100

Oracle Public Cloud Workshop

Fusion Middleware

Cloud Services

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Introduction

In this lab, you will acquire a good overview of the next generation Oracle Java Cloud Service. You will create a new Java Cloud Service instance from scratch. You will explore various consoles and tools available to interact with your service. The exercise will get your familiar with all the tooling available to work with this instance.

Please direct comments to: Dennis Foley (dennis.foley@oracle.com)

Objectives

- ☐ Create and Explore Java Cloud Service

Required Artifacts

- ☐ The following labs require a Virtual Box Image that will be supplied by your instructor.

Outline

Virtual Box Client

Virtual Box Client Installation

STEP 1: Copy OVA file

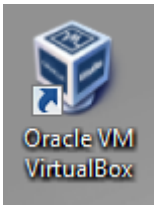
☐ Copy directory **OPCWorkshop** from flash drive provided by the instructor onto your computer. For this lab guide we will assume it has been place on **D drive**.

☐ If not already done, install Oracle Virtual Box. The install file can be found in **OPCWorkshop\VirtualBox**

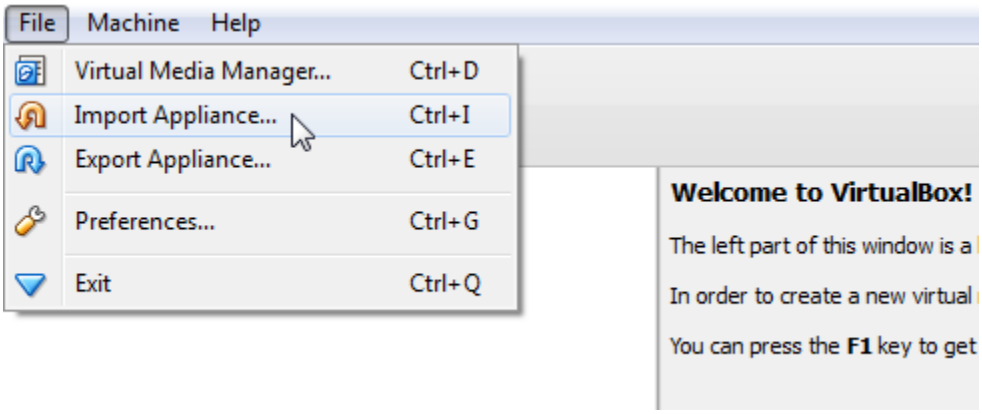
Windows = VirtualBox-5.0.12-104815-Win.exe

Mac = VirtualBox-5.0.12-104815-OSX.dmg

☐ Startup **Oracle Virtual Box**

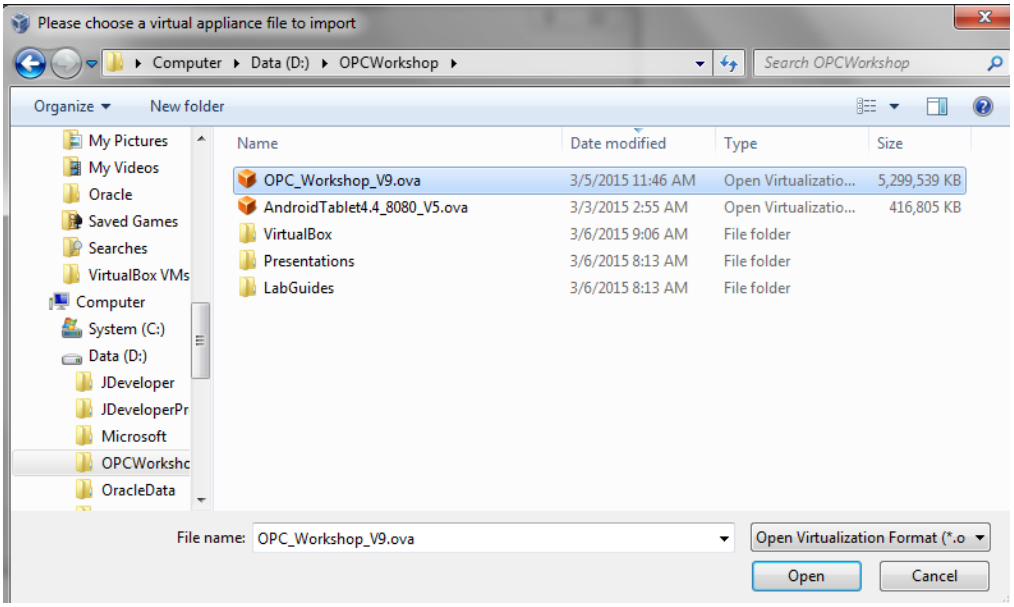


☐ From top left menu select **File -> Import Appliance**

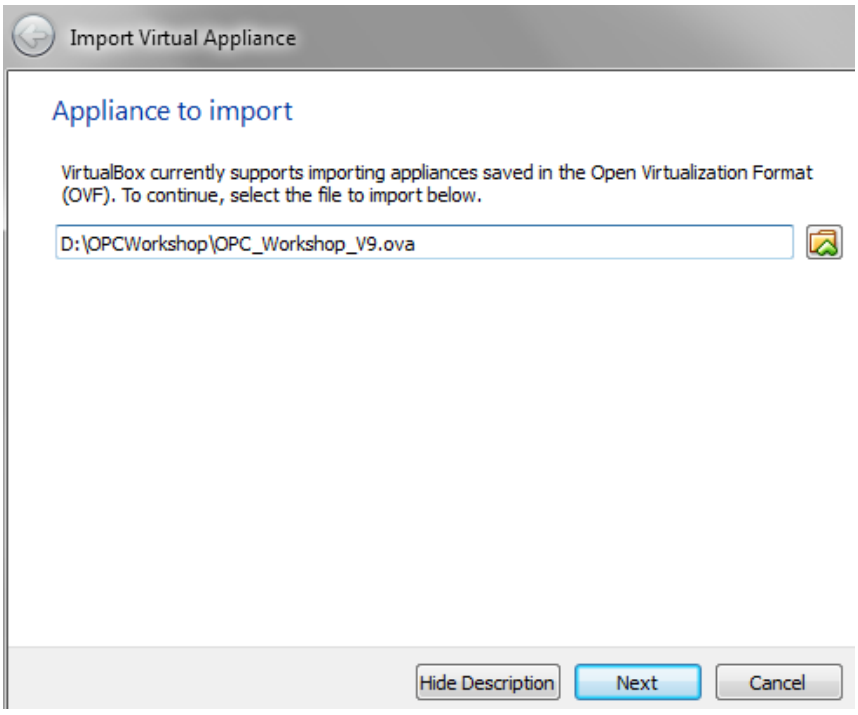


☐ Click on browse icon  to select file to import.

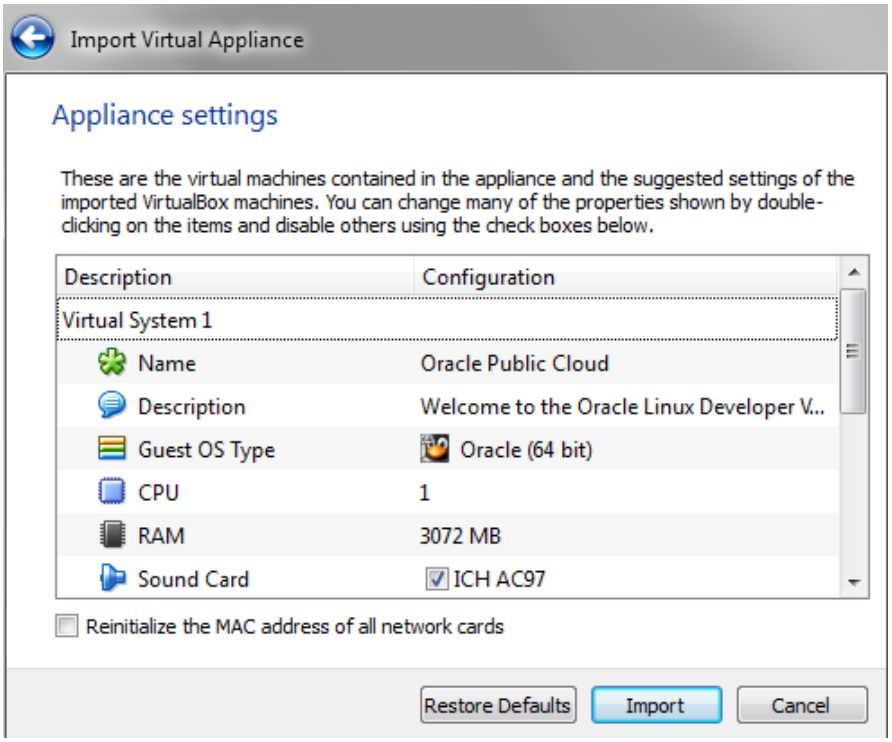
☐ Navigate to OPCWorkshop directory. In our example **D:\OPCWorkshop** and select **OPC_Workshop_V##.ova**, and Click **Open**



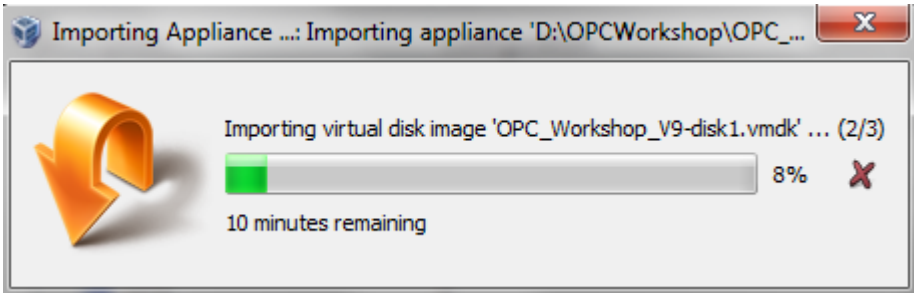
☐ Once the File is selected click **Next** to continue.



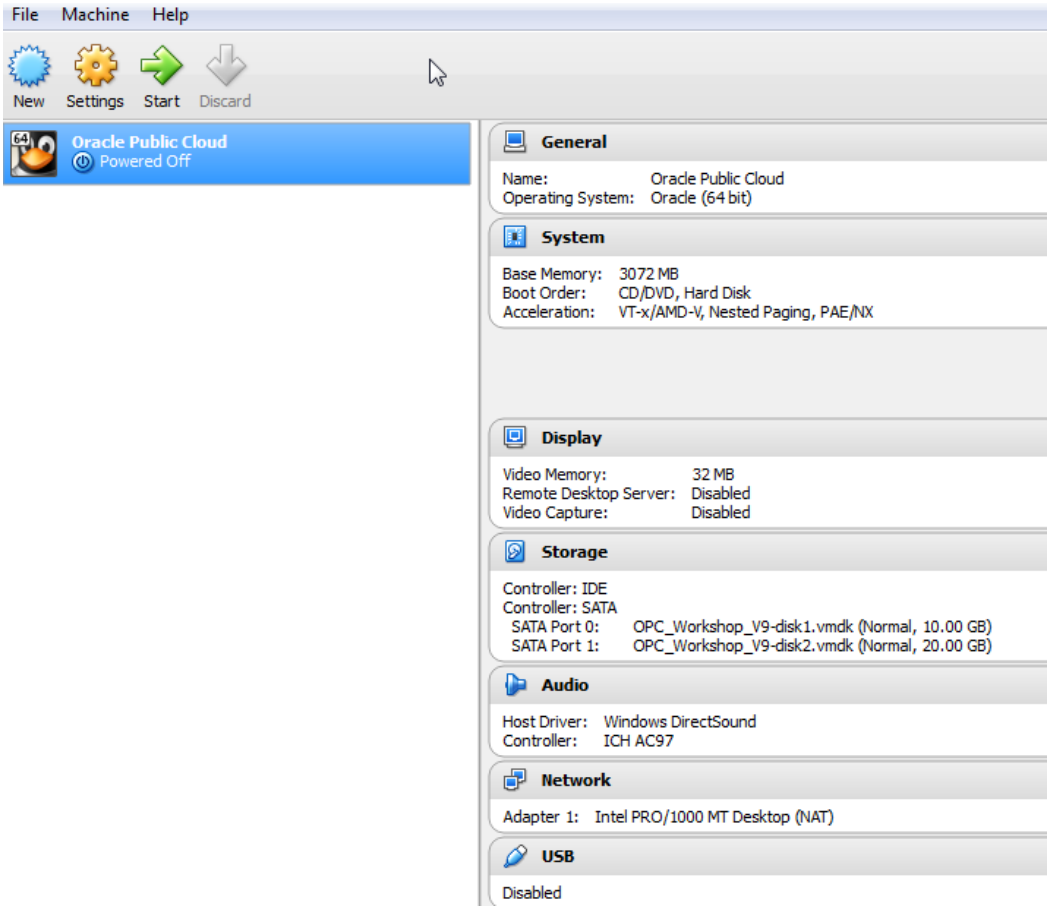
☐ Keep all the defaults and click **Import**



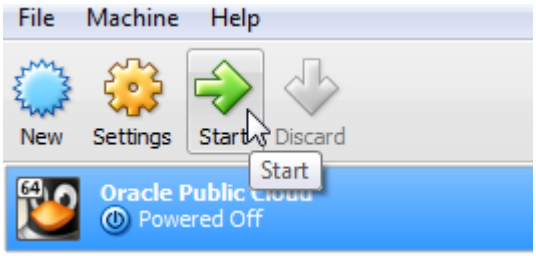
☐ Wait for import to complete. The time required to import will vary depending on the speed of your hard disk.



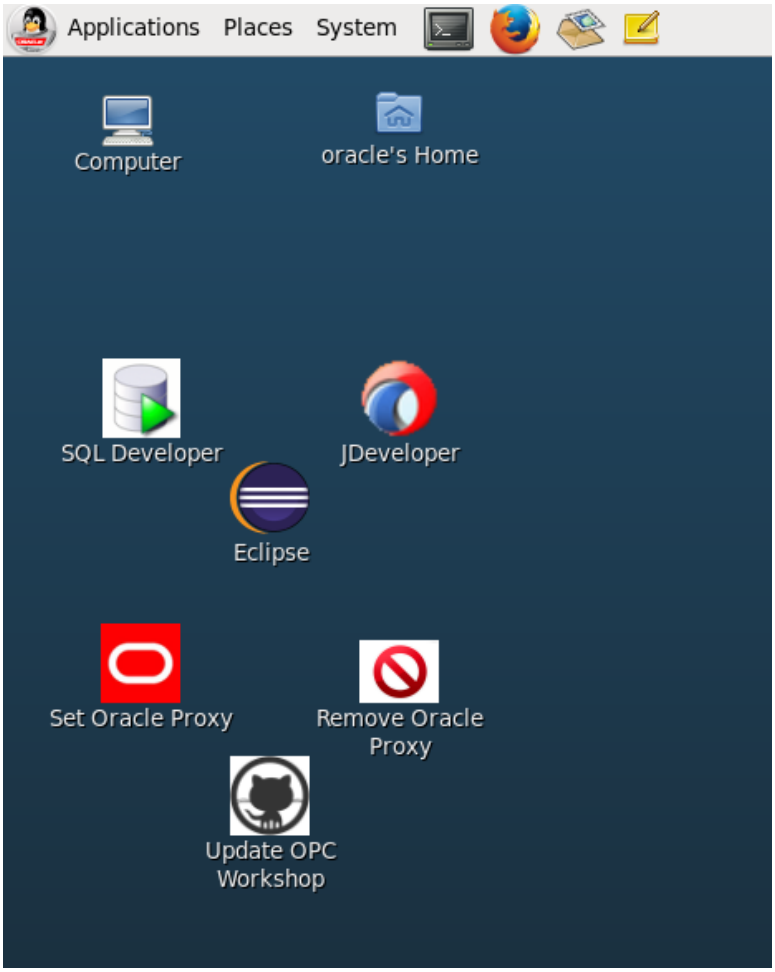
☐ After completion of the import, you should see the Oracle Public Cloud image in a Powered Off state. The default settings will work, but if you are familiar with Virtual Box, you are welcome to change any of the settings.



☐ With the **Oracle Public Cloud** selected, click **Start**.



☐ After a few minutes you will have a running image that will be used for all of the labs.



Create and Explore Java Cloud Service

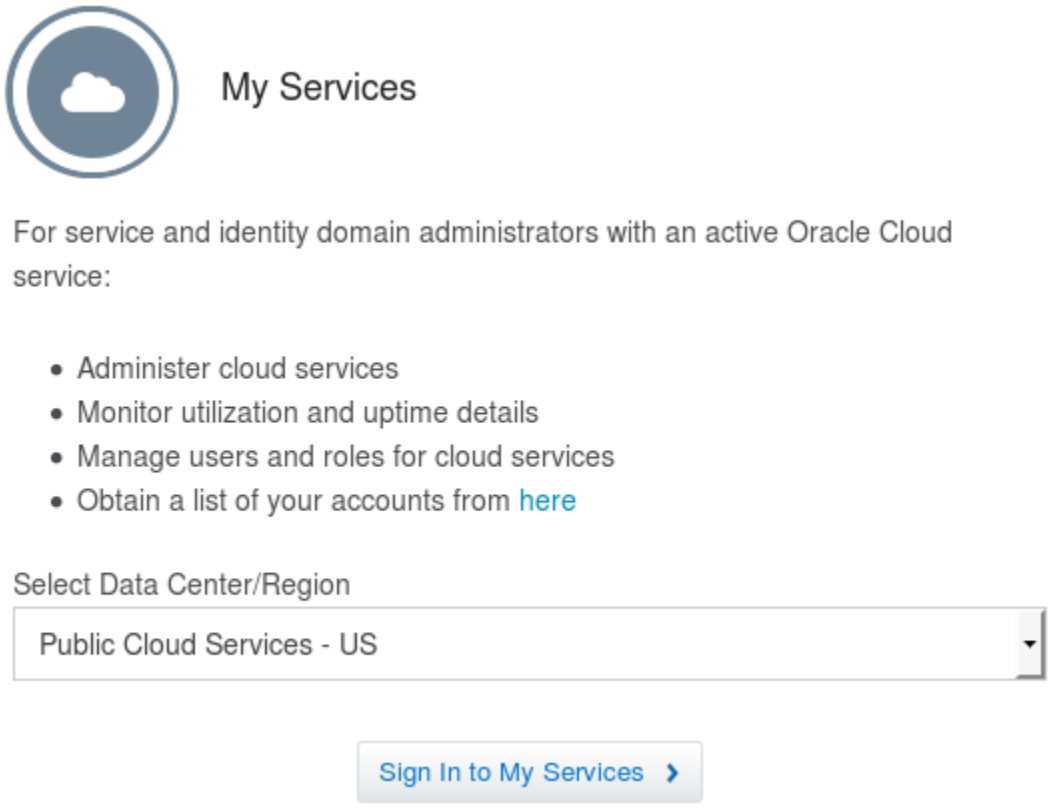
Create Java Cloud Service

STEP 2: Login to your Oracle Cloud account

- ☐ From within the Virtual Box image open **Firefox** and go to the following URL:

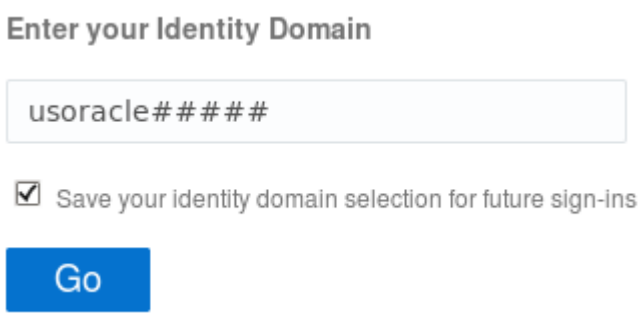
  `https://cloud.oracle.com`

- ☐ Click **Sign In** in the upper right hand corner of the browser
- ☐ **IMPORTANT** - Under My Services, change Data Center to **Public Cloud Services - US** and click on **Sign In to My Services**



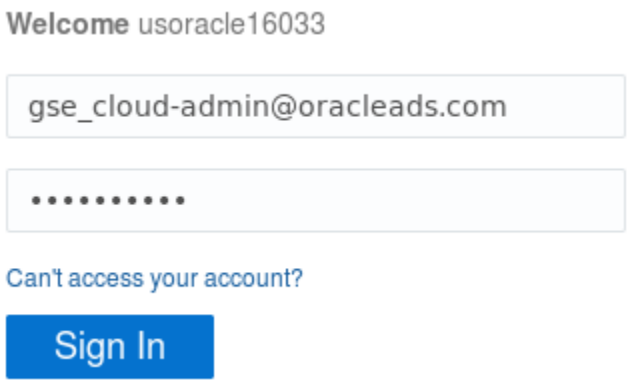
☐ If your identity domain is not already set, enter it, check to box to save it, and click **Go**

NOTE: the **Identity Domain, User Name** and **Password** values will be given to you from your instructor.

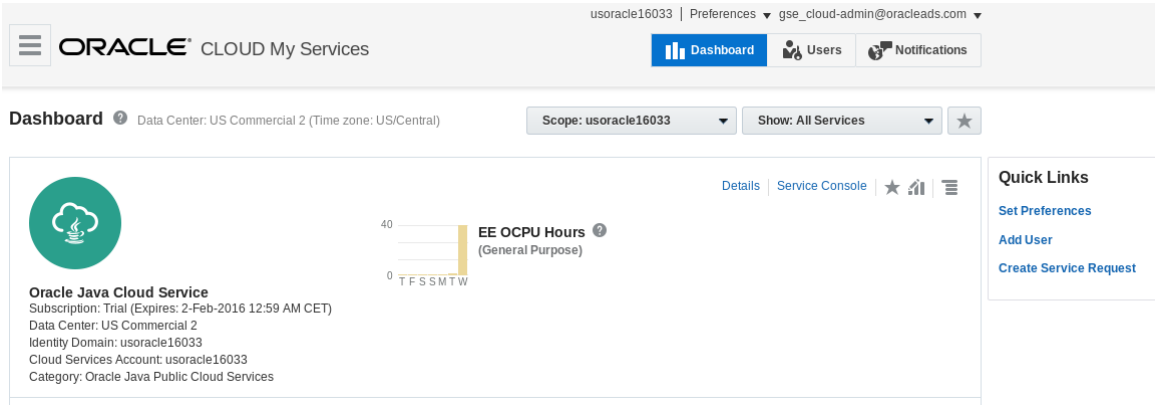


☐ Once your Identity Domain is set, enter your User Name and Password and click **Sign In**

NOTE: the **Identity Domain, User Name** and **Password** values will be given to you from your instructor.



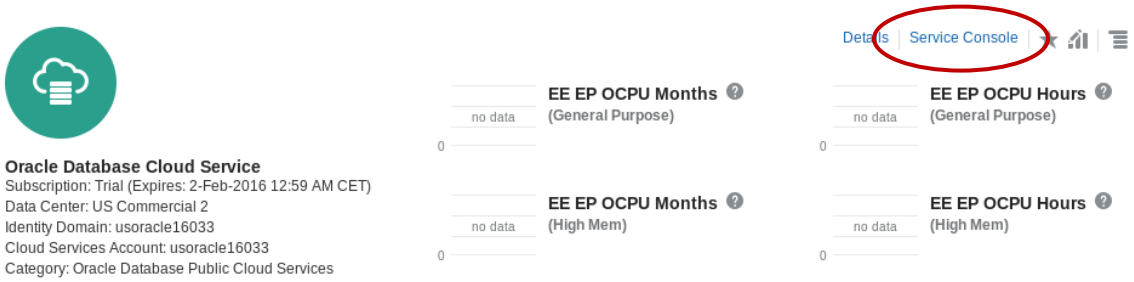
☐ You will be presented with a Dashboard displaying the various cloud services available to this account.



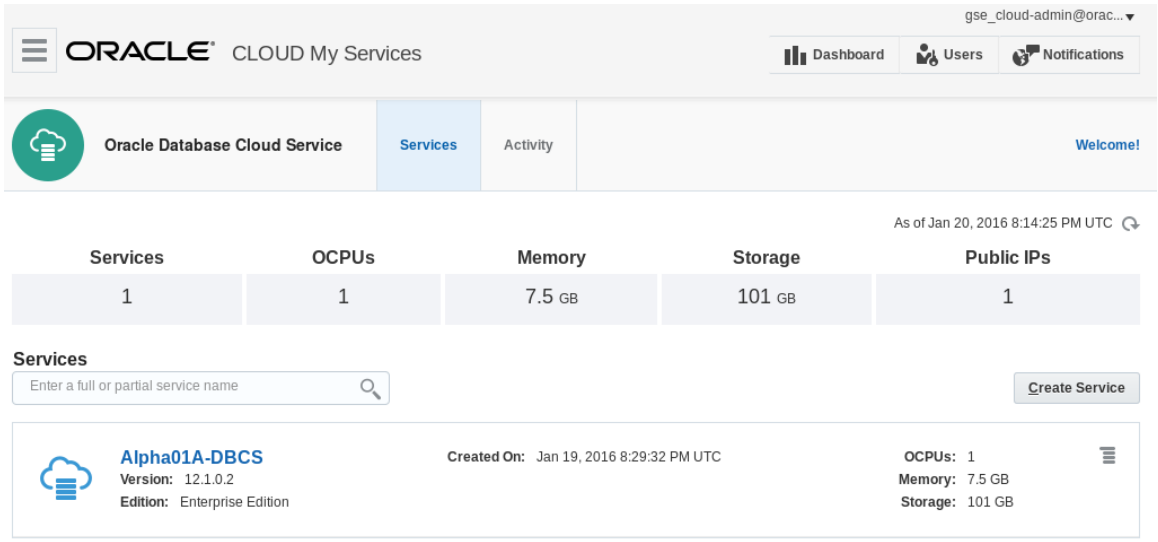
STEP 3: Explore Oracle Cloud Dashboard

The Cloud Dashboard is the launching pad for all the cloud services in your account. You have access to the following Cloud service: **Oracle Database Cloud Service, Oracle Database Backup Service, Oracle Storage Cloud Service, Oracle Compute Cloud Service** and **Oracle Java Cloud Service**.

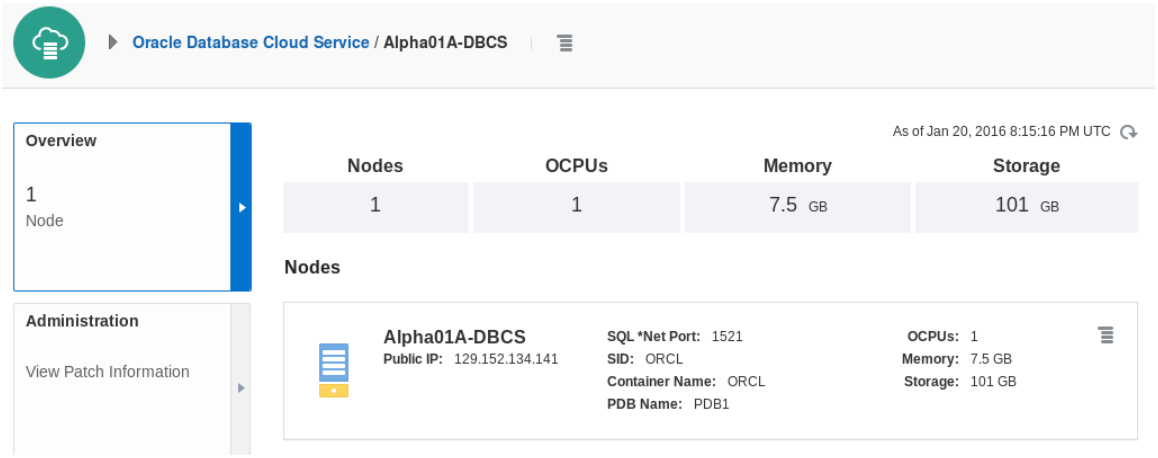
☐ Before we get into the Java Cloud Service, let's explore a few of the other services that will be used by the Java Cloud Service. From the Dashboard, click on **Service Console** for the **Oracle Database Cloud Service**



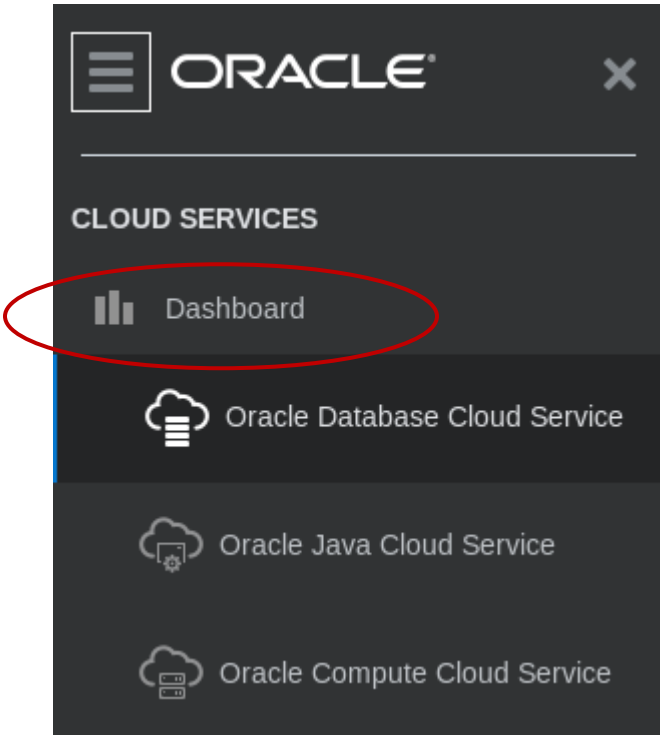
☐ The Service Console for Database Cloud Service will give you overall metrics for all created instances of the Database Cloud Service. We have pre-created an instance with the name **Alpha01A-DBCS**.



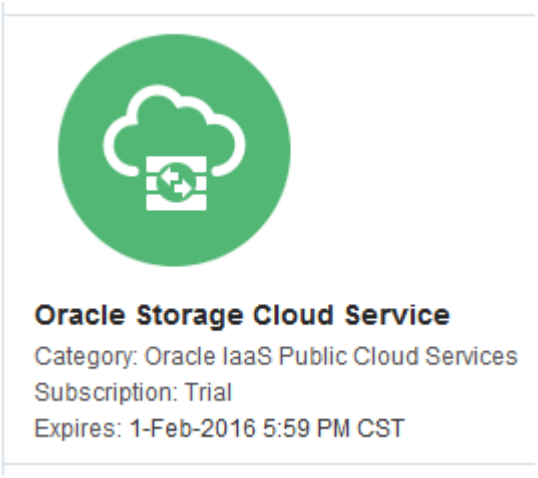
☐ Click on cloud icon  or service name **Alpha01A-DBCS** to navigate to the service details.



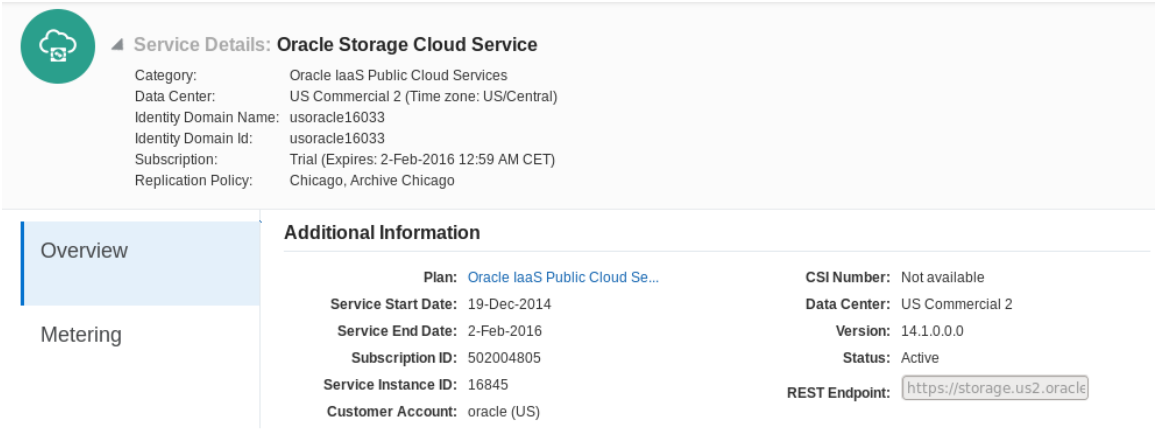
☐ To navigate back to the Services Dashboard, click on hamburger menu  in upper left hand corner. Select **Dashboard** to navigate back to the Services Dashboard.



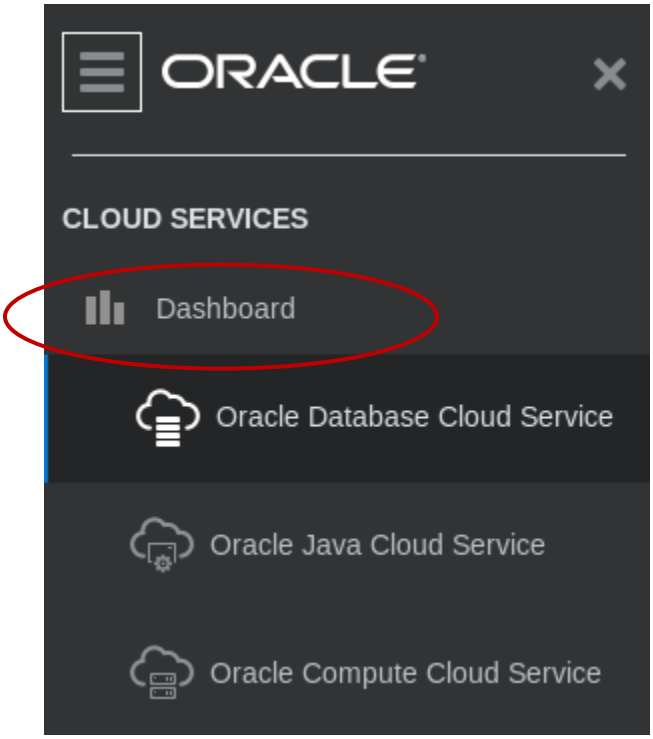
☐ Next, we will take a look at the Storage Cloud Service. Scroll down and click on **Oracle Storage Cloud Service** to view details.



☐ From the details screen we can view the Metering and storage usage. Also, this gives us the REST Endpoint for the storage service which can be used to programmatically interface with the storage service. If details are not displayed click 

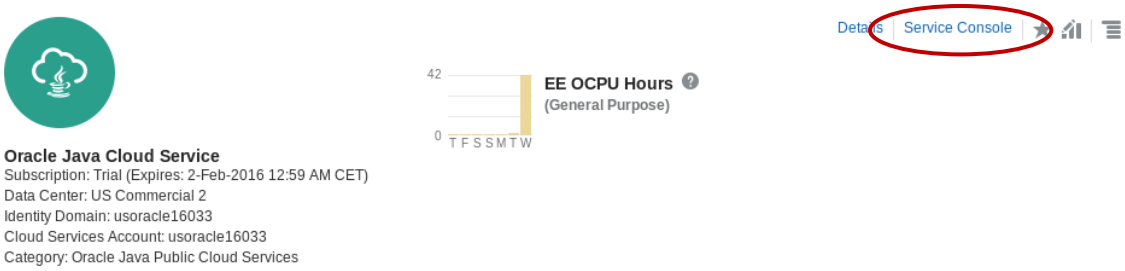


☐ To navigate back to the Services Dashboard, click on hamburger menu  in upper left hand corner. Select **Dashboard** to navigate back to the Services Dashboard.

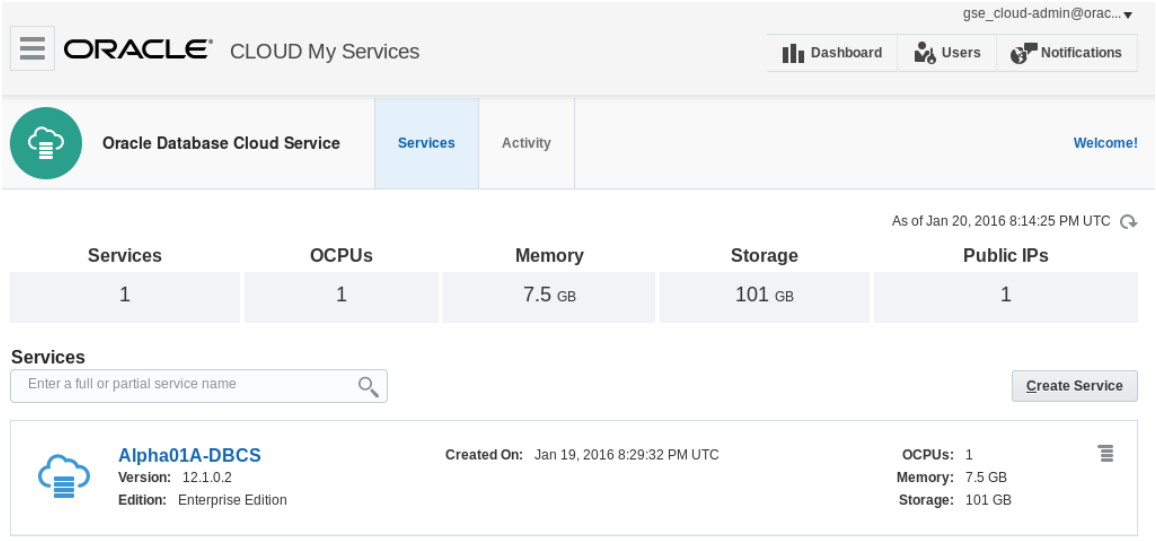


STEP 4: Create new Java Cloud Service from Service Console

☐ From the Dashboard, scroll to bottom of page and click on **Service Console** for the **Oracle Java Cloud Service**

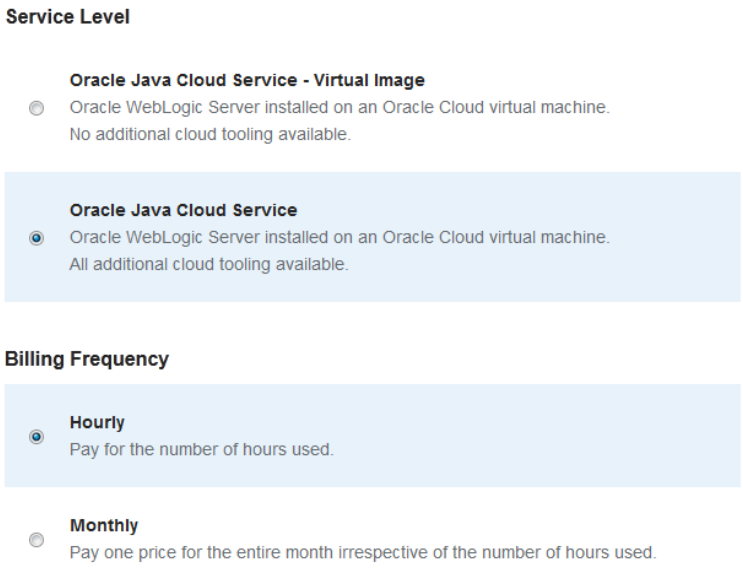


☐ From this screen you will be able to monitor and view all your **Oracle Java Cloud Service** instances.

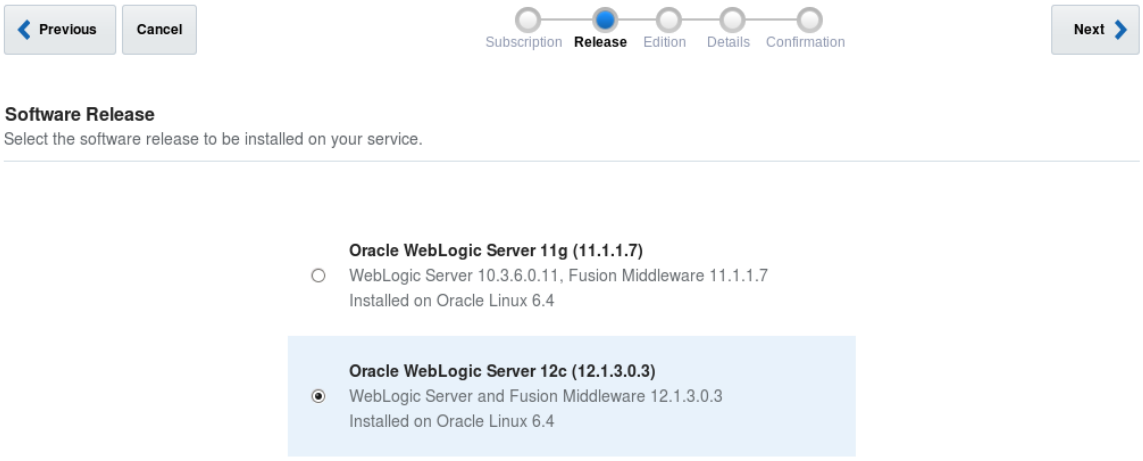


☐ Click on the **Create Service** button.

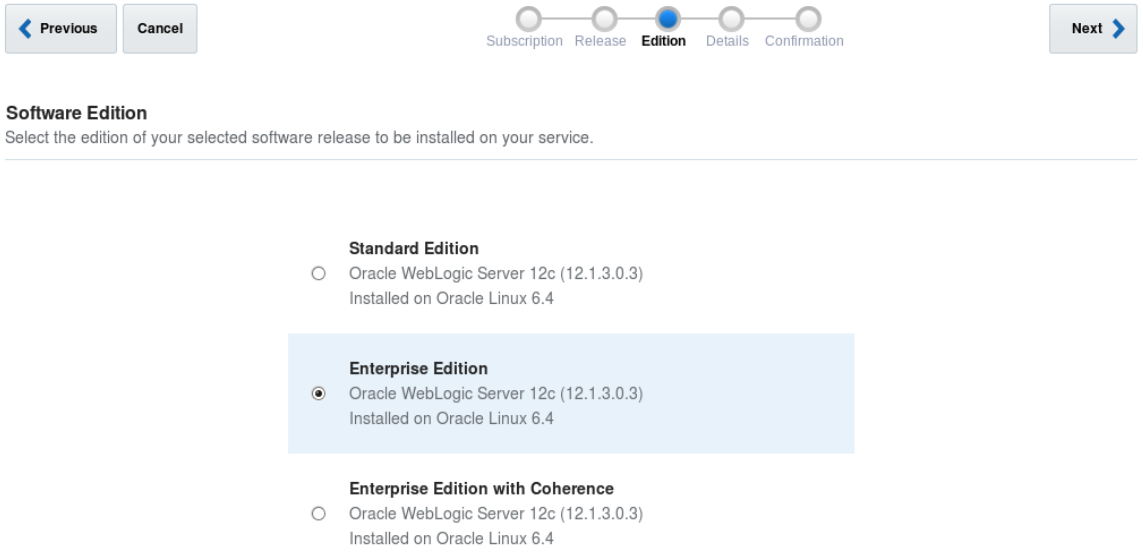
☐ Select **Oracle Java Cloud Service** for Subscription Type. Select **Hourly** for the Billing Frequency and click **Next**



☐ Select **Oracle WebLogic 12c** for Software Release and click **Next**



☐ Select **Enterprise Edition** for Software Edition and click **Next**



STEP 5: Identify the Instance Configuration

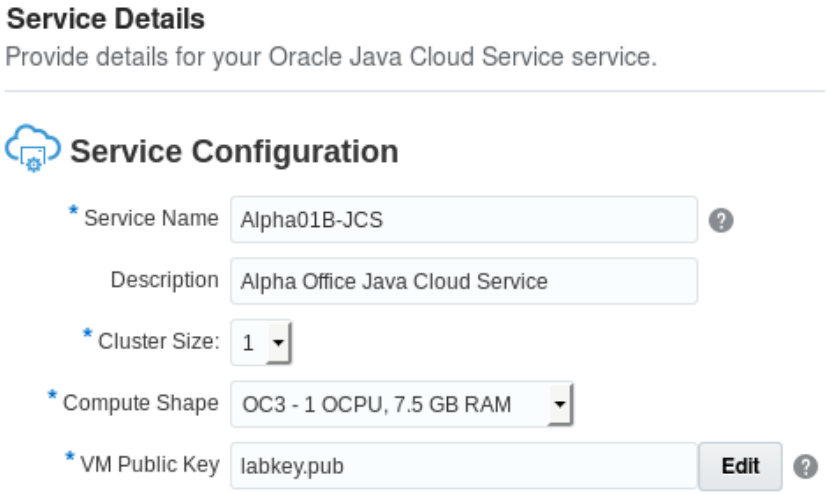
This next step is very important when provisioning or creating a service instance. In this step, you will shape the service and provide an identity **INSTANCE CONFIGURATION:**

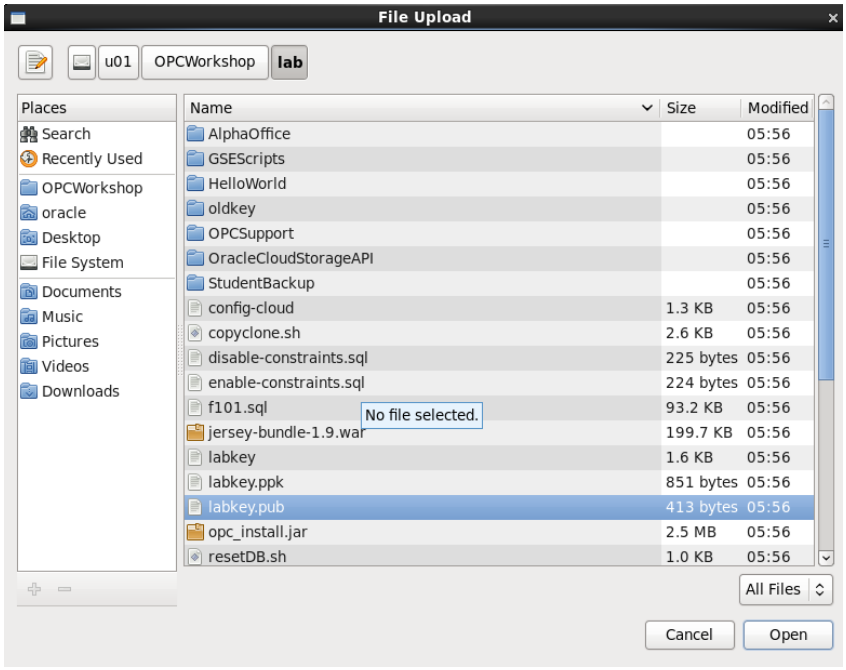
When providing a name, please note you might have another service instance already created in your account, so the name must be unique.

For the purposes of this lab we have supplied you with a public SSH key.

☐ Enter the following for Instance Configuration:

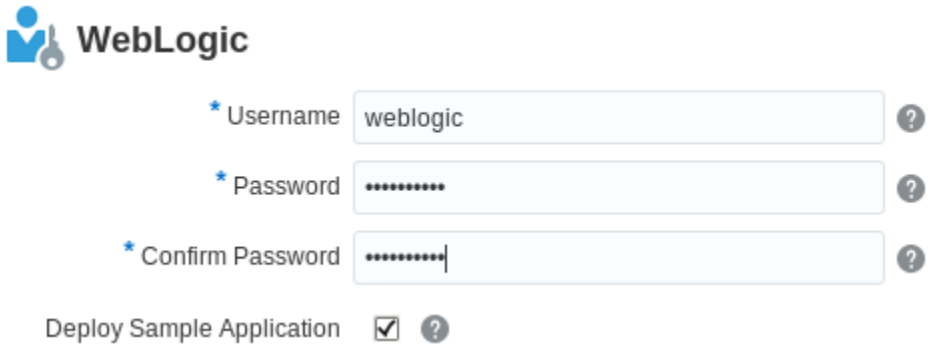
```
Service Name = Alpha01B-JCS
Description = Alpha Office Java Cloud Service
Click on the Edit button to browse for the labkey.pub file found
here: /u01/OPCWorkshop/lab/labkey.pub
```





☐ Enter the following values for WebLogic Administrator:

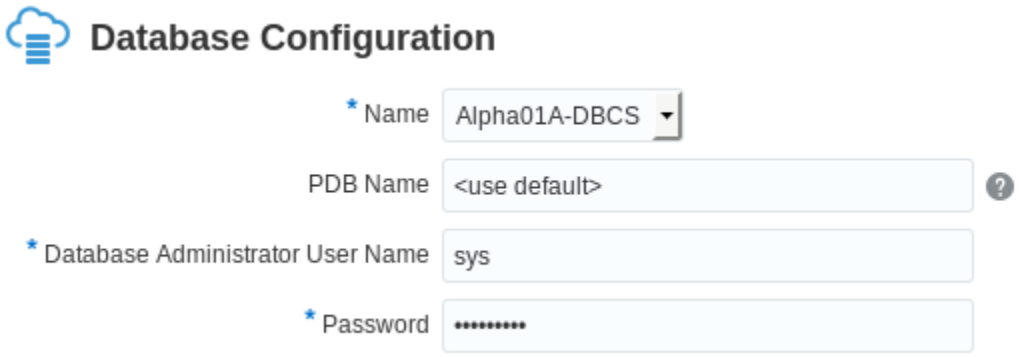
```
WebLogic User Name = weblogic
WebLogic Password = Alpha2014_
```



☐ From the Database Configuration select **Alpha01A-DBCS** from the drop down and enter the following data for the configuration:

Note: The Database we reference in this step was previously created and loaded with test data.

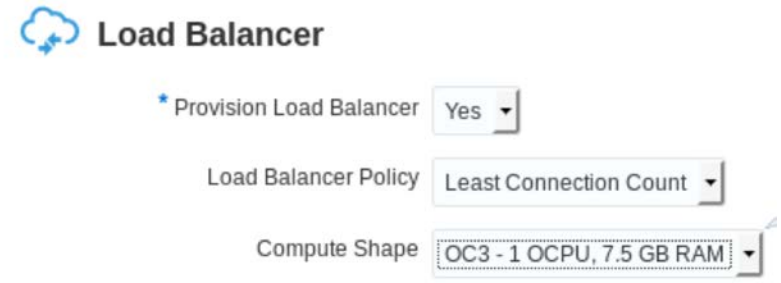
```
Name =  Alpha01A-DBCS
Database Admin User Name = sys
Password = Alpha2014_
```



☐ Select **YES** to include a Load Balancer. Use the default configuration:

Although a load balancer is not required, it is recommended that a JCS is fronted with a load balancer.

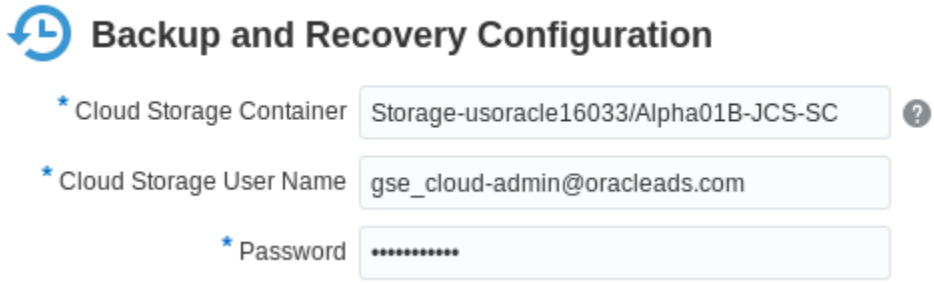
```
Provision Load Balancer = Yes
Load Balancer Policy = Least Connection Count
Compute Shape = OC3 - 1 OCPU, 7.5 GB RAM
```



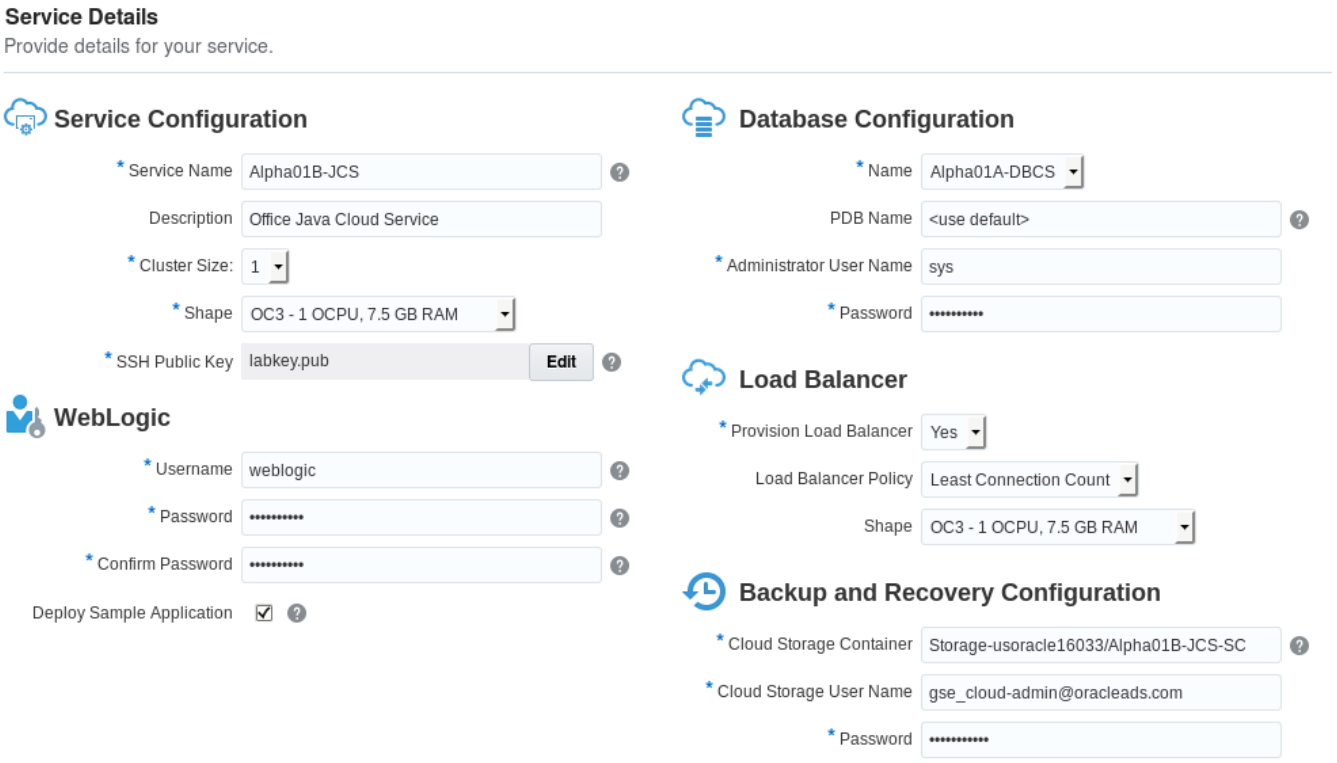
☐ Backup and Recovery Configuration:

Like the Database Service, the Storage Container we will reference in this step was previously created.

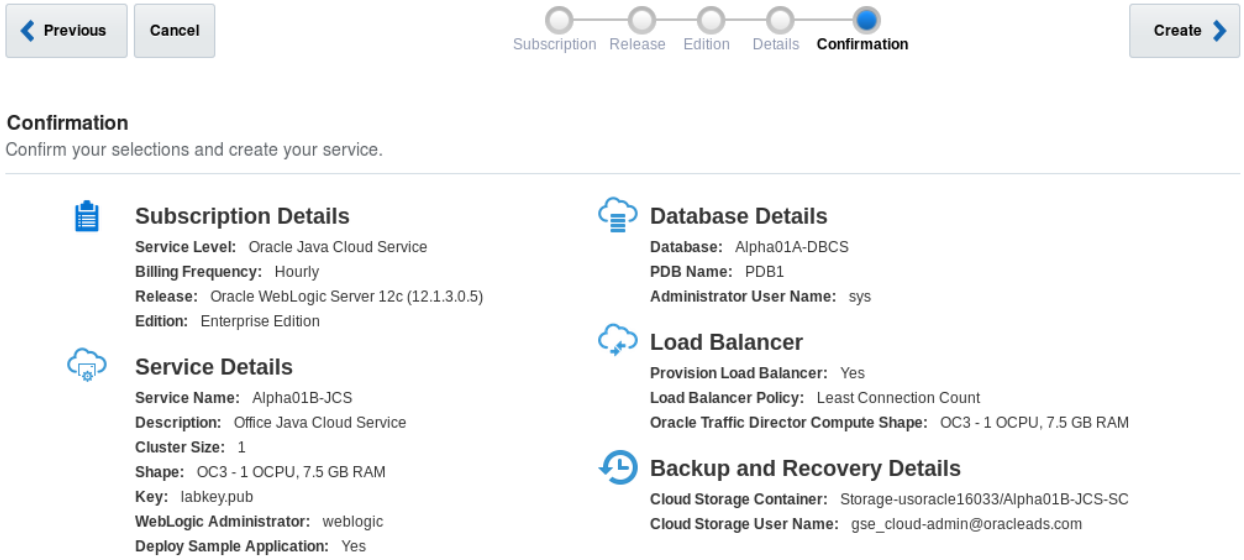
```
Storage Container Name = Storage-<your domain Id>/Alpha01B-JCS-SC
Storage User Name = <your user name>
Password = <your password>
```



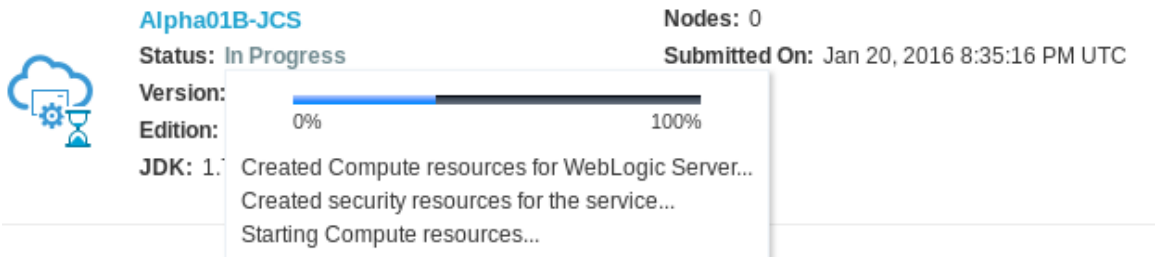
☐ Verify all fields have been correctly entered, and click on **Next**



☐ On the Confirmation Page, view all the details of your service to ensure they are correct and then click the **Create** button.



☐ The creation of the JCS will take approximately 30 minutes. While your JCS is being created, you can monitor its progress by clicking the **Status** link. Once completed, the status is no longer displayed.



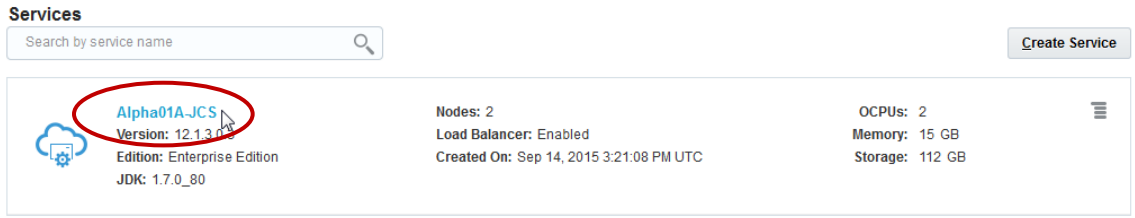
☐ For the purposes of these labs, you can proceed to the next steps without waiting for this JCS to complete since **Alpha01A-JCS** has already been created.

Explore WebLogic Console

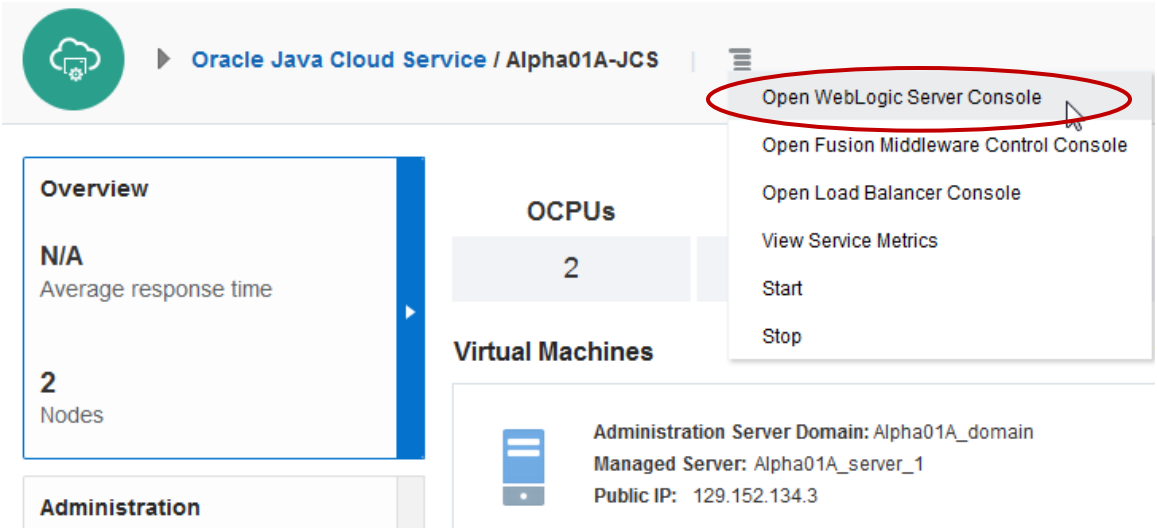
STEP 6: Open WebLogic Console

For all remaining labs you will be using a pre-created JCS titled **Alpha01A-JCS**

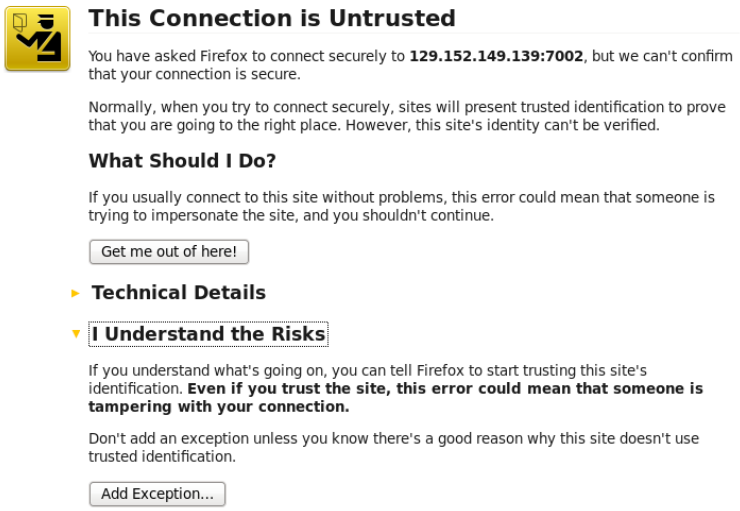
☐ **Click** on your pre-provisioned JCS instance **Alpha01A-JCS** to view details.



☐ Click on icon located at the right side of the Alpha01A-JCS listing, and select **Open WebLogic Server Console**



☐ If you get security warning, expand **I Understand the Risks** and click **Add Exception**.



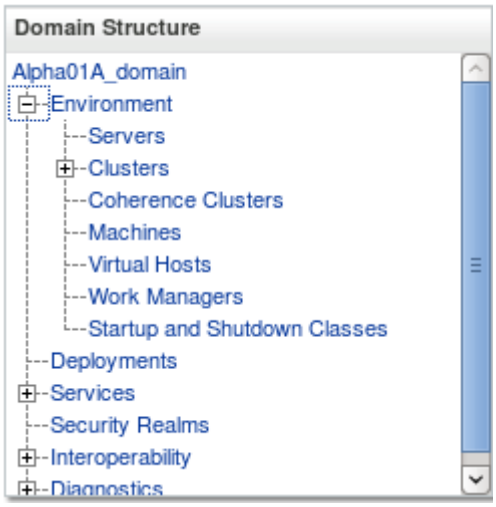
☐ Click **Confirm Security Exception**.

☐ A new tab will open. Enter username and password and click **Login**

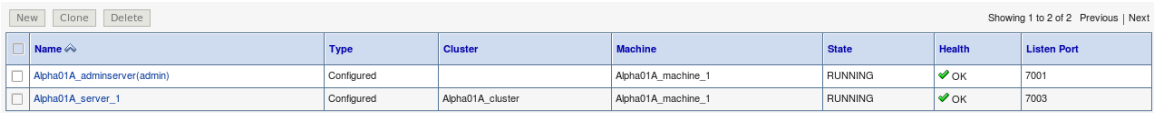
```
Username = weblogic
Password = Alpha2014_
```

STEP 7: Explore WebLogic Console

☐ Expand Domain Structure and click on **Environment > Servers**.

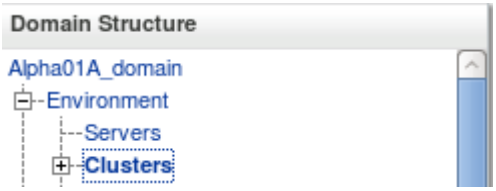


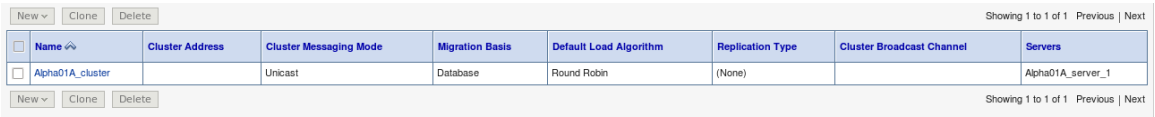
☐ Make note of the servers that have been created. Notice that there are two servers, and the managed server belongs to a cluster.



Name	Type	Cluster	Machine	State	Health	Listen Port
Alpha01A_adminserver(admin)	Configured		Alpha01A_machine_1	RUNNING	OK	7001
Alpha01A_server_1	Configured	Alpha01A_cluster	Alpha01A_machine_1	RUNNING	OK	7003

☐ Now Click on **Clusters** from the Domain Structure. In a following Lab we add a Node, and you will see that the additional managed server will be added to this cluster.





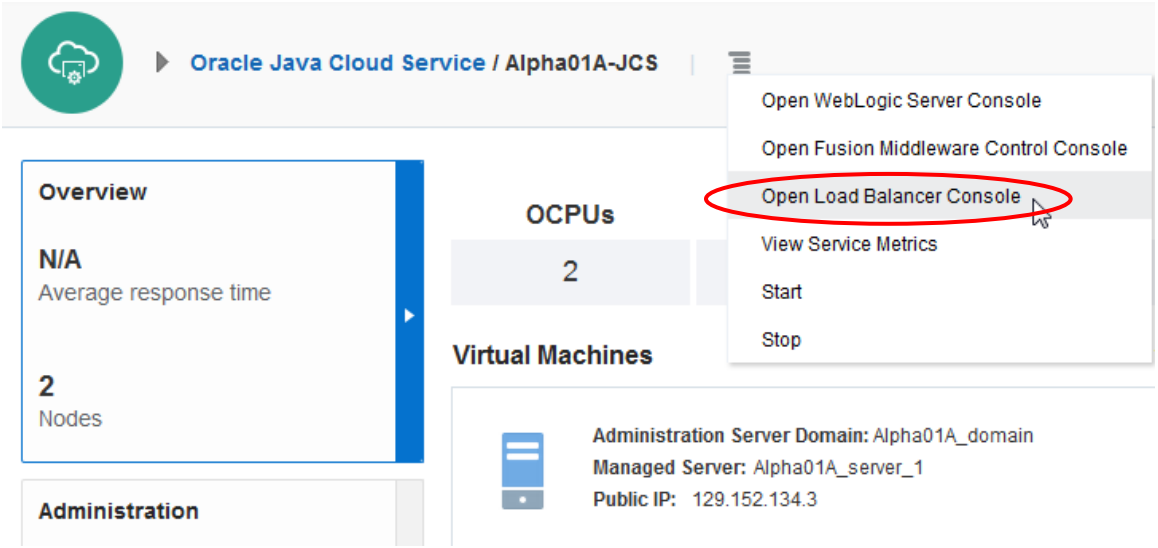
Name	Cluster Address	Cluster Messaging Mode	Migration Basis	Default Load Algorithm	Replication Type	Cluster Broadcast Channel	Servers
Alpha01A_cluster		Unicast	Database	Round Robin	(None)		Alpha01A_server_1

Explore Oracle Traffic Director Console

STEP 8: Open Oracle Traffic Director Console

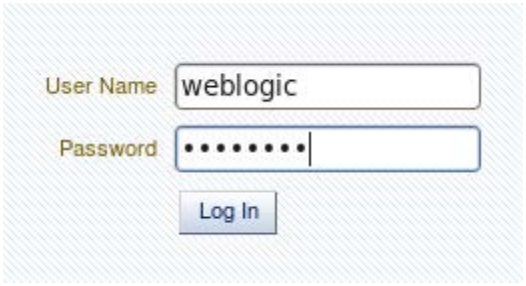
☐ If you are not already on the **Java Cloud Service Console** page, click back to the tab that contains your Java Cloud Service.

☐ Make sure you are on the JCS Instance page for **Alpha01A-JCS**, then click on  and select **Open Load Balancer Console.** As before, add and confirm the exception if prompted by the browser.



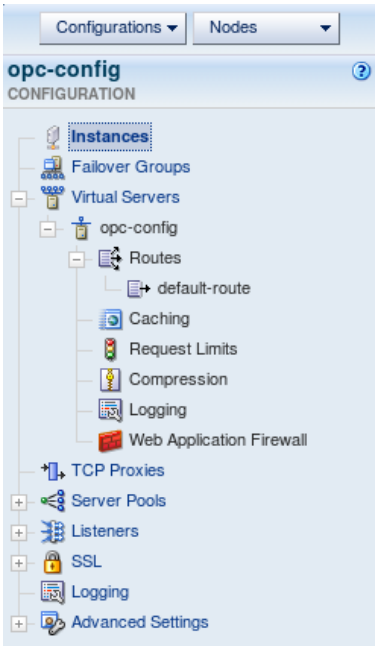
☐ A new tab will open. Enter username and password and click **Login**

```
Username = weblogic
Password = Alpha2014_
```



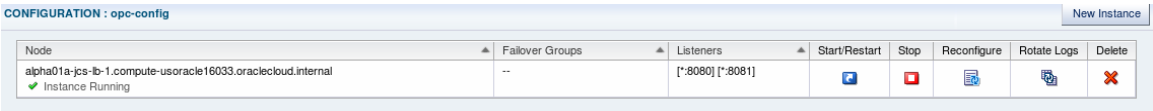
STEP 9: Explore Traffic Director Console

☐ On the left hand side navigation panel click Instances

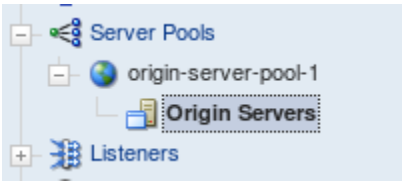


☐ Note that OTD configuration is listening on both 8080 and 8081. By default only 8081 is enabled.

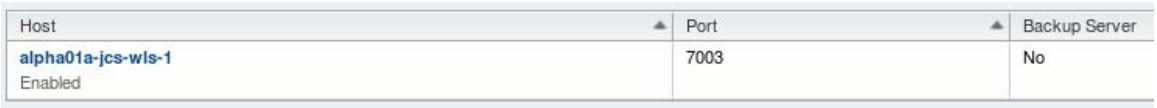
Note: IP tables have been setup to forward traffic on 443 to 8081 and traffic on 80 to 8080.



☐ On the left hand side navigation panel Expand **Server Pools -> origin-server-pool-1** and click on **Origin Servers**.



☐ You will see the Java Cloud Service entry, which is pointing to Weblogic Server running on the JCS Image.

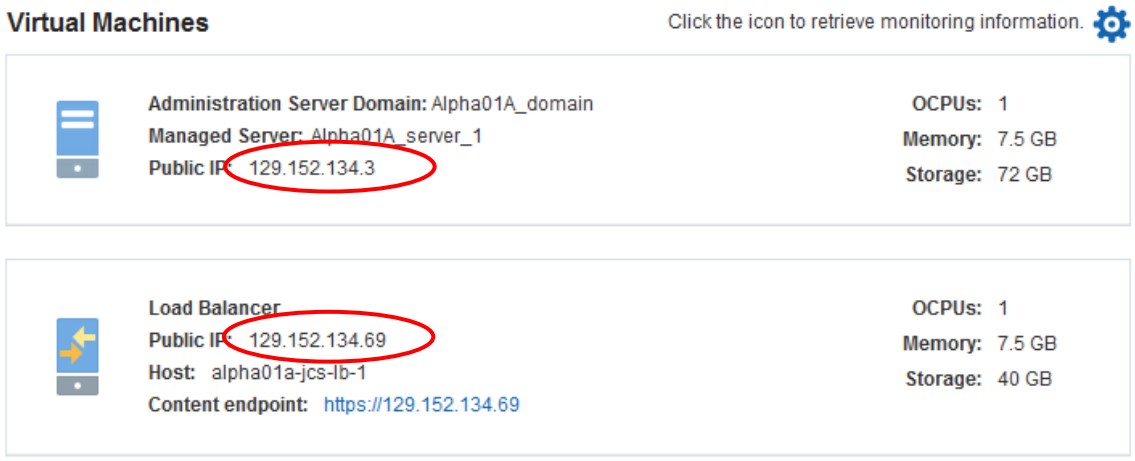


Explore JCS image

STEP 10: Explore JCS Image via SSH

☐ If you are not already on the **Java Cloud Service Console** page, click back to the tab that contains your Java Cloud Service.

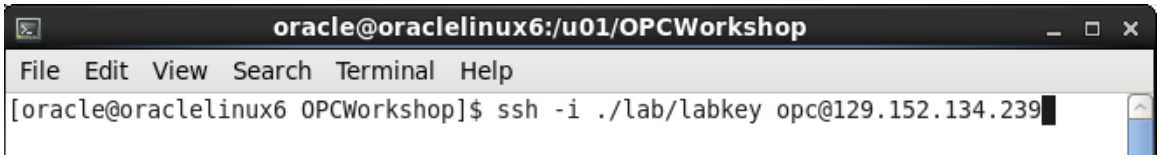
☐ **Record** the IP Addresses of both the **Administration Server** and the **Load Balancer**. You will use these IP addresses in subsequent steps.



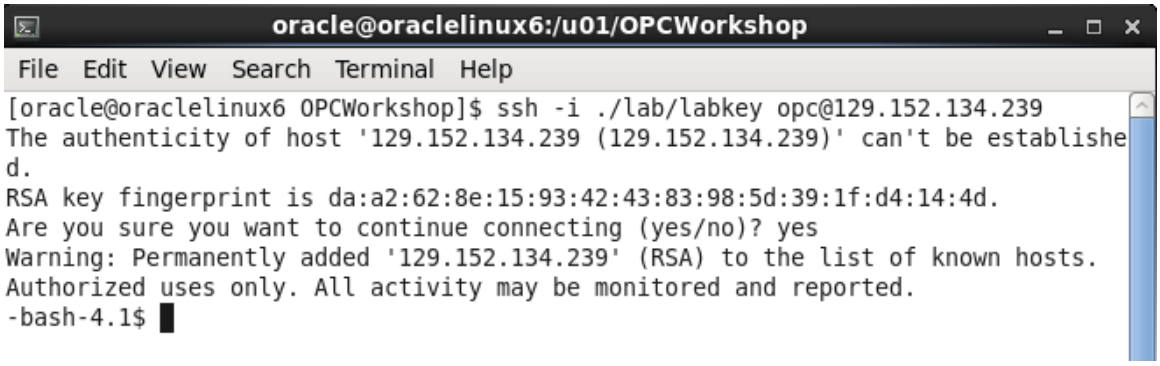
☐ **Click** on the **terminal icon** to open a terminal window.

☐ SSH into the virtual machine.

```
ssh -i ./lab/labkey opc@<admin ip>
```

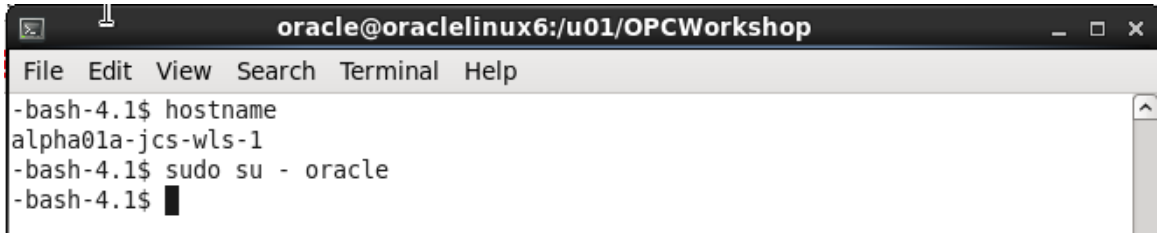


☐ If you are prompted to save the RSA key, enter **yes** and hit **return**



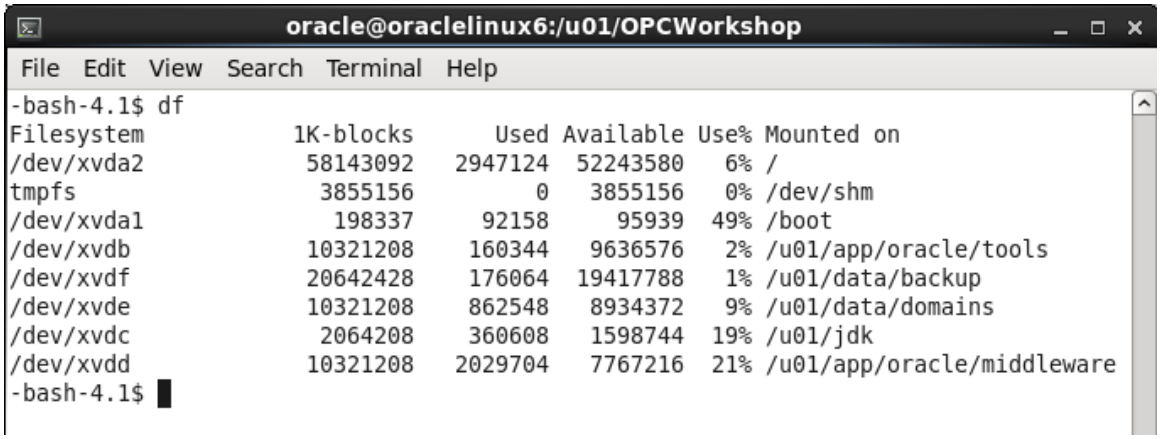
☐ You are now logged into the virtual image on which the WebLogic Servers are running. Verify you are connected to the correct VM with **hostname** and switch to the Oracle user by entering the following command:

```
hostname
sudo su - oracle
```



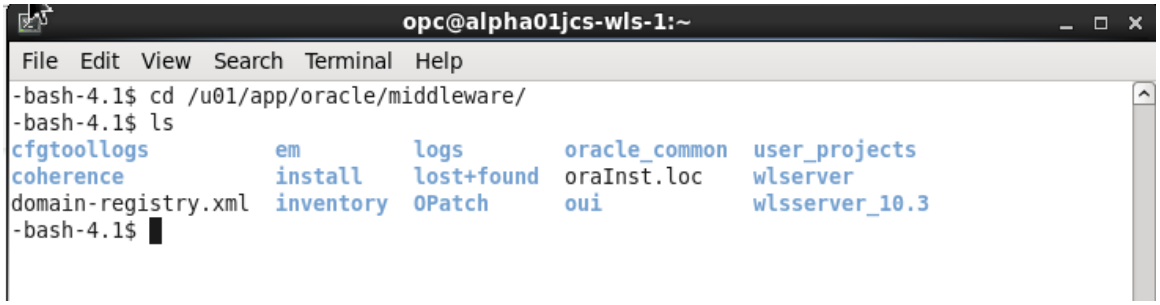
☐ Display file systems running on the Image by entering the following command: You will notice that the WebLogic Home and the Domain locations along with directories for backups are in separate directories.

```
df
```



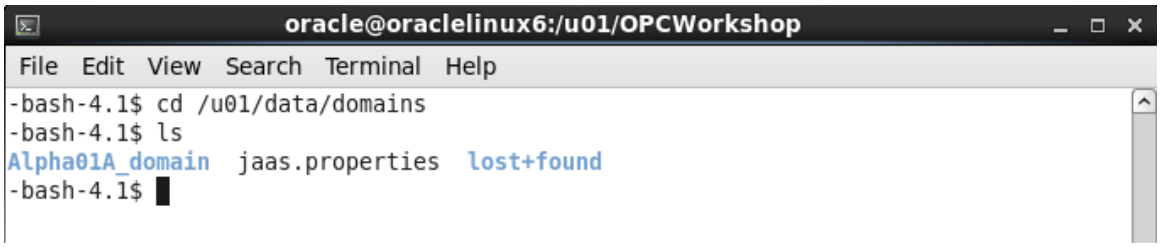
☐ Change to **WebLogic Home** directory and list contents of the directory where Weblogic software was installed.

```
cd /u01/app/oracle/middleware
ls
```



☐ Change to **WebLogic Domain directory** and list contents. You should see the default **Alpha01A_domain** that was created when the JCS was initialized.

```
cd /u01/data/domains
ls
```



☐ You now have a fully operational Environment onto which you can deploy your java applications. This Lab is completed