order number as input and finds its status. The asset manager or maintenance manager subscribing to the notification is notified when that purchase order is at a status of "Received."

- Build the notification based on an orchestration that uses purchase order number as an input. The orchestration then performs a data request to a JD Edwards table to filter on that purchase order number and return the status of the purchase order.
- The notification includes message text that informs the subscriber that their purchase order is received. Because the input to the notification is a variable, anybody who knows a purchase order number can subscribe to the same notification and get notified about that particular purchase order.

# Planning for "Run As Subscriber" and "Allowing Subscriber Overrides"

What types of inputs will be used by your notification? Do you expect that one message sent to all subscribers will meet your needs? Or do you need to take into account different business centers or other factors that might affect the content of the message? Do your subscribers need the ability to override inputs so that they have more control over when they receive notification messages? All of these answers impact whether you want to use the **Allow Subscriber Overrides** option for your notification.

The second consideration is security, data source access, and performance. The **Run As Subscriber** option enables you to run a notification individually for each subscriber using that subscriber's security settings. If you have the **Run As Subscriber** option off, the system uses a proxy user, the same user that starts the scheduled notification, instead. This

second option provides lower overhead and improves performance. It is recommended if you do not have any security concerns for the data included in the notification.

**Example: Company A's Input Analysis**

Company A is sending a reminder message for time entry. Time entry is due at the same time for everyone and all employees use the same time entry system, so running the notification once and sending the same message to all subscribers will suffice.

For this notification, you can turn off the option to "Run As Subscriber." No inputs are required.

**Example: Company B's Input Analysis**

Company B is using a notification based on a Watchlist for batches of month-end adjustment entries needing approval. As a notification designer, you want to make sure that the appropriate accounting managers receive the notification and shortcut to the approval application, so you will run the notification separately for each subscriber and based on the subscriber's security settings.

For this notification, turn on the option to "Run As Subscriber" so that the notification is run separately for each subscribing accounting manager using that subscriber's user security settings. This notification does not require an input.

**Example: Company C's Input Analysis**

Because Company C wants to use a single notification for any purchase order, the purchase order number is defined as an input to the notification. Since different subscribers will input different purchase order numbers, you want to give the subscriber the ability to specify which purchase order they are interested in. However, whether you want to run this notification separately for each subscriber or use a proxy user depends on the sensitivity of the data and your security settings.

This last example can have two scenarios:

- Purchase orders are highly sensitive and the subscribing asset or maintenance managers are secured out of all orders except their own.

  In this case, turn on the option to "Run As Subscriber" so that the notification is run separately for each subscriber, thus avoiding any security concerns. Also, turn on the option to "Allow Overrides" and add an input for the "Purchase Order Number" so that the subscriber can override this input value in Subscription Manager. When they set up their subscription they can specify the purchase order they want to track.

- All subscribing asset and maintenance managers have access to the same purchase orders.

  For this second scenario, turn off the option to "Run As Subscriber" so that the notification is run as the proxy user, preferably a user that has the same security access as the asset/maintenance managers. For this use case, running with Run as Subscriber = OFF is preferable, if security is not a concern, because the notification has to run just once for everybody instead of once for each individual subscriber, while the subscribers can still get personalized results. Turn on the option to "Allow Overrides" and add an input for the "Purchase Order Number" so that the subscriber can override this input value in Subscription Manager. When they set up their subscription they can specify the purchase order they want to track.

# Identifying What Type of Schedule Makes Sense

**Example: Company A's Schedule Analysis**

Company A's manager has decided that he would like his time entry reminder to be sent every Friday. Find a schedule that reflects this time frame or create a new schedule. You can also use a Cron string to schedule the notification to run at a certain time every Friday.

**Example: Company B's Schedule Analysis**

Company B wants to be sure the adjusting entries are reviewed and approved as quickly as possible. The notification designer determines that the notification should be run every 15 minutes during the month end time frame starting at 7:00 am and ending at 8:00 pm. In this case, a schedule created using a Cron string is most appropriate.

**Example: Company C's Schedule Analysis**

The subscribers to Company C's purchase order notification want to be informed promptly when their item is received, but the information is not extremely time-critical. Set the purchase order notification to run every four hours so that subscribers get reasonably prompt notification without unnecessary processing load on the system.

See *Creating Schedules*, for more information on creating schedules.

# Naming Notifications for Subscribers' Ease of Use

As a notification designer, you should always keep your end users/subscribers in mind. You want to make sure that you are getting the right information to the right people. Subscribers want to know the notification's purpose and how often it runs before they subscribe to it. Be sure to include explicit information regarding the notification functionality and schedule in your notification name and in the notification description fields when you create your notifications. For example, instead of naming your notification "Time Card" you might name it "Weekly reminder: Update your time card."

# 4 Creating Notifications with Orchestrator Studio 9.2.4 (Release 9.2.4.0)

## Understanding Notifications and Orchestrator Studio

> **Note:** This chapter has been updated in support of Orchestrator Studio 9.2.4. The features related to this release are notated with the release number. Orchestrator Studio 9.2.4 is the latest version which requires a minimum of EnterpriseOne Tools 9.2.4.0. If you have not installed Orchestrator Studio 9.2.4, see *"Getting Stated" in the JD Edwards EnterpriseOne Tools Orchestrator Guide* . Instructions for using prior versions of the Orchestrator Studio are in the appendices of this guide.

Just like all other orchestration components, notifications and schedules:

- Are created using Orchestrator Studio design pages, which have the standard design page features.
- Are reusable components.
- Are saved and managed as user defined objects (UDOs) in EnterpriseOne.
- Utilize the standard UDO life cycle features (for example, can be published or shared).

For more information, see:

- *"Understanding the Orchestrator Studio and Orchestrations"* in the *JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior .*
- *"Navigating the Orchestrator Studio"* in the *JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior* .

You can use the Orchestrator Studio to create the following components related to notifications:

- **Notifications**. A notification is an object that enables the system to notify users of business events as they happen without the need for the user to be online. You can specify that the notification execute a Watchlist or an orchestration. You define what the notification message looks like and whether it includes a shortcut to an application. You can also attach report output from an EnterpriseOne report or BI Publisher report, and you can link to an orchestration, notification, or URL. You attach the schedule for when it runs, and any rules that must be met to send the notification message.
- **Schedules**. A schedule defines how often the system runs a particular job. A schedule consists of a time interval in minutes, hours, or days, or a Cron string. A schedule can be attached to multiple notifications or orchestrations to determine how often they run. The scheduler runs as a process on the Application Interface Services (AIS) server and is managed using a set of REST APIs.
- **Orchestrations**. An orchestration is a high-level object that provides a unique name for an orchestration process. The orchestration is where you define the inputs for the orchestration, the expected incoming data. It also includes orchestration steps, which are invocations to the other components. When the Orchestrator invokes an orchestration, it processes the steps defined in the orchestration to enable the transfer of data within EnterpriseOne or between third-party sources and EnterpriseOne.
- **Rules**. A rule on a notification is used to determine whether the message is dispatched to the subscribers. The rule must evaluate to true in order for the message to be dispatched. If there is no rule specified, the message is always dispatched.

# Accessing the Orchestrator Studio

The Orchestrator Studio is a web application that runs in a web browser. Ask your system administrator for the URL to the Orchestrator Studio.

> **Note:** Before users can access the Orchestrator Studio, an administrator must set up security to authorize access to the Orchestrator Studio and determine the actions Orchestrator Studio users can perform. See*Managing Notifications and UDO Security* for more information.

To access the Orchestrator Studio:

1. In a web browser, enter the URL to the Orchestrator Studio 9.2.4:

   ```
   http://<ais_server>:<port>/studio
   ```
2. On the Orchestrator Studio Sign In screen, enter your EnterpriseOne User credentials, environment, and role.

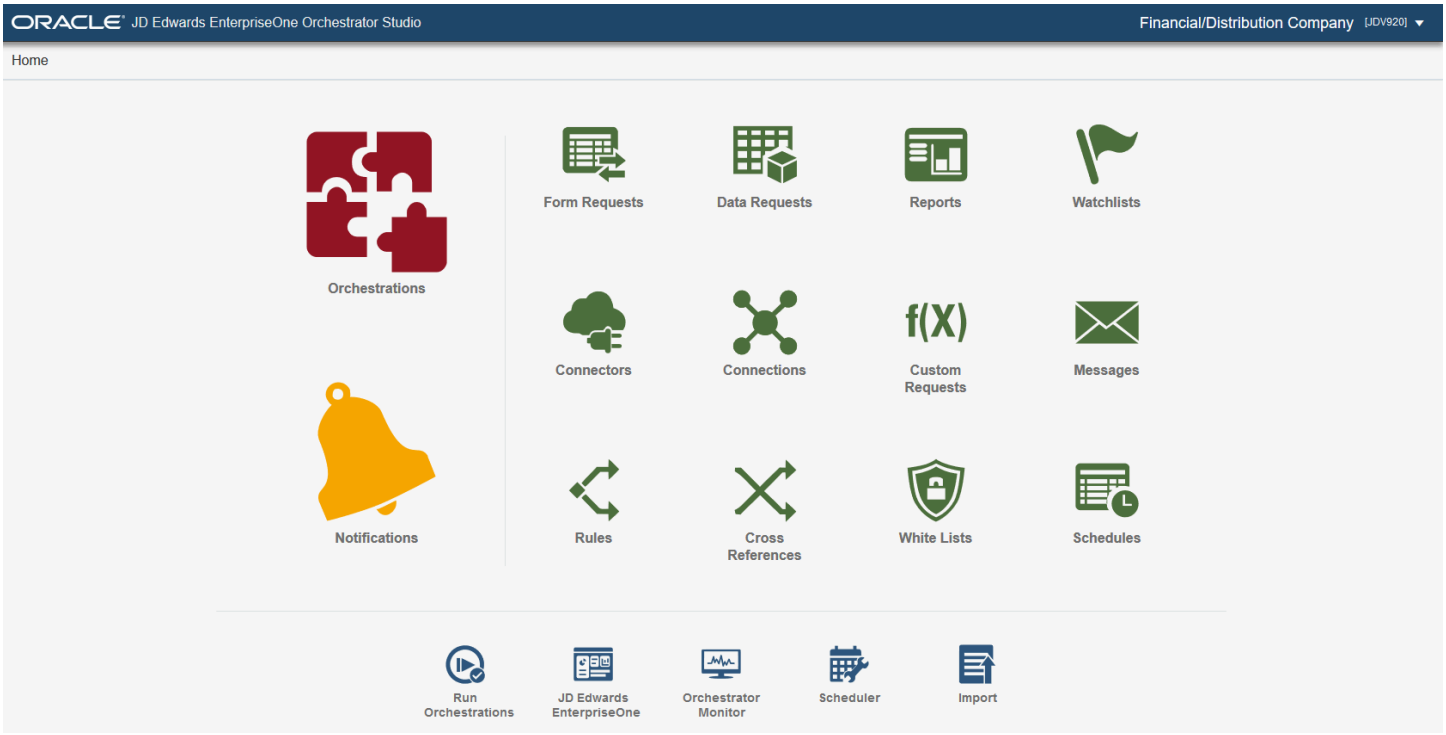
   > **Note:** It is highly recommended that you enter an EnterpriseOne environment used for testing, not a production environment.
3. Click the **Login** button.

In the Orchestrator Studio, click the drop-down menu in the upper-right corner to access the link to log out of the Orchestrator Studio.

# Navigating the Orchestrator Studio

The component icons on the Orchestrator Studio Home page take you to the design pages for creating and modifying each orchestration component.

This graphic shows the Orchestrator Studio Home page.


ORACLE JD Edwards EnterpriseOne Orchestrator Studio
Financial/Distribution Company [JDV920]
Home
Orchestrations
Notifications
Form Requests
Data Requests
Reports
Watchlists
Connectors
Connections
Custom Requests
Messages
Rules
Cross References
White Lists
Schedules
Run Orchestrations
JD Edwards EnterpriseOne
Orchestrator Monitor
Scheduler
Import

The icons at the bottom panel of the Orchestrator Studio Home page provide access to the Run Orchestrations page for testing orchestrations, the Import tool for importing orchestration files, the JD Edwards EnterpriseOne web client, Orchestrator Monitor, and the Scheduler user interface page for managing the scheduled jobs. For more information, see:

- *"Testing Orchestrations"* in the *JD Edwards EnterpriseOne Tools Orchestrator Guide*
- *"Importing Orchestration Files"* in the *JD Edwards EnterpriseOne Tools Orchestrator Guide*
- *Working with Scheduler*
- *"Orchestrator Health and Exception Monitoring"* in the *JD Edwards EnterpriseOne Tools Orchestrator Guide*

# Creating a Notification

With the JD Edwards EnterpriseOne Orchestrator Studio, you can create notifications that provide pertinent and actionable notification messages to your users.

> **Note:** Remember that when you are ready to "request to publish" a notification, you need to make sure that you also request to publish all components associated with the notification. The administrator also needs to apply the correct view security to the shared components so that when the notification runs, all dependent objects are available and the notification process will not end in error.

To create a notification:

1. On the Orchestrator Studio Home page, click the **Notifications** icon.
2. On the Notifications side panel, click the **New** button.
3. On the Notifications design page, enter a unique name for the notification in the Name field. Make sure that it is very descriptive and includes scheduling information for subscribers. For example, you might enter "Check for Purchase Orders Received Every Four Hours," and not "trkPO_h4."

   > **Note:** The name cannot be empty, blank or contain the following characters: ~ `!@#$%^&*()+={[}]|\;:"<,>.?/.
4. Click the **Product Code** drop-down list to select a product code to associate with the notification. If you leave this field blank, the notification defaults to product code 55.

   This gives an administrator the option to manage UDO security for orchestration components by product code.
5. In the **Description** field, enter a short description with a maximum of 200 characters.

   This description will show as hover text when your subscribers choose to subscribe to this notification, so this is a good place to tell your subscribers about any inputs they may provide and how often they can expect the notification to run. For example: "This notification allows you to track the status of a purchase order. Enter the purchase order number as input. You will receive updates hourly."
6. Click the **Edit Long Description** button to provide more detail about the component.

   Use this field to describe the purpose of the notification and any details that differentiate the notification from other notifications that you create.
7. Click the **Type** drop-down menu and select the appropriate type. The type you choose is very important because it defines the events or conditions on which the notification is sent, as described below:
   - **Simple** (default). A simple notification does not check for any events or conditions; it simply sends the notification message on the schedule you choose. This type of notification is best suited for informational messages or reminders to your subscribers.

- **Orchestration**. An orchestration can be a very powerful way to detect an event or condition upon which you want to send a notification. Orchestrations can read data from JD Edwards tables, invoke JD Edwards applications, and even query external systems. When you create an orchestration you can also define its output, which can then be input into your notification. Refer to the *JD Edwards EnterpriseOne Tools Orchestrator Guide* for more information about building orchestrations.
- **Watchlist**. If you have created a Watchlist in EnterpriseOne you can use that Watchlist as the trigger to send the notification. For example, if you have a Watchlist that monitors the number of backlogged items, you can build a notification that sends that information to subscribers.

8. Enable the **Run As Subscriber** toggle if you would like to run the notification once for each individual user who is subscribed to the notification. If selected, the subscriber's security settings will be used when the notification is run for them. If you do not select this option, the notification will only be run once with the user information of the person who starts the notification job and all subscribers will receive the same notification message.
9. Enable the **Allow Subscriber Overrides** toggle if you want to give subscribers the ability to enter override values for the notification inputs in Subscription Manager.
10. At this point, you can click **Save** to save your notification.

    You can also use **Save As** and rename an existing notification to create a new one.

    The Orchestrator Studio saves the notification as a "Personal" UDO.

    > **CAUTION:** If you use Save As to create a copy of a notification, only the notification is copied. The Orchestrator Studio does NOT create a copy of the components that are associated with the notification. That is, both the original notification and the new notification use the same components that comprise the notification. Therefore, in the new notification, do NOT modify the components in any way that would break other notifications that use the same components. You can also click the About link from Manage drop-down menu to understand where else the component is being used, so that you don't break other usages. See "*Reusable Orchestration Components*" in the *JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior .*

11. Next, refer to the appropriate sections to complete the remaining parts of the notification: notification inputs, orchestration, Watchlist, rule, message, and schedule.

# Adding Inputs to a Notification

You can use notification inputs to specify default input values or enable subscribers to manually enter an override value when creating a subscription in the Subscription Manager. In the notification, you enter names for the inputs. For example, you might enter "Customer Number" to enable entering a specific customer number as an override value.

You also use these notification inputs to configure other components used by the notification, such as an orchestration or rule. For example, if the notification requires a rule, you can use the notification inputs or orchestration outputs to define the conditions for the rule.

To add the notification inputs:

1. Expand the Notification Inputs section of the Notification design page.
2. In the first empty row in the grid, enter the name of the input in the Name column.

3. In the Value Type column, select the input value type. Valid values are:
    - String
    - Numeric

    If the input is a date, you can use any of the following date formats:
    - **dd/MM/yyyy**
    - **dd/MM/yy**
    - **yyyy/MM/dd**
    - **MM/dd/yyyy**
    - **MM/dd/yy**
    - **yy/MM/dd**

    You can also use the following date formats, which create additional inputs derived from the passed value as described in "Configuring Orchestration XML" in the *JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior* .
    - **Milliseconds**
    - **yyyy-MM-dd'T'HH:mm:ss.SSSZ**
4. In the Default Value column, enter a default value for the input if required.
5. In the Required column, toggle left or right to specify whether the input is required or not.
6. Click **Save** to save your changes.

# Adding a Watchlist to a Notification (Watchlist Type Only)

This section only appears if you have selected "Watchlist" as your notification Type.

To add a Watchlist to a notification:

1. Expand the Watchlist section of the notification design page.
2. Click the Select Watchlist button.

   A dialog appears listing all the Watchlists that you have access to.
3. Select the Watchlist from the list.
4. Click **Save** to save your changes.

> **Note:** Remember if you are using a Watchlist in your notification, the Watchlist, as well as the notification, needs to be published. Watchlists are published in JD Edwards EnterpriseOne, not Orchestrator Studio.

For more information on creating Watchlists, see the *JD Edwards EnterpriseOne Applications One View Watchlists Implementation Guide* .

# Adding an Orchestration to a Notification (Orchestration Type Only)

This section only appears if you have selected "Orchestration" as your notification Type.

To add an orchestration to a notification:

1. Expand the Orchestration section of the notification design page.
2. Click the Select Orchestration button.

   A dialog appears listing all the orchestrations that you have access to.
3. Click the orchestration from the orchestration list.

   A list of orchestration inputs appears.
4. In the Mapped From column for an input, use the drop-down menu to choose a notification input to use.
5. In the Default Value column for an input, enter a default value if required.
6. Click Save to save your changes.

**Note:** Remember that when you are ready to "request to publish" a notification, you need to make sure that you also request to publish the orchestration associated with the notification.

For more information on creating orchestrations, see the *JD Edwards EnterpriseOne Tools Orchestrator Guide* .

# Adding Rules to a Notification

If you want to add a rule that determines whether or not the notification message should be sent, use the Rule section of the form.

To add a rule to a notification:

1. Expand the Rule section of the notification design page.
2. Click the Select Rule button.

   A dialog appears listing all the rules that you have access to.
3. Click a rule from the rule list.

   A list of rule inputs appears.
4. In the **Mapped From** column for an input, use the drop-down menu to choose a notification input, Watchlist output (Watchlist type only), or orchestration output (orchestration type only) to use.
5. In the **Default Value** column for an input, enter a default value if required.
6. Click **Save** to save your changes.

For more information on creating rules, see the *JD Edwards EnterpriseOne Tools Orchestrator Guide* .

# Defining the Notification Message

Use the Message section of the Notification design page to define the subject and text of the notification message, to add application and other links, to add attachments and to add a Data Dictionary text item.

Starting with Tools Release 9.2.6.3, you can use the message editor to create a message body to include rich formatting of text enabling you to use typefaces, emphasis, and colors of your choice. You can create layouts for messages that include links and images that are interspersed with text. You can also include tables and formatted content from external sources such as Microsoft Word.

To define a notification message:

1. Expand the Message section of the notification design page.
2. Use the Output and Output Type fields to define user options in Subscription Manager. If you specify a Boolean Output Type, subscribers can decide if they want to be notified if the Boolean value is true or false. If the notification is based on a Watchlist, the Output Type is Watchlist Level and cannot be changed; subscribers can decide if they want to be notified for warning, critical, or normal Watchlist levels. See *"Adding a New Subscription" in the JD Edwards EnterpriseOne Tools Foundation Guide* for more information.
3. In the Subject field, enter text, variables, or a combination of both. To insert variables, see step 10.

   **Note:**

   - If using only a variable in the Subject field, remember that it is possible the variable could be blank and then the message will have a blank subject. This makes it difficult for a user to open the message, which is done by clicking on the subject, in both the Notification List and Message Center.
   - Keep in mind that the Work Center only allows 40 characters for the subject. This means that if you create a subject line that is longer than 40 characters and it is delivered to the Work Center, the subject will be truncated.

4. (Release 9.2.6.3) Enable the **Plain Text** option to include a plain text in the message.

   Disable the **Plain Text** option to add rich formatting to your existing messages. This option is disabled by default for new messages.
5. (Release 9.2.6.3) To format the messages:
   a. Enter the message in the body field and use the options such as Paragraph, Bold, Italics, Underline, Strikethrough, Bulleted and Numbered List, and so on from the toolbar to format your messages. You can use the Insert Table and Insert Image options to insert tables and images.

      You can also insert action links within your formatted messages. The link IDs defined for Data Dictionary, Application Links, Other Links, and Report Attachments are displayed in the Placeholder drop-down menu. To add an action link to your message, keep the cursor where you want to insert the placeholder, and click the Placeholder drop-down menu and then select the required action link identifier. Additionally, you can add a horizontal line in your message by clicking the Horizontal Line icon.

      Starting with Tools Release 9.2.6.4, you can add a hyperlink to the text in the body of the message. Highlight the relevant text, and then click the Link icon in the toolbar, enter the required address, and click the Save icon.

   b. To use an existing template, click the Template button, select the template from the left-hand panel in the Templates window and place the template at the position you want by using the **Insert at Top**, **Insert at Cursor**, or **Insert at Bottom** buttons.

> **Note:** The templates are created using the Work With Media Object Templates(P98TMPL) application.

Starting with Tools Release 9.2.7.4, the following new options are available in the editor:

- Subscript and the Superscript icons to add mathematical formulas. For example, $y = x^{2n} + z^{3n}$, $a_1 = a_2 + a_3$, and so on.
- List Properties option in the Numbered List drop-down to change the properties of the numbered list order.

c. Optionally, you can click the **Preview** button to verify the formatted message. Click the **Mobile** icon in the Preview window to verify how the message appears on a mobile device.

> **Note:** *Click here to view a recording of this feature.*

> **Note:** *Understanding Rich Formatting of Messages Learning Path*

6. To include boilerplate text from a message template in the data dictionary:

a. Expand the Data Dictionary section.
b. If the Plain Text option is disabled, the system displays the **DD Link ID** field.

Enter a unique ID in the DD Link ID field and click the **Apply** button. This data dictionary link ID is displayed in the Placeholder drop-down menu enabling you to add it as a placeholder in your formatted message.

You will not be allowed to change the DD Link ID after you click the Apply button. The system displays an error message if you enter a duplicate ID.

> **Note:** The character limit for the DD Link ID field is 50 and special characters are not allowed in this field except underscore (_).

c. In the Data Dictionary field, enter the name of the message template data item and click **Load**.
d. If the message template contains variables, use the grid to override the variables with a default value or a variable.

For each variable used in the message template, a row is added to the adjacent grid.

In the grid, slide the Literal toggle to right to replace the variable in the template with a literal value. Slide the Literal toggle to left to select an existing notification, orchestration, or a watchlist input variable from the drop-down list.

7. To include a shortcut to an application:

   a. In the **Application Links** section, click Add and expand the section.

      To set up task tracking, see *Setting Up Task Tracking (Release 9.2.8)*.

   b. If the Plain Text option is disabled, the system displays the Application Link ID field. Enter a unique ID in the Application Link ID field and click the **Apply** button. This application link ID is displayed in the Placeholder drop-down menu enabling you to add a placeholder in your formatted message.

      You will not be allowed to change the Application Link ID after you click the Apply button. The system displays an error message if you enter a duplicate ID.

      > **Note:** The character limit for the Application Link ID field is 50 and special characters are not allowed in this field except underscore (_).

   c. In the New Shortcut section, complete the Application, Form, and Version fields to specify the form that you want the shortcut to launch.

   d. (Release 9.2.9.3) Enable the Version Variable toggle to pass a notification input or an orchestration output as a version variable. When you enable the Version Variable, the Version field is populated with the list of available Notification Inputs and Orchestration Outputs. Select the specific Notification Input or Orchestration Output you want to pass as a variable version.

      > **Note:** When you enable the Version Variable toggle, the options for Personal Form, Query, and Watchlist are hidden as they are not supported.

   e. If required, define a personal form, query, or watchlist to be used when the application opens.

      If the user receiving the message does not have view access to that particular personal form, query, or watchlist, the application will open without it.

   f. If the Plain Text option is enabled, you can see the **Pre Text**, **Link Text,** and **Post Text** fields. Use these fields to define the text that appears before, as, and after the link, respectively, in the message.

      If the Plain Text option is disabled, you can see the **Link Text** field.

      In the Link Text field, enter the text you would like to appear in the message for the shortcut. This shortcut text appears in the notification message.

   g. In the grid, you can use variables to pass in data to the application when the application is launched from the shortcut.

   h. Click the Add button in the Application Links section and repeat these steps to include multiple application links in a message.

      You can click the Remove button (X) at the end of the New Shortcut section header to delete the application link that is added.

8. To include other links (for example, to launch an orchestration or notification):

   a. In the Other Links section, click Add and expand the section.

      To set up task tracking, see *Setting Up Task Tracking (Release 9.2.8)*.

   b. If the Plain Text option is disabled, the system displays the **Other Link ID** field.

      Enter a unique ID in the Other Link ID field and click the **Apply** button. This other link ID is displayed in the Placeholder drop-down menu enabling you to add it as a placeholder in your formatted message.

      You will not be allowed to change the Other Link ID after you click the Apply button. The system displays an error message if you enter a duplicate ID.

      > **Note:** The character limit for the Other Link ID field is 50 and special characters are not allowed in this field except underscore (_).

   c. Select the type of link you would like to add from the Type drop-down menu. Valid values are Orchestration, Notification, or URL.

   d. Depending on the type you have selected, either select the orchestration name, notification name, or enter the URL.

   e. In the **Link Text** field, enter the text you would like to appear as link in the message.

      This link text appears in the notification message.

   f. In the **Pre Text** and **Post Text** fields, enter the text you want to appear before and after the link text.

      The Pre Text and Post Text fields are not displayed if the Plain Text option is disabled.

   g. Use the grid to work with orchestration input, notification input, or a key for the URL, depending on which type of link you are using. In the Value column, you can enter either a variable or a default value as the input.

   h. Click the Add button in the Other Links section and repeat these steps to include multiple links in a message.

      You can click the Remove button (X) at the end of the GroupBy section header to delete the links that were added.

9. To include report output as an attachment:

   a. In the Attachments section, click **Report Attachments,** and then click **Add**.

   b. If the Plain Text option is disabled, the system displays the **Report Link ID** field.

      Enter a unique ID in the Report Link ID field and click the **Apply** button. This report link ID is displayed in the Placeholder drop-down menu enabling you to add it as a placeholder in your formatted message.

      You will not be allowed to change the Report Link ID after you click the **Apply** button. The system displays an error message if you enter a duplicate ID.

      > **Note:** The character limit for the Report Link ID field is 50 and special characters are not allowed in this field except underscore (_).

   c. In the grid, enter Link Text, Job Number, Server, and File Type for the report output that you want to attach. The report output can be generated at this stage by an orchestration or it can be previously

generated outside of any orchestrations or notifications. Either standard EnterpriseOne reports or BI Publisher reports can be attachments. You can define the Link Text, Job Number, and Server as variables.

d. Enable the **Send As Link** toggle to attach the report as a link in the message.
e. Click the **Add** button in the Attachments section and repeat these steps to include multiple attachments in a message.

Click the **Remove** button (**X**) at the end of the each row in the grid to delete the reports that were added.

10. To include variables in the subject, body, message template text, or shortcut:

a. Type **${var name}** where *var name* is the name of the variable that you want to include.
b. Make sure the syntax includes the $ sign and brackets, for example:

```
${creditmanager}
```

The variable will be substituted into the message when the notification is sent. The variable can come from any of these places:

- Any input you define for the notification
- Watchlists return a set of output that you can use as variables. You can see them by pressing the Test button with the Dispatch Notification switch off. For example, if you want to include the number of Watchlist records in your message you could include this sentence:

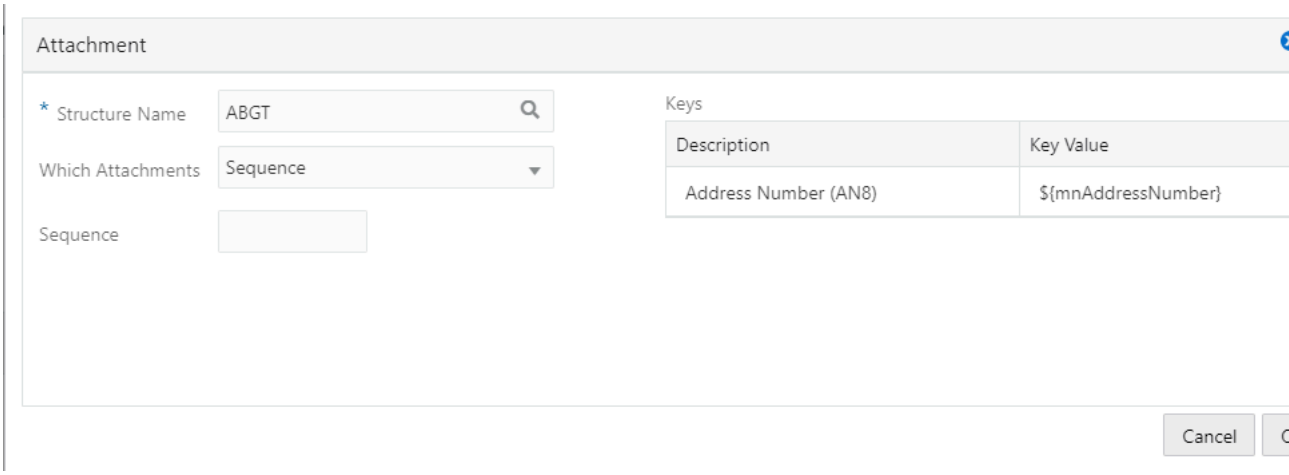
  "There are ${records} records in this Watchlist."
- Orchestrations also return outputs, which you can define when you create the orchestration. You can see them by pressing the Test button with the Dispatch Notification switch off.

11. (Release 9.2.6) To include an EnterpriseOne attachment (media object) in a message:

    a. In the Attachments section, click **File Attachments,** and then click **Add**.
    b. In the File Attachment window, click the Search icon next to the Structure Name field, and then search for and select the required value.

       Depending on the value in the Structure Name field, the values in the Description and Key Value fields are automatically populated in the Keys table. You may delete the automatically populated variable value in the Key Value field and enter a literal value.
    c. Click the **Which Attachments** drop-down menu and select the required option. The available options are:

       - **All**: Choose this option to select all the attachments present in the structure.
       - **Sequence**: Select this option to specify the sequence number of the attachment present in the structure. The Sequence field is displayed when you select this option. In the Sequence field, enter a sequence number or a sequence number variable.



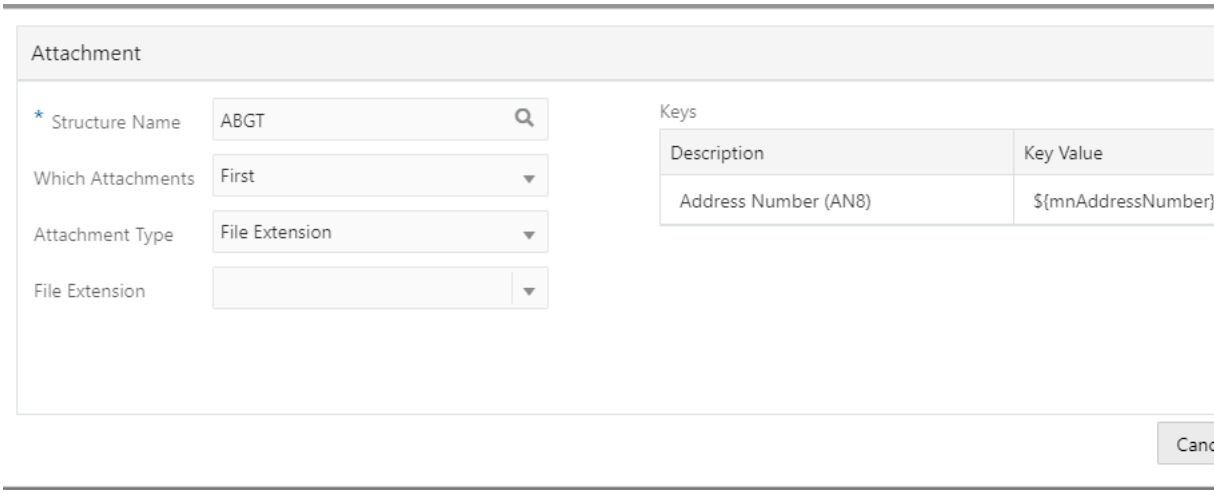

       - **Default Image**: Choose this option to select the default image attachment.
       - **First**: Choose this option to select the first attachment present in the structure.

         The Attachment Type drop-down menu is displayed when you select this option. From the Attachment Type drop-down menu, select any of these options as required:

         > **Note:** JD Edwards EnterpriseOne supports these attachment types: File Attachment, Text Attachment, and URL Attachment.

         - **File** : Choose this option to select the first file attachment.
         - **File Extension**: Choose this option to filter the first attachment by extension. The File Extension drop-down menu is displayed when you select this option and you can enter

the required extension type. For example, if you enter `.pdf`, the first PDF file is added as an attachment in the message.




- **Image**: Choose this option to select the first image attachment.
- **Text**: Choose this option to select the first text attachment.
- **URL**: Choose this option to select the first URL attachment.

- **Last:** Choose this option to select the last attachment in the structure.

  The Attachment Type drop-down menu is displayed when you select this option. From the Attachment Type drop-down menu, select any of these options:

  - **File** : Choose this option to select the last file attachment.
  - **File Extension**: Choose this option to select the last attachment by extension. The File Extension drop-down menu is displayed when you select this option and you can enter the required extension type. For example, if you enter `.pdf`, the last PDF file in the structure is added as an attachment in the message.
  - **Image**: Choose this option to select the last image attachment.
  - **Text**: Choose this option to select the last text attachment.
  - **URL**: Choose this option to select the last URL attachment.

- **All of Type**: Choose this option to select all the attachments of a particular type to the message.

  The Attachment Type drop-down menu is displayed when you select this option. From the Attachment Type drop-down menu, select any of these options:

  - **File** : Choose this option to select all the file attachments present in the structure.
  - **File Extension**: Choose this option to select the attachments by extension. The File Extension drop-down menu is displayed when you select this option and you can enter the required extension type. For example, if you enter `.pdf`, all PDF files in the structure are added as attachments in the message.
  - **Image**: Choose this option to select all the image attachments.
  - **Text**: Choose this option to select all the text attachments.
  - **URL**: Choose this option to select all the URL attachments.

d. Click **OK**.

12. Click **Save** to save your changes.

## Setting Up Task Tracking (Release 9.2.8)

Tasks are records that are tracked in the F980070 and F980071 tables. These records can be automatically created by enabling task tracking for actions in a notification message. Each task also has a set of historical state records to track when, and who updated the task.

In Notifications, you can set due dates for tasks that are assigned to recipients through notification messages by enabling the Task Tracking option. The tasks can then be monitored to ensure their timely completion and analysis.

You can enable the Task Tracking option in the Application Link and the Other Link sections of Notifications.

In the Task Tracking window, you can define a due date and the tracking state values. The system adds the defined due date, and the tracking state values as links to the Placeholder drop-down list in the body field of the notification message. You can then add these links to your notification messages, enabling the recipient to access the task in the Task Tracking (P980070) application and to click and perform the required actions directly from the notification message.

When you enable task tracking for any action, the system provides several variables to map the inputs of the action. The variables include the **Task Tracking ID** and a variable for each possible task tracking state. For example, you can map these variables into the action link if you have designed an orchestration or an application that updates the task state automatically. When a recipient clicks the action link in the notification message, the system uses the tracking ID and process the task associated with that action.

To enable task tracking in Notifications:

1. Click **Add** and expand the Application Link or the Other Link section.
2. Click the **Task Tracking** icon.

   The Task Tracking window is displayed.

   > **Note:** You must define and apply a Link ID before setting up task tracking.

3. Enable the **Track Task** option.

   The system displays a blue dot next to the Task Tracking icon to indicate that the task tracking is enabled for the message.
4. Enable the **Track By Subscriber** option.

   If a notification is run as a subscriber, then it is tracked by subscriber. When you enable this option when the notification is not run as a subscriber, the system creates a task record for each subscriber.

   When you disable this option, only one task record is created, so the task is shared among all the subscribers.
5. In the Description field, enter a description. The description entered in this field is included in the task record when the notification is sent.
6. Select one of these options to set the task due date:

   > **Note:** The system adds the defined due date as a link to the Placeholder drop-down list in the body field of the Notifications window. This enables you to add the due date link to your notification message.

   - **No Due Date:** Select this option if you do not want to setup a due date for task tracking.
   - **Use Date Rule:** Select this option to define a custom date rule. You can define your date rule by selecting the number of minutes, hours, days, weeks, months, and years. You can also select a specific time from the Time Due field, and then select the required time zone from the Time Zone drop-down list. Enable the **Allow Due Date Override** option if you want to allow the recipient to override the due date.

- **Use Date Variable:** Select this option to enter variable as a value in the Due Date Variable field. Enable the **Allow Due Date Override** option if you want to allow the recipient to override the due date.

7. In the Tracking Link Options section, you can define links for updating the tracking state (status) of the task to your notification message.

   Select one of these options:

   - **No Link**: Select this option if you do not want to provide any links in the notification message. The notification recipient can use the Task Tracking application (P980070) to update their tasks. See *Understanding the Task Tracking Application (Release 9.2.8)*.
   - **Link to Task Tracking**: This option enables you to update the state of the task by adding a single application link to the Edit Task Tracking (W980070C) application.

     When you select the Link to Task Tracking option, the system enables the Link Text field and a list of tracking state values. Enter a value in the Link Text field and select the desired options from the following tracking state values: Approved, Closed, Completed, Delayed, In Process, Rejected, Sent, and Viewed.

     The values that you select in the Link to Task Tracking option will be listed in the Task State field in the Edit Task Tracking (W980070C) application when the recipient clicks the link from the nofication message.
   - **The Link for Each State**: This option enables you to add multiple action (task tracking states) links in the notification message. The system defines one link for each task state that you select. When the recipient clicks the link in the notification message, an orchestration will process the required change to that specific state. For example, Approved or Rejected.

     When you select the Link for Each State option, the system enables a list of tracking states. Select the desired tracking state values from the list: Approved, Closed, Completed, Delayed, In Process, Rejected, Sent, and Viewed.

> **Note:** The Orchestrator Studio provides these standard tracking state values: Approved, Closed, Completed, Delayed, In Process, Rejected, Sent, and Viewed. The tracking state values are UDCs that can be customized. You can customize them using the **H98I/TT** UDC code. Make sure to clear the caches on the HTML Servers after making the changes. Otherwise, the Orchestrator Studio will not reflect the modified tracking state values. Also, when customizing, you can choose if the state is Terminal or not by including Terminal in the Special Handling code. The system will not allow you to make further changes to a task once it is at a Terminal state. To learn more about how to customize UDCs, see *Customizing UDC Types*.

> **Note:** *Click here to view a recording of this feature.*

> **Note:** *Click here to view a recording of this feature.*

> **Note:** *Click here to view an OBE of this feature.*

## Understanding the Task Tracking Application (Release 9.2.8)

The JD Edwards EnterpriseOne provides the Task Tracking (P980070) application to review tasks and make changes to the value in the State field or Due Date field of an assigned task. You can also add and delete tasks manually using the application.

Using JD Edwards Orchestrator Studio, you can add a link to the Task Tracking application in Notifications by enabling the Task Tracking option. See *Setting Up Task Tracking (Release 9.2.8)*.

In the Task Tracking application, you can view the list of tasks in a table with details such as Tracking ID, Description, Task State, Task Closed, Sent Date, Due Date, Last Changed Date, and so on.

When you open the Task Tracking application, the system displays all the open tasks associated with the current user (shown in the Address Number field) by default, and the tasks that are in the Terminal state are not displayed.

You can filter the tasks by using these options:

- **View All Tasks**: Select this option to remove the current user filtering and to display all the tasks.
- **Open Tasks**: Select this option to view only the tasks that are in an open state. Deselect this option to view all the tasks, including the terminal state tasks.
- **Sent to My Email**: Select this option to find the tasks sent directly to the displayed email address in the Email field associated with the current user.

You can also sort the tasks by using the Sent Date and Description options from the Sort By drop-down list.

When you select a particular task from the table, the system displays the **Edit Task Tracking** window. You can view further details about the task in the **Task Details** and **Task State** tabs, and review the task history in the History table. In the **Task State** tab, you can use the State drop-down list to change the value of the State field. Or, you can right-click the task in the Task Tracking application, select **Change State** to access the Task State window, and then change the value in the **New State** drop-down list. You must click **OK** to save your changes.

You can also update the **Due Date** field depending on the configuration of the task.

You can add media object attachments while changing the state of the task. To add an attachment while changing the state, click the **Add Attachments** button, add the media object, and then click **Save**. You can view the attachments added for each state change made by any user in the History table, and you can edit the attachments if you are the listed user that made the state change.

## Adding Data Tables (Release 9.2.8.3)

The Data Tables section only appears if you have selected "Orchestration" as your notification Type.

Orchestrations can read data from JD Edwards tables, invoke JD Edwards applications, and even query external systems. When you create an orchestration you can also define its output, which can then be input into your notification. If that orchestration output is an array, the system enables you to add a data table in your notification message.

You can pass in a data set (array) and format that data as a table in the notification message. To add a data table:

1. In the notifications window, click the Data Tables section, and then click **Add**.
2. In the Add Data Table window, the option Include Header Row is selected by default.

   Deselect this option if you do not want a header row for your table.
3. Click **Add**.
4. In the Data Set Name field, the system displays the list of available data sets from the orchestration. Select the required data set value and click **Apply**. The system displays the value in the Data Set Name field in the header area of the Data Tables section.

5. Click **Edit**. An Edit Data Table window is displayed along with the table template.

   The table template is pre-populated with all the known fields from the array in the orchestration output. You can remove any columns that are not required in the table.

   If the orchestration output changes and a new field is added to the output array, you can add another column to the table and use the Placeholder drop-down list to insert the newly available field into the table.
6. Edit the header text and variables in the table as required.

   You can click the table and select the options, such as Column, Merge Cells, and so on, to change the table properties. You can also use the Font Color, Font Size, Paragraph, Bold, Italics, Underline, Strikethrough, Bulleted and Numbered List options from the toolbar to format your text in the table.
7. Click **OK**. The system creates a table link ID in the Placeholder drop-down list in the Body section enabling you to add it as a placeholder in your notification message.

   **Note:** You can define more tables by clicking Add in the Data Tables section.

**Note:** *Click here to view an OBE of this feature.*

# Notification Reminders (Release 9.2.8)

The Notification Reminders help you to set reminders for important tasks or assignments. These reminders simplify your tasks by displaying a visual indicator for the due date status of each notification, like an e-mail flag. The indicator differentiates between past due, due today, and not due yet, ensuring that you never miss a deadline. Notification Reminder enables you to identify the status of each notification and take appropriate actions accordingly. You can assign follow-up dates to notification messages, and view and sort the messages.

You can customize and manage your notifications to meet your needs. You can remove or change the due date to any future day.

With Message Center, you can even sort and group notifications by due date, making it easier to prioritize and manage your time-sensitive tasks.

**Note:** *Click here to view a recording of this feature.*

**Note:** *Click here to view a recording of this feature.*

## Configuring Notification Reminder in Orchestrator Studio (Release 9.2.8)

1. When you create a new notification or load an existing notification, a flag icon appears in the Message header. When you hover over the flag icon, it displays the status of the reminder.
2. Click the flag icon, and the Reminder configuration window appears.

   Turn on the Enable Reminder toggle to set reminders for the notification and additional configuration options. If the reminder is configured, then a dot appears next to the flag.

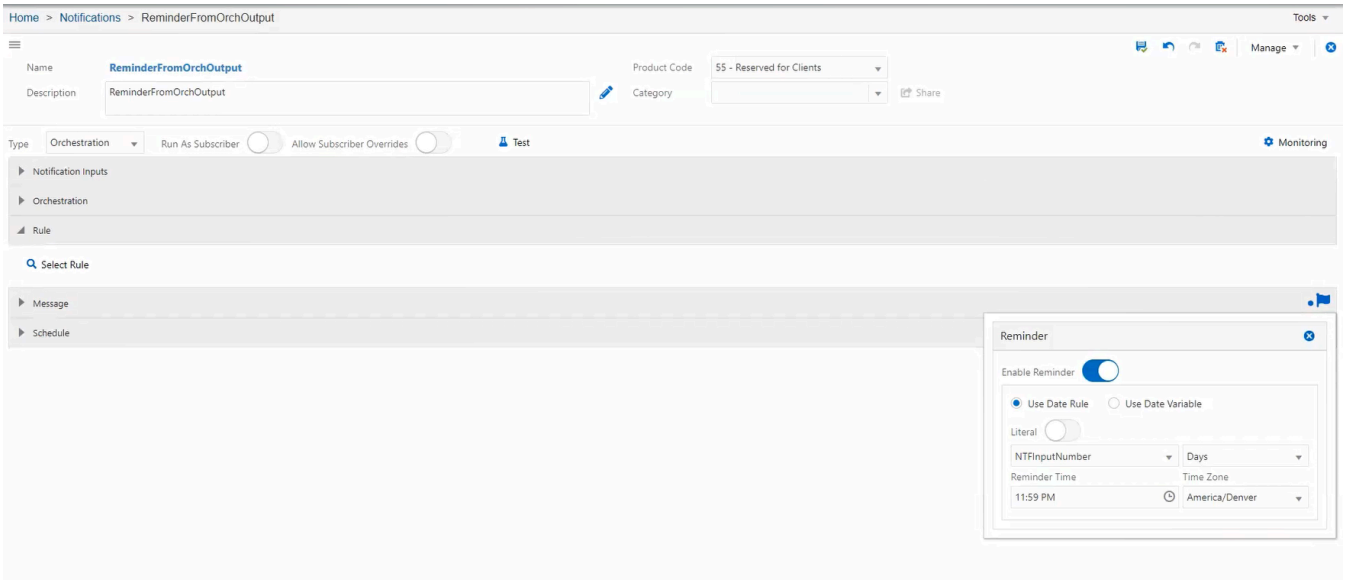
   In the notification record, the due date is calculated based on the date and time the notification is sent by the system and the designer's rule.
3. Use Date Rule (default):

a. The default value for a reminder is the Use Date Rule option.
   - The system uses the Literal toggle with a default value of 3 days for the date rule. Set any value between 0 and 500.
   - Alternatively, you can turn off the Literal toggle, and use the drop-down for selecting either Notification inputs (numeric only) or Orchestration outputs (numeric only).

b. Select the Time Unit drop-down list to specify the Days, Weeks, Months, and so on.

c. Reminder Time picker displays the time format based on EnterpriseOne user language (locale). The default is 11:55 p.m.(23:55 hrs.).

d. Time zone picker displays the default time zone based on the browser or user system time zone.


Home > Notifications > ReminderFromOrchOutput
Tools
Manage
Name
ReminderFromOrchOutput
Description
ReminderFromOrchOutput
Product Code
55 - Reserved for Clients
Category
Share
Type
Orchestration
Run As Subscriber
Allow Subscriber Overrides
Test
Monitoring
Notification Inputs
Orchestration
Rule
Select Rule
Message
Schedule
Reminder
Enable Reminder
Use Date Rule
Use Date Variable
Literal
NTFInputNumber
Days
Reminder Time
Time Zone
11:59 PM
America/Denver

4. Use Date Variable:

   Select the Use Date Variable option to select values from the Notification input or Orchestration output.

   Use the Date Variable drop-down to select Notification input or Orchestration output. For example, if you have a Notification input that is a Date only value without any time or zone value. When you select this Notification input, you are required to specify only the Reminder Time and Time Zone.

   Reminder Time picker displays the time format based on EnterpriseOne User language (locale). The default is 11:55 p.m. (23:55 hrs.).

   Time zone picker displays default time zone based on the browser or user system time zone.
5. The following values are available for use in a due date rule:
   - For the offset value (hours/minutes/days/months etc.)
     - Notification numeric inputs
     - Orchestration numeric outputs
   - For the due date value
     - Notification date-time inputs
     - Notification date inputs
     - Orchestration date-time outputs
     - Orchestration date outputs

# Adding a Schedule to a Notification

A schedule defines how often the system will run the notification, whether it is based on an orchestration, a Watchlist, or simply sending a notification message. You can define a schedule using minutes, hours, days, or a Cron string. Cron is a time-based job scheduler that can be used to schedule jobs to run periodically at fixed times, dates, or intervals (for example, every Tuesday and Friday at 9:00 am).

To add a schedule to a notification:

1. Expand the Schedule section of the notification design page.
2. Click the Select Schedule button.

   A dialog appears listing all the schedules that you have access to.

   > **Note:** Schedules are UDOs so you must have the proper permissions to see the New Schedule button.

3. Click a schedule from the list.

   A schedule is associated to the notification.
4. Click Save to save your changes.

> **CAUTION:** Be aware that just associating the schedule with the notification does not mean that the schedule starts running. The scheduler must be started by an administrator for the scheduled notifications to start running on their schedules.

# Creating Schedules

This section contains the following topics:

For information on using schedules with orchestrations, see "*Creating Schedules for Orchestrations*" in the *JD Edwards EnterpriseOne Tools Orchestrator Guide* .

For information on scheduler resilience through the use of a database with your scheduler, see *"Configuring Scheduler Resilience" in the JD Edwards EnterpriseOne Application Interface Services Server Reference Guide* .

## Understanding Schedules

A schedule defines how often the system executes a notification. You can define a schedule using minutes, hours, days, or a Cron string, such as every Tuesday at 2:00 pm. The schedule is then attached to a notification to determine how often it runs. You can attach the same schedule to multiple notifications, but a single notification can only be associated with one schedule.

As a notification designer you can assign your notifications to existing schedules by picking a schedule from the drop-down list. You may also have privileges to create new schedules, in which case the New Schedule button will be active for you. Schedules are managed as UDOs, so you can publish and share your schedules for others to use, and you can use schedules that others have published.

The task of starting, stopping, and managing the scheduler itself is a system administrator task. The scheduler runs as a process on the Application Interface Services (AIS) server.

> **Note:** The AIS server instance where the scheduler is started cannot be clustered. The scheduler should only be started on one instance.

Starting with Tool 9.2.4, you can use the Scheduler user interface page to manage the scheduled jobs. You can start and stop jobs using the Scheduler user interface. See *Working with Scheduler* for more information.

The scheduler is managed using a set of REST APIs, which are documented with all other JD Edwards REST APIs:

*JD Edwards EnterpriseOne Tools REST API for the Application Interface Services Server Guide*

## Creating a Schedule

Create a schedule to define how often an orchestration or notification runs.

To create a schedule:

1. On the Orchestrator Studio Home page, click the Schedules icon.

   The Orchestrator Studio displays the Schedules design page.
2. Click the **New** button on the Schedules side panel.
3. In the Schedules design page, enter a name for the schedule in the Name field.
4. Click the **Product Code** drop-down list to select a product code to associate with the schedule.

   This gives an administrator the option to manage UDO security for orchestration components by product code.

5. In the Description field, enter a short description with a maximum of 200 characters. This description should clearly describe the frequency of the schedule so that it can be attached to notification as needed.
6. Click the **Edit Long Description** button to add a long description to provide more detail about the purpose of the component.
7. Do one of the following:
    - In the **Schedule to Run every** section, select a number of minutes, hours, or days to define how often you want the schedule to run.

      If you select minutes, you cannot run more often than every five minutes.
    - In the **Or Enter a Cron String** section, enter a Cron string to define the schedule.

      Cron is a time-based job scheduler that can be used to schedule jobs to run periodically at fixed times, dates, or intervals (for example, every Friday at 10:00 am). There are many third-party Cron expression generators available that can help you create a Cron string.
8. Click the **Save** or **Save As** icon in the upper-right corner.

The first time a new schedule is saved, it is saved as a "Personal" UDO. Thereafter, you can use the UDO buttons described in the User Defined Object (UDO) Features section to move the schedule to the appropriate status.

Adding a schedule to a notification in the Notification design page does not invoke the notification as scheduled. Starting the scheduler is a separate step. You need to ask an administrator to start and administer the schedule using REST API services.

Starting with Tool 9.2.4, you can use the Scheduler user interface to manage the scheduled notification and orchestration jobs. You can start and stop the jobs using the Scheduler user interface in the Orchestrator Studio 9.2.4. See *Working with Scheduler* for more information.

For more information on REST APIs used for managing the scheduler, see "Scheduler Service" in the *JD Edwards EnterpriseOne Tools REST API for the Application Interface Services Server Guide*

# Modifying or Deleting Notifications after You Share Them

Do not modify a notification once it has subscribers. Instead, create a new notification and delete the old one. If a user has subscribed and a notification is changed, the inputs may change and the subscription input overrides may no longer be correct, which can cause the user to no longer receive notifications without realizing why. On the other hand, if a notification is deleted, when a user goes into Subscription Manager, he will see an indication that the subscription has an issue.

# Exporting and Importing Notifications in the Orchestrator Studio

Notifications are exported and imported just like any other orchestration component. For more information, see:

- "Exporting Orchestration Components" in the *JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior*

- "Importing Orchestration Files" in the *JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior*

# Working with Scheduler

This section contains the following topics:

- *Understanding Scheduler*
- *Prerequisites*
- *Accessing the Scheduler*
- *Scheduler User Interface Features*
- *Working with Scheduler*
- *Starting and Stopping Jobs using Scheduler*

## Understanding Scheduler

The Orchestrator Studio provides a user interface, which is called the Scheduler user interface, where you can view the notification and orchestration jobs along with the attached schedules. Using the Scheduler user interface, you can view all the jobs and perform tasks, such as starting and stopping individual or multiple jobs. The Scheduler user interface eliminates the need to use third-party applications to start and stop jobs.

You must have been granted proper UDO security to work with the notification and orchestration jobs on the Scheduler user interface.

The Scheduler user interface provides information about the jobs that are running and the ones that need to be started.

The scheduler runs as a process on the Application Interface Services (AIS) server. You can view only those schedules on the AIS server that you are currently logged-in to. For information on designating the AIS server as a scheduler, see *Configuring AIS Server Manager Settings* in the *JD Edwards EnterpriseOne Application Interface Services Server Reference Guide* .

> **Note:** When a Scheduler server points to a JAS server that supports an environment, which is also supported on another Scheduler server pointing to another JAS server, two instances of the same job could exist. This is because the job is running for a specific environment and that environment is supported in two different scheduler configurations. This is applicable when the scheduler is not resilient.

## Prerequisites

Complete the following prerequisites:

- You must be running a minimum of EnterpriseOne Tools Release 9.2.4.

- Deploy an Application Interface Services (AIS) Server.

  You can use an existing AIS Server or deploy a new AIS Server instance through Server Manager only for running orchestrations.

  Designate an AIS server as the Scheduler server. See *"Configuring AIS Server Manager Settings" in the JD Edwards EnterpriseOne Application Interface Services Server Reference Guide .*
- Deploy the Orchestrator Studio 9.2.4. See *"Getting Started"* in the *JD Edwards EnterpriseOne Tools Orchestrator Guide* for details on the latest release.
- Ensure that the Notifications and Orchestrations features are enabled and that all related UDO security is set up properly.

  For more information, see:

  - *Managing UDO Feature Security* in the *JD Edwards EnterpriseOne Tools Security Administration Guide*
  - *Define Allowed Actions for UDO Types* in the *JD Edwards EnterpriseOne Tools Security Administration Guide*
  - *Setting up UDO Security for Orchestrator Studio Users* in the *JD Edwards EnterpriseOne Tools Orchestrator Guide*

For information on scheduler resilience through the use of a database with your scheduler, see *"Configuring Scheduler Resilience"* in the *JD Edwards EnterpriseOne Application Interface Services Server Reference Guide* .

# Accessing the Scheduler

To access the Scheduler user interface:

1. Log in to JD Edwards EnterpriseOne Orchestrator Studio.
2. On the Orchestrator Studio Home page, click the Scheduler icon to access the Scheduler user interface.

**Set Up User Access to the Scheduler Program**

An administrator must use EnterpriseOne application security to enable user access to the Orchestrator Studio (P98I0000) and Scheduler (W98I0000B) programs. See "*Managing Application Security*" in the *JD Edwards EnterpriseOne Tools Security Administration Guide* and "*Managing Orchestrator Studio Security*" in the *JD Edwards EnterpriseOne Tools Orchestrator Guide* .

**Enable UDO View Security to Orchestrations, Notifications, and Schedules**

Users must have UDO view security access to the orchestrations, notifications, and schedules that they want to work with using the Scheduler user interface. For more information about UDO view security, see "*Managing UDO View Security*" in the *JD Edwards EnterpriseOne Tools Security Administration Guide* .

# Scheduler User Interface Features

Use the Scheduler user interface to view, start, and stop notification or orchestration jobs with their associated schedules. This user interface enables you to review the state of the jobs that are running.

The Scheduler user interface contains the following features:

- **Jobs** list. The Scheduler user interface displays a list of existing notification or orchestration jobs. By default, the list is displayed in the ascending order of the notification and orchestration names.
- **Select or Select All** check box. Click the check box in the individual row to select specific jobs, or click the Select All check box to select all the jobs. Note that you can select only those jobs that are created by the currently logged-in user and have a schedule attached.
- **Sort Order** button. Enables you to sort the jobs in ascending or descending order. When you hover the mouse over the column header, the Sort Order button is displayed next to column name. By default, the jobs are sorted in the ascending order of Notification/Orchestration Name.
- **Filter** field. Search for specific notification or orchestration jobs in the list. The search runs over values in the Notification/Orchestration Name, Schedule Name, User, Environment, and Role fields. You can also filter the jobs based on the Notification ID and the Orchestration ID.
- **Scheduler uptime (d:h:m)**. Displayed when the scheduler server is running. Displays the duration for which the scheduler has been running in days, hours, and minutes.

  When the scheduler server is not running, the message "Scheduler not started" is displayed. For information on designating the current AIS server as the Scheduler server, see *Configuring AIS Server Manager Settings*.

  > **Note:** If the current AIS server is not designated as a scheduler server, a message "AIS Server not designated as Scheduler" is displayed.

- **Restore** button. Updates the notification and orchestration jobs displayed in the table so that the changes to the job information are reflected. For example:

  Jobs could have been started or stopped by another user by using the Scheduler user interface.

  Changes could have been made to the jobs using REST services.

  Changes could have been made to the jobs using the Work With Categories (P980059) application and so on.

  When using the Restore button, the values in the Filter field and drop-down selections are preserved.
- **i** (About). Displays a dialog box that provides two sets of information: Scheduler information and JAS server information.

- **Scheduler Server**. Indicates whether the AIS server to which you are currently logged-in is designated as a scheduler in Server Manager.
    - **Scheduler Information**
    - **Resilient**. Displays whether the scheduler is resilient.
    - **Started**. Displays whether the scheduler is running.
    - **Running Since**. Displays the date on which the scheduler started running and the duration for which the scheduler has been running.
    - **JAS Server Information**
    - **Host**. Displays the host JAS server URL.
    - **Environment**. Displays the environment to which the user is currently signed in.
    - **Role**. Displays the role that the user has currently signed in as.

    > **Note:** If the current AIS server is not designated as a Scheduler server and the Scheduler server has been started using REST API, the Scheduler Server, Started, and Running Since fields are displayed in red color indicating that there is a configuration error. Also, you will not be able to start or stop any of the orchestration and notification jobs.

- **Close**. Exit the user interface.

# Working with Scheduler

Using the Scheduler user interface you can perform the following:

- Use the **Start selected**

  button to start anto start an individual or multiple notification and orchestration jobs that you have selected. The Start selected button is enabled only when you select a job from the notification and orchestration jobs list.

  When you click the button, the selected jobs are started and the Scheduler user interface displays the following information in a dialog box:

    - Jobs Selected. Displays the number of jobs that are selected.
    - Jobs Started. Displays the number of jobs that have been started.
    - Jobs in Error. Displays the number of jobs that have errors or were not started.
    - Already Started. Displays the number of jobs that are already running among the selected jobs.

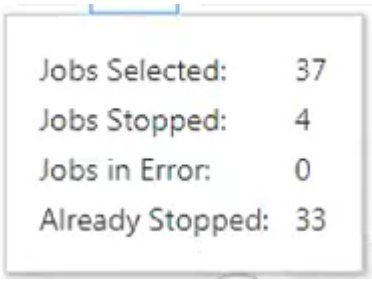
  Alternatively, you can start an individual job by enabling the Start/Stop toggle in the Started column located in each row.

- Use the **Stop selected**

  button to stop an individual or multiple notification and orchestration jobs that you have selected. The Stop selected button is enabled only when you select a job from the notification and orchestration jobs list.

When you click the button, the selected jobs are stopped and the Scheduler user interface displays the following information in a dialog box:

- Jobs Selected. Displays the number of jobs that are selected.
- Jobs Stopped. Displays the number of jobs that have been stopped.
- Jobs in Error. Displays the number of jobs that have errors or were not stopped.
- Already Stopped. Displays the number of jobs that are already stopped among the selected jobs.

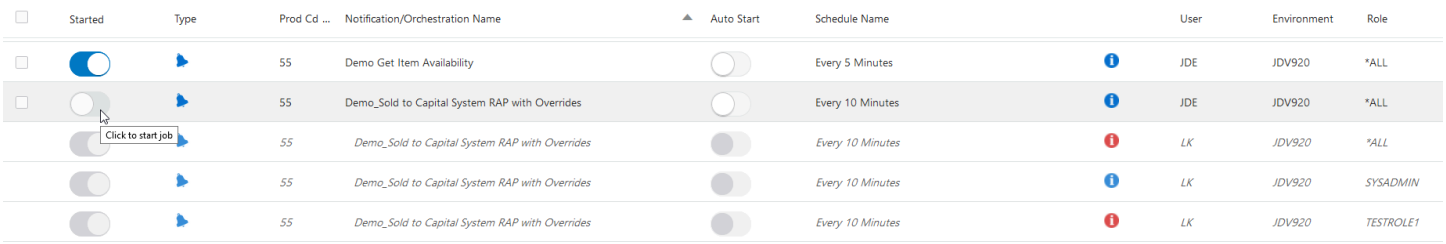



Alternatively, you can stop an individual job by enabling the Start/Stop toggle in the Started column located in each row.

In the following example, the user is currently logged in as JDE, so the JDE user can access all the jobs that have JDE as the value in the User column. The JDE user can start the highlighted job by sliding the "Click to start job"

toggle to the right. As the "Demo Get Item Availability" job also has JDE as the user, by sliding the toggle to left the user can stop the job.

The rest of the jobs in this example are disabled because these jobs have LK as the value in the User column. The toggle in the Running column indicates that the job is already running.




> **Note:** You can start only those jobs that are created by the currently logged-in user using the current environment, and the current role that the user is logged-in as. You can stop all the jobs that are created by the currently logged-in user. For the rest of the jobs, the Start/Stop toggle is disabled.

- Use the **Started** column to view the status of the notification and orchestration jobs for which you have access.

  Select one of the following values from the Started drop-down menu:

  - All. To view all the notification and orchestration jobs.
  - Started. To view only those notification and orchestration jobs that are currently being executed. This is the default option in the Started drop-down list.
  - Stopped. To view only those notification and orchestration jobs that are currently stopped.

- Use the **Type** column to filter the notification and orchestration jobs. The icon in the column indicates if the job is an orchestration

  or a notification

.

You can click the notification or orchestration icon to open the corresponding notification or orchestration. To navigate back to the Scheduler user interface from the notification design page or orchestration, click the Scheduler link in the location link displayed at the top of page.

Select one of the following values from the Type drop-down menu:

- All. To view all the notifications and orchestrations.
- Notifications. To view only the notification jobs.
- Orchestrations. To view only the orchestration jobs.

- Use the **Product Code** column to view the product code that was associated with the notification or orchestration when it was created. The Product Code drop-down menu displays all the product codes for the notifications and the orchestrations in the table.

  Selecting a product code from the drop-down menu displays only the associated notifications and orchestrations.
- Use the **Notification/Orchestration Name** column to view the name of the notification and orchestration. When you click the notification or orchestration name, the corresponding description is displayed.

  Use the Filter field to look for specific notifications or orchestrations. Use the Notification/ Orchestration Name sort button to sort the jobs in ascending or descending order of the notifications and orchestrations names.
- Enable the Auto Start toggle to designate a notification or an orchestration job to automatically start whenever the Scheduler server is started. For information on the autostart job records, see *Scheduler Autostart Jobs Manager*.

  > **Note:** Enabling the Auto Start toggle does not start a job, but only designates the job to be started automatically whenever the Scheduler server is started. Use the Started toggle to start an individual job.

- Use the **Schedule Name** column to view the name of the schedule when a notification or an orchestration has an attached schedule. When you click the schedule name, its corresponding description is displayed.

  Select one of the following values from the Schedule Name drop-down menu:

  - All. To view all the notification and orchestration jobs.
  - Schedule. To view only those notification and orchestration jobs that have a schedule attached. This is the default option in the Schedule Name drop-down list.
  - No schedule. To view only those notification and orchestration jobs that do not have any attached schedule.

  > **Note:** When you select the No Schedule option for the Schedule Name column, you have to select the All option for the Started column to view the jobs in the list.

- Click the **Info** icon to view the information about the job. When you click the Info icon, a dialog box appears displaying two sets of information: scheduled job information and health monitor.

  **Scheduled Job Information**:

  Displays the following data for the selected job that is associated with a specific user, environment, and role:

  - Notification or Orchestration Name
  - Notification or Orchestration ID
  - UDO Group
  - Last Run
  - Last Run Duration
  - Next Run
  - Total Runs
  - Schedule Name
  - Schedule ID
  - Interval
  - Consecutive Errors
  - % Errors
  - Total Errors

  For the jobs that are not executing currently, only the Notification or Orchestration Name and ID, Schedule ID, and Interval information are displayed.

  **Health Monitor:**

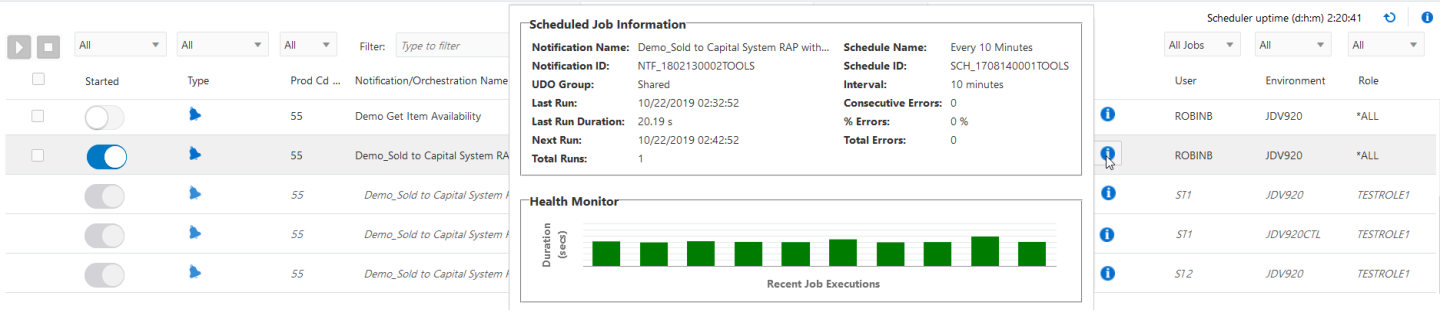
  Displays high-level information about the performance of the selected job. A bar-chart shows up to the last 10 instances that the job was executed, with each bar representing a single instance. The instances are listed earliest to latest, from left to right. A red bar indicates a failure. A green bar indicates a success. The height of each bar indicates the time taken to process the job. Move your cursor over each bar to see the date and time when the job was executed and the time in seconds taken to complete processing the job.

  For more information, see "*Orchestrator Health and Exception Monitoring*" in the *JD Edwards EnterpriseOne Tools Orchestrator Guide* .

  The information that is displayed in the bar-chart for a job is based on the name of the notification or orchestration regardless of the user, environment, and role values.

  As shown in the following example, the Scheduled Job Information section displays the information only for the highlighted job with respect to the specific user, environment, and role. In the Health Monitor section, each

bar in the chart could be for any of the instances of the job with the notification name "Demo_Sold to Capital System RAP with Overrides" regardless of the user, environment, or role values.




The Info icon indicates an error when the icon is displayed in red.

- Use the **User**, **Environment**, and **Role** columns to view the user, environment, and roles information for the jobs.

    - **User**

      The user who created the orchestration or notification. In the case of jobs that are currently executing, the User, Environment, and Role columns display the user who started the job.
    - **Environment**

      The environment that the user who created the orchestration or notification is signed in to. The environments listed in this column are the environments that are available on the JAS server that is connected to the current AIS server. Therefore, if you log in to a different AIS server, the environments are listed based on the environments that are supported on the JAS server for that AIS server.
    - **Role**

      The role of the user who created the orchestration or notification.

Use the drop-down menus to filter the jobs based on user, environment, and role. The user who is currently logged in will not be able to select, start, or stop the jobs that have been created by another user.

When you have jobs with the same notification or orchestration name running multiple times based on different user, environment, and role combinations, the Scheduler user interface lists the job that is associated

with the currently logged-in user, the currently used environment, and current role of this user, as the primary record.

Next, the jobs that are associated with the currently logged-in user but created in different environments and through other roles are displayed. Followed by the jobs with the same notification or orchestration name, but associated with different user, environment, and role values. These instances of the job with the same name are displayed in italics.

The Orchestrator Studio preserves the options that are selected for the drop-down menus in the Scheduler user interface. The next time you log in, the Scheduler user interface will display the jobs according to the selection made in the previous session.

> **Note:** For the User drop-down list, only the All Jobs and My Jobs options are preserved.

When you filter a job based on a Role or an Environment, the system preserves the filter values. However, if the next time you log in and no data exists for that selection (for example, you filtered based on a role that no longer has any jobs that are currently executing), the drop-down menu will display the value All.

# Starting and Stopping Jobs using Scheduler

Using the Scheduler user interface, you can start and stop the notification and orchestration jobs that have a schedule attached.

To start an individual job:

1. Open the **Scheduler** user interface.
2. Select the notification or orchestration job you want to start.

   > **Note:** You can only start the jobs that are associated with the currently logged-in user, the currently used environment, and the user's current role. The currently logged-in user cannot start the jobs that are created by another user.

3. For the selected job, slide the toggle to the right in the **Started** column.

   Alternatively, you can click the **Start selected** button to start the selected job.

To start multiple jobs:

1. Open the **Scheduler** user interface.
2. Click the check box next to the **Type** column to select the jobs you want to start, or click the **Select All** check box to select all the jobs.

   > **Note:** You can only start the jobs that are created by the currently logged-in user, the currently used environment, and the user's current role. The currently logged-in user cannot start the jobs created by another user.

3. For the selected jobs, click the **Start selected** button to start the jobs.

To stop jobs:

1. Open the **Scheduler** user interface.

2. Select the notification or orchestration jobs you want to stop.

   **Note:** You can stop all the jobs that are created by the currently logged-in user, regardless of the environment in which the user is logged in, and role the user is logged in as. The currently logged-in user cannot stop the jobs created by another user.

3. For the selected jobs, click the **Stop selected** button to stop the selected jobs.

   To stop an individual job, slide the toggle to right in the Started column for selected row.

# Scheduler Autostart Jobs Manager

The Scheduler Autostart Jobs Manager (P980059) is an EnterpriseOne application that provides information about notification and orchestration jobs that are automatically started when the Scheduler server is started.

With the Scheduler Autostart Jobs Manager application, you can view and manage the notification and orchestration jobs that are automatically started by the Scheduler for all the users, roles, and environments.

**Note:** For the jobs to be automatically started, the JAS server must be running before the AIS server is started.

For information on designating the current AIS server as a Scheduler server, see *Configuring AIS Server Manager Settings*.

## Accessing the Scheduler Autostart Jobs Manager

You can access the Scheduler Autostart Jobs Manager application from EnterpriseOne.

In EnterpriseOne, click Navigator, and select EnterpriseOne Menus, EnterpriseOne Life Cycle Tools, Orchestrator Management, and Scheduler Autostart Jobs Manager (P980059). Alternatively, you can type P980059 in the Fast Path and press the Enter key to access the Scheduler Autostart Jobs Manager application.

If the Scheduler Autostart Jobs Manager does not display the information about the jobs that are automatically started, contact your system administrator and request UDO view security access to the orchestrations and notifications.

## Managing Scheduler Autostart Jobs in EnterpriseOne

EnterpriseOne stores autostart job records in the Scheduler Autostart Jobs (F980059) table. When you enable the Auto Start toggle for a notification or an orchestration job on the Scheduler user interface, a record is added to the Scheduler Autostart Jobs (F980059) table and the Scheduler Autostart Jobs Manager application (P980059). Whenever the AIS server that is designated as a Scheduler server is started, the Scheduler refers to the Scheduler Autostart Jobs (F980059) table to automatically start the jobs.

When you slide the Auto Start toggle to left for a job on the Scheduler user interface, the corresponding record is deleted from the F980059 table and the P980059 application.

EnterpriseOne provides the Scheduler Autostart Jobs Manager application (P980059) so that you can access these autostart job records outside the Scheduler user interface. This application enables you to delete the notification and orchestration jobs that you no longer want to automatically start. These notification and orchestration jobs could have been created by any user. Deleting a record from the P980059 application, sets the Auto Start toggle for the corresponding job to Off on the Scheduler user interface.

**Note:** Before managing the autostart job records in EnterpriseOne, ensure that an administrator has enabled access to the Scheduler Autostart Jobs Manager application (P980059).

To view autostart job records in EnterpriseOne:

1. From the EnterpriseOne Navigator, select EnterpriseOne Life Cycle Tools, Orchestrator Management, and Scheduler Autostart Jobs Manager (P980059).
2. In the Work with Scheduler Autostart Jobs form (P980059_W980059A), click Find to load all the records.
3. You can also search for autostart job records based on the values that you enter in the following fields:
    - Object Type
    - UDO Name
    - Environment
    - Product Code
    - User
    - Environment
    - Role

To delete an autostart job record:

1. In the Work with Scheduler Autostart Jobs form, click the check box next to the records you want to delete.
2. Click Delete.

# Using Notifications with Orchestrator Studio 8

You can use the Orchestrator Studio 8 to edit and save changes to the existing notifications. You can not create new notifications using the Orchestrator Studio 8.

# 5 Testing Notifications

## Testing Notifications

You can test a notification directly from the notification design page as you are designing it. You simply use the Test button, which also enables you to enter input values and select whether to dispatch notifications.

> **Note:** Before you test a notification that uses an orchestration, you should test the orchestration separately to ensure it is working properly before it's used within a notification. See "*Testing Orchestrations*" in the *JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior* for more information on testing orchestrations.

To test a notification:

1. After creating and saving your notification on the notification design page, click the **Test** button.

   A list of notification inputs appears.
2. In the Value column, enter the input value that you would like to use for your test.
3. If you would like to send the notification message to subscribers, turn on the **Dispatch Notifications** option and enter any inputs.

   If you would like to test the logic of the notification and its components without sending a notification message, you can leave this option off.

   > **Note:** To dispatch notifications, there must be at least one subscription to the notification. If not, an error will be returned. Therefore, if you are creating a new notification, go to the Subscription Manager in EnterpriseOne and create a subscription for yourself before you test it. Also, if Allow Subscriber Overrides is enabled and you choose to dispatch notifications, the inputs are disabled since the subscriber overrides are used.
4. Click the **Execute** button to run the notification test.

   If the notification contains a Watchlist, you see the values returned from the Watchlist.

   If the notification has an orchestration, you see the values returned from the orchestration.

   However, if you have Dispatch Notifications turned on, you only see true and false values to indicate that the notification message was sent. You can check your email, Work Center, or the Notifications List from the EnterpriseOne menu bar to view the actual notification message. Where this message appears depends on how you defined the delivery method for your subscription.

   If there is a problem with your notification, you may see errors returned from the test.

# 6 Assigning Subscriptions (Release 9.2.2.4)

## Understanding Assigned Subscriptions to Notifications

The Assigned Subscriptions (P980053X) application provides a manager, business analyst, or administrator the ability to assign subscriptions to groups with a common interest or role as an alternative to every user subscribing individually. This application removes some of the uncertainty about what information users are receiving.

**CAUTION:** You may want to secure this application so that it is only available to the managers or administrators who need it. End users can still manage their own subscriptions using the Subscription Manager application. See these guides for more information:

- *Working with Subscription Manager* in the *JD Edwards EnterpriseOne Tools Foundation Guide*
- *Managing Application Security* in the *JD Edwards EnterpriseOne Tools Security Administration Guide*

## Prerequisites

Complete the following prerequisites:

- Enable view security of existing notifications for the subscribers.
- If using email delivery within the Work Center, ensure that mail preferences are set up for subscribers.

  For more information, see *"Setting Up JD Edwards EnterpriseOne Electronic Mail Components"* in the *JD Edwards EnterpriseOne Tools Workflow Tools Guide* .
- Notifications that have been shared or published must exist.
- You must have access to the Assigned Subscriptions application.
- For other required prerequisites for notifications, see *Getting Started*.

## Working with Assigned Subscriptions

Use Assigned Subscriptions (P980053X) to view, add, delete, or modify notification subscriptions. Within Assigned Subscriptions, select the notification for which you would like to create a subscription and then define your subscription as follows:

- **Allow Subscribers to Opt Out**. Use this option to specify whether you will allow subscribers to individually opt out of receiving the notification.
- **Configuration**. Define general information, delivery instructions, and the subscriber list for your subscription.
- **Inputs**. View, override, or allow subscribers to override the notification inputs for the subscription. This section is editable only if the notification has been designed to allow inputs.

- **Policy**. Specify more detailed instructions for when you want the notification message delivered and whether the subscriber can override these instructions. For example, if the notification is Watchlist-based, do you want a notification sent only when the Watchlist level changes to critical or each time it remains critical?

When you open Assigned Subscriptions, you see only the assigned subscriptions that you have created and assigned. Use the **Show All** option in the upper-left corner to show all assigned subscriptions.

With Release 9.2.3.3, **Show All** has been moved into a **Show** drop-down menu, from which you can choose All or Mine. Selecting Mine displays only the assigned subscriptions that you have created.

# Adding a New Assigned Subscription

To add a new assigned subscription:

1. Log in to JD Edwards EnterpriseOne.
2. In the upper-right corner of the screen, click your login name.
3. Under the Personalization category, select **Assigned Subscriptions**.

   With Release 9.2.3, **Assigned Subscriptions** is located under the Manage Notifications menu.
4. In Assigned Subscriptions, click **Add Subscription**.

   All of the available shared notifications are shown in alphabetical order.

   With Release 9.2.3.3, you can also search for a notification name or notification description by typing it in the **Search** field.
5. Select the notification for which you want to create a subscription. You can hover over the notification name to see the notification description before you select it.
6. Use the **Allow Subscribers to Opt Out** option to specify whether users whom you subscribe to the notification will have the option in Subscription Manager to not receive the notification.
7. In the Configuration section, enter a subscription name. The default value is the notification name. Because you can create multiple subscriptions over the same notification (for example, with different override values or different subscribers), you may want to differentiate the subscription name from the notification.

   > **Note:** After you save your subscription, you cannot change the value in this field.

8. For delivery methods, use the **Allow Subscribers to Override** option to specify whether users whom you subscribe to the notification will be able to change the delivery methods you define in the next step.
9. Select the delivery methods for your notification. You must select at least one of the following:
   - Select **Notification List** to show the notification in the Notification List (bell icon) on the JD Edwards EnterpriseOne menu bar.
   - Select **Work Center** to send a message through the Work Center application or an email through the EnterpriseOne Work Center. You must have already set up the Work Center in order to use this option.

   > **Note:** You cannot enter email addresses in Assigned Subscriptions. If you want to specify an email address, you must use the Subscription Manager application. For more information, see *Subscribing to Notifications* in the *JD Edwards EnterpriseOne Tools Foundation Guide* .

10. For Subscriber List, either select **Everyone** or select the **Add Role** option to select specific roles for the subscriber list.
11. In the Inputs section, you see the notification's inputs and default values.

    > **Note:** If, when the notification was created, the **Allow Subscriber Overrides** option was not selected, you cannot make changes to the Input section.

Use the **Allow Subscribers to Override** option to specify whether users whom you subscribe to the notification will be able to change the inputs that you define here.

If the notification designer has allowed overrides to the notification inputs, you can enter the override values for your subscription. In some cases, the value is required and you must either enter an override value or accept the default value. Before entering the override value, you see a hint in the **Override Value** field that describes the type of information you need to enter. The override value types you might enter are:

- Text
- Number
- Time in Milliseconds
- Date in MM/dd/yyyy Format
- Date in dd/MM/yyyy Format
- Date in MM/dd/yy Format
- Date in dd/MM/yy Format
- Date in yyyy/MM/dd Format
- Date in yy/MM/dd Format
- Date/Time in yyyy-MM-dd'T'HH:mm:ss:SSSZ Format

The format is validated when you click **Save**.

12. The information in the Policy section is dependent on whether the notification output type is a string, number, Watchlist level, or Boolean (true/false). You can find this information by clicking the **About Subscription** icon in the upper-right corner of Assigned Subscriptions.

    Use the **Allow Subscribers to Override** option to specify whether users whom you subscribe to the notification will be able to change the policy you define here.

    For every output value type, you can select to be notified only once or always.

    If you select "Only Once" for the **Notify Me** field, the **Allow Subscribers to Override** option is disabled, and each subscription is deleted after that subscriber has been notified once.

    If you select "Always," subscribers are notified each time the notification runs and meets the criteria (for example, your overrides or other logic that the notification designer included). For the string and number output types, these are the only two options.

    If the output value type is Boolean, you can also select to be notified only if the rules that you define are met. For Boolean, you can define one or more rules that specify to notify you if the boolean value:

    - Changes
    - Changes to True
    - Changes to False
    - Equals True
    - Equals False

    If the output value type is a Watchlist Level, you can also select to be notified only if the rules that you define are met. For Watchlists, you can define one or more rules that specify to notify you if the Watchlist level:

    - Changes
    - Changes to Critical
    - Changes to Warning
    - Changes to Normal
    - Equals Critical
    - Equals Warning
    - Equals Normal

    Use the plus and minus icons to add and delete rules. "Or" logic is used when you add multiple rules, which means you will receive a notification message as long as one of the rules is true.
13. When you are finished defining your assigned subscription, click the **Save** icon in the upper-right corner. If you have any errors or warnings, an exclamation point icon appears next to the Save icon and the errors or warnings appear next to the related fields. Correct or review the errors or warnings, and then click **Save** again.

    Your newly created subscription appears in the left column in alphabetical order. To see only the subscriptions that you have created, turn off the **Show All** option in the upper-right corner.

# Updating an Assigned Subscription

**Note:** Oracle recommends that you do not make major changes to existing assigned subscriptions if you have given subscribers the option to override values. Instead, consider creating a new assigned subscription and deleting the old one.

To update an existing subscription:

1. In Assigned Subscriptions, use the **Show** and **Search** fields to filter the subscription list (Release 9.2.3.3).
   a. Select one of the following values from the Show drop-down menu:

      **All**. Show all assigned subscriptions.

      **Mine**. Show only subscriptions that you have created and assigned.
   b. Use the **Search** field to limit the subscription list to subscriptions with a notification name, notification description, or subscription name matching your text.
2. Select the subscription from the list of subscriptions on the left.
3. Make the appropriate updates.

   For more information on specific fields and options, see *Adding a New Assigned Subscription*.
4. Click the **Save** icon in the upper-right corner. If you have made changes to values that you previously allowed users to override, you see this warning: "Saving these changes will delete all subscriber overrides for this assigned subscription. Subscribers will have to recreate their overrides. Are you sure you want to proceed?" Click **OK** or consider creating a new assigned subscription and deleting the previous one.

# Deleting an Assigned Subscription

You may want to delete an assigned subscription for any of the following reasons:

- Subscribers no longer need to be alerted to that particular notification.
- The notification upon which your subscription is based has been deleted so your subscription is no longer valid.
- View security has changed, blocking the notification and making the subscription invalid.

**CAUTION:** Deleting an assigned subscription also deletes all subscriber overrides.

To delete an assigned subscription:

1. In Assigned Subscriptions, select the subscription to delete from the list of subscriptions on the left.
2. Click the **Delete** icon in the upper-right corner.
3. On the delete verification window, click **OK**.

# 7 Working with Categories (Release 9.2.3.3)

## Understanding Categories

The Category Manager (P980058) application provides a way to view, add, edit, and delete categories that can then be attached to subscriptions so that users can group notifications with a common purpose or business goal. For example, they might want to group notifications by sales region or location. Category Manager enables you to provide preexisting categories to potential subscribers for this reason.

The categories created in Category Manager appear in a drop-down list in the Subscription Manager where subscribers can choose to use them. In Subscription Manager, subscribers can also create categories on the fly and share them for reuse by other users. For more information on Subscription Manager, see *"Adding a Subscription" in the JD Edwards EnterpriseOne Tools Foundation Guide* .

> **Note:** Use action security to disable a user's ability to add categories in both the Category Manager and Subscription Manager. If you disable the ability to add in Category Manager, the Share button will not appear in Subscription Manager either.

## Working with Categories

Use the Category Manager to view, add, update, or delete categories. Category Manager can be accessed from the Navigator Menu by selecting EnterpriseOne Menus, EnterpriseOne Life Cycle Tools, and then Orchestrator Management.

### Adding a Category

To add a category:

1. In Category Manager, select **Add**.
2. In the grid, provide values for the following columns in the first row:
    - **Category**. Required. A description of the category. This field is case-sensitive.
    - **Category Type**. Required. For subscriptions, use **SUB**. All other category types are for future use.
    - **Language Code**. For future use. Optional.
3. Repeat these steps to add multiple categories.
4. Click **OK**.

> **Note:** After clicking **Add**, you can also import many categories at once from a .csv file or Microsoft Excel, by using the standard grid import functionality.

# Updating a Category

To update a category:

1. In Category Manager, use the header fields or QBE line to find the category you want to update.
2. Select **Find**.
3. Place a checkmark in the row header of the category that you want to update and click **Select**.
4. Make any updates.
5. Click **OK**.

# Deleting a Category

To update a category:

1. In Category Manager, use the header fields or QBE line to find the category you want to update.
2. Select **Find**.
3. Select the row for the category that you want to delete.
4. Select **Delete**.
5. Click **OK** to confirm that you want to delete the selected item.

# 8 Managing Notifications and UDO Security

## Monitoring Notifications (Release 9.2.3)

The EnterpriseOne Orchestrator Monitor (P980060X) is an EnterpriseOne application that enables you to perform a health check of notifications in your EnterpriseOne Orchestrator environment. It provides information about which notifications are performing well and which ones might need fine tuning, as well as details about exceptions so that you can take corrective actions to resolve any issues. For more information, see "*Understanding the EnterpriseOne Orchestrator Monitor*" in the *JD Edwards EnterpriseOne Tools Orchestrator Guide* .

Starting with Tools Release 9.2.7.4, you can define the notification monitoring details such as notification input and output, subscriber details and subscriber input and output. This enables you to effectively control the notifications that are logged for success and failure, along with additional logged data and visualizations in the Orchestrator Monitor.

To set up monitoring details:

1. On the Orchestrator Studio Home page, click the **Notifications** icon, and select the required notification.
2. Click the **Monitoring** icon.
3. Select these options as required:
   - **Notification Details**: Records the start time, end time, duration, and the status of the notification.
   - **Notifications Input/Output**:Records the request input and response output of the notification.
   - **Subscriber Details**:Records the start time, end time, duration, and status of the subscriber.
   - **Subscriber Input/Output**:Records the input and output details of the subscriber.

   > **CAUTION:** Enabling these options may generate a very high volume of records for processes that run very frequently or have many steps. It is recommended to leave these options disabled unless there is a specific need for monitoring. It is also recommended to review the Orchestrator Exceptions program (P980060) periodically and purge unnecessary records. See *Managing Orchestrator Health and Exception Records in EnterpriseOne*.

4. Enable the **Monitor on Start** option if required.

   > **CAUTION:** It is recommended to enable this option only for long-running processes. This setting starts logging at the beginning of the process and incurs additional overhead.

5. Enable the **All Environments** and **All Users** options to monitor all the environments and users. Disable these options to verify or add specific environment and user details.

   You can enter specific environments and users in the Environment to Monitor and User/Role to Monitor tables. Click the **X** icon in the table to delete a row.

> **Note:** The system displays a blue dot next to the Monitoring icon in the Notifications window if the monitoring options are selected.

# Understanding UDO Life Cycle Management

Notifications and schedules, like all other orchestration components created in the Orchestrator Studio, are stored as user defined objects (UDOs) in EnterpriseOne. Each orchestration component type is managed as a separate UDO type in EnterpriseOne.

Storing notifications and schedules as UDOs enables you to use the following EnterpriseOne administration tools to manage the life cycle and security for orchestration UDOs:

- Object Management Workbench - Web (P98220W)

  Use this application to move orchestration UDOs between projects, check out and check in objects, and transfer objects between path codes. After Orchestrator Studio users create and test orchestrations in a test environment, use P98220W to transfer the objects to an AIS Server in a production environment. See the *JD Edwards EnterpriseOne Tools Object Management Workbench for the Web Guide* for more information.

- User Defined Object Administration (P98220U)

  An administrator or person in a supervisor role uses this application to approve or reject orchestration UDOs for sharing. Typically, you can inspect UDOs in P98220U before approving them or rejecting them. However, you can only inspect orchestration component UDOs in the Orchestrator Studio. See the *JD Edwards EnterpriseOne Tools Using and Approving User Defined Objects Guide* for more information on how to use P98220U.

- Security Workbench (P00950)

  Use Security Workbench to set up UDO feature, UDO action, and UDO view security, which authorizes access to the Orchestrator Studio design pages and determines the actions users can perform in the design pages. See *Setting Up UDO Security for Notifications and Schedules* in this guide for more information.

It is recommended to set up different instances of the AIS Server: one instance for designing and testing notifications and another instance for production. Running two instances can also help with troubleshooting notification issues in a production environment. In the Object Management Workbench - Web application, you can move a notification from a production environment to a test environment for troubleshooting.

# Setting Up UDO Security for Notifications and Schedules

Out of the box, Orchestrator Studio users do not have access to Orchestrator Studio design pages or permission to create, publish, or modify orchestration UDOs. Access to the design pages and authorization to work with orchestration UDOs is controlled through UDO security in the EnterpriseOne Security Workbench (P00950).

Notifications and schedules are managed as separate UDO types. You have to set up UDO security for notifications and schedules if you plan to use them. If you want to invoke an orchestration from a notification, you must also set up permissions to use the other orchestration components.

Before setting up UDO security for an orchestration UDO type, that orchestration UDO type must be set up with the proper "Allowed Actions" in the OMW Configuration System (P98230) application. See *"Define Allowed Actions for UDO Types" in the JD Edwards EnterpriseOne Tools Security Administration Guide* for more information.

The following sections provide details and recommendations for setting up UDO feature, UDO action, and UDO view security for notifications and schedules.

**UDO Feature Security for Notifications and Schedules**

You must use UDO feature security to activate notification and Schedule design pages. Out of the box, the design pages are not activated.

Because development of a notification can sometimes require other types of UDOs (for example, Watchlists, schedules, orchestrations), you must activate all pertinent UDOs through UDO feature security. If you do not activate these through UDO feature security, users cannot access the associated components and component design pages.

UDO feature security is NOT set up by user, role, or *PUBLIC. It is a system setting for activating or deactivating notifications and schedules in the Orchestrator Studio.

See *"Managing UDO Feature Security" in the JD Edwards EnterpriseOne Tools Security Administration Guide* .

**UDO Action Security for Notifications and Schedules**

UDO action security controls the actions users can perform in the Orchestrator Studio, or in other words, the buttons users can use in each component design page. You must set up UDO action security for each component type that you are going to use with your notifications (for example, notifications, Watchlists, schedules, rules, orchestrations).

**Recommendation**: To simplify UDO action security for Orchestrator Studio users, it is recommended that you grant "Create, Publish, Modify" permissions to all Orchestrator Studio users for each orchestration component type. Also, users must assign a product code to each orchestration component that they create. This gives you the option to set up UDO action security by product code so that all users can work with orchestration components associated with a particular product code.

See *"Managing UDO Action Security" in the JD Edwards EnterpriseOne Tools Security Administration Guide* .

**UDO View Security for Notifications and Schedules**

UDO view security determines which Orchestrator Studio users are authorized to view UDOs that have been shared. UDO view security is set up by user, role, or *PUBLIC. You can set up UDO view security for each shared notification or schedule or for all shared UDOs of a particular UDO type. Again, you need to consider which UDOs are used by your notifications and ensure that UDO view security is set up properly.

See *"Managing UDO View Security" in the JD Edwards EnterpriseOne Tools Security Administration Guide* and "*Managing Orchestrator Studio Security*" in the *JD Edwards EnterpriseOne Tools Orchestrator Guide* .

# Understanding Security Implications of Invoking Notifications

The notifications that you design will publish information from your JD Edwards system to your subscribers. Therefore, you must be aware of JD Edwards security so that the subscribers get the information they need and do not get the information from which they are secured. In general, the security of your notifications will depend on two things:

- The resources or objects that you include in your notification, such as Watchlists or orchestrations, and the resources that they, in turn, invoke.
- The user ID under which the notification runs.

As described in *Creating a Notification*, if your notification is set to "Run as Subscriber" then the notification will run under the user ID of each person who subscribed to the notification. Therefore, all subscribers need authority to access all objects upon which the notification depends.

If the notification is not set to "Run as Subscriber" then the notification will run under the credentials of the user who started the scheduler (proxy user). Therefore, that user ID will need authority to access all objects upon which the notifications depend.

Oracle recommends that your proxy user's data security mirrors that of the notification's subscribers. This ensures that the data subscribers receive in the notifications is appropriate for them. For example, if your subscribers only have access to sales information for a certain region, make sure that your proxy user does not have global access to sales information. Give careful consideration to data security concerns when deciding to run your notifications as a proxy user.

As described in *Creating a Notification*, you can include a Watchlist or an orchestration in your notification that determines when a notification is sent and what information is included in the message. Watchlists and orchestrations are both UDOs and are subject to UDO security. Also, the schedule that you assign to the notification is a UDO.

If you revoke a user's existing view security, make sure you consider any notification subscriptions they may have. If the Run As Subscriber option is enabled, the subscriber will see that the subscription is no longer valid in the Subscription Manager. However, if the Run As Subscriber is not enabled for that notification, that user may continue to receive notification messages even though they no longer have view security. To ensure that subscribers no longer receive notifications after their view security has been revoked, copy the original notification using the Save As feature in Orchestrator Studio and delete the original notification. This will force subscribers to resubscribe to the new notification.

# Clearing Notification Cache on the AIS Server

The AIS Server caches all orchestration files processed by the Orchestrator. If Orchestrator Studio users modify notification components that are currently in use, an administrator must clear the AIS Server cache for the modifications to take effect. Clearing the cache forces the AIS Server to reload files from disk to cache.

Regardless of the method you use, Oracle recommends that you clear the cache only on an AIS Server instance used for developing and testing notifications.

See "Clearing Orchestration Cache on the AIS Server" in the *JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior* for more information.

# Optimized Notifications in EnterpriseOne (Tools Release 9.2.7.4)

Starting with Tools Release 9.2.7.4, the loading of notifications in EnterpriseOne is optimized. EnterpriseOne displays the message count on the Notifications icon without retrieving the notification messages. The notification messages load when you click the Notifications icon. It improves the server memory utilization and enables faster log in.

If you have large number of notification messages, you can reduce the number of notification messages on each page. The system default value for notification messages on each page is 100.

# 9 Translating Notifications

## Translating Notifications

Notification objects can be translated using the User Defined Objects Language Translations (P9860WD) application. This tool provides for UDO object translation as well as UDO content translation.

For more information on using this tool to create translation records for UDOs, see *"Translations" in the JD Edwards EnterpriseOne Tools Using and Approving User Defined Objects Guide .*

There are six fields within a notification that can be translated:

- Name
- Description
- Inputs (multiple)
- Message Subject
- Message Body
- Shortcut Link Text (notification list only - this is not translated for Work Center or external emails)

There is a 200-character limit on translated text for each field.

If a field in the notification is defined using variables, with the ${*variable*} notation, the translator does not translate those variables. It will translate surrounding text, but the variable and surrounding notation must stay the same.

You can see the translated values in a notification in two places:

- **Subscription Manager**. If there is a translation record defined in the subscriber's language, the subscriber will see the translated values in EnterpriseOne Subscription Manager.
- **Received Notification (in Work Center, email, or Notification List)**. If there is a translation record defined in the subscriber's language, the resulting notification is in the subscriber's language. Also, if the subscriber receives a notification failure message, the error details are in the subscriber's language.

**Note:** Text for a Data Dictionary item is sent in the language of the user that ran the notification, which may not be the subscriber's language, if the following conditions are met:

- A Data Dictionary item is used within the message.
- The subscriber indicated an email address as the delivery method when defining their subscription in Subscription Manager.

# 10 Appendix A - Creating Notifications with Orchestrator Studio 7.x.x

## Creating Notifications with Orchestrator Studio 7.x.x

This chapter has been updated in support of Orchestrator Studio 7.3.0. The features related to this release are notated with the release number.

This chapter describes how to take your notification design from analysis to implementation.

## Understanding Notifications and Orchestrator Studio

Just like all other orchestration components, notifications and schedules:

- Are created using Orchestrator Studio design pages, which have the standard design page features.
- Are reusable components.
- Are saved and managed as user defined objects (UDOs) in EnterpriseOne.
- Utilize the standard UDO life cycle features (for example, can be published or shared).

Notifications also have a graphical representation in Orchestrator Studio similar to orchestrations.

For more information, see:

- *"Understanding the Orchestrator Studio and Orchestrations" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior*
- *"Navigating the Orchestrator Studio" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior*

You can use the Orchestrator Studio to create the following components related to notifications:

- **Notifications**. A notification is a master component that enables the system to notify users of business events as they happen without the need for the user to be online. You can specify that the notification execute a Watchlist or an orchestration. You define what the notification message looks like and whether it includes a shortcut to an application. With Orchestrator Studio 7.2.0.0, you can also attach report output from an EnterpriseOne report or BI Publisher report, and you can link to an orchestration, notification, or URL. You attach the schedule for when it runs, and any rules that must be met to send the notification message.
- **Schedules**. A schedule defines how often the system runs a particular job. A schedule consists of a time interval in minutes, hours, or days, or a Cron string. A schedule can be attached to multiple notifications or orchestrations to determine how often they run. The scheduler runs as a process on the Application Interface Services (AIS) server and is managed using a set of REST APIs.
- **Orchestrations**. An orchestration is a master component that provides a unique name for an orchestration process. The orchestration is where you define the inputs for the orchestration, the expected incoming data. It also includes orchestration steps, which are invocations to the other components. When the Orchestrator invokes an orchestration, it processes the steps defined in the orchestration to enable the transfer of data within EnterpriseOne or between third-party sources and EnterpriseOne.

- **Rules**. A rule on a notification is used to determine whether the message is dispatched to the subscribers. The rule must evaluate to true in order for the message to be dispatched. If there is no rule specified, the message is always dispatched.

# Accessing the Orchestrator Studio

The Orchestrator Studio is a web application that runs in a web browser. Ask your system administrator for the URL to the Orchestrator Studio.

> **Note:** Before users can access the Orchestrator Studio, an administrator must set up security to authorize access to the Orchestrator Studio design pages and determine the actions Orchestrator Studio users can perform. See for more information.

To access the Orchestrator Studio:

1. In a web browser, enter the URL to the Orchestrator Studio:

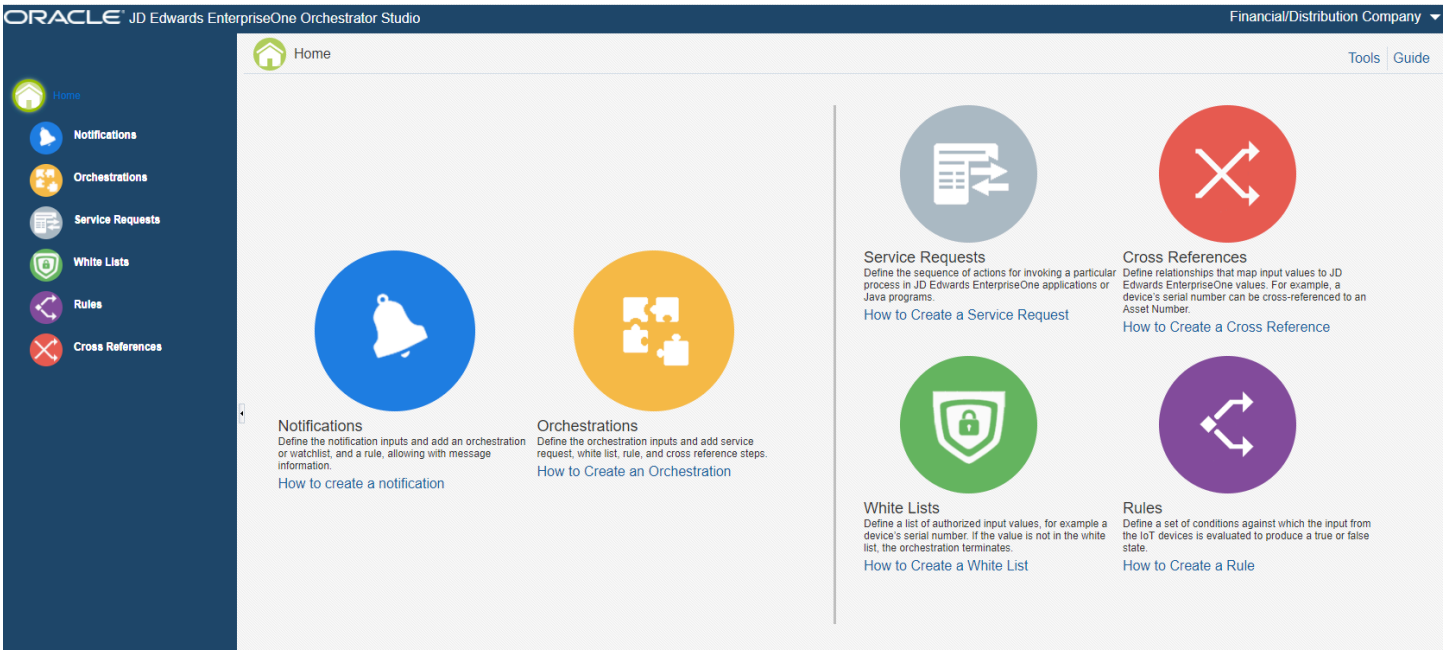
   `http://<adf_server>:<port>/OrchestratorStudio/faces/index.jsf`
2. On the Orchestrator Studio Sign In screen, enter your EnterpriseOne User credentials, environment, and role.

   > **Note:** It is highly recommended that you enter an EnterpriseOne environment used for testing, not a production environment.
3. Click the **Login** button.

In the Orchestrator Studio, click the drop-down menu in the upper-right corner to view the path to the AIS Server. The drop-down menu also provides a link to log out of the Orchestrator Studio.

# Navigating the Orchestrator Studio

The component icons on the Orchestrator Studio Home page take you to the design pages for creating and modifying each orchestration component. You can click the **Home** icon at the top left of the Home page to display a side panel, which provides another way to access the component design pages. You can also access this side panel within the component design pages for easy navigation between the different design pages. The Home page with the side panel enabled is shown below:




The Tools link in the upper-right corner of the Home page provides access to the Orchestrator Studio Tools page. This page provides links to the Schedule design page for creating schedules, Orchestrator Client for testing orchestrations,

the Import tool for importing orchestration files, and the JD Edwards EnterpriseOne web client. For more information, see:

- *"Testing Orchestrations" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior*
- *"Importing Orchestration Files" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior*

# Creating a Notification

With the JD Edwards EnterpriseOne Orchestrator Studio, you can create notifications that provide pertinent and actionable notification messages to your users.

**Note:** Remember that when you are ready to "request to publish" a notification, you need to make sure that you also request to publish all components associated with the notification. The administrator also needs to apply the correct view security to the shared components so that when the notification runs, all dependent objects are available and the notification process will not end in error.

**Note:** Click on one of these titles to view tutorials for this feature:

- ***Creating a Simple Notification***
- ***Creating a Notification Based on a Watchlist***
- ***Creating a Notification Based on an Orchestration***

To create a notification:

1. On the Orchestrator Studio Home page, click the **Notifications** icon.
2. On the Notifications page, click the **New Notification** button.
3. On the Notification design page, enter a unique name for the notification in the Notification field. Make sure that it is very descriptive and includes scheduling information for subscribers. For example, you might enter "Check for Purchase Orders Received Every Four Hours," and not "trkPO_h4."

   **Note:** The name cannot be empty, blank or contain the following characters: ~ `!@#$%^&*()+={[}]|\;:"<,>.?/.
4. Click the **Product Code** drop-down list to select a product code to associate with the notification. If you leave this field blank, the notification defaults to product code 55.

   This gives an administrator the option to manage UDO security for orchestration components by product code.
5. In the space provided, enter a short description with a maximum of 200 characters.

   This description will show as hover text when your subscribers choose to subscribe to this notification, so this is a good place to tell your subscribers about any inputs they may provide and how often they can expect the notification to run. For example: "This notification allows you to track the status of a purchase order. Enter the purchase order number as input. You will receive updates hourly."
6. Click the **Edit Long Description** button to provide more detail about the component.

   Use this field to describe the purpose of the notification and any details that differentiate the notification from other notifications that you create.

7. Click the **Type** drop-down menu and select the appropriate type. The type you choose is very important because it defines the events or conditions on which the notification is sent, as described below:
    - **Simple** (default). A simple notification does not check for any events or conditions; it simply sends the notification message on the schedule you choose. This type of notification is best suited for informational messages or reminders to your subscribers.
    - **Orchestration**. An orchestration can be a very powerful way to detect an event or condition upon which you want to send a notification. Orchestrations can read data from JD Edwards tables, invoke JD Edwards applications, and even query external systems. When you create an orchestration you can also define its output, which can then be input into your notification. Refer to the *JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior* for more information about building orchestrations.
    - **Watchlist**. If you have created a Watchlist in EnterpriseOne you can use that Watchlist as the trigger to send the notification. For example, if you have a Watchlist that monitors the number of backlogged items, you can build a notification that sends that information to subscribers.
8. Select the **Run As Subscriber** option if you would like to run the notification once for each individual user who is subscribed to the notification. If selected, the subscriber's security settings will be used when the notification is run for them. If you do not select this option, the notification will only be run once with the user information of the person who starts the notification job and all subscribers will receive the same notification message.
9. Select the **Allow Subscriber Overrides** option if you want to give subscribers the ability to enter override values for the notification inputs in Subscription Manager.
10. At this point, you can click **Save** to save your notification.

    You can also use **Save As** and rename an existing notification to create a new one.

    The Orchestrator Studio saves the notification as a "Personal" UDO.

    > **CAUTION:** If you use Save As to create a copy of a notification, only the notification is copied. The Orchestrator Studio does NOT create a copy of the components that are associated with the notification. That is, both the original notification and the new notification use the same components that comprise the notification. Therefore, in the new notification, do NOT modify the components in any way that would break other notifications that use the same components. You can also use the 'Where Used' functionality of Orchestrator studio to understand where else the component is being used, so that you don't break other usages. See *"Reusable Orchestration Components" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior* .

11. Next, refer to the appropriate sections to complete the remaining parts of the notification: notification inputs, orchestration, Watchlist, rule, message, and schedule.

# Adding Inputs to a Notification

You can use notification inputs to specify default input values or enable subscribers to manually enter an override value when creating a subscription in the Subscription Manager. In the notification, you enter names for the inputs. For example, you might enter "Customer Number" to enable entering a specific customer number as an override value.

You also use these notification inputs to configure other components used by the notification, such as an orchestration or rule. For example, if the notification requires a rule, you can use the notification inputs or orchestration outputs to define the conditions for the rule.

To add the notification inputs:

1. Open the Notification Input section of the Notification design page.
2. In the first empty row in the grid, enter the name of the input in the Name column.

3. In the Value Type column, select the input value type. Valid values are:

    - String
    - Numeric

    If the input is a date, you can use any of the following date formats:

    - **dd/MM/yyyy**
    - **dd/MM/yy**
    - **yyyy/MM/dd**
    - **MM/dd/yyyy**
    - **MM/dd/yy**
    - **yy/MM/dd**

    You can also use the following date formats, which create additional inputs derived from the passed value as described in *"Configuring Orchestration XML" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior* .

    - **Milliseconds**
    - **yyyy-MM-dd'T'HH:mm:ss.SSSZ**
4. In the Default Value column, enter a default value for the input if desired.
5. In the Required column, toggle left or right to specify whether the input is required or not.
6. Click **Save** to save your changes.

# Adding a Watchlist to a Notification (Watchlist Notification Type Only)

This section only appears if you have selected "Watchlist" as your notification type.

To add a Watchlist to a notification:

1. Open the Watchlist section of the notification design form.
2. Select the Watchlist from the Watchlist drop-down menu.
3. Click **Save** to save your changes.

> **Note:** Remember if you are using a Watchlist in your notification, the Watchlist, as well as the notification, needs to be published. Watchlists are published in JD Edwards EnterpriseOne, not Orchestrator Studio.

For more information on creating Watchlists, see the *JD Edwards EnterpriseOne Applications One View Watchlists Implementation Guide* .

# Adding an Orchestration to a Notification (Orchestration Notification Type Only)

This section only appears if you have selected "Orchestration" as your notification type.

To add an orchestration to a notification:

1. Open the Orchestration section of the notification design form.
2. Select the orchestration from the **Orchestration** drop-down menu.

   A list of orchestration inputs appears.
3. In the **Mapped From** column for an input, use the drop-down menu to choose a notification input to use.
4. In the **Default Value** column for an input, enter a default value if desired.
5. Click **Save** to save your changes.

**Note:** Remember that when you are ready to "request to publish" a notification, you need to make sure that you also request to publish the orchestration associated with the notification.

For more information on creating orchestrations, see the *JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior* .

# Adding Rules to a Notification

If you want to add a rule that determines whether or not the notification message should be sent, use the Rule section of the form.

To add a rule to a notification:

1. Open the Rule section of the notification design form.
2. Select the rule from the **Rule** drop-down menu.

   A list of rule inputs appears.
3. In the **Mapped From** column for an input, use the drop-down menu to choose a notification input, Watchlist output (Watchlist type only), or orchestration output (orchestration type only) to use.
4. In the **Default Value** column for an input, enter a default value if desired.
5. Click **Save** to save your changes.

For more information on creating rules, see the *JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior* .

# Defining the Notification Message (Prior to Orchestrator Studio 7.2.0.0)

Use the Message section of the Notification design page to define the subject and text of the notification message, to add a shortcut to an application, and to add a Data Dictionary text item.

To define the notification message:

1. Open the Message section of the notification design form.
2. Use the Output and Output Type fields to define user options in Subscription Manager. If you specify a Boolean Output Type, subscribers can decide if they want to be notified if the Boolean value is true or false. If the notification is based on a Watchlist, the Output Type is Watchlist Level and cannot be changed; subscribers can decide if they want to be notified for warning, critical, or normal Watchlist levels. See *"Adding a New Subscription" in the JD Edwards EnterpriseOne Tools Foundation Guide* for more information.
3. In the Subject and body fields, enter text, variables, or a combination of both. To insert variables, see step 6.

   > **Note:** If using only a variable in the Subject field, remember that it is possible the variable could be blank and then the message will have a blank subject. This makes it difficult for a user to open the message, which is done by clicking on the subject, in both the Notification List and Message Center.

   > **Note:** Keep in mind that the Work Center only allows 40 characters for the subject. This means that if you create a subject line that is longer than 40 characters and it is delivered to the Work Center, the subject will be truncated.

4. To include boilerplate text from a message template in the data dictionary:
   a. Expand the Data Dictionary Text section.
   b. In the Data Item field, enter the name of the message template data item and click **Load**.
   c. If the message template contains variables, use the grid below it to override the variables with text substitution.
5. To include shortcuts:
   a. Expand the Shortcuts section.
   b. Complete the Application, Form, and Version fields to specify the form that you want the shortcut to launch.
   c. If desired, define a personal form, query, or watchlist to be used when the application opens. (Orchestrator Studio 7.1.0.0)

      If the user receiving the message does not have view access to that particular personal form, query, or watchlist, the application will open without it.
   d. In the **Link Text** field, enter the text you would like to appear in the message for the shortcut. This shortcut text appears in the notification message.

      Prior to Release 9.2.3.2, the link text that you define here only appears in notification messages accessed from the Notification List (bell icon) on the EnterpriseOne menu bar, not in external email or Work Center messages.
   e. In the **Pre Text** and **Post Text** fields, enter the text you want to appear before and after the shortcut text. (Orchestrator Studio 7.1.0.0)
   f. In the grid, you can use variables to pass in data to the application when the application is launched from the shortcut.
6. To include variables in the subject, body, message template text, or shortcut:
   a. Type **${var name}** where *var name* is the name of the variable that you want to include.
   b. Make sure the syntax includes the $ sign and brackets, for example:

      ```
      ${creditmanager}
      ```

   The variable will be substituted into the message when the notification is sent. The variable can come from any of these places:

- Any input you define for the notification
- Watchlists return a set of output that you can use as variables. You can see them by pressing the Test button with the Dispatch Notification switch off. For example, if you want to include the number of Watchlist records in your message you could include this sentence:

  "There are ${records} records in this Watchlist."
- Orchestrations also return outputs, which you can define when you create the orchestration. You can see them by pressing the Test button with the Dispatch Notification switch off.

7. Click **Save** to save your changes.

# Defining the Notification Message (Orchestrator Studio 7.2.0.0)

Use the Message section of the Notification design page to define the subject and text of the notification message, to add application and other links, to add attachments and to add a Data Dictionary text item.

To define a notification message:

1. Open the Message section of the notification design form.
2. Use the Output and Output Type fields to define user options in Subscription Manager. If you specify a Boolean Output Type, subscribers can decide if they want to be notified if the Boolean value is true or false. If the notification is based on a Watchlist, the Output Type is Watchlist Level and cannot be changed; subscribers can decide if they want to be notified for warning, critical, or normal Watchlist levels. See *"Adding a New Subscription" in the JD Edwards EnterpriseOne Tools Foundation Guide* for more information.
3. In the Subject and body fields, enter text, variables, or a combination of both. To insert variables, see step 6.

   > **Note:** If using only a variable in the Subject field, remember that it is possible the variable could be blank and then the message will have a blank subject. This makes it difficult for a user to open the message, which is done by clicking on the subject, in both the Notification List and Message Center.

   > **Note:** Keep in mind that the Work Center only allows 40 characters for the subject. This means that if you create a subject line that is longer than 40 characters and it is delivered to the Work Center, the subject will be truncated.

4. To include boilerplate text from a message template in the data dictionary:

   a. Expand the Data Dictionary Text section.
   b. In the Data Item field, enter the name of the message template data item and click **Load**.
   c. If the message template contains variables, use the grid below it to override the variables with text substitution.

5. To include application links:
    a. Expand the Actions section.
    b. In the Applications Links section, click **Add**.
    c. Complete the Application, Form, and Version fields to specify the form that you want the shortcut to launch.
    d. If desired, define a personal form, query, or watchlist to be used when the application opens.

       If the user receiving the message does not have view access to that particular personal form, query, or watchlist, the application will open without it.
    e. In the Link Text field, enter the text you would like to appear in the message for the shortcut. This shortcut text appears in the notification message.

       Prior to Release 9.2.3.2, the link text that you define here only appears in notification messages accessed from the Notification List (bell icon) on the EnterpriseOne menu bar, not in external email or Work Center messages.
    f. In the Pre Text and Post Text fields, enter the text you want to appear before and after the shortcut text.
    g. In the grid, you can use variables to pass in data to the application when the application is launched from the shortcut.
6. To include other links (for example, to launch an orchestration or notification):
    a. Expand the Actions section.
    b. In the Other Links section, click **Add**.
    c. Select the type of link you would like to add from the **Type** drop-down menu. Valid values are Orchestration, Notification, or URL.
    d. Depending on the type you've selected, enter either the orchestration name, notification name, or URL.
    e. In the Link Text field, enter the text you would like to appear in the message for the link. This link text appears in the notification message.

       Prior to Release 9.2.3.2, the link text that you define here only appears in notification messages accessed from the Notification List (bell icon) on the EnterpriseOne menu bar, not in external email or Work Center messages.
    f. In the Pre Text and Post Text fields, enter the text you want to appear before and after the link text.
    g. Use the grid, to work with orchestration input, notification input, or a key for the URL, depending on which type of link you are using.
7. To include report output as an attachment:
    a. Expand the Attachments section and click **Add**.
    b. In the grid, complete the Link Text, Job Number, Execution Server, and File Type for the report output that you want to attach. The report output can be generated by an orchestration or it can have been previously generated outside of any orchestrations or notifications. Either standard EnterpriseOne reports or BI Publisher reports can be attachments. You can define the Link Text, Job Number, and Execution Server as variables.
8. To include variables in the subject, body, message template text, or shortcut:
    a. Type **${var name}** where *var name* is the name of the variable that you want to include.
    b. Make sure the syntax includes the $ sign and brackets, for example:

       ```
       ${creditmanager}
       ```

    The variable will be substituted into the message when the notification is sent. The variable can come from any of these places:

- Any input you define for the notification
- Watchlists return a set of output that you can use as variables. You can see them by pressing the Test button with the Dispatch Notification switch off. For example, if you want to include the number of Watchlist records in your message you could include this sentence:

  "There are ${records} records in this Watchlist."
- Orchestrations also return outputs, which you can define when you create the orchestration. You can see them by pressing the Test button with the Dispatch Notification switch off.

9. Click **Save** to save your changes.

## Adding a Schedule to a Notification

A schedule defines how often the system will run the notification, whether it is based on an orchestration, a Watchlist, or simply sending a notification message. You can define a schedule using minutes, hours, days, or a Cron string. Cron is a time-based job scheduler that can be used to schedule jobs to run periodically at fixed times, dates, or intervals (for example, every Tuesday and Friday at 9:00 am).

To add a schedule to a notification:

1. Open the **Schedule** section of the notification design form.
2. Use the Schedule drop-down menu to select an existing schedule.

   OR

   Click the **New Schedule** button to create a new schedule.

   See for more information.

   > **Note:** Schedules are UDOs so you must have the proper permissions to see the New Schedule button.
3. Click **Save** to save your changes.

> **CAUTION:** Be aware that just associating the schedule with the notification does not mean that the schedule starts running. The scheduler must be started by an administrator for the scheduled notifications to start running on their schedules.

# Creating Schedules

This section contains the following topics:

For information on using schedules with orchestrations, see *"Creating Schedules for Orchestrations" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior* .

For information on scheduler resilience through the use of a database with your scheduler, see *"Configuring Scheduler Resilience" in the JD Edwards EnterpriseOne Application Interface Services Server Reference Guide* .

# Understanding Schedules

A schedule defines how often the system executes a notification. You can define a schedule using minutes, hours, days, or a Cron string, such as every Tuesday at 2:00 pm. The schedule is then attached to a notification to determine how often it runs. You can attach the same schedule to multiple notifications, but a single notification can only be associated with one schedule.

As a notification designer you can assign your notifications to existing schedules by picking a schedule from the drop-down list. You may also have privileges to create new schedules, in which case the New Schedule button will be active for you. Schedules are managed as UDOs, so you can publish and share your schedules for others to use, and you can use schedules that others have published.

The task of starting, stopping, and managing the scheduler itself is a system administrator task. The scheduler runs as a process on the Application Interface Services (AIS) server.

> **Note:** The AIS server instance where the scheduler is started cannot be clustered. The scheduler should only be started on one instance.

The scheduler is managed using a set of REST APIs, which are documented with all other JD Edwards REST APIs:

*JD Edwards EnterpriseOne Tools REST API for the Application Interface Services Server Guide*

# Creating a Schedule

Create a schedule to define how often an orchestration or notification runs.

To create a schedule:

1. On the Orchestrator Studio Home page, click the Tools link in the upper-right corner.
2. On the Tools page, click the Schedules icon.

   The Orchestrator Studio displays the Schedules design page.
3. Click the **New Schedule** button.
4. In the Schedules field, enter a name for the schedule.
5. Click the **Product Code** drop-down list to select a product code to associate with the schedule.

   This gives an administrator the option to manage UDO security for orchestration components by product code.
6. In the space provided, enter a short description with a maximum of 200 characters. This description should clearly describe the frequency of the schedule so that it can be attached to notification as needed.
7. Click the **Edit Long Description** button to add a long description to provide more detail about the purpose of the component.

8. Do one of the following:
    - In the **Schedule to Run** section, select a number of minutes, hours, or days to define how often you want the schedule to run.

      If you select minutes, you cannot run more often than every five minutes.
    - In the **Or Enter a Cron String** section, enter a Cron string to define the schedule.

      Cron is a time-based job scheduler that can be used to schedule jobs to run periodically at fixed times, dates, or intervals (for example, every Friday at 10:00 am). There are many third-party Cron expression generators available that can help you create a Cron string.
9. Click the **Save** or **Save As** icon in the upper-right corner.

The first time a new schedule is saved, it is saved as a "Personal" UDO. Thereafter, you can use the UDO buttons described in the User Defined Object (UDO) Features section to move the schedule to the appropriate status.

Adding a schedule to a notification in the Notification design page does not invoke the notification as scheduled. Starting the scheduler is a separate step. You need to ask an administrator to start and administer the schedule using REST API services.

For more information on REST APIs used for managing the scheduler, see *"Scheduler Service" in the JD Edwards EnterpriseOne Tools REST API for the Application Interface Services Server Guide Guide.*

# Modifying or Deleting Notifications after You Share Them

Do not modify a notification once it has subscribers. Instead, create a new notification and delete the old one. If a user has subscribed and a notification is changed, the inputs may change and the subscription input overrides may no longer be correct, which can cause the user to no longer receive notifications without realizing why. On the other hand, if a notification is deleted, when a user goes into Subscription Manager, he will see an indication that the subscription has an issue.

# Exporting and Importing Notifications in the Orchestrator Studio

Notifications are exported and imported just like any other orchestration component. For more information, see:

- *"Exporting Orchestration Components" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior*
- *"Importing Orchestration Files" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior*

# 11 Appendix B - Creating Notifications with Orchestrator Studio 6.x.x

## Creating Notifications with Orchestrator Studio 6.x.x

This chapter has been updated in support of Orchestrator Studio 6.1.0. The features related to this release are notated with the release number.

This chapter describes how to take your notification design from analysis to implementation.

## Understanding Notifications and Orchestrator Studio

Just like all other orchestration components, notifications and schedules:

- Are created using Orchestrator Studio design pages, which have the standard design page features.
- Are reusable components.
- Are saved and managed as user defined objects (UDOs) in EnterpriseOne.
- Utilize the standard UDO life cycle features (for example, can be published or shared).

Notifications also have a graphical representation in Orchestrator Studio similar to orchestrations.

For more information, see:

- *"Understanding the Orchestrator Studio and Orchestrations" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior*
- *"Navigating the Orchestrator Studio" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior*

You can use the Orchestrator Studio to create the following components related to notifications:

- **Notifications**. A notification is a master component that enables the system to notify users of business events as they happen without the need for the user to be online. You can specify that the notification execute a Watchlist or an orchestration. You define what the notification message looks like and whether it includes a shortcut to an application. You attach the schedule for when it runs, and any rules that must be met to send the notification message.
- **Schedules**. A schedule defines how often the system runs a particular job. A schedule consists of a time interval in minutes, hours, or days, or a Cron string. A schedule can be attached to multiple notifications or orchestrations to determine how often they run. The scheduler runs as a process on the Application Interface Services (AIS) server and is managed using a set of REST APIs.
- **Orchestrations**. An orchestration is a master component that provides a unique name for an orchestration process. The orchestration is where you define the inputs for the orchestration, the expected incoming data. It also includes orchestration steps, which are invocations to the other components. When the Orchestrator invokes an orchestration, it processes the steps defined in the orchestration to enable the transfer of data within EnterpriseOne or between third-party sources and EnterpriseOne.

- **Rules**. A rule on a notification is used to determine whether the message is dispatched to the subscribers. The rule must evaluate to true in order for the message to be dispatched. If there is no rule specified, the message is always dispatched.

# Accessing the Orchestrator Studio

The Orchestrator Studio is a web application that runs in a web browser. Ask your system administrator for the URL to the Orchestrator Studio.

> **Note:** Before users can access the Orchestrator Studio, an administrator must set up security to authorize access to the Orchestrator Studio design pages and determine the actions Orchestrator Studio users can perform. See *Managing Notifications and UDO Security* for more information.

To access the Orchestrator Studio:

1. In a web browser, enter the URL to the Orchestrator Studio:

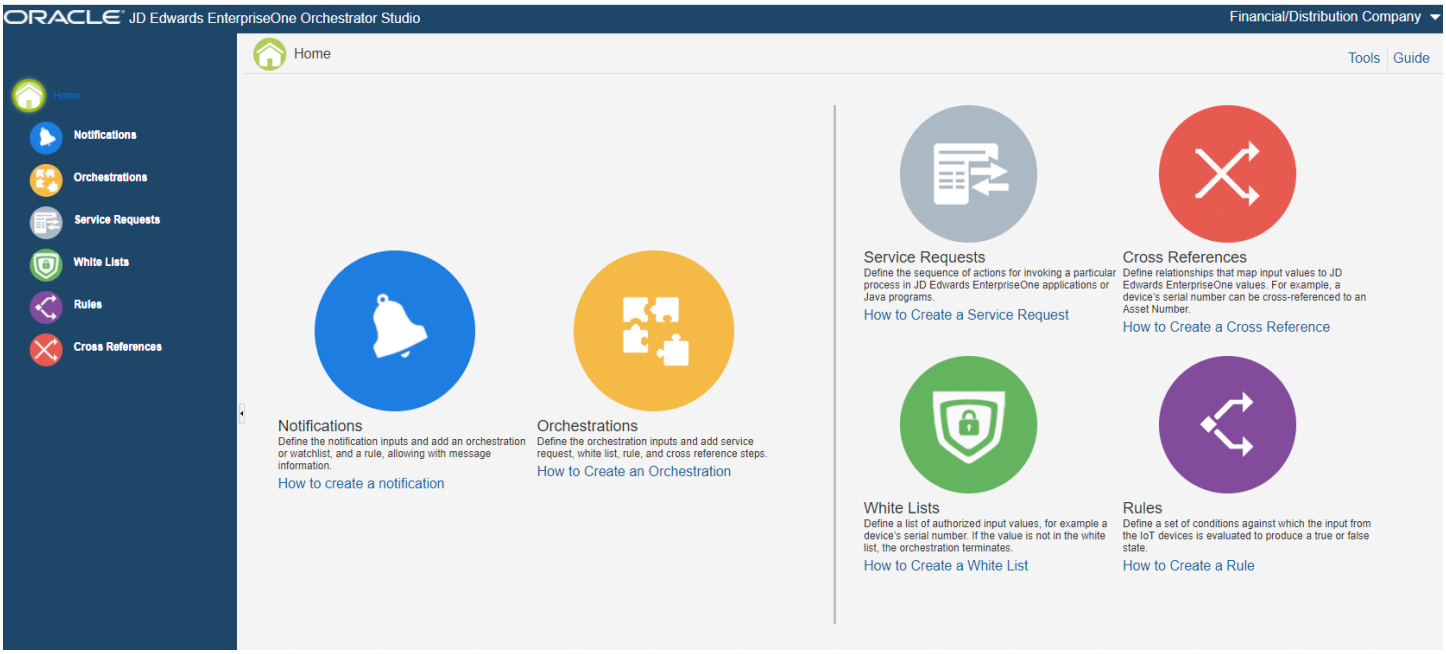
   ```
   http://<adf_server>:<port>/OrchestratorStudio/faces/index.jsf
   ```
2. On the Orchestrator Studio Sign In screen, enter your EnterpriseOne User credentials, environment, and role.

   > **Note:** It is highly recommended that you enter an EnterpriseOne environment used for testing, not a production environment.
3. Click the **Login** button.

In the Orchestrator Studio, click the drop-down menu in the upper-right corner to view the path to the AIS Server. The drop-down menu also provides a link to log out of the Orchestrator Studio.

# Navigating the Orchestrator Studio

The component icons on the Orchestrator Studio Home page take you to the design pages for creating and modifying each orchestration component. You can click the **Home** icon at the top left of the Home page to display a side panel, which provides another way to access the component design pages. You can also access this side panel within the component design pages for easy navigation between the different design pages. *#unique_90/unique_90_Connect_42_CEGIGEHC* shows the Home page with the side panel enabled.




The Tools link in the upper-right corner of the Home page provides access to the Orchestrator Studio Tools page. This page provides links to the Schedule design page for creating schedules, Orchestrator Client for testing orchestrations,

the Import tool for importing orchestration files, and the JD Edwards EnterpriseOne web client. For more information, see:

- *"Testing Orchestrations" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior*
- *"Importing Orchestration Files" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior*

# Creating a Notification

With the JD Edwards EnterpriseOne Orchestrator Studio, you can create notifications that provide pertinent and actionable notification messages to your users.

> **Note:** Remember that when you are ready to "request to publish" a notification, you need to make sure that you also request to publish all components associated with the notification. The administrator also needs to apply the correct view security to the shared components so that when the notification runs, all dependent objects are available and the notification process will not end in error.

> **Note:** Click on one of these titles to view tutorials for this feature:
>
> - ***Creating a Simple Notification***
> - ***Creating a Notification Based on a Watchlist***
> - ***Creating a Notification Based on an Orchestration***

To create a notification:

1. On the Orchestrator Studio Home page, click the **Notifications** icon.
2. On the Notifications page, click the **New Notification** button.
3. On the Notification design page, enter a unique name for the notification in the Notification field. Make sure that it is very descriptive and includes scheduling information for subscribers. For example, you might enter "Check for Purchase Orders Received Every Four Hours," and not "trkPO_h4."

   > **Note:** The name cannot be empty, blank or contain the following characters: ~ `!@#$%^&*()+={[}]|\;:"<,>.?/.

4. Click the **Product Code** drop-down list to select a product code to associate with the notification. If you leave this field blank, the notification defaults to product code 55.

   This gives an administrator the option to manage UDO security for orchestration components by product code.
5. In the space provided, enter a short description with a maximum of 200 characters.

   This description will show as hover text when your subscribers choose to subscribe to this notification, so this is a good place to tell your subscribers about any inputs they may provide and how often they can expect the notification to run. For example: "This notification allows you to track the status of a purchase order. Enter the purchase order number as input. You will receive updates hourly."
6. Click the **Edit Long Description** button to provide more detail about the component.

   Use this field to describe the purpose of the notification and any details that differentiate the notification from other notifications that you create.

7. Click the **Type** drop-down menu and select the appropriate type. The type you choose is very important because it defines the events or conditions on which the notification is sent, as described below:
    - **Simple** (default). A simple notification does not check for any events or conditions; it simply sends the notification message on the schedule you choose. This type of notification is best suited for informational messages or reminders to your subscribers.
    - **Orchestration**. An orchestration can be a very powerful way to detect an event or condition upon which you want to send a notification. Orchestrations can read data from JD Edwards tables, invoke JD Edwards applications, and even query external systems. When you create an orchestration you can also define its output, which can then be input into your notification. Refer to the *JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior* for more information about building orchestrations.
    - **Watchlist**. If you have created a Watchlist in EnterpriseOne you can use that Watchlist as the trigger to send the notification. For example, if you have a Watchlist that monitors the number of backlogged items, you can build a notification that sends that information to subscribers.
8. Select the **Run As Subscriber** option if you would like to run the notification once for each individual user who is subscribed to the notification. If selected, the subscriber's security settings will be used when the notification is run for them. If you do not select this option, the notification will only be run once with the user information of the person who starts the notification job and all subscribers will receive the same notification message.
9. Select the **Allow Subscriber Overrides** option if you want to give subscribers the ability to enter override values for the notification inputs in Subscription Manager.

    This option is only available if you have selected **Run As Subscriber** in the previous step. Starting with Orchestrator Studio 6.1.0, this option is available regardless of how the **Run As Subscriber** option is set.
10. At this point, you can click **Save** to save your notification.

    You can also use **Save As** and rename an existing notification to create a new one.

    The Orchestrator Studio saves the notification as a "Personal" UDO.

    > **CAUTION:** If you use Save As to create a copy of a notification, only the notification is copied. The Orchestrator Studio does NOT create a copy of the components that are associated with the notification. That is, both the original notification and the new notification use the same components that comprise the notification. Therefore, in the new notification, do NOT modify the components in any way that would break other notifications that use the same components. You can also use the 'Where Used' functionality of Orchestrator studio to understand where else the component is being used, so that you don't break other usages. See *"Reusable Orchestration Components" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior* .
11. Next, refer to the appropriate sections to complete the remaining parts of the notification: notification inputs, orchestration, Watchlist, rule, message, and schedule.

# Adding Inputs to a Notification

You can use notification inputs to specify default input values or enable subscribers to manually enter an override value when creating a subscription in the Subscription Manager. In the notification, you enter names for the inputs. For example, you might enter "Customer Number" to enable entering a specific customer number as an override value.

You also use these notification inputs to configure other components used by the notification, such as an orchestration or rule. For example, if the notification requires a rule, you can use the notification inputs or orchestration outputs to define the conditions for the rule.

To add the notification inputs:

1. Open the Notification Input section of the Notification design page.

2. In the first empty row in the grid, enter the name of the input in the Name column.
3. In the Value Type column, select the input value type. Valid values are:

    - String
    - Numeric

    If the input is a date, you can use any of the following date formats:

    - **dd/MM/yyyy**
    - **dd/MM/yy**
    - **yyyy/MM/dd**
    - **MM/dd/yyyy**
    - **MM/dd/yy**
    - **yy/MM/dd**

    You can also use the following date formats, which create additional inputs derived from the passed value as described in *"Configuring Orchestration XML" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior* .

    - **Milliseconds**
    - **yyyy-MM-dd'T'HH:mm:ss.SSSZ**
4. In the Default Value column, enter a default value for the input if desired.
5. In the Required column, toggle left or right to specify whether the input is required or not.
6. Click **Save** to save your changes.

# Adding a Watchlist to a Notification (Watchlist Notification Type Only)

This section only appears if you have selected "Watchlist" as your notification type.

To add a Watchlist to a notification:

1. Open the Watchlist section of the notification design form.
2. Select the Watchlist from the Watchlist drop-down menu.
3. Click **Save** to save your changes.

> **Note:** Remember if you are using a Watchlist in your notification, the Watchlist, as well as the notification, needs to be published. Watchlists are published in JD Edwards EnterpriseOne, not Orchestrator Studio.

For more information on creating Watchlists, see the *JD Edwards EnterpriseOne Applications One View Watchlists Implementation Guide* .

# Adding an Orchestration to a Notification (Orchestration Notification Type Only)

This section only appears if you have selected "Orchestration" as your notification type.

To add an orchestration to a notification:

1. Open the Orchestration section of the notification design form.
2. Select the orchestration from the **Orchestration** drop-down menu.

   A list of orchestration inputs appears.
3. In the **Mapped From** column for an input, use the drop-down menu to choose a notification input to use.
4. In the **Default Value** column for an input, enter a default value if desired.
5. Click **Save** to save your changes.

> **Note:** Remember that when you are ready to "request to publish" a notification, you need to make sure that you also request to publish the orchestration associated with the notification.

For more information on creating orchestrations, see the *JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior .*

# Adding Rules to a Notification

If you want to add a rule that determines whether or not the notification message should be sent, use the Rule section of the form.

To add a rule to a notification:

1. Open the Rule section of the notification design form.
2. Select the rule from the **Rule** drop-down menu.

   A list of rule inputs appears.
3. In the **Mapped From** column for an input, use the drop-down menu to choose a notification input, Watchlist output (Watchlist type only), or orchestration output (orchestration type only) to use.
4. In the **Default Value** column for an input, enter a default value if desired.
5. Click **Save** to save your changes.

For more information on creating rules, see the *JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior .*

# Defining the Notification Message

Use the Message section of the Notification design page to define the subject and text of the notification message, to add a shortcut to an application, and to add a Data Dictionary text item.

To define the notification message:

1. Open the Message section of the notification design form.

2. Use the Output and Output Type fields to define user options in Subscription Manager. If you specify a Boolean Output Type, subscribers can decide if they want to be notified if the Boolean value is true or false. If the notification is based on a Watchlist, the Output Type is Watchlist Level and cannot be changed; subscribers can decide if they want to be notified for warning, critical, or normal Watchlist levels. See *"Adding a New Subscription" in the JD Edwards EnterpriseOne Tools Foundation Guide* for more information.
3. In the Subject and body fields, enter text, variables, or a combination of both. To insert variables, see step 6.

   > **Note:** If using only a variable in the Subject field, remember that it is possible the variable could be blank and then the message will have a blank subject. This makes it difficult for a user to open the message, which is done by clicking on the subject, in both the Notification List and Message Center.

   > **Note:** Keep in mind that the Work Center only allows 40 characters for the subject. This means that if you create a subject line that is longer than 40 characters and it is delivered to the Work Center, the subject will be truncated.

4. To include boilerplate text from a message template in the data dictionary:
   a. Expand the Data Dictionary Text section.
   b. In the Data Item field, enter the name of the message template data item and click **Load**.
   c. If the message template contains variables, use the grid below it to override the variables with text substitution.
5. To include a shortcut to an application:
   a. Expand the JD Edward EnterpriseOne Shortcut section.
   b. Complete the Application, Form, and Version fields to specify the form that you want the shortcut to launch.
   c. Click **Load**. Starting with Orchestrator Studio 6.1.0, this button was removed as it is no longer necessary to "load" the shortcut.
   d. In the **Link Text** field, enter the text you would like to appear in the message for the shortcut. This shortcut text appears when users access the notification message from the Notification List icon on the EnterpriseOne menu bar, but it does not apply to email or Work Center messages.
   e. In the grid, you can use variables to pass in data to the application when the application is launched from the shortcut.
6. To include variables in the subject, body, message template text, or shortcut:
   a. Type **${var name}** where *var name* is the name of the variable that you want to include.
   b. Make sure the syntax includes the $ sign and brackets, for example:

      ```
      ${creditmanager}
      ```

   The variable will be substituted into the message when the notification is sent. The variable can come from any of these places:

   - Any input you define for the notification
   - Watchlists return a set of output that you can use as variables. You can see them by pressing the Test button with the Dispatch Notification switch off. For example, if you want to include the number of Watchlist records in your message you could include this sentence:

     "There are ${records} records in this Watchlist."
   - Orchestrations also return outputs, which you can define when you create the orchestration. You can see them by pressing the Test button with the Dispatch Notification switch off.
7. Click **Save** to save your changes.

## Adding a Schedule to a Notification

A schedule defines how often the system will run the notification, whether it is based on an orchestration, a Watchlist, or simply sending a notification message. You can define a schedule using minutes, hours, days, or a Cron string. Cron is a time-based job scheduler that can be used to schedule jobs to run periodically at fixed times, dates, or intervals (for example, every Tuesday and Friday at 9:00 am).

To add a schedule to a notification:

1. Open the **Schedule** section of the notification design form.
2. Use the Schedule drop-down menu to select an existing schedule.

   OR

   Click the **New Schedule** button to create a new schedule.

   See *Creating Schedules* for more information.

   > **Note:** Schedules are UDOs so you must have the proper permissions to see the New Schedule button.

3. Click **Save** to save your changes.

> **CAUTION:** Be aware that just associating the schedule with the notification does not mean that the schedule starts running. The scheduler must be started by an administrator for the scheduled notifications to start running on their schedules.

# Creating Schedules

This section contains the following topics:

- *Understanding Schedules*
- *Creating a Schedule*

For information on using schedules with orchestrations, see *"Creating Schedules for Orchestrations" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior* .

For information on scheduler resilience through the use of a database with your scheduler, see *"Configuring Scheduler Resilience" in the JD Edwards EnterpriseOne Application Interface Services Server Reference Guide* .

## Understanding Schedules

A schedule defines how often the system executes a notification. You can define a schedule using minutes, hours, days, or a Cron string, such as every Tuesday at 2:00 pm. The schedule is then attached to a notification to determine how often it runs. You can attach the same schedule to multiple notifications, but a single notification can only be associated with one schedule.

As a notification designer you can assign your notifications to existing schedules by picking a schedule from the drop-down list. You may also have privileges to create new schedules, in which case the New Schedule button will be active

for you. Schedules are managed as UDOs, so you can publish and share your schedules for others to use, and you can use schedules that others have published.

The task of starting, stopping, and managing the scheduler itself is a system administrator task. The scheduler runs as a process on the Application Interface Services (AIS) server.

> **Note:** The AIS server instance where the scheduler is started cannot be clustered. The scheduler should only be started on one instance.

The scheduler is managed using a set of REST APIs, which are documented with all other JD Edwards REST APIs:

*JD Edwards EnterpriseOne Tools REST API for the Application Interface Services Server Guide*

# Creating a Schedule

Create a schedule to define how often an orchestration or notification runs.

To create a schedule:

1. On the Orchestrator Studio Home page, click the Tools link in the upper-right corner.
2. On the Tools page, click the Schedules icon.

   The Orchestrator Studio displays the Schedules design page.
3. Click the **New Schedule** button.
4. In the Schedules field, enter a name for the schedule.
5. Click the **Product Code** drop-down list to select a product code to associate with the schedule.

   This gives an administrator the option to manage UDO security for orchestration components by product code.
6. In the space provided, enter a short description with a maximum of 200 characters. This description should clearly describe the frequency of the schedule so that it can be attached to notification as needed.
7. Click the **Edit Long Description** button to add a long description to provide more detail about the purpose of the component.
8. Do one of the following:

   - In the **Schedule to Run** section, select a number of minutes, hours, or days to define how often you want the schedule to run.

     If you select minutes, you cannot run more often than every five minutes.
   - In the **Or Enter a Cron String** section, enter a Cron string to define the schedule.

     Cron is a time-based job scheduler that can be used to schedule jobs to run periodically at fixed times, dates, or intervals (for example, every Friday at 10:00 am). There are many third-party Cron expression generators available that can help you create a Cron string.
9. Click the **Save** or **Save As** icon in the upper-right corner.

The first time a new schedule is saved, it is saved as a "Personal" UDO. Thereafter, you can use the UDO buttons described in the User Defined Object (UDO) Features section to move the schedule to the appropriate status.

Adding a schedule to a notification in the Notification design page does not invoke the notification as scheduled. Starting the scheduler is a separate step. You need to ask an administrator to start and administer the schedule using REST API services.

For more information on REST APIs used for managing the scheduler, see "Scheduler Service" in the *JD Edwards EnterpriseOne Tools REST API for the Application Interface Services Server Guide*

# Modifying or Deleting Notifications after You Share Them

Do not modify a notification once it has subscribers. Instead, create a new notification and delete the old one. If a user has subscribed and a notification is changed, the inputs may change and the subscription input overrides may no longer be correct, which can cause the user to no longer receive notifications without realizing why. On the other hand, if a notification is deleted, when a user goes into Subscription Manager, he will see an indication that the subscription has an issue.

# Exporting and Importing Notifications in the Orchestrator Studio

Notifications are exported and imported just like any other orchestration component. For more information, see:

- *"Exporting Orchestration Components" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior*
- *"Importing Orchestration Files" in the JD Edwards EnterpriseOne Tools Orchestrator Guide for Studio Version 8 and Prior*