Oracle Utilities Testing Accelerator for Oracle Utilities Customer Cloud Service

Enablement Guide

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Contents

Preface

Welcome to the Oracle Utilities Testing Accelerator in Oracle Utilities Customer Cloud Service Enablement Guide.

This guide describes how to utilize Oracle Utilities Testing Accelerator as part of Oracle Utilities Customer Cloud Service to automate the testing. It focuses only on the main features that help with getting started on the test automation of the Oracle Utilities Customer Cloud Service using Oracle Utilities Testing Accelerator.

For more information about using the features, refer to the *Oracle Utilities Testing Accelerator User's Guide*.

The preface provides the following information:

- Audience
- Abbreviations
- Conventions
- Related Documents

Audience

This guide is intended for Quality Assurance/Test Engineers and Automation Developers to understand the components and libraries available for them to automate the business test flows for Oracle Utilities Customer Cloud Service using Oracle Utilities Testing Accelerator.

Abbreviations

The following abbreviations are used throughout this document:

Term	Expanded Form
UTA	Oracle Utilities Testing Accelerator
OUCCS	Oracle Utilities Customer Cloud Service
CCB	Oracle Utilities Customer Care and Billing
ODM	Oracle Utilities Operational Device Management
C2M	Oracle Utilities Customer To Meter
MDM	Oracle Utilities Meter Data Management

Conventions

The following text conventions are used in this document:

Notation	Indicates
boldface	Graphical user interface elements associated with an action, terms defined in text, or terms defines in the glossary
italic	Book titles, emphasis, or placeholder variables for which you supply particular values
monospace	Commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter

Related Documents

For more information, refer to the following Oracle resources.

User and Reference Guides
- *Oracle Utilities Testing Accelerator User's Guide*
- *Oracle Utilities Testing Accelerator Reference Guide for Core*

See also:

- Oracle Utilities Customer Care and Billing Documentation Library
- Oracle Utilities Meter Data Management Documentation Library
- Oracle Utilities Customer To Meter Documentation Library

Chapter 1

Introduction

Traditionally, test automation is either done using record and play back mechanism or by hand coding the necessary scripts in a programming language. Both the methodologies have substantial drawbacks. For example: The record play back mechanism works through the application's (application being tested) user interface that tends to break whenever there are changes in the application's interface. Both the record-playback and hand coded scripts require good knowledge of programming and are hard to maintain across upgrades, owing to their rigidity.

Oracle Utilities Testing Accelerator is developed keeping in mind the test automation needs of Oracle Utilities Cloud Services. It uses the tried and tested approach of modular, meta-data based test automation of Oracle Utility products and services. Oracle Utilities Testing Accelerator is a testing framework with pre-built content that can be leveraged for automated testing of Oracle Utilities Cloud Services.

Oracle Utilities Testing Accelerator is now available with Oracle Utilities Cloud Services, which ensures that customers/implementers of Oracle Utilities Cloud Services can seamlessly develop, manage and execute the test automation flows that are modeled to simulate their business processes.

This chapter provides a high-level overview of Oracle Utilities Testing Accelerator and focuses on using Oracle Utilities Testing Accelerator on the cloud, including:

* Oracle Utilities Testing Accelerator Solution
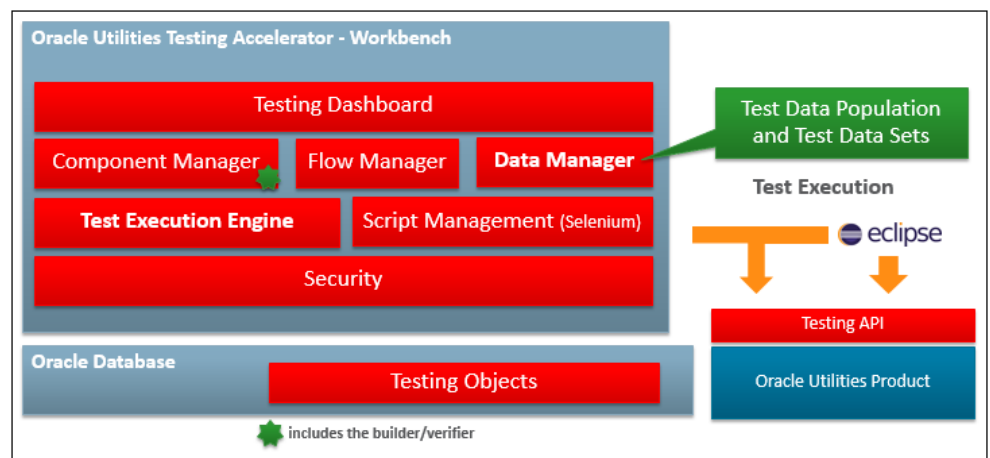
Oracle Utilities Testing Accelerator Solution

The Oracle Utilities Testing Accelerator solution consists of two aspects:

- Testing Framework
- Accelerator Content

Testing Framework

Oracle Utilities Testing Accelerator has a testing framework based on Java and Selenium for the automated testing of Oracle Utilities Cloud Services. It allows developing, managing and executing web service and user interface based automated tests, using meta-data based approach, without any programming language.

Oracle Utilities Testing Accelerator has a user friendly graphical Web interface that helps you to develop automated test flows without much programming knowledge.

You can access the **Oracle Utilities Testing Accelerator Workbench** through a Web browser. The Workbench has a fluid and easy to understand interface that allows to develop test automation flows for both Web services based and Web interface based tests. The Web service based test automation flows can be executed directly through the Workbench. To execute the Web interface based tests, the test scripts should be generated from the Workbench (using the Script Management script generator tool) and executed on your local machine using an Oracle Utilities Testing Accelerator Eclipse plugin that runs in Eclipse IDE.

The **Component Manager** allows to create and manage test components that are the building blocks of Oracle Utilities Testing Accelerator based test automation. For example: The Person test component is used to create, update or delete a Person object in Oracle Utilities Customer Cloud Service. The Component Manager is packaged with a component builder, an automated component generator that allows to autogenerate custom test components for custom objects created in Oracle Utilities Application Framework. The Component Manager also has a component verifier that allows to validate changes in the custom application objects when compared to the custom test components across upgrades.

The **Flow Manager** allows to create and manage test automation flows using the test components in Oracle Utilities Testing Accelerator. A test flow is a logical grouping of test components in a specified sequence that simulate a business process that has to be tested. For example: A flow that can simulate the "V" in Oracle Utilities Customer Cloud Service or as simple as creation of a person, premise and account. The Flow Manager also allows to group these flows into flow sets for execution purposes. All the flows in a flow set are executed in the sequence in which the flows are added to the flow set, but multiple flow sets can be executed in parallel.

Oracle Utilities Testing Accelerator for Oracle Utilities Customer Cloud Service Enablement Guide

The Data Manager has several useful features that simplify test data management in the test flows. The test data is abstracted from the test components to ensure reusability of the components.

The Data Manager has a rich graphical user interface that allows you to specify test data in the flows. It also allows to pull data from the Oracle Utilities Customer Cloud Service environments (non-production) as test data in to the flows. In effect, you can create/add an application object (for example: Person) in Oracle Utilities Customer Cloud Service using the Oracle Utilities Application Framework application's graphical user interface and get the data into Oracle Utilities Testing Accelerator flow's component as test data using the fetch test data feature.

The Data Manager also allows to create master data sets for each component used in flows. For example: Select the test data set from a drop-down field to define two test data sets for a Premise object and use them in multiple flows.

The **Test Execution Engine** supports the execution of Web service based test flows directly through the Oracle Utilities Testing Accelerator Workbench. To execute the Web interface based test automation flows, generate the scripts for flows and execute them through Eclipse IDE using the Oracle Utilities Testing Accelerator plugin on your local machine.

Accelerator Content

Along with the test automation framework, Oracle Utilities Testing Accelerator comprises an accelerator for automated testing of Oracle Utilities Cloud Services. The accelerator contains several hundred re-usable components, which are the modular building blocks of an automated test flow. These components (Web services based) do not use the online API but use the same underlying API used by online and other channels into the product.

The Oracle Utilities Testing Accelerator user interface allows these components to be laced together to form an automated test flow. The test data is coupled to the automated test flow and executed using the browser based execution engine within Oracle Utilities Testing Accelerator Web application. The accelerator available on cloud is for Oracle Utilities Customer Cloud Service containing comprehensive set of components that are needed to develop the test automation for Oracle Utilities Customer Cloud Service.

Chapter 2

Testing Automation Using Oracle Utilities Testing Accelerator

This chapter provides the steps to test automation using Oracle Utilities Testing Accelerator, including:

- Creating Users and Logging into the Application

- Creating and Executing First Automation Flow in Oracle Utilities Testing Accelerator

- Moving Flows and Components from On-premises to Cloud

- Points to Remember

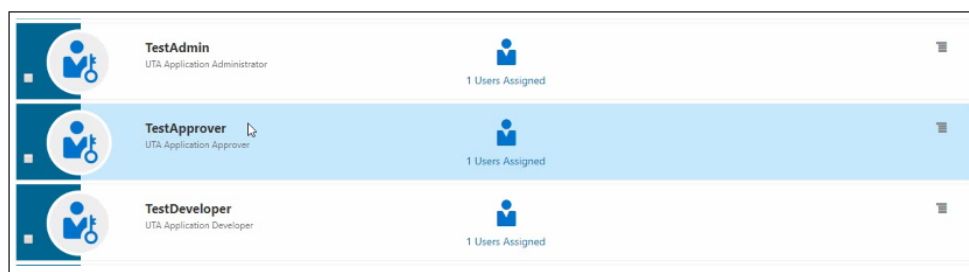# Creating Users and Logging into the Application

To log into Oracle Utilities Testing Accelerator Workbench available on the cloud as part of Oracle Utilities Customer Cloud Service, you should be assigned with appropriate role in Oracle Identity Cloud Service.

The Oracle Utilities Testing Accelerator Workbench supports three roles:

- TestAdmin (Administrator)

    - Has access to complete the Oracle Utilities Testing Accelerator features.

    - Responsible for importing and exporting test flows, custom flow content upgrade and custom library management.

        Note that the custom library management feature will be available in the future releases.

- TestApprover (Test Automation Approver)

    - Responsible for reviewing and approving developed test automation flows.

- TestDeveloper (Test Automation Developer)

    - Responsible for developing test flows and components required for test automation.

After logging into Oracle Identity Cloud Service:

1. Navigate to the application instance > Application Roles.

2. Add users to the corresponding roles.

After the role assignment, the access to Oracle Utilities Testing Accelerator Workbench is granted.

# Creating and Executing First Automation Flow in Oracle Utilities Testing Accelerator

Using the Work Bench

For more information about using Oracle Utilities Testing Accelerator and its features refer to the *Oracle Utilities Testing Accelerator User Guide*.

Oracle Utilities Customer Cloud Service customers can access the Oracle Utilities Testing Accelerator Workbench using the appropriate URL. The roles in Oracle Utilities Testing Accelerator allow different access levels within the application that are created and managed using Identity Cloud Service.

The Oracle Utilities Testing Accelerator dashboard shows the status of the custom objects created in Oracle Utilities Testing Accelerator. The initial statuses may show zero records as no custom test objects exist.

The **Flows** menu (on the top-right corner) displays the **Flow Management** page. On this page, you can develop a test automation flow using the delivered set of components.
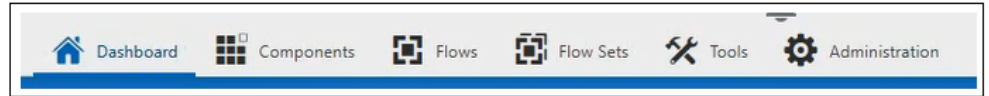
The **Navigation** tab has options to navigate to the **Components**, **Flow Sets**, **Tools**, and **Administration** pages. The **Components** page allows to create and manage custom test components. The **Tools** page includes the required set of tools for export/import of components and flows, component generation, and user and flow configurations.
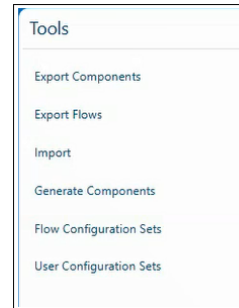
Use the **Export Components**, **Export Flows** and **Import** tools to move custom components and flows from one instance of Oracle Utilities Testing Accelerator to another. The **Generate Components** tool is used to auto generate components for custom objects created in Oracle Utilities Customer Cloud Service. To create a custom object, the name of the Web service end point should be provided as input to the component generator.

Flow Configuration Sets allows you to specify the configuration related to test such as the application/service URL, server file paths, etc.

As part of Oracle Utilities Customer Cloud Service, Oracle Utilities Testing Accelerator is designed to work with the corresponding instance of Oracle Utilities Customer Cloud Service. Flow Configuration Sets need not be configured for Oracle Utilities Customer Cloud Service.

User Configuration Sets allows to set the user ID and password to execute the test flow. Also, the email ID to which the test execution result has be sent can be configured here. It is required to create the User Configuration Set using their own userid and password that is used to log into the Oracle Utilities Customer Cloud Service application. The user should also have access to use the Inbound Web Services in Oracle Utilities Customer Cloud Service.

Creating a Flow

Click the **Flows** menu option to display the Flow Management page. To create a flow, right-click the appropriate tree node and select **Create Flow**. For example: CCS 19B
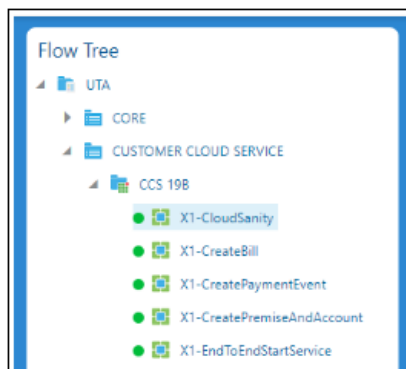
Provide the flow header details. Drag and drop the components from the **Component Selection** frame into the **Flow Creation** frame in a specified sequence required to simulate the business process to be tested.
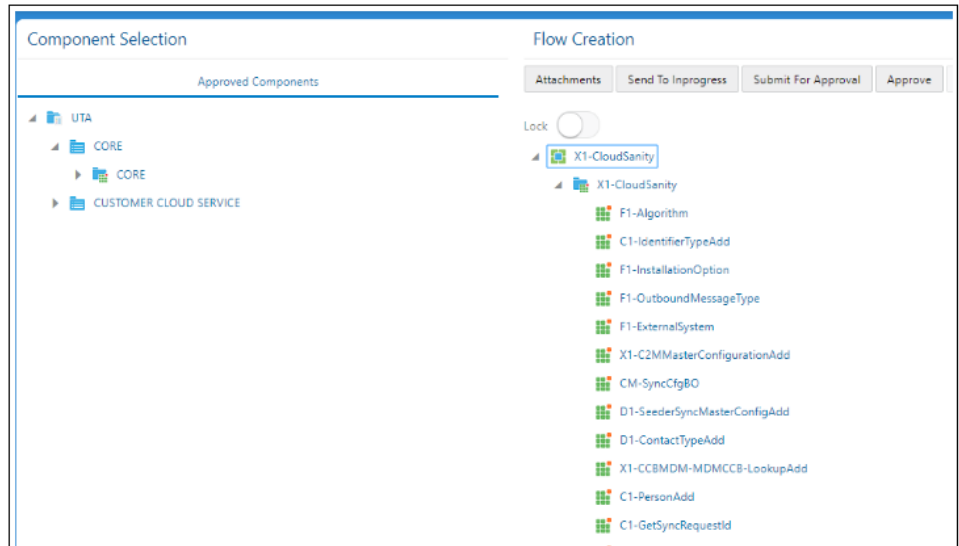
Right-click a component in the **Flow Creation** frame to display the **Test Data Management** page.

Use the **Test Data Management** page to add test data to the components in the flow. You can add test data in two ways:

• Manually using the WebService Test Data interface.

• In the Oracle Utilities Application Framework based application, use the **Fetch Test Data** option to pull the data into Oracle Utilities Testing Accelerator **WebService Test Data** page.
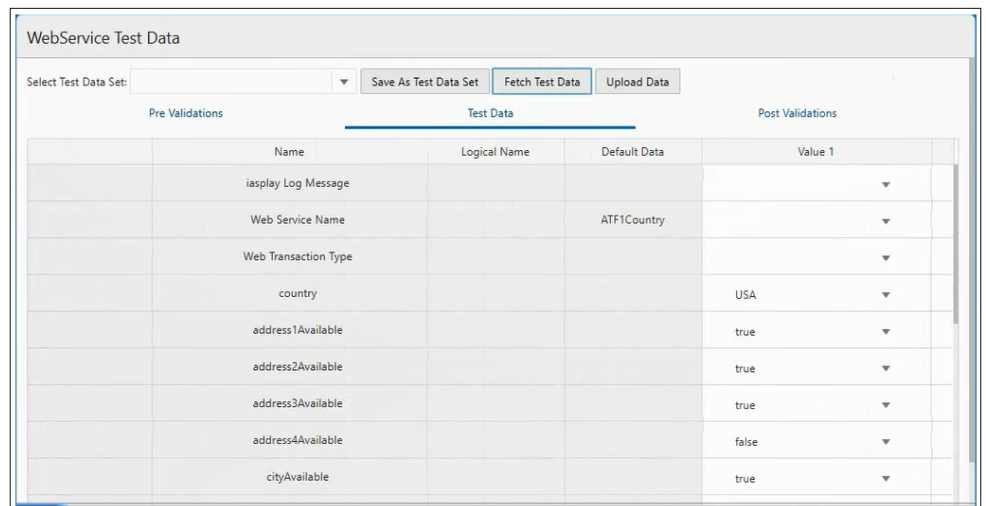
Use the **Fetch Test Data** option to specify the Web service end point, user name and password to access the application. The application object (example: Person) schema is first fetched, and after specifying the ID (Person ID in Oracle Utilities Application Framework based application) of the application object, the data of the object is pulled and is populated as test data for the component.

The test data should be populated for all the components in the flow. The flow thus created by a test automation developer needs to go through the defined lifecycle to be eligible for execution; it has to be approved by the test automation lead or the like.
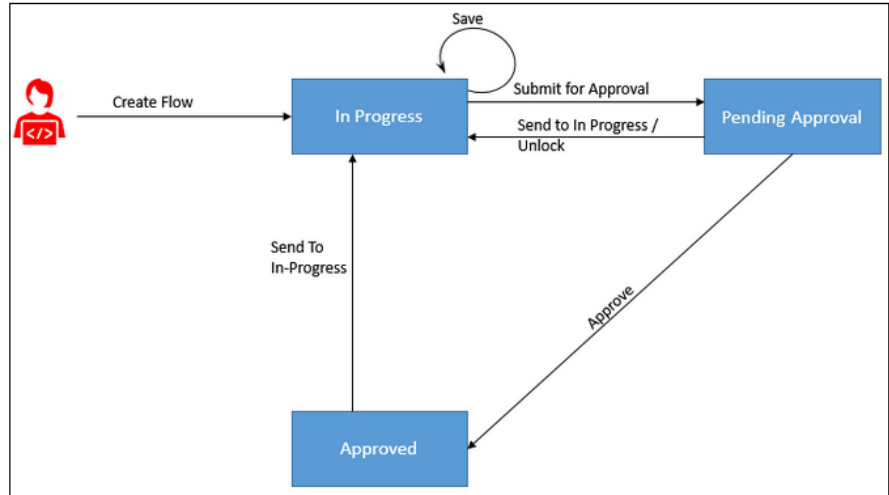
After the flow is approved, execute it. Right-click the flow and select **Execute Flow**. The flow is executed directly through the Oracle Utilities Testing Accelerator Workbench and is applicable only for a flow with Web service based components. For Web interface based test flows, execute the flow using Eclipse IDE (Oracle Utilities Testing Accelerator plugin). Generate and download the scripts using **Generate Scripts** in the menu.
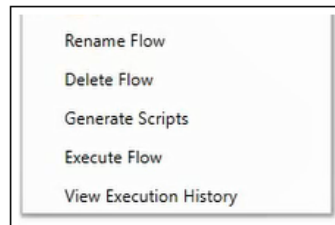
The **Flow Configuration Set** and **User Configuration Set** are displayed.

The Flow Configuration Set provides the application URL and other requisite details for flow execution. On the cloud, this is preset in Oracle Utilities Testing Accelerator so that you need not create a Flow Configuration Set. You can select the default Oracle Utilities Customer Cloud Service configuration set.

The User Configuration Set consists of the user name and password used to execute the automated test, along with the email ID of the account to which the execution results summary should be sent. Create these for the Oracle Utilities Testing Accelerator users so that the User Configuration Set can be selected.
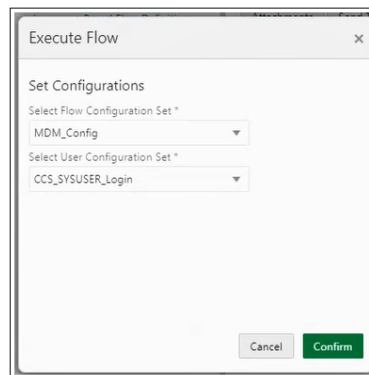
Select the configurations and click Confirm to initiate the test execution. The execution status is displayed in real time in the **Flow Execution Status** page. The status of individual steps is indicated through the icons that show executing, passed, failed and warning statuses.

The **View Logs** button allows for viewing the test execution logs for the current run. Every request-response transaction is recorded, stored and displayed for debugging purposes. Selecting the component step (within the flow) in the **Flow Execution Status** page, shows the request that was posted to and response received from the Oracle Utilities Application Framework based application as part that transaction. The execution logs are stored and the execution history can be viewed for the flows in the Oracle Utilities Testing Accelerator Workbench.
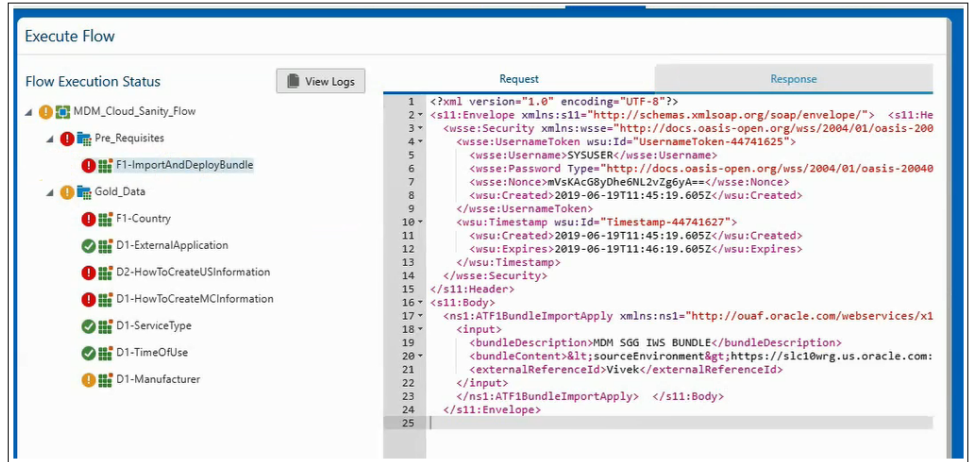

Understanding Flow Sets

Oracle Utilities Testing Accelerator supports creation of a flow sets. A Flow Set can be a set of automated test flows for sanity testing of the application or for testing a module in the application. The grouping of flows may depend on the way test automation is organized. One or more flows can be added to a flow set and the execution can be triggered using a common Flow Configuration Set and User Configuration Set for all the flows in the Flow Set. The flows in the flow set are executed in a sequential manner, in the order in which they are defined in the flow set. Multiple flow sets can be executed in parallel.

To create a flow set:

1. Click **Flow Sets** on the menu.

2. On the **Flow Set Creation** page, click **Create Flow Set** to enter the header with name and description.

3. Click **Manage Flow Set** to add the flows into the flow set and execute it.

4. Click **Add Flows** to add flows into the flow set.
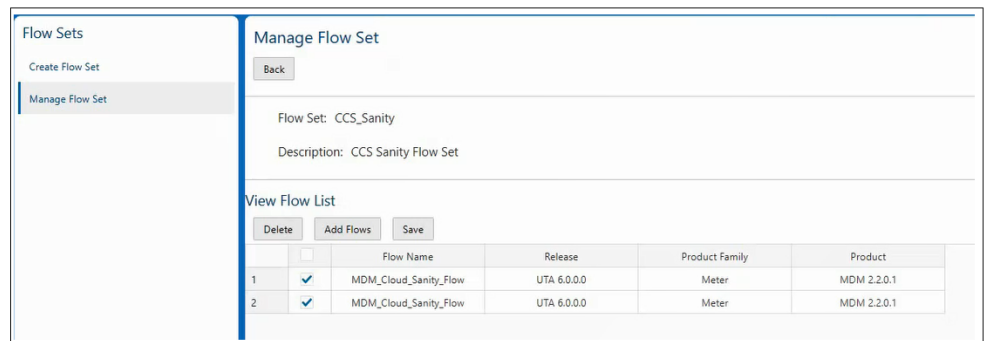
5. After the flow set with the flow list is saved, click **Execute** to execute the flow set.

The flow set execution history is also saved and can be viewed later.
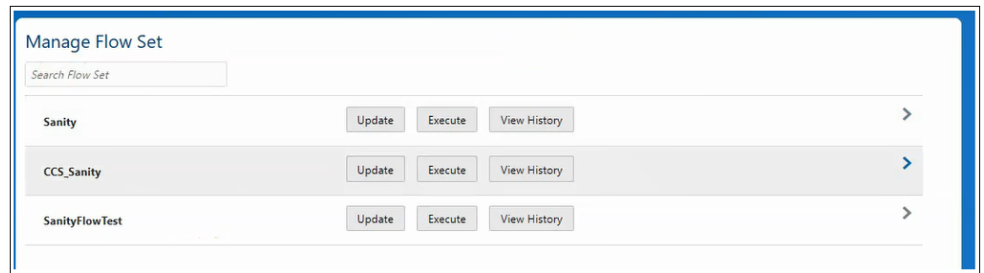
Moving Flows and Components from On-premises to Cloud

The existing on-premises Oracle Utilities Testing Accelerator users can move their custom components and flows into the Oracle Utilities Customer Cloud Service Oracle Utilities Testing Accelerator instance using the export/import feature provided.

Export the components in Oracle Utilities Testing Accelerator into a zip file using **Export Components** in the **Tools** section of the Oracle Utilities Testing Accelerator Workbench. The Export feature creates an export archive of the components based on the filter conditions that the user provides. In a similar process, custom flows in Oracle Utilities Testing Accelerator Workbench can be exported using **Export Flows** in the **Tools** section.

This export derived from the on-premises Oracle Utilities Testing Accelerator instance can be imported into the Oracle Utilities Customer Cloud Service Oracle Utilities Testing Accelerator instance using **Import** in the **Tools** section.

The import automatically creates the tree structure and displays the components and flows as per the existing on-premises version of the Oracle Utilities Testing Accelerator test pack. The flows in this test pack can be migrated into the Oracle Utilities Customer Cloud Service test accelerator pack using the **Migration** feature provided in the **Administration** page.

Using the **CM Content Upgrade** option, you can upgrade the custom flows in the existing product pack into the Oracle Utilities Customer Cloud Service product pack. The **CM Content Upgrade** takes from release and to release as inputs, which in this case is from the on-premises version of the product pack to the Oracle Utilities Customer Cloud Service version of the product pack. Once the upgrade is triggered, all the flows will be automatically migrated to the Oracle Utilities Customer Cloud Service product pack used to execute tests (after updating appropriate test data).

Points to Remember

- Manage the access to Oracle Utilities Testing Accelerator Workbench via Oracle Identity Cloud Service.

- Oracle Utilities Testing Accelerator Workbench can be used to execute only the Web service based test automation flows. Web interface based test automation flows (if any) will have to be executed using the Oracle Utilities Testing Accelerator plugin on top of Eclipse IDE.

- The recommended way of automation is using Web service based components, since the execution is much quicker and the automation is robust and reliable across upgrades.

- The Oracle Utilities Testing Accelerator Workbench on the cloud is designed to work with the corresponding instance of Oracle Utilities Application Framework based application

service. No application URL should be or can be specified as part of test configuration. The same applies to fetch test data and generate component features.

- Execution history is maintained for both the test flow execution and the flow set execution.