


Practices: Create a Load Balancer

Try this hands-on lab with the **Oracle Cloud 30 days Free Trial** account or your own tenancy. If you do not have a free account, click [here](#) to get one.

Overview

In this practice, you will configure autoscaling.

Tasks

1. Log in to your [Oracle Cloud Free Tier Account](#).
2. Click **Menu**  in the top-left corner, navigate to **Menu > Networking**, and click **Load Balancers**.
3. Ensure you have selected your Compartment, and click **Create Load Balancer**.
4. Select **Load Balancer** in the dialog box and click **Create Load Balancer**.
5. Create the Load Balancer using the following parameters:
 - **Load Balancer Name:** OCI_LB
 - **Choose visibility type:** Public
 - Leave the rest as default.
 - **VCN Compartment:** ocilabs
 - **Virtual Cloud Network:** Select *OCI-VCN* created earlier.
 - **Subnet Compartment:** *Ensure your Compartment has been selected.*
 - **Subnet:** Public Subnet (regional)
 - Click **Next**.
6. In the **Choose Backends** section, select the following:
 - **Load Balancing Policy:** Weighted Round Robin
 - Accept the default values for the rest of the options.
7. On the **Configure Listener** page:
 - Select **HTTP** (*this is the second option, ensure you DON'T select HTTPS*).
 - We will retain the default listener name, port (80), and the rest of the details.
 - Click **Submit**.

8. Add port 80 to the VCN.
 - From the OCI Services menu, under Networking, click **Virtual Cloud Networks**. Locate the VCN you created earlier.
 - Click the VCN name to display the VCN Details page.
 - Click **Security Lists** and locate the Default Security List.
 - Click Default Security List for Your_VCN and then click **Add Ingress Rules**. Enter the following ingress rule:
 - Ensure you leave the STATELESS flag deselected.
 - **Source Type**: CIDR
 - **Source CIDR**: Enter 0.0.0.0/0
 - **IP Protocol**: Select TCP.
 - **Source Port Range**: All
 - **Destination Port Range**: Enter 80 (the listener port).

Create the Instance pool and autoscaling.

9. Go to the OCI console. From the OCI services menu, under **Compute**, click **Instances**.
10. In this step, you can terminate the previously created compute and create a new one or you can use the existing one with LB. Here we are creating a new compute instance.
11. Click **Create Instance**. Enter the appropriate details in the dialog box:

Name: OCI_Compute

Compartment: ocilabs

Placement: Select default.

Image or Operating System: Select the default Oracle Linux image.

Availability Domain: Select any Availability Domain.

Shape: VM.Standard.E2.1.Micro

Image and shape		Edit
Image: Oracle Linux 7.9	Shape: VM.Standard.E2.1.Micro	Always Free Eligible
Image build: 2021.06.20-0	CPU Count: 1	
	Memory (GB): 1	
	Network Bandwidth (Gbps): 0.48	

Note:

To change the Image, you can click *Change Image*. However, you cannot change the Shape in an *Always Free Account*.

Click *Show Shape, Network and Storage Options* and explore the details.

Networking: OCI_VCN

Add SSH Keys: Select the **Paste SSH keys option** and paste the contents of your Public SSH key copied in the previous practice (Also available in `~/.ssh/id_rsa.pub`).

Boot Volume: Select default.

12. Click Show Advanced Options.

Under **Management > Initialization Script**: Choose **Paste cloud-init script** and paste the following script. The cloud-init script will be executed at the first boot only to configure the instance.

```
#cloud-config
packages:
- httpd
- stress

runcmd:
- [sh, -c, echo "<html>Web Server IP `hostname --ip-address`</html>" > /var/www/html/index.html]
- [firewall-offline-cmd, --add-port=80/tcp]
- [systemctl, start, httpd]
- [systemctl, restart, firewallld]
```

13. Click Create.**14. Wait for the Instance to be in the Running state.** You can scroll down to *Work Requests* to check the process of provisioning.**15. Click the Instance name. Click More Actions, and then select Create Instance Configuration.**

Enter the appropriate details in the dialog box:

Create in Compartment: ocilabs

Instance Configuration Name: Provide a name.

16. Click Create Instance Configuration.

17. On the Instance Configuration page, click **Create Instance Pool**.

Enter the appropriate details in the dialog box:

- **Create in Compartment:** ocilabs
- **Instance Pool Name:** Provide a suitable name.
- **Number of Instances:** 0

18. Click **Next**.

19. On the **Configure Pool Placement** page:

Availability Domain: Choose the AD where you want to place instances (you can choose **AD 1** if in a Multi AD region).

Virtual Cloud Network Compartment: ocilabs

Virtual Cloud Network: oci_vcn

Subnet Compartment: ocilabs

Subnet: Public Subnet

Attach a Load Balancer: Select this option.

Load Balancer Compartment: ocilabs

Load Balancer: oci_lb

Backend Set: Choose the compute created earlier.

PORT: 80

VNIC: Leave the default.

20. Click **Next** and then **Create**. Wait for the Instance Pool to be in the **RUNNING** state.

21. From the Instance Pool Details page, click **More Actions** and select **Create Autoscaling Configuration**.

22. On the **Add Basic Details** page:

Compartment: Choose your compartment.

Autoscaling Configuration Name: Provide a name.

Instance Pool: This should show your instance pool name created earlier.

23. Click **Next**.

24. On the **Configure Autoscaling Policy** page:

Make sure that **Metric-based Autoscaling** is selected.

Autoscaling Policy Name: Provide a name.

Cooldown in Seconds: 300

Performance Metric: CPU utilization

Scale-out Operator: Greater than (>)

Threshold Percentage: 10

Number of Instances to Add: 1

Scale-in Operator: Less than (<)

Threshold Percentage: 5

Number of Instances to Remove: 1

Minimum Number of Instances: 1

Maximum Number of Instances: 2

Initial Number of Instances: 1

25. Click **Next** and then **Create**.