ORACLE

# Oracle® Integration

Oracle Integration — OCI | Start and Stop Compute Instances

July 2024, Version 1.0.0

## Purpose statement

This document describes how to install, configure, and run the Oracle Integration — OCI | Start and Stop Compute Instances recipe in Oracle Integration. It is intended for personnel who are responsible for integrating various systems using Oracle Integration.

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# Oracle Integration — OCI | Start and Stop Compute Instances

## About This Recipe

Use this recipe to start and stop the Oracle Compute Instances Using OIC Scheduled Orchestration.

> **Note:** This recipe is available as **Oracle Integration — OCI | Start and Stop Compute Instances** in the Integration Store. Oracle provides this recipe as a sample only. The recipe is meant only for guidance and is not warranted to be error-free. No support is provided for this recipe.

### Overview

This recipe contains integrations to Start/Stop OCI instance via OIC scheduled integrations. Schedules are maintained within OIC and the start action or stop action occurs on the Oracle Cloud Instance accordingly. You can use this recipe to start/stop the OCI compute instances.

To use the recipe, you must install the recipe project and configure the connections and other resources within the project. Subsequently, you can activate and run the integration flow of the project manually or specify an execution schedule for it.

When the integration is scheduled and triggered, the REST adapter with the Oracle Cloud Infrastructure REST API Support along with the OCI Signature Version 1 Security Policy is invoked to start or stop the OCI Compute instance as required. In case of any error, email notifications are sent to members who are configured in the lookup.

While triggering the integration/s, you can mention the following schedule parameters:

- OCID
- Region_Name

After the integration ***OCI ComputeInstance CoreServicesStart*** is triggered, it performs the following tasks:

- The scheduled integration invokes the REST adapter with the Oracle Cloud Infrastructure REST API to ***start*** the OCI Compute instance.
  In case of any error, email notifications are sent to members who are configured in the lookup.

After the integration ***OCI ComputeInstance CoreServicesStop*** is triggered, it performs the following tasks:

- The scheduled integration invokes the REST adapter with the Oracle Cloud Infrastructure REST API to ***Stop*** the OCI Compute instance.
  In case of any error, email notifications are sent to members who are configured in the lookup.

## System and Access Requirements

- Oracle Integration Version 24.08 or higher
- An OCI account having access to create compute Instances in OCI.
- Oracle Cloud Infrastructure APIs

## Recipe Schema

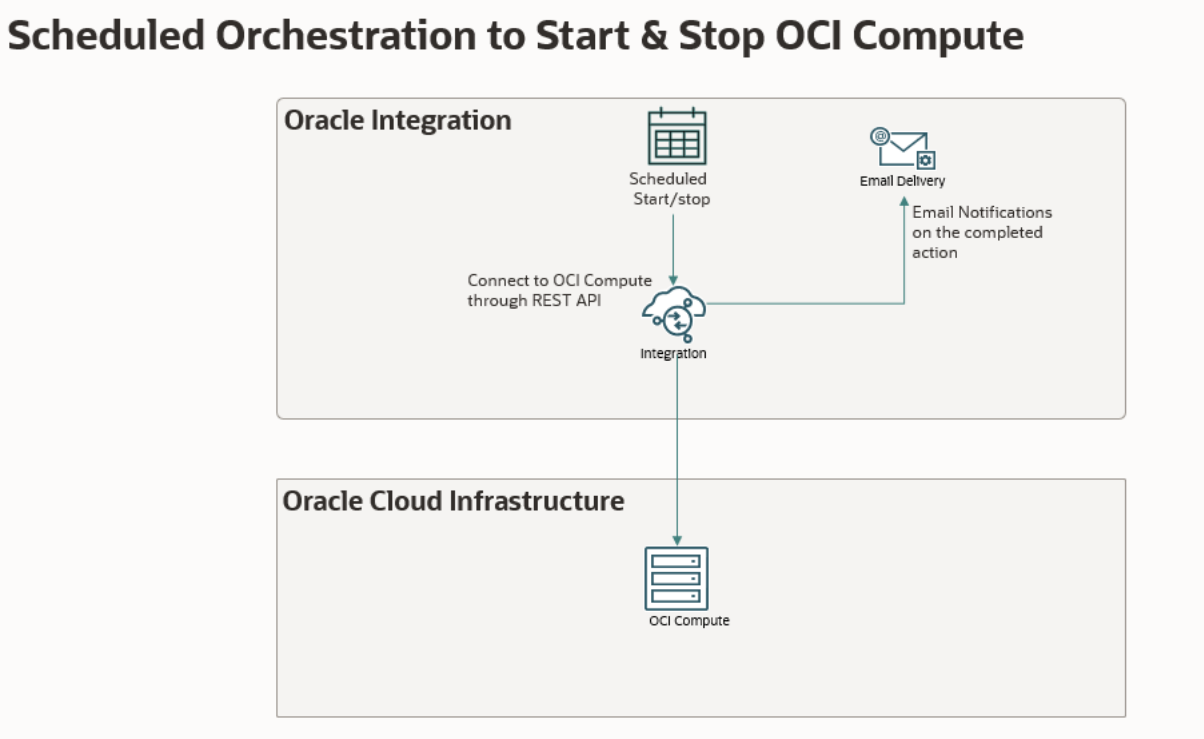


*Fig 1: Image illustrating Schema of the Recipe*

# Before You Install the Recipe

You must perform the following configuration tasks in OCI to successfully connect to the OCI Compute instance using Oracle Integration.

## Configure Compute in Oracle Cloud Infrastructure:

Obtain access to OCI and check the following:

- You can either see or create a compute instance in a compartment.
- Create Compute Instance:
    - Navigate to **Compute** and click on **Instances.**
    - Select the **compartment** in which you want to create an instance.
    - In the **Create Instance** dialog, Enter the details required.
      and then click on **Create**. After a few minutes, we can see the instance have created.

Obtain the following information to successfully connect OCI Compute instance with Oracle Integration:

**Connection URL:** https://iaas.<your_ociaccount_region>.oraclecloud.com. Please refer the lookup table "ORACLE-R-OCI_COMPUTE_CORESERVICES_ENDPOINT_CONFIG" for details.

**Tenancy OCID:** You can get this information by navigating to the OCI console's Profile → Tenancy page.

**User OCID:** You can get this information by navigating to the OCI console's Profile → User settings page

**Private Key:** Refer the section "***Generate PRVATE (RSA) Key***" below to generate RSA key pair and its fingerprint.

**Fingerprint:** Note down the fingerprint from the above step.

## Generate Private (RSA) Key

1. Login to Oracle Cloud Infrastructure using existing account credentials.
   URL: Cloud Sign In
2. To generate a pair of API keys, navigate to my profile and under resources find API keys. Now add API keys and download both Private and Public Keys and save it in a directory.
3. OCI will create API Key Fingerprint and show the configuration file. Copy this configuration file and save this information as we will be using it in the REST adapter configuration.
4. After downloading the private and public keys, a dialog box is displayed with the information required for authentication. The details include, User OCID, Fingerprint, tenancy. Copy this information. This is used while configuring the REST adapter configuration.
5. We must convert the private key into RSA (PKCS1) format to make the OCI REST connection valid and successful. This can be achieved in three ways.
    a. Executing the below command in Windows PowerShell.

C:\Users\<Username>\<APIKeys Folder>ssh-keygen -p -f <your key> -N "" -t rsa -m pem

b. Execute the below openssl command in command prompt.
genrsa -out C:\<file path>\<filename.pem>
c. Using PUTTY Gen Software.

**Note:** If you are using windows machine and want to run Openssl command, please follow the below steps:
Download the OpenSSL for windows*:* https://sourceforge.net/projects/openssl-for-windows/files/

a. Download the file as per your Windows OS example: OpenSSL-1.1.1h_win32.zip
b. Unzip the folder and run openssl.exe with administrative privileges.
c. Run the openSSL command as example given above in Step d (ii) or as below example:
rsa -in abc-01-03-10-45.pem -out new_converted_file_abc-01-03-10-45.pem

Refer the OCI documentation
https://docs.cloud.oracle.com/iaas/Content/API/Concepts/apisigningkey.htm#How

# Install and Configure the Recipe

On your Oracle Integration instance, install the recipe to deploy and configure the integration and associated resources.

1. On the Oracle Integration Home page, in the **Get started** section, click **Browse store**.
2. Find the recipe you want to install, then click **Get**.
   A message confirms that the recipe was successfully installed, and the recipe card shows **In use**.
3. Click **Configure** on the recipe to configure its resources.
   The project workspace opens, displaying all the resources of the recipe. Configure the following resources before you activate and run the recipe.

## Configure the REST Connection (Trigger, Invoke)

Configure the connection details for the **REST OCICoreServices Connection**. The Oracle Rest adapter is used to connect to the OCI Compute Instance.

1. In the Connections section, click **Actions** on the connection, then select **Edit**.
2. In the Properties section, enter the Oracle core services host name. For example: *https://iaas.af-johannesburg-1.oraclecloud.com*
3. In the Security section, enter the following details:

| Field | Information to Enter |
|---|---|
| **Security Policy** | Select **OCI Signature Version 1** |
| **Tenancy OCID** | Enter the Tenancy OCID of the OCI user |
| **User OCID** | Enter the User OCID of the OCI user |
| **Private Key** | Enter the Private key file generated. |
| **Fingerprint** | Enter the fingerprint generated after configuring the Key files in OCI. |

4. Click **Save**. If prompted, click **Save** for a second time.
5. Click **Test** to ensure that your connection is successfully configured. In the resulting dialog, click **Test** again. A message confirms if your test is successful.
6. To return to the project workspace, click **Go back**.

## Configure the Lookup Table

The recipe contains the lookup table **ORACLE-R-OCI_COMPUTE_INSTANCE_CORESERVICES_CONFIG.** Edit the following keys as necessary.

1. In the Configuration Editor, click **Lookups** to view the lookup tables in the recipe. Hover over the lookup table, then click **Edit**  .
2. In the lookup table, specify values for the following keys.

| Key | Description | Example |
|---|---|---|
| **from_email_address** | Stores the email address from which the error notifications are sent. Enter an email address of your choice. | no-reply@company.com |
| **to_email_address** | Stores the email address to which the error notifications are sent. Enter an email address of your choice. | xyz@company.com |
| **subject_start_email_notification_success** | Stores the subject of the success email notification to start OCI compute instance. | OIC Notification - Compute instance started successfully |
| **subject_start_email_notification_error** | Stores the subject of the error email notification to start OCI compute instance. | OIC Notification – Compute instance failed to start |
| **subject_stop_email_notification_success** | Stores the subject of the success email notification to stop OCI compute instance. | OIC Notification - Compute instance stopped successfully |
| **subject_stop_email_notification_error** | Stores the subject of the error email notification to stop OCI compute instance. | OIC Notification - Compute instance failed to stop |
| **Email_body_UserDetails** | Stores the user details to be sent under thanks note | Oracle Admin |

3. Click **Save**. If prompted, click **Save** again.
4. To return to the Configuration Editor, click **Go back** .

The recipe also contains the lookup table **ORACLE-R-OCI_COMPUTE_CORESERVICES_ENDPOINT_CONFIG**. This lookup table have the details of the OCI regions and the respective endpoint URIs. You can refer this to check the OCI Regions available.

# Activate and Run the Recipe

After you've configured the connections, activate the Integration recipe and run it.

1. In the project workspace, click **Activate**. In the Activate project panel, with the default project label selected, choose an appropriate tracing option, then click **Activate**.
   A message confirms that the integration has been activated. Refresh the page to view the updated status of the integration.
2. Run the recipe.
   a. In the Project workspace, click **Actions** ... and select **Run**.
   b. On the Configure and run page, provide the following:

      Run as: <user you want to run it from>

      Request type: Ad hoc request

      Region_Name: <The OCI region >
      Example: mumbai-1

      OCID: <The OCID of the compute instance>
      Example: ocid1.instance.oc1.ap-mumbai-1.6ljriy

   c. click **Run**.

   You've now successfully submitted the integration for execution.

   **Note:** You can also schedule this integration to run at a date, time, and frequency of your choosing. See Define the Integration Schedule.

3. Monitor the execution of the integration flow in Oracle Integration.
   1. In the project workspace, click **Observe**. You'll see the integration flow being triggered and running successfully.
   2. To manage errors in your project, see Manage Errors in a Project.
4. Once the integration(s) flow is successful, Open OCI Cloud, navigate to the compute instance we have created.
   1. If you have triggered the integration "*OCI ComputeInstance CoreServicesStop*," you will observe that the compute instance has been stopped.
   2. If you have triggered the integration "OCI ComputeInstance CoreServicesStart," you will observe that the compute instance is starting state.

## Related Documentation

- *Using the REST Adapter with Oracle Integration 3*
- *Oracle Cloud Infrastructure Documentation / API Reference and Endpoints*
- *OCI API Reference and Endpoints*