OMC 101: Getting Started with Oracle Management Cloud

Important Disclaimer:

"All scripts and data files provided in this workshop were written by the presenter for the purposes of the workshop and are not to be used outside of the workshop. Oracle will not take any responsibility for its use outside of the workshop."

Setup Reference Guide:

In this document, clear steps will be laid out about how to use the resources and materials packaged with the OMC 101 CLE. You should use this document as a reference throughout the session, or after the session, to reference the steps necessary to get started with Oracle Management Cloud. You should take special note to complete the "Prerequisites" section before getting started. There are some critical components that must remain consistent for everything to work smoothly. Once you've made sure you have them completed, you can get started with this guide.

Prerequisites:

There are a few things that you absolutely must have to complete this lab. The first, and most important, is a working, ready to use Oracle Cloud Trial Promotion. You should already have a trial if you've been signed up for this session. If for some reason you don't have one, please go here and setup the promotion before engaging further.

The second most important thing will be a running installation of "Git Bash". Git Bash will act as our interface to access Linux commands that the setup scripts will need to run. You can download Git Bash here, or you can run the executable "Git-Setup.exe" in your OMC CLE Toolkit. Download and run, or just run the executable, then complete the installation by accepting the default prompts.

The third is the ability to connect to a remote machine using 'ssh' and 'scp'. Many corporate firewalls actually block outbound traffic as well, including ssh and scp traffic to other machines. Ssh and scp are going to be critical components of the success of this lab, and if your network won't allow it, you should try to find another network available to you that will. For instance, I use the guest network here when connecting to cloud machines.

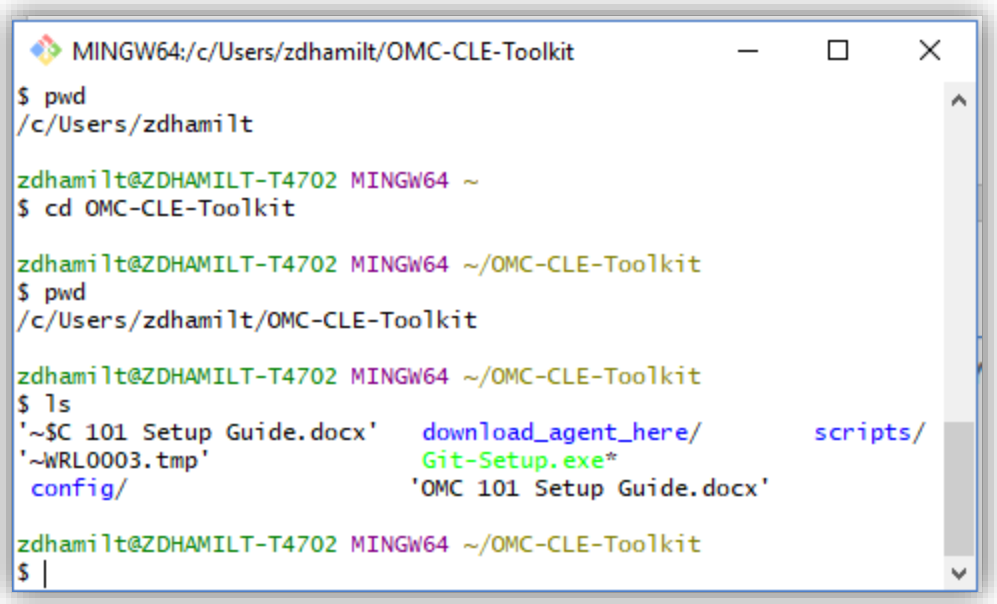
In summary:

1. A running, ready to use cloud trial promotion account with access to the cloud dashboard (meaning you've demonstrated the ability to login).
2. A running installation of "Git Bash" on your machine.
3. A network that will allow ssh and scp connections outbound to Oracle Cloud.

Getting Started:

Opening Git Bash and Navigating to the OMC CLE Toolkit base directory:

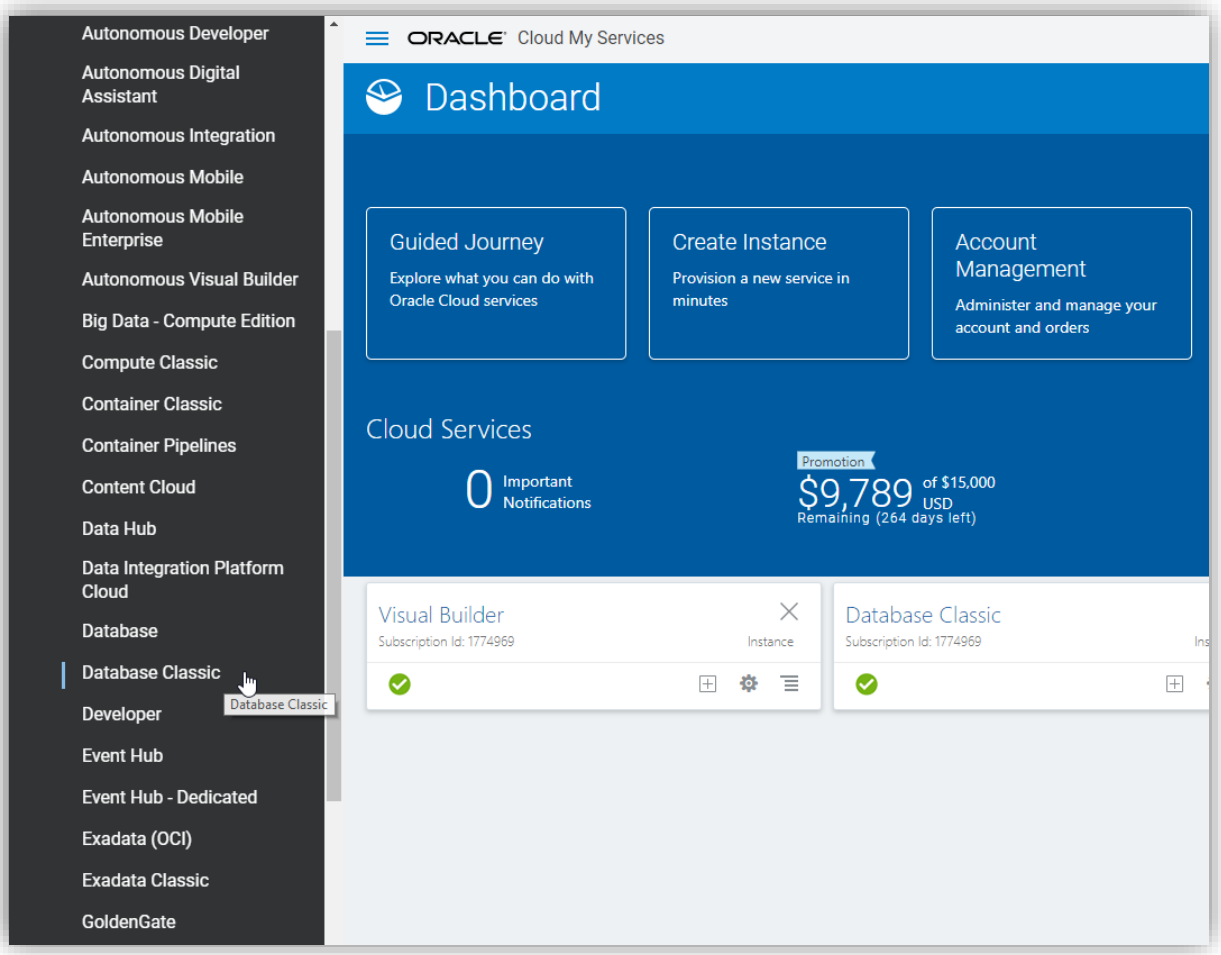
You should begin by opening Git Bash and navigating to the "/OMC-CLE-Toolkit" folder you should have been given. This folder will contain the resources you need to get complete this lab. Seen below, you can see how I did this.



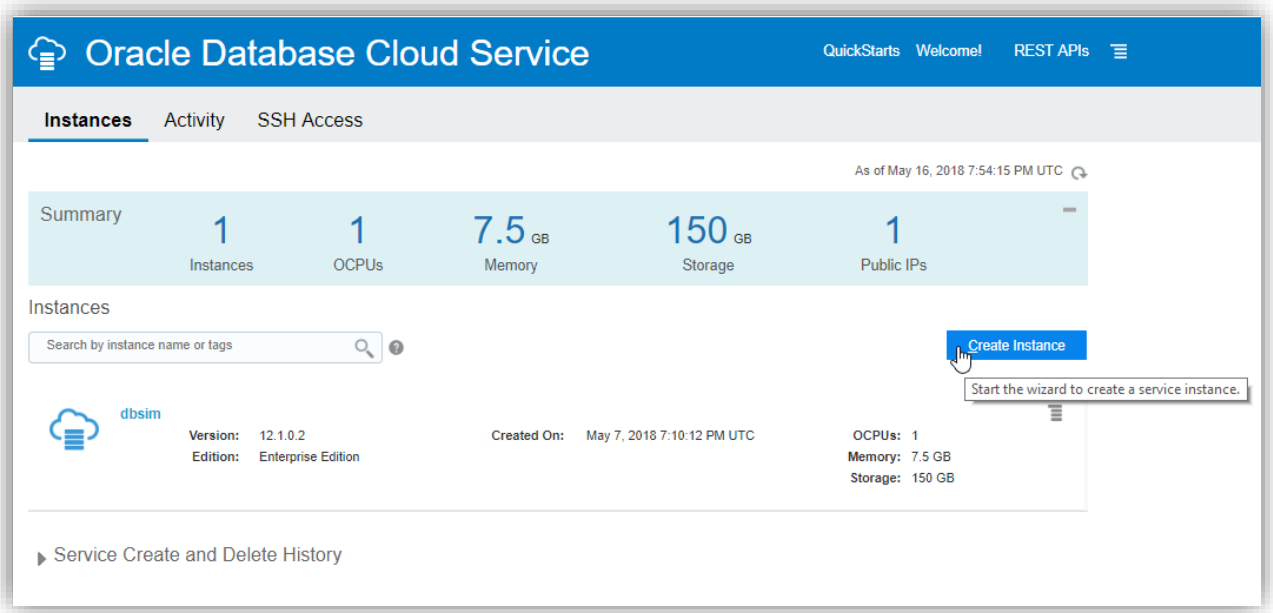
I keep my OMC CLE Toolkit in my home directory (~, which represents 'c/Users/zdhamilt'). I moved to that directory, then the toolkit folder within it. You can see the resources that are present. Now that we have this ready, lets create a database and an instance of OMC and start collecting some information.

Creating an instance of Oracle Database Cloud Service:

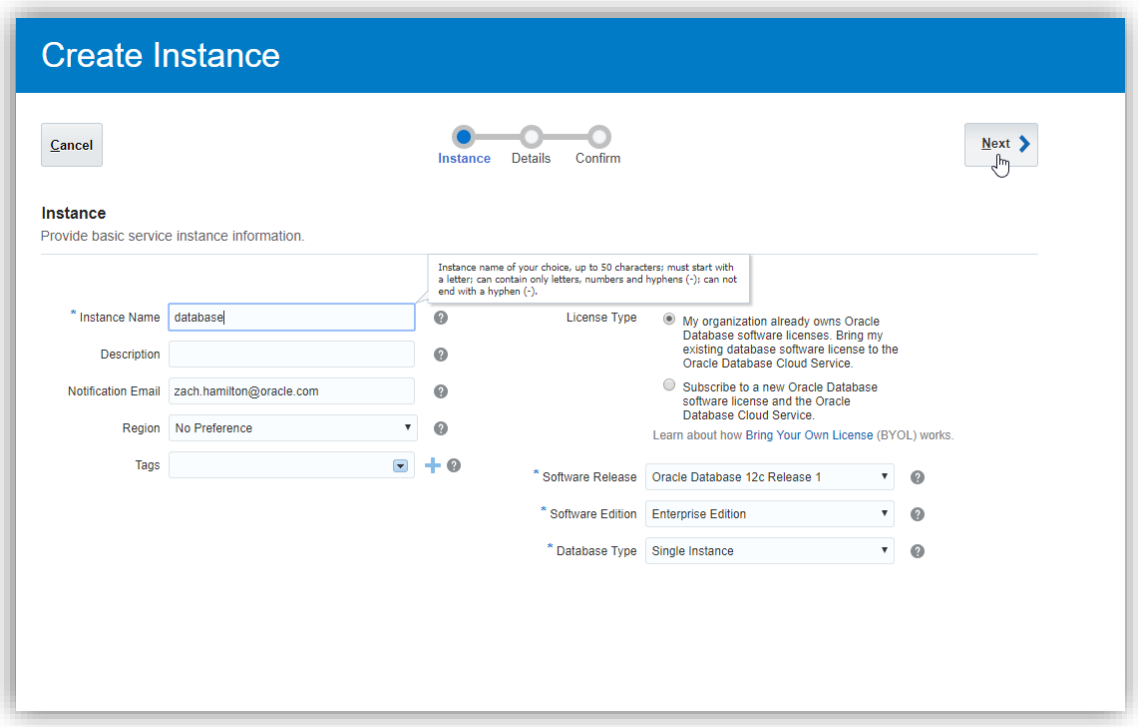
From the My Services Dashboard, select the "Action Menu" at the top-left of the page to pop-out the window. Click on the "Services" dropdown and find and click "Database - Classic".



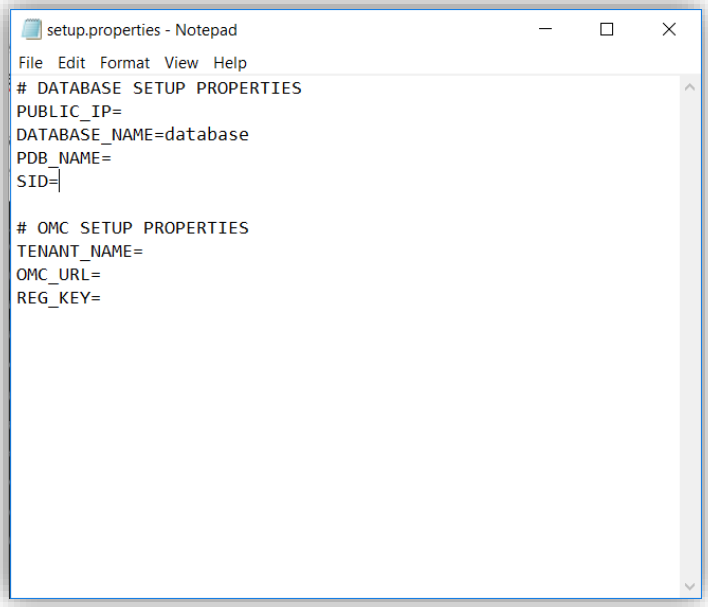
This will bring you to the Database – Classic service console. On the Database Cloud Service console, select “Create Instance” to create a new instance of Oracle Database Cloud Service. You most likely won’t see anything here if it is your first visit, or a “Welcome Page” has come up. If this is the case, find the “Go to Console” button and select that to get to the instance creation page.



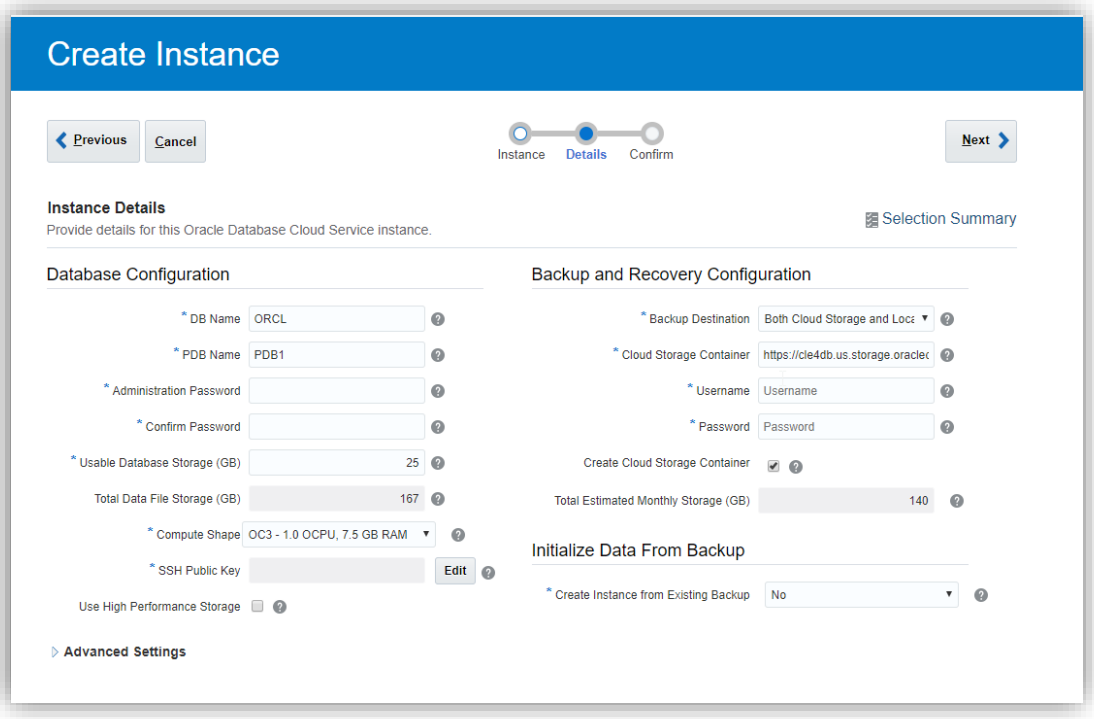
Next, configure the correct options for the database instance you're going to create. This page only *requires* you to provide a database name. For simplicity and consistency throughout this lab, use just "database" for simplicity. **Leave the other options unchanged.** When the options are added, click "Next". (Note: provide a valid email address to get notifications about service maintenance, availability, and more by email about your instance).



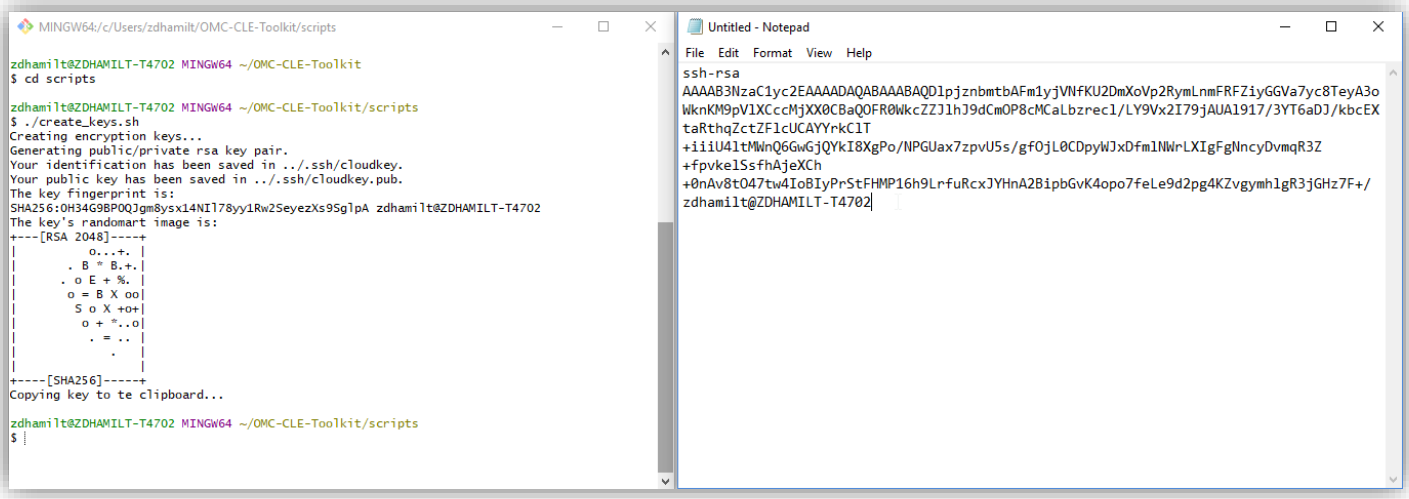
Before we add the details for our instance, we need to introduce another critical resource from the OMC CLE Toolkit, the "setup.properties" file. This is contained in the "config" folder along with some other files. Open this file and add the name of the instance after the "DATABASE_NAME" variable and be sure to remove trailing spaces or other whitespace characters. Do this same thing for "SID=" (default as ORCL and field "DB Name") and "PDB_NAME=" (default PDB1 and field "PDB Name"). Below, you can see how I can configured mine.



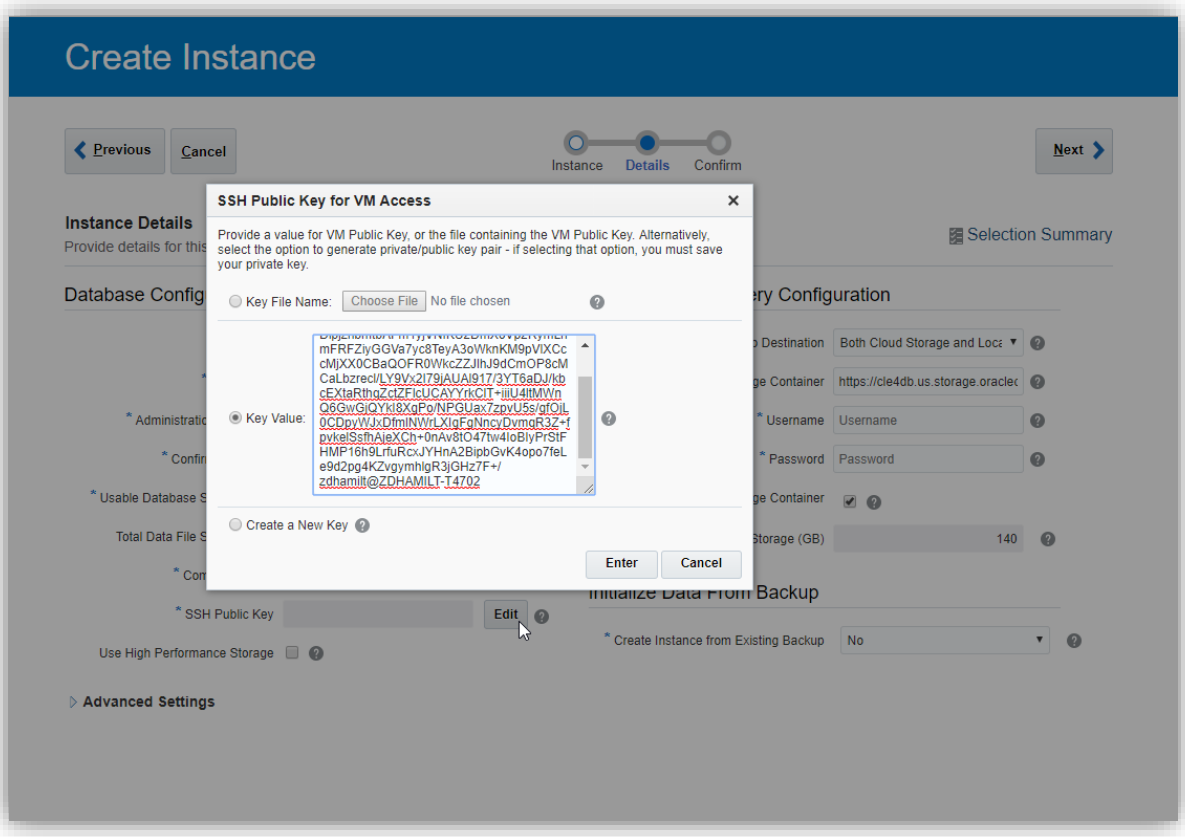
We will add the rest of the information as we go, so it's important to save this file frequently and keep it handy. At this point you should see the following page.



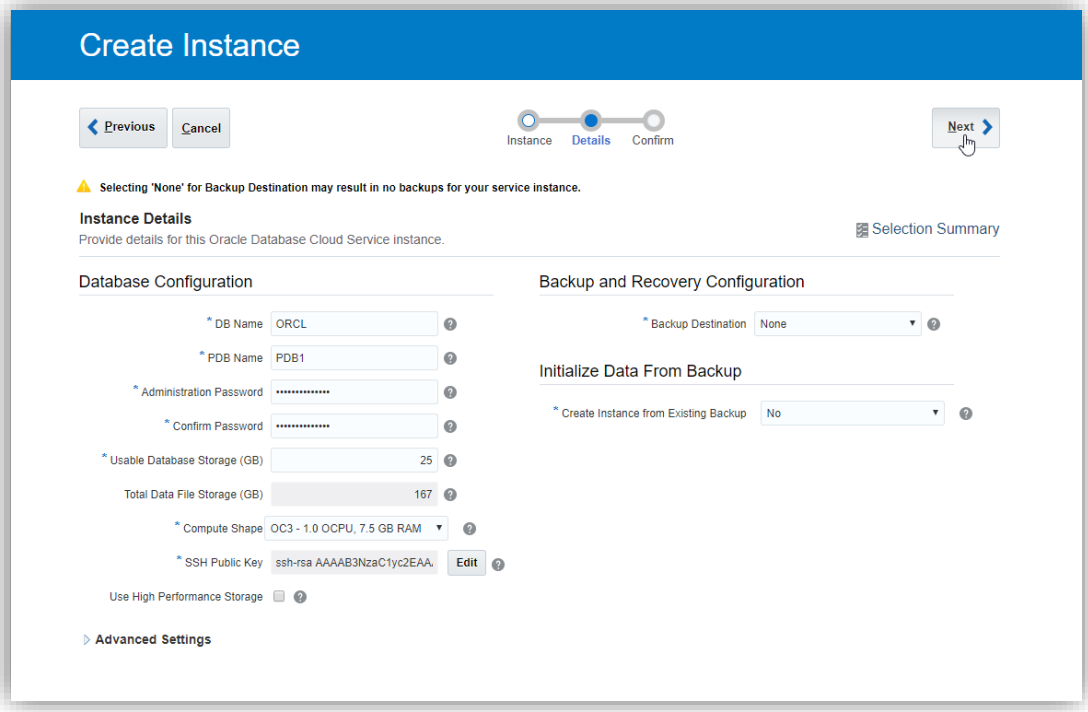
On this page, "Instance Details" you'll need to configure just a few options. The first thing we're going to want to do is create the encryption keys we're going to use throughout. To do this, open your Git Bash window and change your directory to the "scripts" directory. We're going to run the script to create the right keys for our own use. It will automatically copy the keys to the clipboard, so we can just paste the public key value into the details page once we're done. The interaction in Git Bash should look like this.



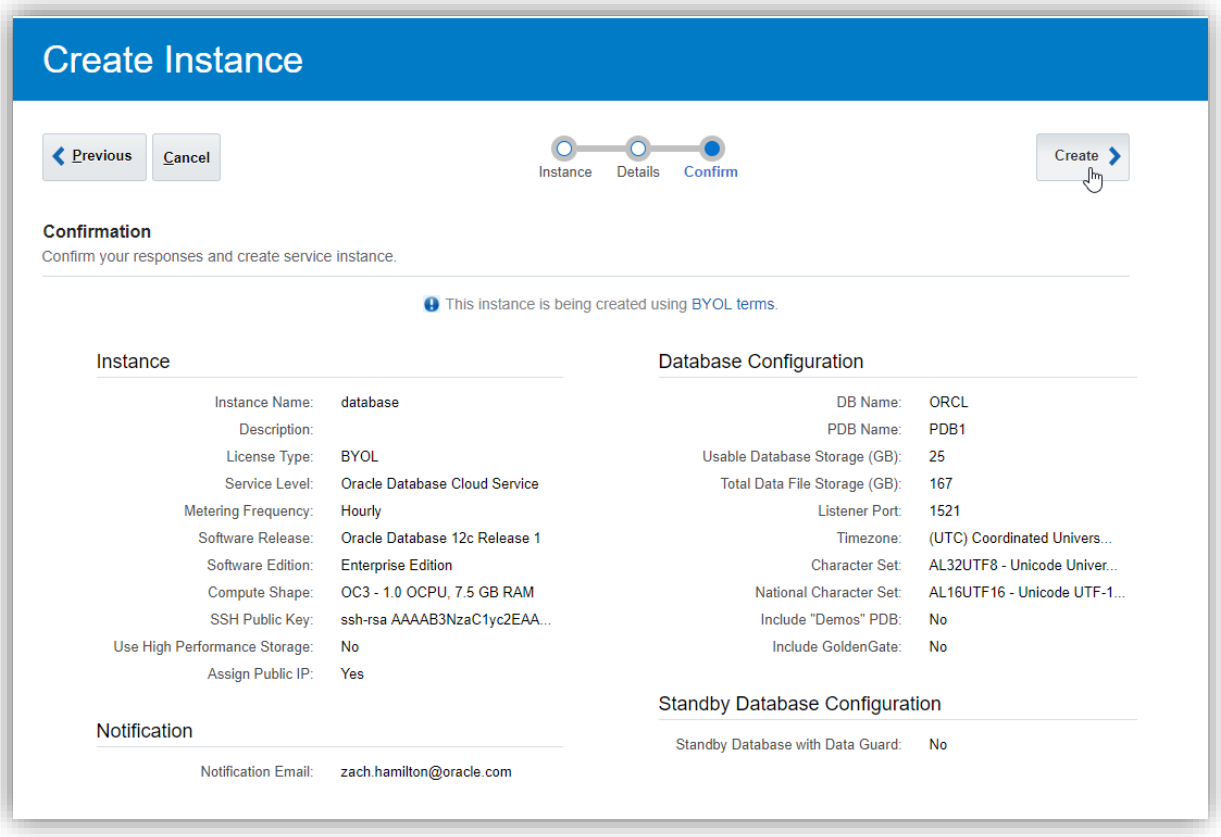
The second window, on the right, is there to demonstrate that the contents of the public key have been copied to the clipboard after running the script (as can be seen "Copying key to the clipboard…"). (Note: if the file doesn't copy the first time, from the command like execute "cat ../.ssh/cloudkey.pub | clip" from the scripts directory). Next, we'll paste that into the details page for our new database instance. See below.



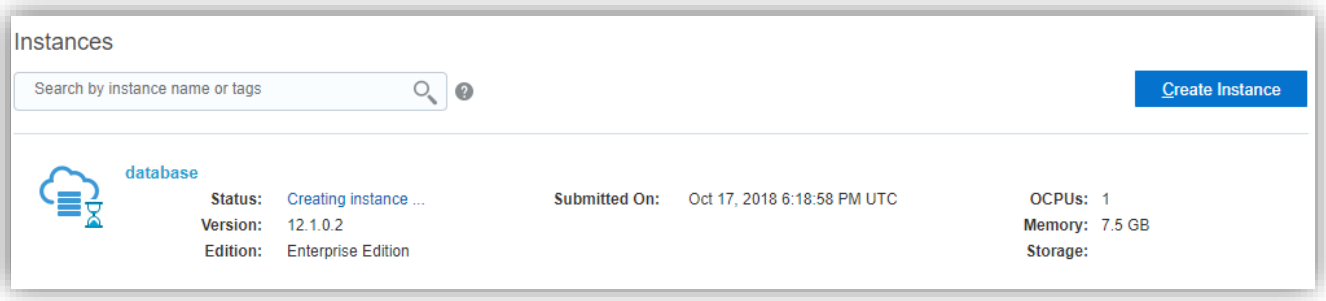
To open this window, I selected the “Edit” button underneath my mouse point in the above screenshot. The next step is to select “Enter” and then configure the rest of the options. See below for what they should look like when they’re done.



When you have those options configured, go ahead and select “Next” where you see my mouse pointer. The next page you see is a summary of all the details we configured. It should look something like the following.



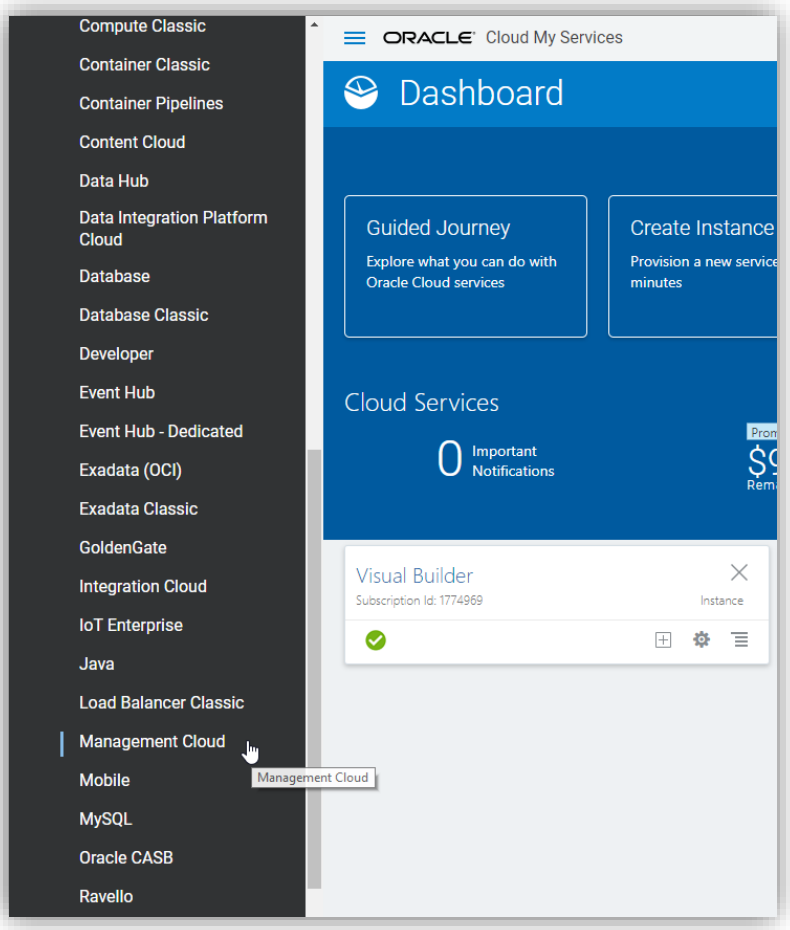
When on this page, select “Create” where you see my mouse pointer. Your instance will begin the provisioning process! We’ll come back to the instance when it is ready. For now, you should see something like the following. This is your new instance.



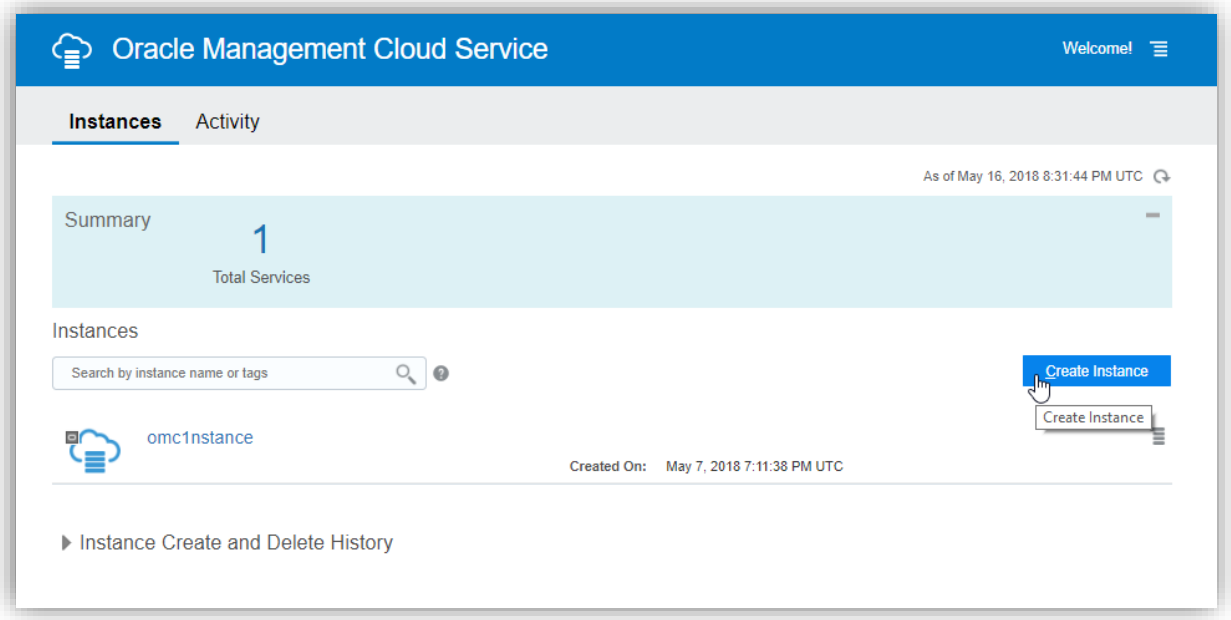
Once you see this page, you’re done with Database Cloud Service for a while. Remember how you got to this console because we will be coming back later in the lab. While the database is provisioning, we’ll create an instance of Oracle Management Cloud.

Creating an instance of Oracle Management Cloud:

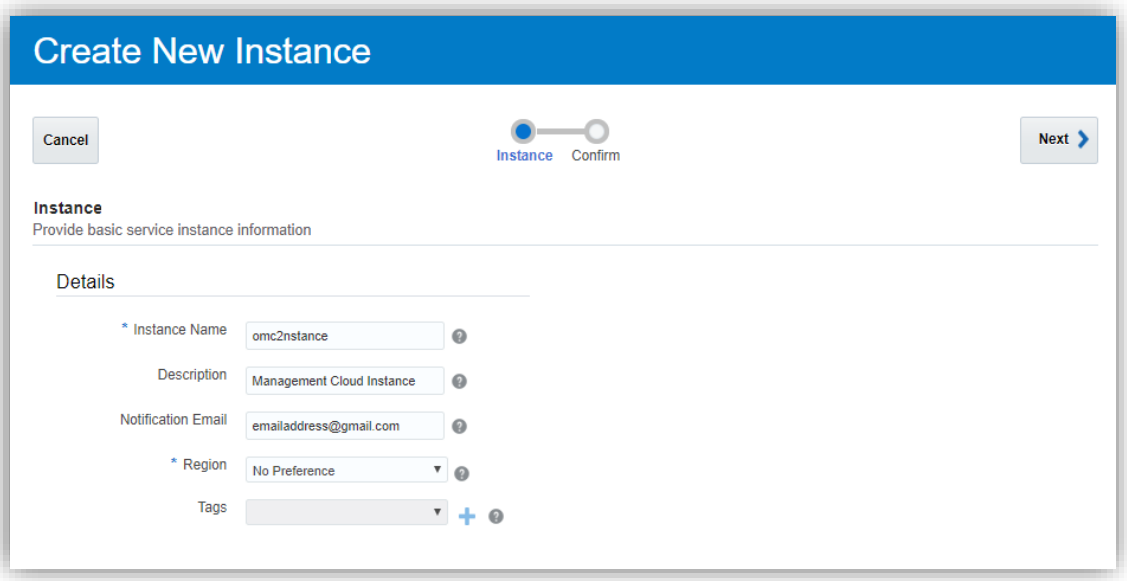
From the My Services Dashboard, once again, click the “Action Menu” at the top-left of the screen to pop-out the window. After the window is popped out, click the “Services” dropdown. When the services dropdown is open, scroll until you find “Management Cloud” and select it.



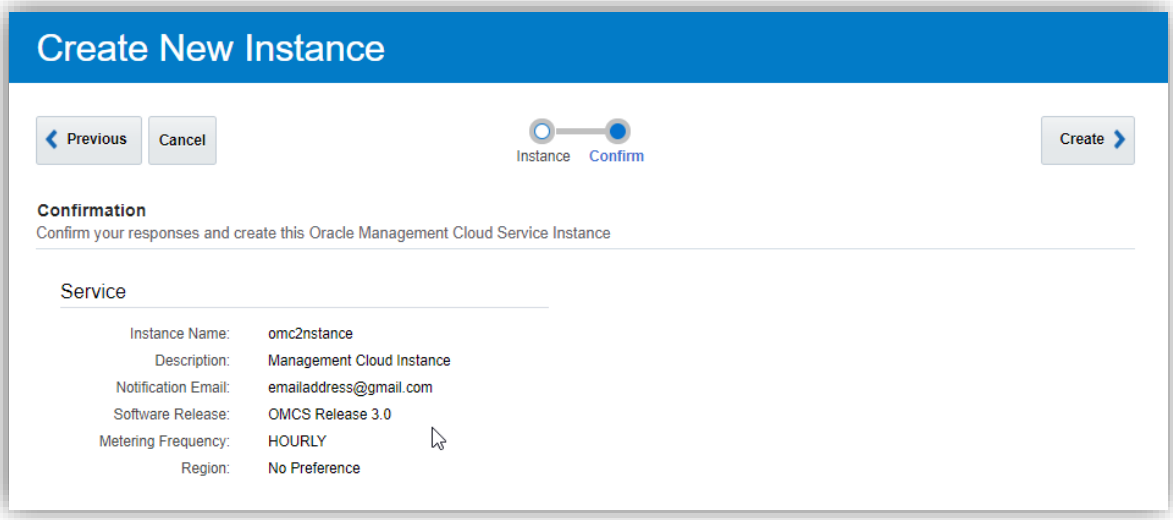
Once on the Management Cloud Service console, find and select the “Create Instance” button and select it.



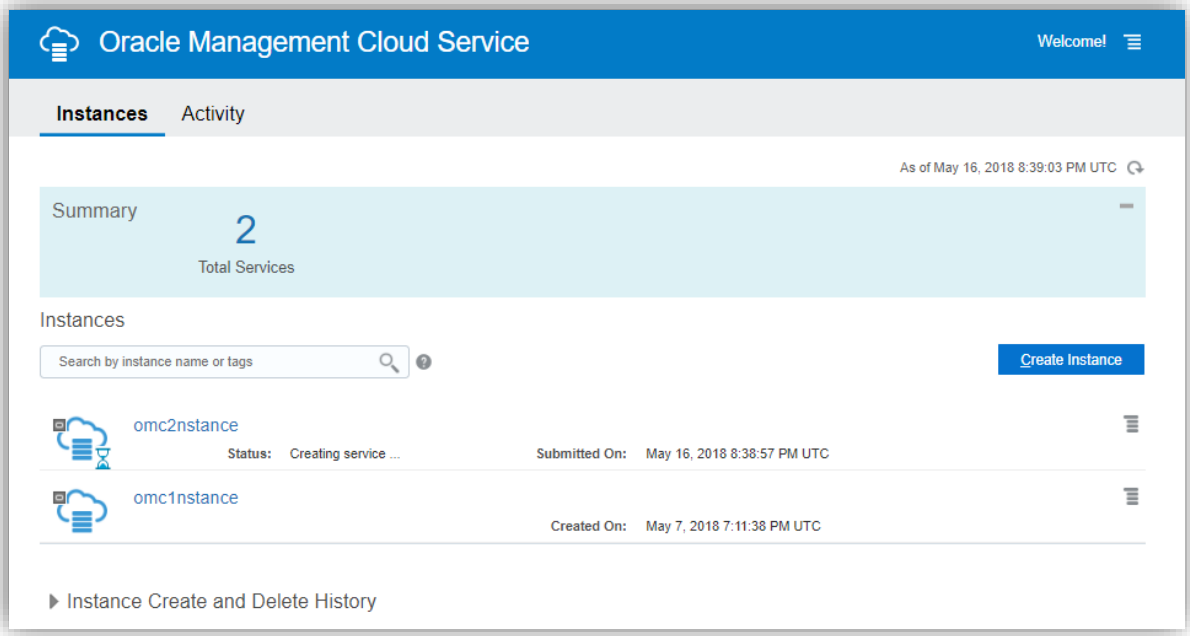
On the Create New Instance page, name the instance you are creating. I named my instance “omc2nstance”. You can name this instance anything you would like. Once you have named your instance, click “Next”.



Next you should see the summary page for the instance you are about to create. Review the details and then click "Create".



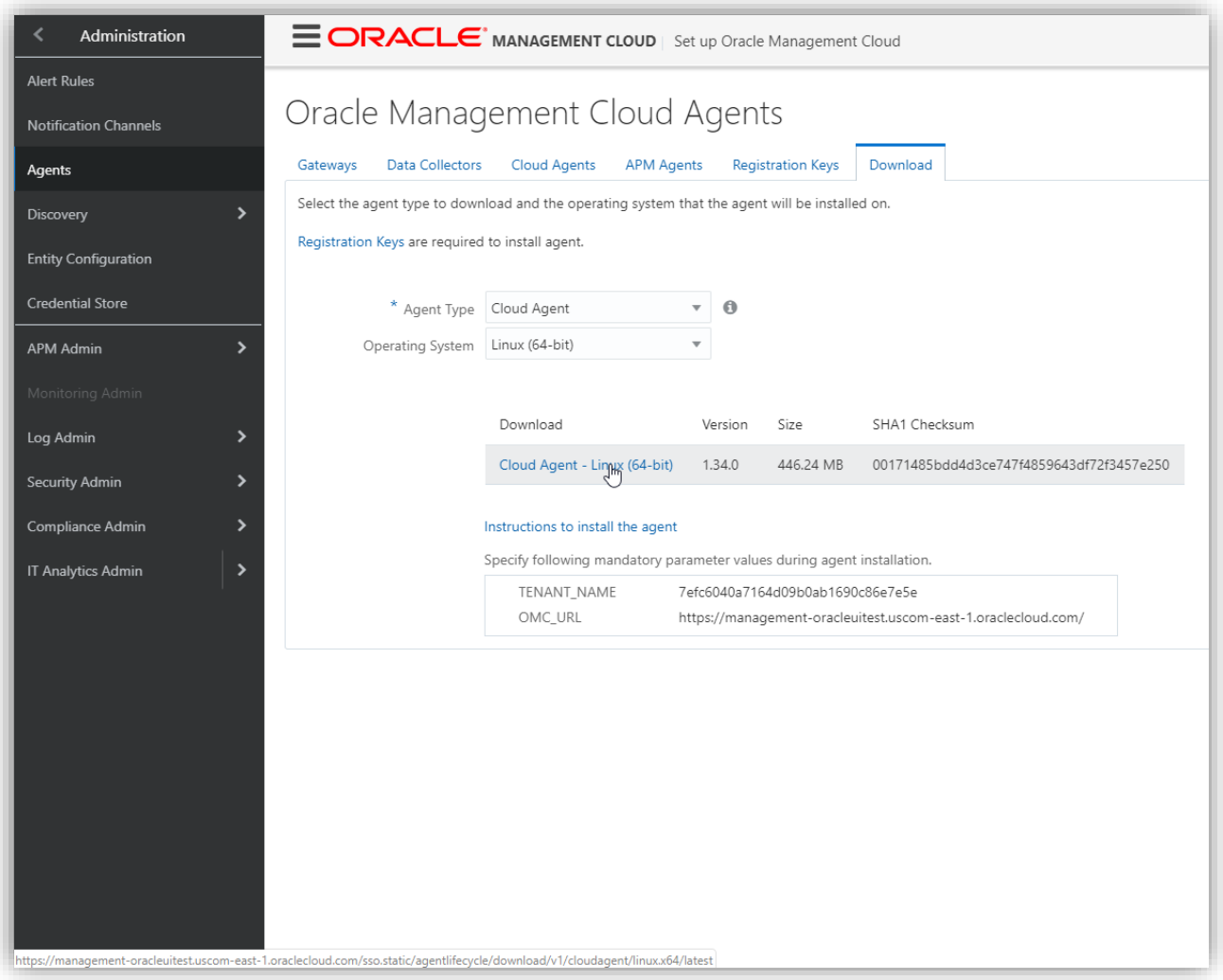
You should be brought back to the Management Cloud Service console page and see the new instance you just created being provisioned.



We're going to need the instance to be live before we can use it. You're ready to move to the next step.

Gathering the relevant information from our Oracle Management Cloud instance:

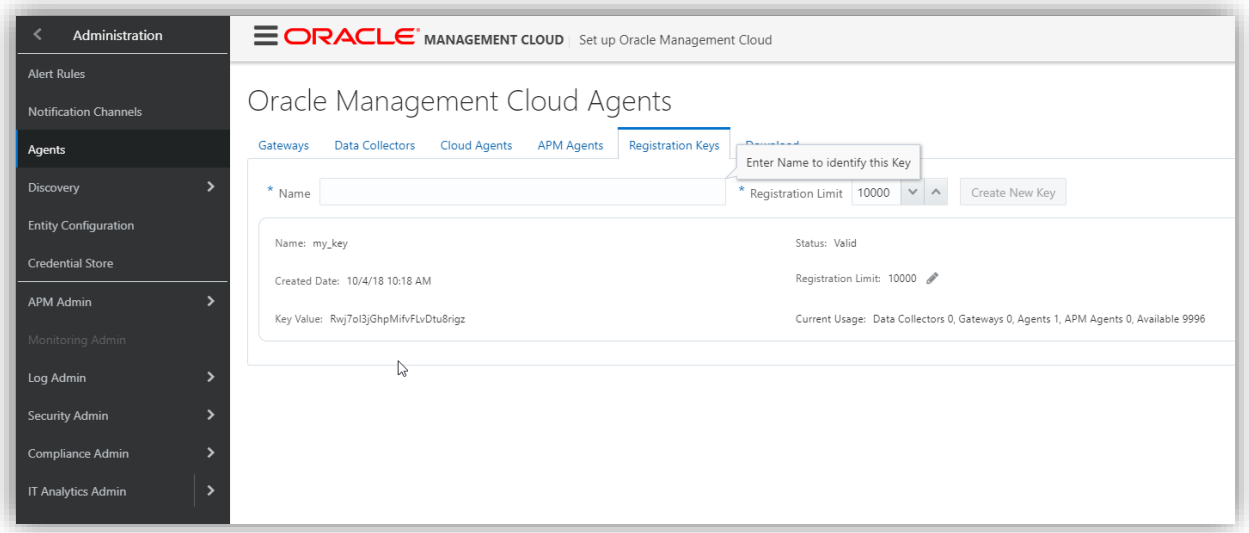
Once the instance is available, it's time to set some settings, extract some values, and download some software. First things first, let's grab the TENANT_NAME, OMC_URL, and REG_KEY and add them to "setup.properties". From the landing page, use the "Action Menu" at the top left to get to the download page for the agent software. You'll need to go to "Administration > Agents" then select the "Download" tab, then select the dropdowns "Cloud Agent" and "Linux (64-bit)". We're going to need to down this agent file. See below.



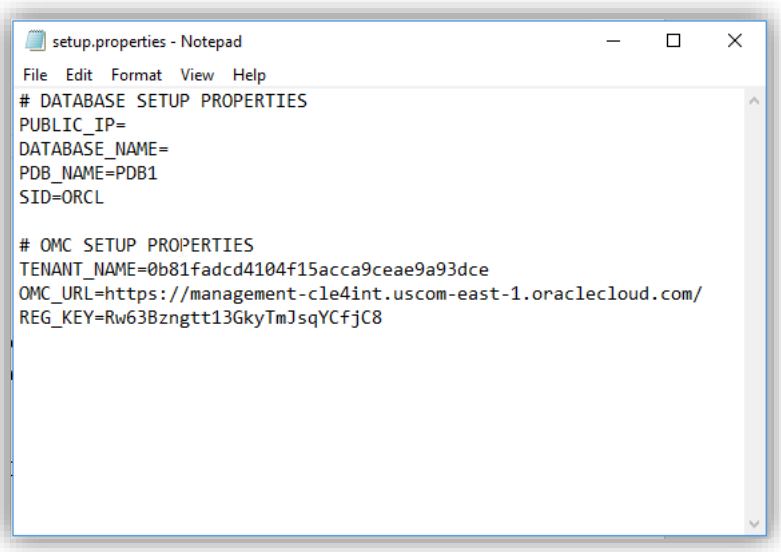
Select the “Cloud Agent – Linux (64-bit)” hyperlink and begin the download. This ZIP is 500GB, so it will take a minute before we can take the next step with it. Once it is downloaded, page sure you put the unaltered ZIP file in the “download_agent_here” folder. **DO NOT unzip the ZIP. All of that will be done for you.**

Take the values for TENANT_NAME and OMC_URL that are at the bottom of the page and add them to the “setup.properties” file the same way we did with the INSTANCE_NAME, PDB_NAME, and SID.

Next, create the registration key. The registration key needs to be created on the previous tab before “Download” on the same page. Once on the “Registration Keys” tab, name the key whatever you desire and create it. Once it’s created, copy the key value into “setup.properties” as REG_KEY.

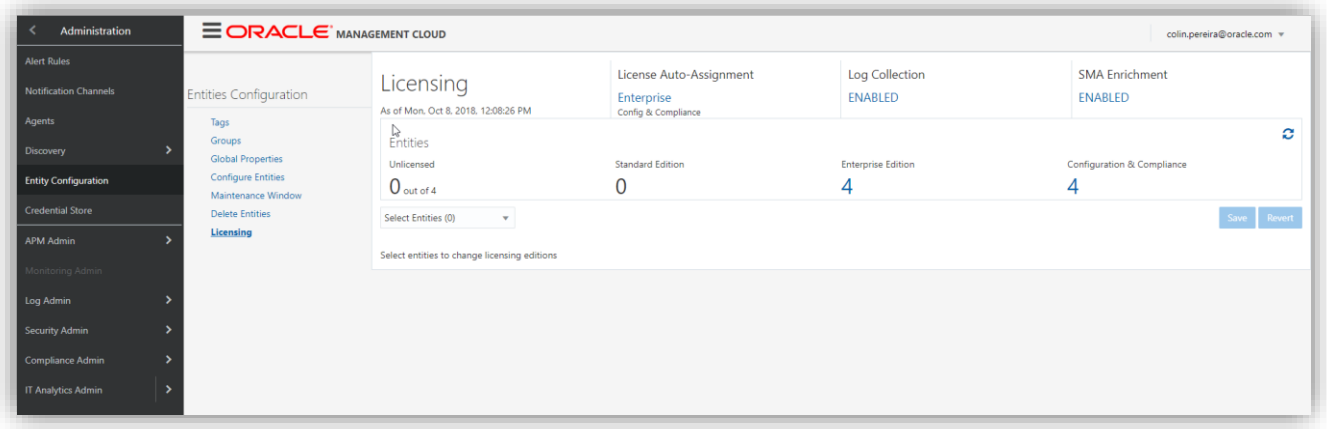


Now we have all the vital property values that we'll need from OMC. Make sure that you've recorded them in 'setup.properties'. Your properties file should look something like this up until now.



Next step will be changing some of the licensing settings in OMC so when we add agents and entities they'll be assigned licenses automatically.

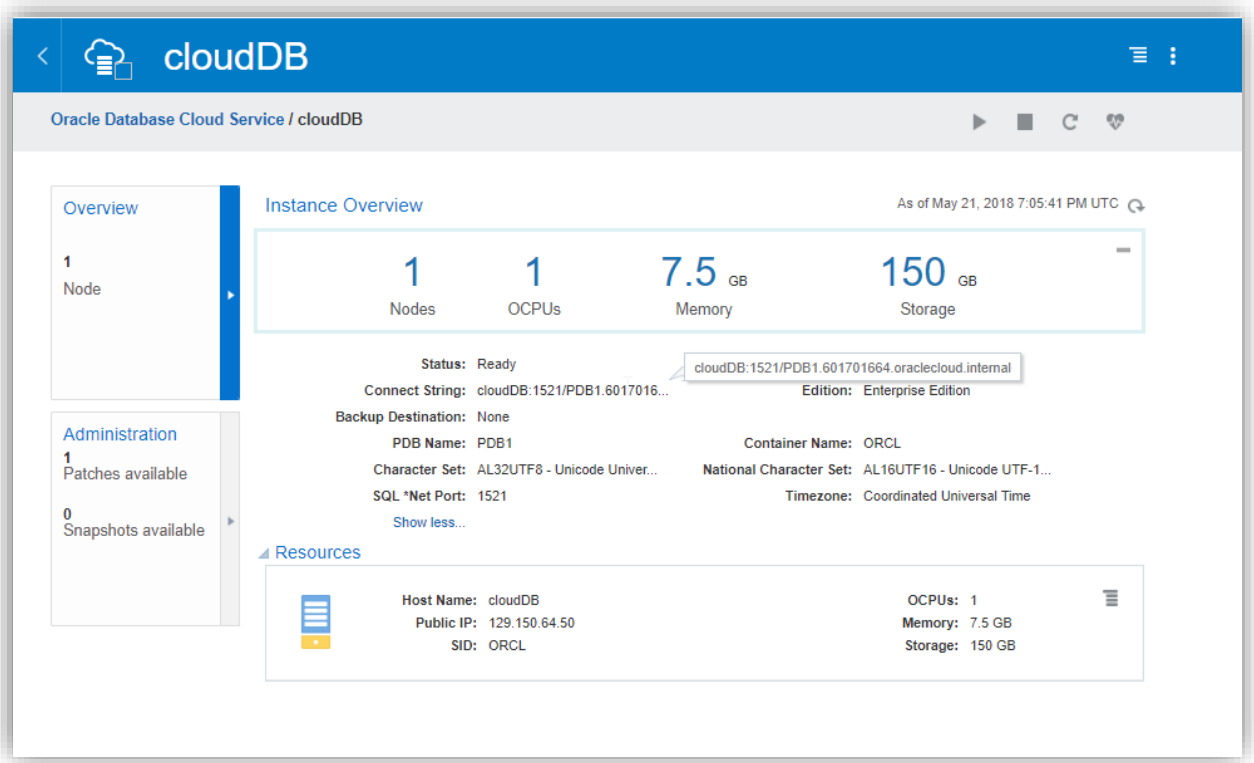
To do this, we're going to navigate to "Administration > Entity Configuration" then on the corresponding page, select "Licensing" to get to the page. You should change all the license settings to look like what I have below.



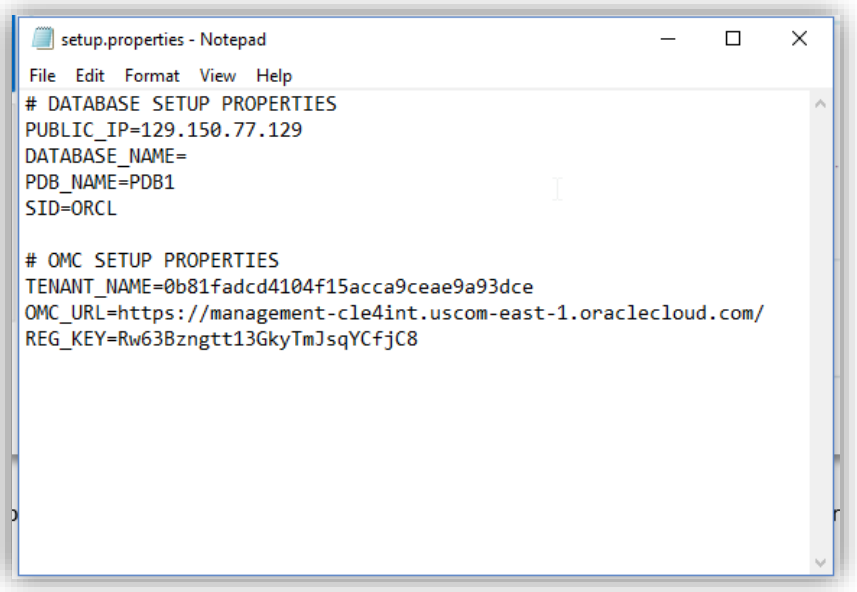
You will not have any entities yet, so the screenshot will differ slightly. Nonetheless, you should still change the Auto-Assignment to Enterprise Edition with Config & Compliance, and then enable Log Collection and SMA Enrichment. Once this is complete, the entities and agents we add later will be assigned their license roles automatically.

Getting the Database VM IP Address:

We need to access the underlying VM hosting the database for things to work. Once the database instance is provisioned and ready, select the instance name to get to the details page. At the bottom of the page, you should see the “Public IP”. You should take this value and paste it into “setup.properties” and save the file. Notice the instance details page below.



You should take the public IP address and add it to your ‘setup.properties’ file like can be seen below.



At this point, if the database is up and running and the OMC instance is up and running you're probably ready to engage the setup script.

Quick Check before you move on:

Before moving on, we need to make absolutely certain of a few things in order for everything to run smoothly. Make sure you use this checklist:

- Are all values set in "setup.properties" with no trailing whitespace characters and no spaces before or after the "=" for each value?
- Is the cloudagent_*.zip folder in the "download_agent_here" directory?
- Is the database VM running?

If all these things check out, you can start the setup script as I will demonstrate. For added value, check out my "setup.properties" file example to make sure yours looks the same before starting. Here's mine.

If that matches yours, we can proceed to the next and most delicate step of the entire process—the setup.sh script.

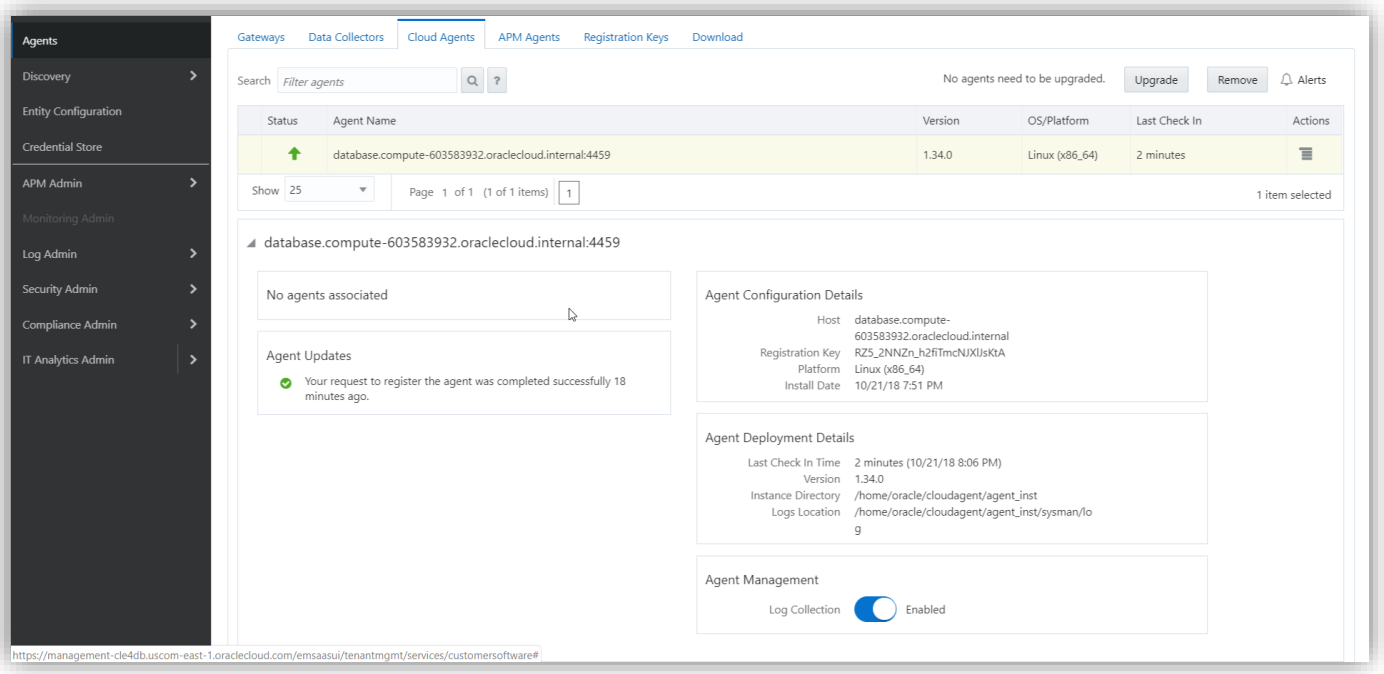
Starting the setup.sh script to setup your database virtual machine and cloud agent software:

This next step is fragile. What I mean by that is that I am no Linux guru, and there is a significant amount of automation that I packed into this one script. If everything works as intended, the script will:

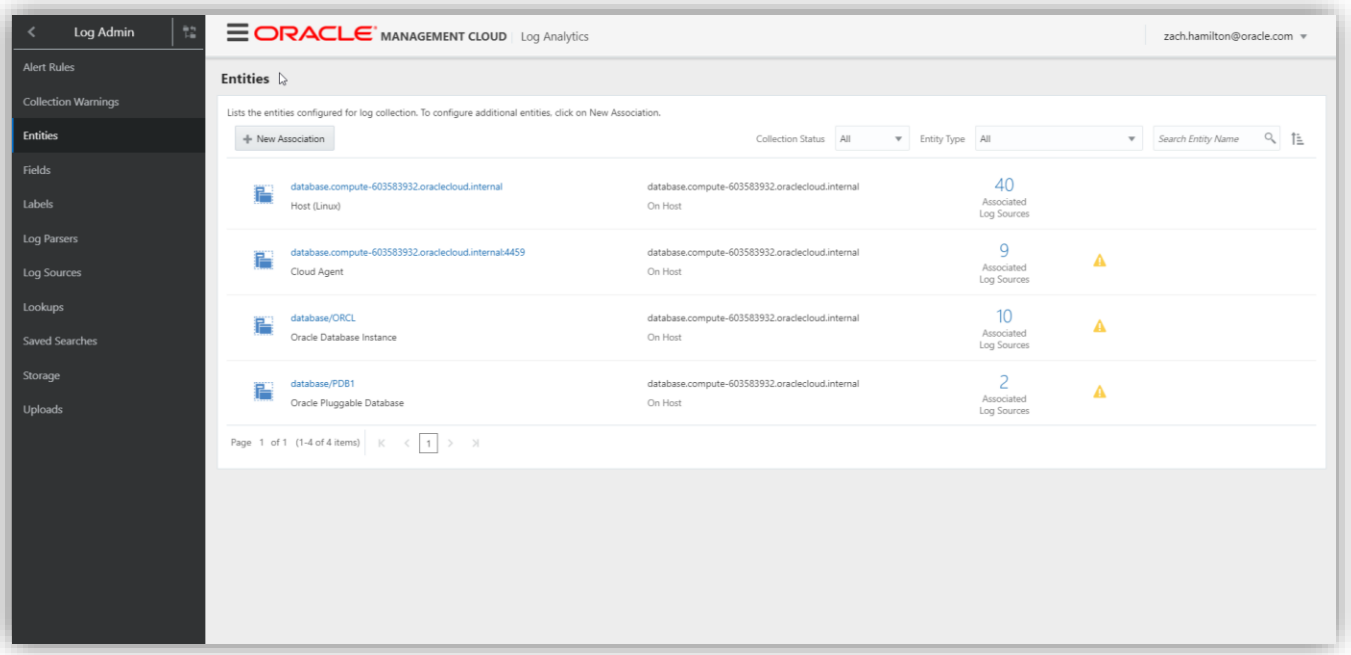
1. Extract your IP Address from the setup.properties file.
2. Connect to opc user and give access to '/var/log/*' to oracle user.
3. SCP the 'config' directory to the virtual host.
4. SCP the cloudagent_*.zip file to the virtual host.
5. Execute the 'db_setup.sh' script on the virtual host.
6. Unzip the cloudagent_*.zip into the 'temp' directory.
7. Extract the OMC properties from 'config/setup.properties'.
8. Write the OMC properties into the variable declarations in 'temp/agent.rsp'.
9. Run the cloud agent installation.
10. Connect to the database as the sysdba and unlock the DBSNMP user.
11. Extract the instance_name from 'config/setup.properties'.
12. Extract the service_name and host_name values from 'lsnrctl status'.
13. Write the instance datils and host details to the entity declaration JSON files.
14. Submit the database declaration and credential JSON's to './omcli' for processing.
15. Check the status of the entity registration with OMC.

Since this is absolutely a lot, it helps to be meticulous, as we will be.

To get everything started, you need to navigate to the '/scripts' directory in the OMC CLE Toolkit using Git Bash, then execute the command "./setup.sh". Leave Git Bash open and just wait for everything to take place. It will take multiple minutes as things like sending a 500GB file over SCP takes a little time. Once the files have been sent over and the agent has been installed, we need to enable log collection from it, and then associate some entity log sources to start seeing data. To do that, you should first navigate back to the agent's admin page (Home > Administration > Agents from the left have menu). When you're there, you should select the "Cloud Agents" tab, and you'll see your newly registered agent. Select the new agent and look down the page and enable the switch for log collection. See the screenshot below for reference that you're in the right place.



Once log collection is enabled for the agent, you'll need to associate entities. To do so, select "Log Admin" from the left-hand menu we can see in the screenshot above. Next, select "Entities". You should see the cloud agent entity already set up, but not the Linux Host, Oracle Database Instance, or Oracle Pluggable Database. You should select "New Association", search for either "Host (Linux)", "Oracle Database Instance", or "Oracle Pluggable Database" in the Entity Type box. Then, select Add Entity. You should have the respective registered entity show up. Select it, then click continue, then select all the log sources, then click continue, then click Associate Entities. Do this for the Linux Host, the Oracle DB, and the Oracle PDB. The final result should look like what I have below.



Now you should be set up and prepared to run the simulation.

Running the simulation scripts:

Running the simulation is easy. Just execute “./simulator_here.sh” from the ‘scripts’ directory using Git Bash. The simulation will run on the Linux VM, not your machine, and it will run for a significant amount of time to populate information and log files. In the session, we’ll examine the results from a prior run through of the simulation that I’ve already done.