

Chapter 1: Introduction to Oracle Cloud Infrastructure



The screenshot shows the Oracle Cloud console interface. At the top, there is a search bar for resources, services, and documentation. The main content area is divided into several sections:











- Quick Actions:** A grid of six cards for common tasks: Create a VM instance (2-6 mins), Create an ATP database (3-5 mins), Create an ADW database (3-5 mins), Set up a network with a wizard (2-3 mins), Store data (2-6 mins), and Create a stack (2-6 mins).
- Start Exploring:** A section with a "Get Started" button and several links to documentation and blogs, including "Key Concepts and Terminology", "Introduction to APEX", "Introduction to Resource Manager", and "Getting Started with MuShop Basic".
- Regions:** A dropdown menu is open, showing a list of regions: Home Region (US West (Phoenix)), Canada Southeast (Toronto), Germany Central (Frankfurt), India West (Mumbai), Japan East (Tokyo), South Korea Central (Seoul), UK South (London), and US East (Ashburn). A red arrow points to the "Manage Regions" link at the bottom of the list.
- System Status:** A box on the right indicates "All systems operational" with a link to the health dashboard.
- Center Management:** A section on the right titled "Center Management to your tenancy" with links for "Image Capabilities for Images" and "Volume Performance".
- Get Help:** A sidebar on the right with links for "Contact Support", "Developer Tools", "Documentation", "Oracle Cloud Community Forum", "Oracle Cloud Compliance", and "Oracle Cloud Infrastructure Blog".

Infrastructure Regions

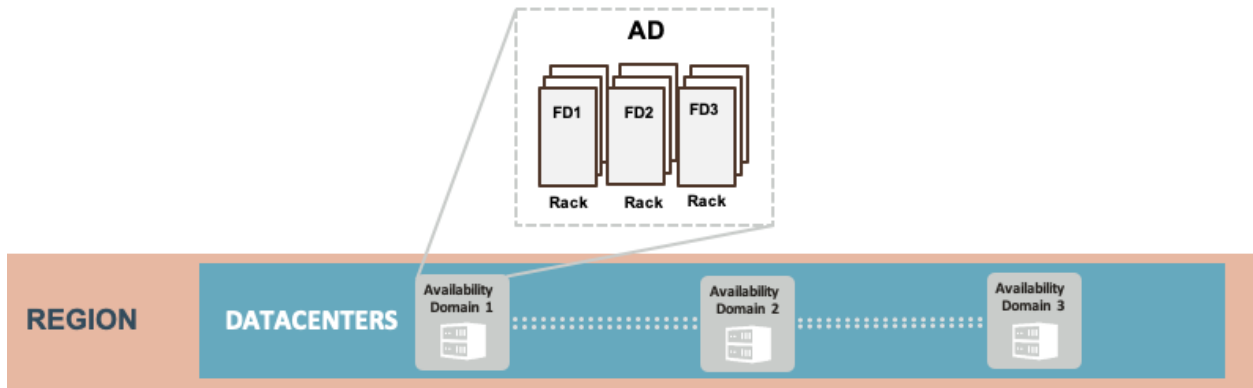
Infrastructure Regions

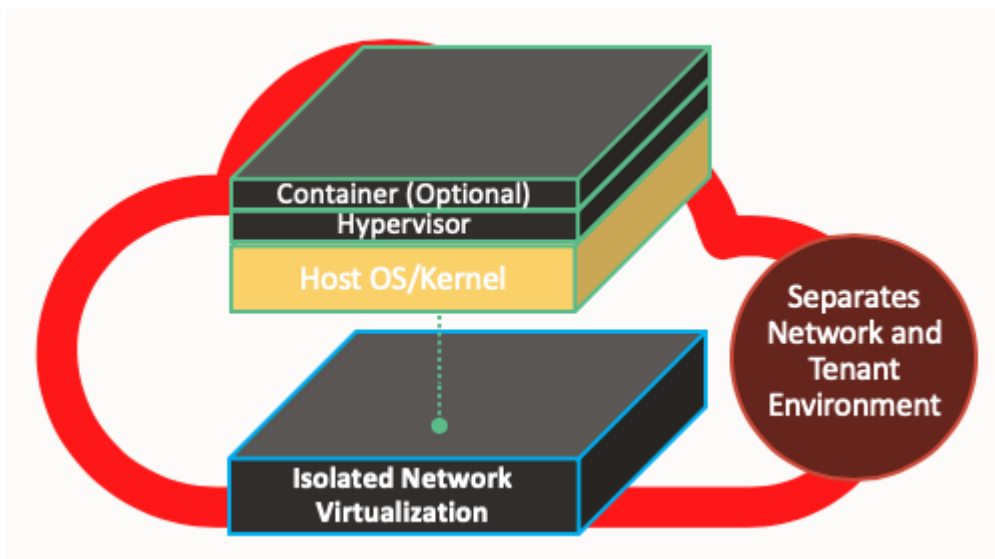
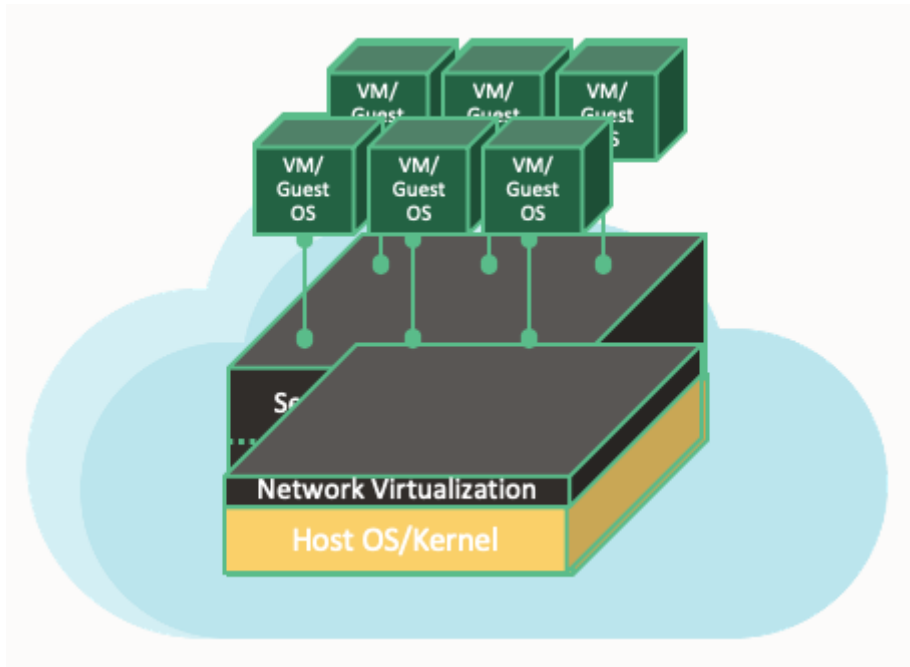
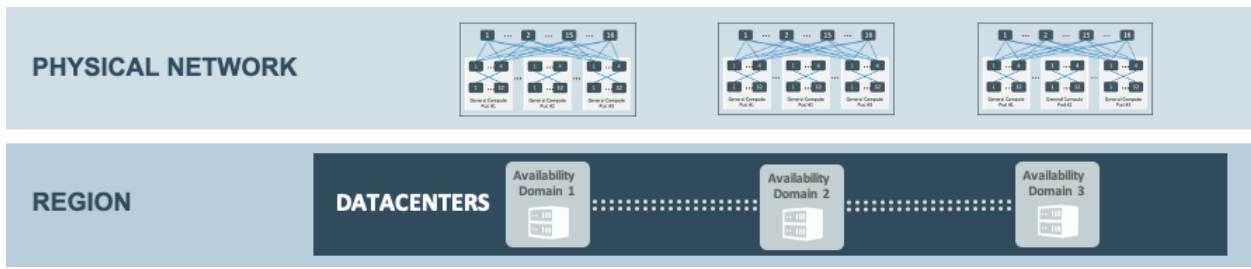
For a complete list of services available by region, see [Data Regions for Platform and Infrastructure Services](#).

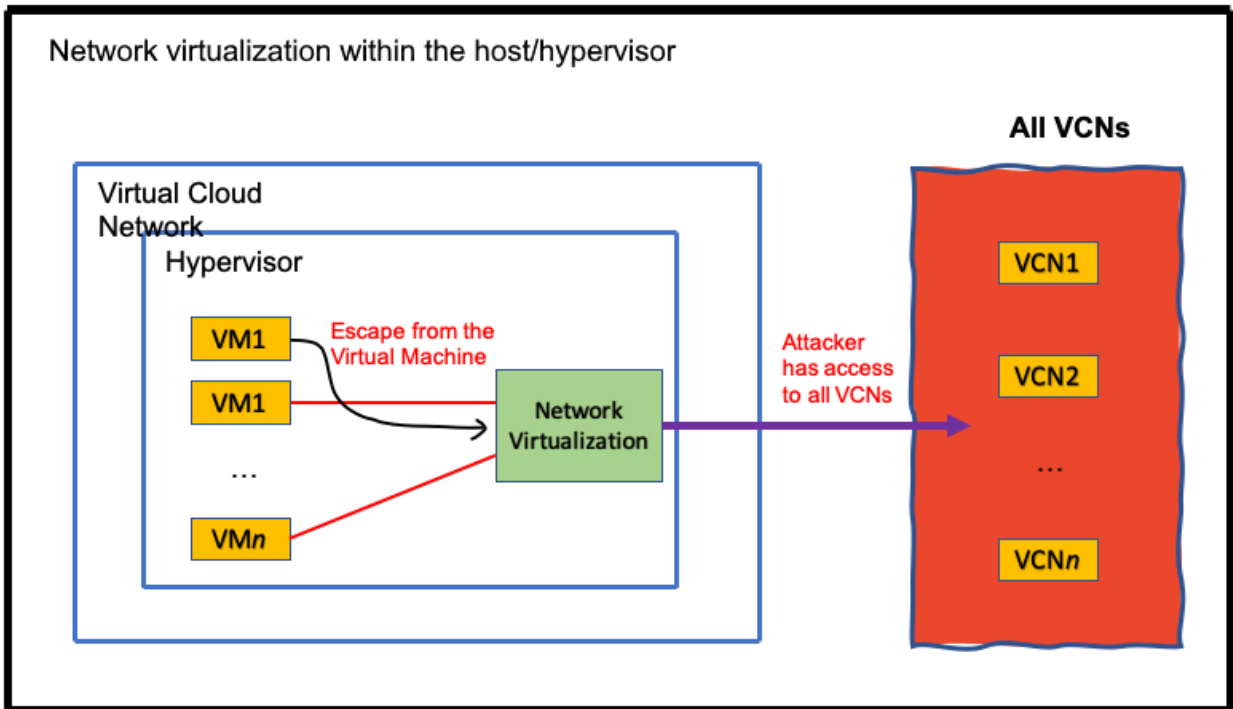
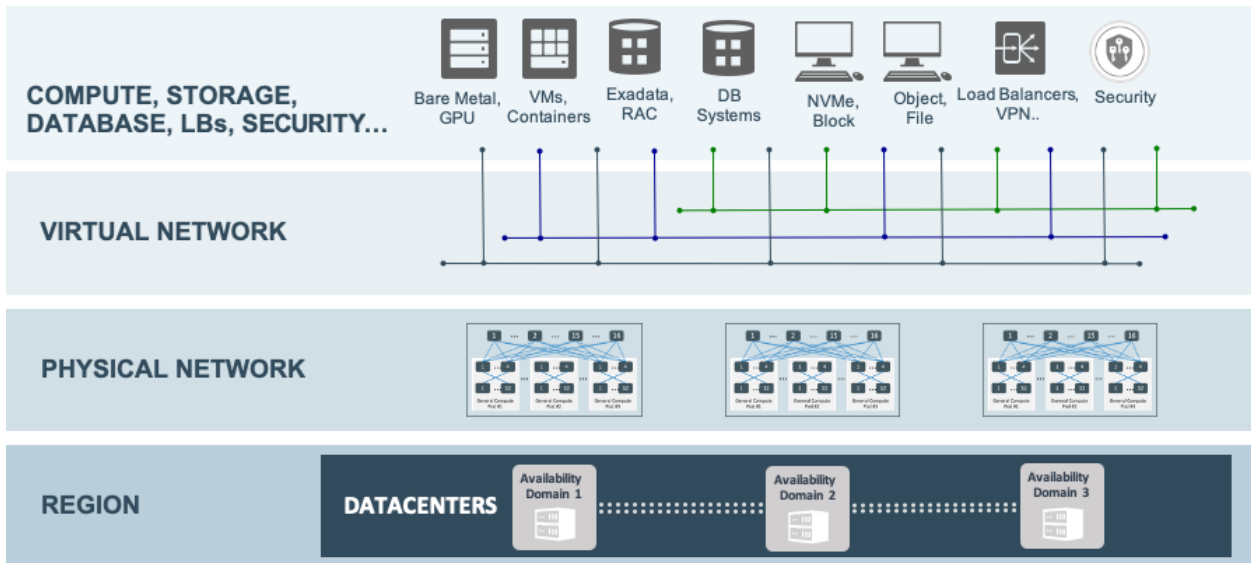
Tenancy Details
To see more information about your tenancy, go to the [details](#) page.

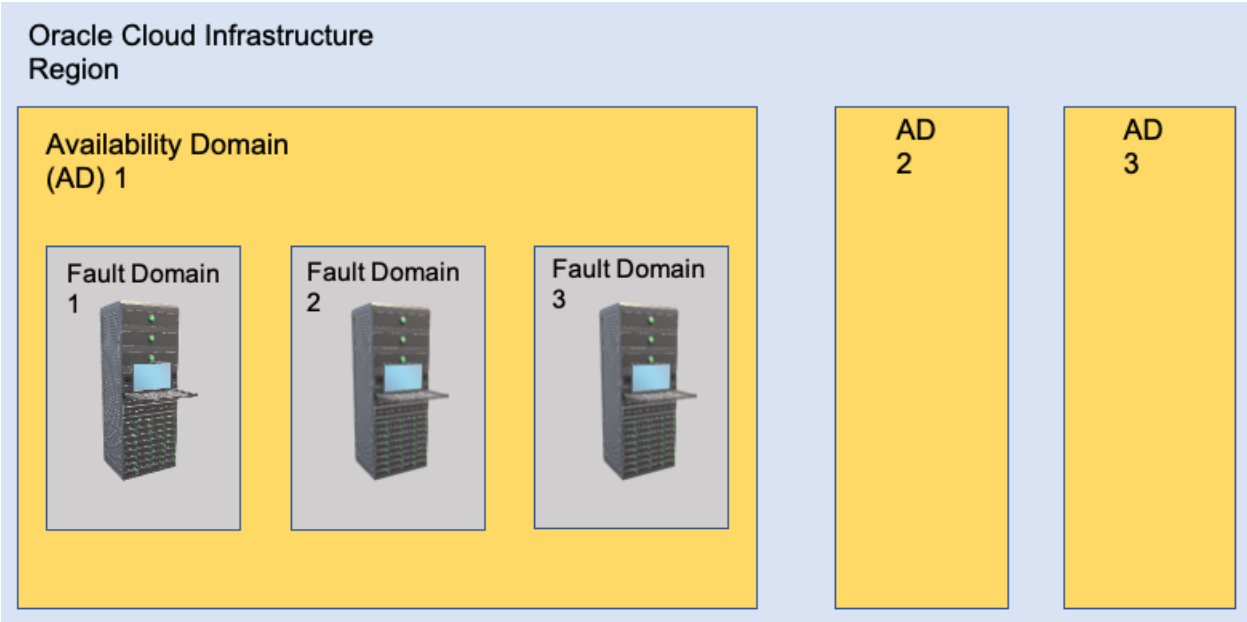
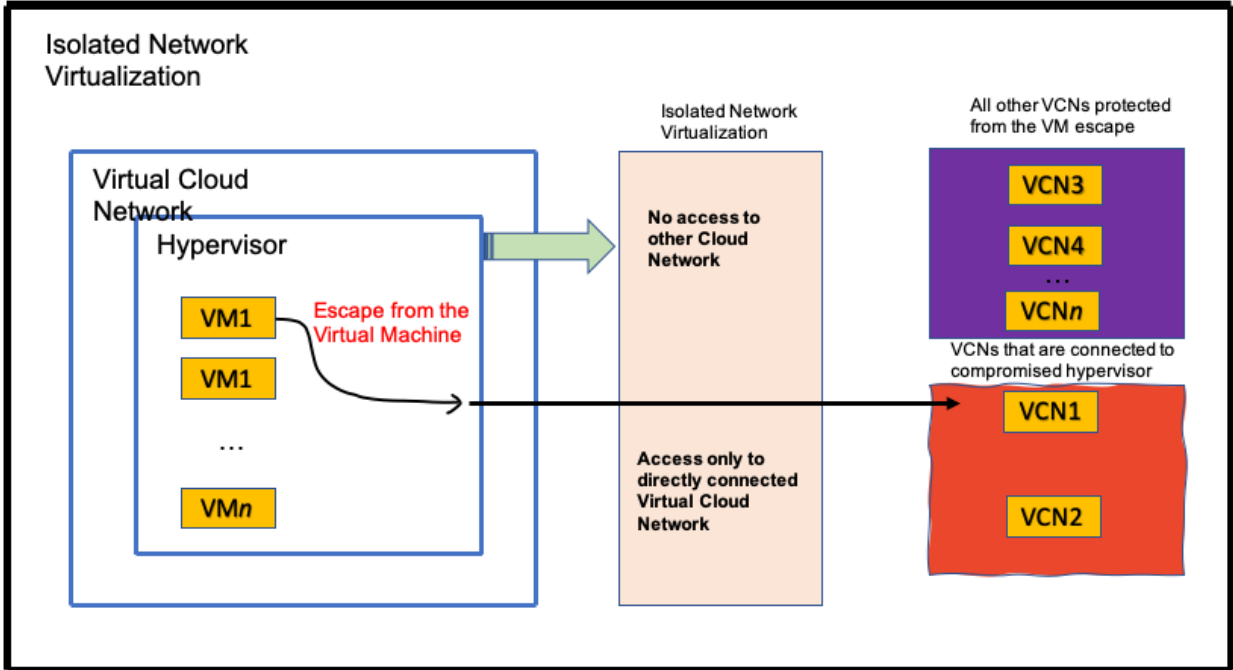
Region	Subscription Status
 US West (Phoenix) - Home Region Region Identifier: us-phoenix-1	Subscribed
 Canada Southeast (Toronto) Region Identifier: ca-toronto-1	Subscribed
 Germany Central (Frankfurt) Region Identifier: eu-frankfurt-1	Subscribed
 India West (Mumbai) Region Identifier: ap-mumbai-1	Subscribed
 Japan East (Tokyo) Region Identifier: ap-tokyo-1	Subscribed
 South Korea Central (Seoul) Region Identifier: ap-seoul-1	Subscribed
 UK South (London) Region Identifier: uk-london-1	Subscribed
 US East (Ashburn) Region Identifier: us-ashburn-1	Subscribed
 Australia East (Sydney) Region Identifier: ap-sydney-1	Subscribe
 Australia Southeast (Melbourne) Region Identifier: ap-melbourne-1	Subscribe

Showing 10 Items < Page 1 >

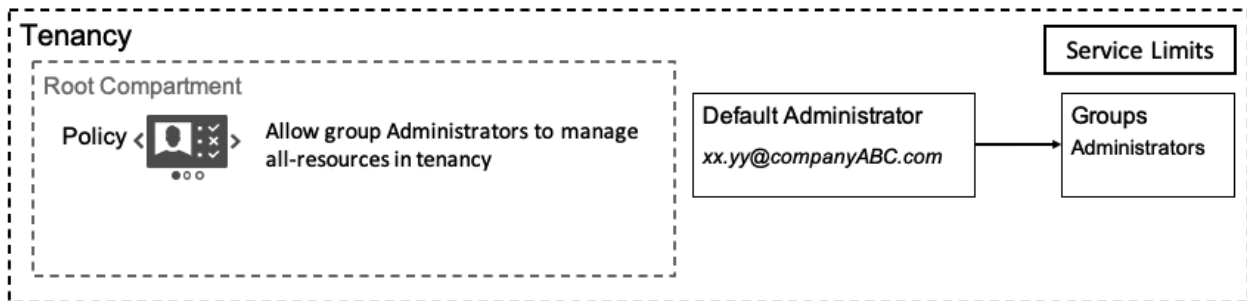
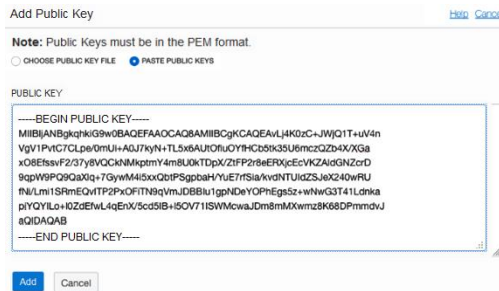
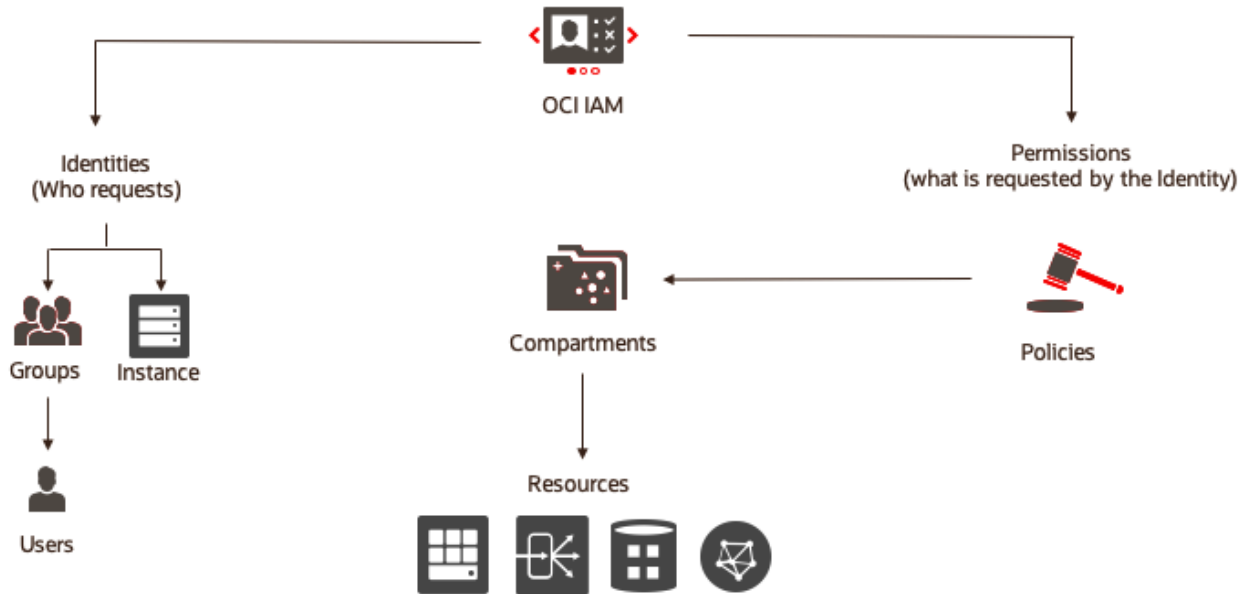








Chapter 2: Understanding Identity and Access Management



Tenancy



NetworkInfra

 Load Balancers VCN DRG Internet Gateway Security Lists

DevNetwork

 Subnets

TestNetwork

 Subnets

ProdNetwork

 Subnets

ProjectA

 Instances Policy Storage Databases

ProjectB

 Instances Policy Storage Databases

ProjectC

 Instances Policy Storage Databases

Governance

- Audit
- Compartment Explorer**
- Quota Policies
- Limits, Quotas and Usage
- Tag Namespaces
- Compliance Documents

Tag Filters [add](#) | [clear](#)

no tag filters applied

Select Compartment

SHOW RESOURCES IN SUBCOMPARTMENTS

Search compartments

- [-] Intraprasenjits (root)
 - Dev**
 - Dyn
 - FirstTuesday
 - Golang
 - [-] Management
 - OKE
 - PS-Comp
 - Region-Replication

Compartment Explorer

Name: [Dev](#)

Description: Dev Comp

i Don't see what you're looking for? These results include only resources supported by [Search](#). Updates made to resources might not immediately appear in your results. [Learn More](#)

Filter by resource type

<input type="checkbox"/>	Name	Compartment	Resource Type	Status	Region
<input type="checkbox"/>	9374ec6a-5fca-43a7-844a-668290c923d5	intprasenjits (root)/Dev	Load Balancers	Active	us-phoenix-1
<input type="checkbox"/>	oke-cqwmn3eg5sg-nytcnbxmvqt-sa2foagpxqq-0	intprasenjits (root)/Dev	Instances	Running	us-phoenix-1
<input type="checkbox"/>	oke-cqwmn3eg5sg-nytcnbxmvqt-sa2foagpxqq-0	intprasenjits (root)/Dev	VNICs i	Available	us-phoenix-1
<input type="checkbox"/>	oke-cqwmn3eg5sg-nytcnbxmvqt-sa2foagpxqq-0 (Boot Volume)	intprasenjits (root)/Dev	Boot Volumes	Available	us-phoenix-1
<input type="checkbox"/>	oke-cqwmn3eg5sg-nytcnbxmvqt-sa2foagpxqq-1	intprasenjits (root)/Dev	Instances	Running	us-phoenix-1
<input type="checkbox"/>	oke-cqwmn3eg5sg-nytcnbxmvqt-sa2foagpxqq-1	intprasenjits (root)/Dev	VNICs i	Available	us-phoenix-1
<input type="checkbox"/>	oke-cqwmn3eg5sg-nytcnbxmvqt-sa2foagpxqq-1 (Boot Volume)	intprasenjits (root)/Dev	Boot Volumes	Available	us-phoenix-1
<input type="checkbox"/>	oke-cqwmn3eg5sg-nytcnbxmvqt-sa2foagpxqq-2	intprasenjits (root)/Dev	Instances	Running	us-phoenix-1
<input type="checkbox"/>	oke-cqwmn3eg5sg-nytcnbxmvqt-sa2foagpxqq-2	intprasenjits (root)/Dev	VNICs i	Available	us-phoenix-1
<input type="checkbox"/>	oke-cqwmn3eg5sg-nytcnbxmvqt-sa2foagpxqq-2 (Boot Volume)	intprasenjits (root)/Dev	Boot Volumes	Available	us-phoenix-1
<input type="checkbox"/>	oke-routetable-Dev-Cluster-daa650642	intprasenjits (root)/Dev	Route Tables	Available	us-phoenix-1

Compartment Explorer

- Audit
- Compartment Explorer**
- Quota Policies
- Limits, Quotas and Usage
- Tag Namespaces
- Compliance Documents

Tag Filters [add](#) | [clear](#)

no tag filters applied

Select Compartment

SHOW RESOURCES IN SUBCOMPARTMENTS

Search compartments

- intprasnjits (root)
 - Dev
 - Dyn**
 - FirstTuesday
 - Golang
- Management
 - OKe
 - PS-Comp
 - Region-Replication

Name: **Dyn**

Description: For Dyn Demo and Test

Don't see what you're looking for? These results include only resources supported by [Search](#). Updates made to resources might not immediately appear in your results. [Learn More](#)

Filter by resource type

[View Work Requests](#) [Move Selected](#) [Delete Selected](#)

<input type="checkbox"/>	Name	Compartment	Resource Type	Status	Region
<input type="checkbox"/>	AppRecursive	intprasnjits (root)/Dyn	Virtual Cloud Networks	Available	View Details
<input type="checkbox"/>	AppRecursive2	intprasnjits (root)/Dyn	Virtual Cloud Networks	Available	Move Resource
<input type="checkbox"/>	Default Route Table for AppRecursive	intprasnjits (root)/Dyn	Route Tables	Available	Delete
<input type="checkbox"/>	Default Route Table for AppRecursive2	intprasnjits (root)/Dyn	Route Tables	Available	eu-frankfurt-1 ⓘ
<input type="checkbox"/>	Default Route Table for dyn-fra-vcn	intprasnjits (root)/Dyn	Route Tables	Available	eu-frankfurt-1 ⓘ
<input type="checkbox"/>	Default Route Table for dyn-lad-vcn	intprasnjits (root)/Dyn	Route Tables	Available	us-ashburn-1 ⓘ
<input type="checkbox"/>	Default Route Table for dyn-phx-vcn	intprasnjits (root)/Dyn	Route Tables	Available	us-phoenix-1 ⓘ
<input type="checkbox"/>	Default Security List for AppRecursive	intprasnjits (root)/Dyn	Security Lists	Available	eu-frankfurt-1 ⓘ
<input type="checkbox"/>	Default Security List for AppRecursive2	intprasnjits (root)/Dyn	Security Lists	Available	eu-frankfurt-1 ⓘ
<input type="checkbox"/>	Default Security List for dyn-fra-vcn	intprasnjits (root)/Dyn	Security Lists	Available	eu-frankfurt-1 ⓘ

Move Resource to a Different Compartment [Help](#) [Cancel](#)

Move the **AppRecursive** Vcn from the **Dyn** compartment to the selected compartment.

CHOOSE NEW COMPARTMENT

Search compartments

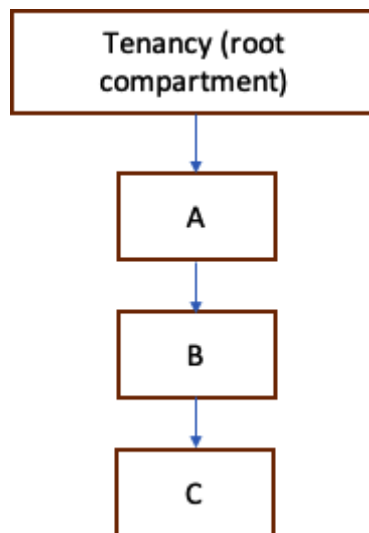
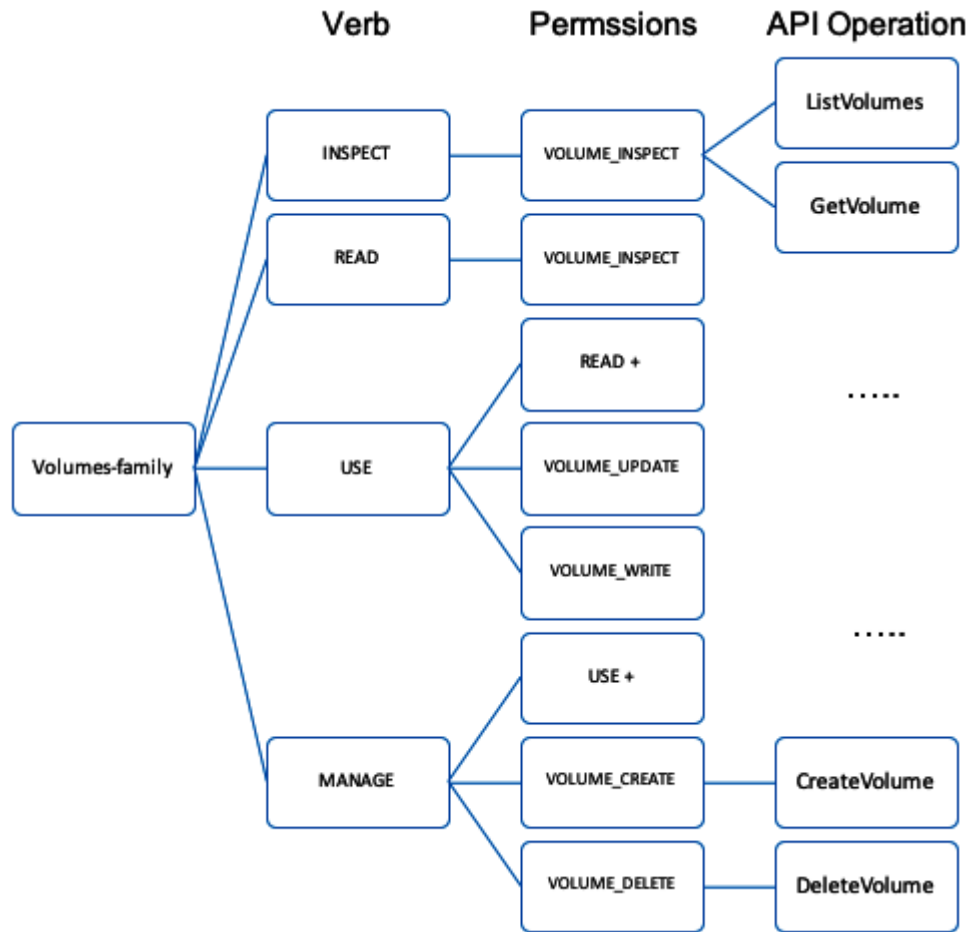
- intprasnjits (root)
 - Dev
 - Dyn**
 - FirstTuesday
 - Golang
- Management
 - OKe
 - PS-Comp
 - Region-Replication

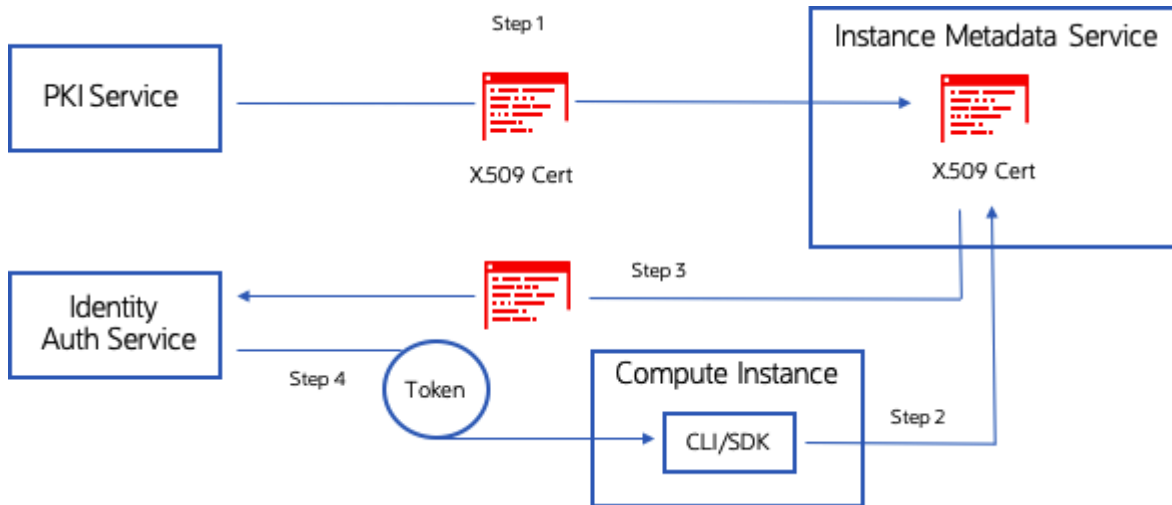
immediately appear in your results.

Filter by

[View Work Requests](#) [Move Selected](#) [Delete Selected](#)

<input type="checkbox"/>	Name	Compartment	Resource Type	Status	Region
<input type="checkbox"/>	AppRecursive	intprasnjits (root)/Dyn	Virtual Cloud Networks	Available	eu-frankfurt-1 ⓘ
<input type="checkbox"/>	AppRecursive2	intprasnjits (root)/Dyn	Virtual Cloud Networks	Available	eu-frankfurt-1 ⓘ
<input type="checkbox"/>	Default Route Table for AppRecursive	intprasnjits (root)/Dyn	Route Tables	Available	eu-frankfurt-1 ⓘ
<input type="checkbox"/>	Default Route Table for AppRecursive2	intprasnjits (root)/Dyn	Route Tables	Available	eu-frankfurt-1 ⓘ
<input type="checkbox"/>	Default Route Table for dyn-fra-vcn	intprasnjits (root)/Dyn	Route Tables	Available	eu-frankfurt-1 ⓘ
<input type="checkbox"/>	Default Route Table for dyn-lad-vcn	intprasnjits (root)/Dyn	Route Tables	Available	us-ashburn-1 ⓘ
<input type="checkbox"/>	Default Route Table for dyn-phx-vcn	intprasnjits (root)/Dyn	Route Tables	Available	us-phoenix-1 ⓘ
<input type="checkbox"/>	Default Security List for AppRecursive	intprasnjits (root)/Dyn	Security Lists	Available	eu-frankfurt-1 ⓘ
<input type="checkbox"/>	Default Security List for AppRecursive2	intprasnjits (root)/Dyn	Security Lists	Available	eu-frankfurt-1 ⓘ





Create Dynamic Group

[Help](#)

NAME

OS-Access

No spaces. Only letters, numerals, hyphens, periods, or underscores.

DESCRIPTION

To access OS

Matching Rules

Rules define what resources are members of this dynamic group. All instances that meet the criteria are added automatically.

i Example: ANY {instance.id = 'ocid1.instance.oc1.iad..exampleuniqueid1', instance.compartment.id = 'ocid1.compartment.oc1..exampleuniqueid2'}

RULE 1

[Rule Builder](#)

ALL {instance.compartment.id = 'ocid1.compartment.oc1..aaaaaaaaarcnhae2ua5d52woc4wnvhifsqabobv3rq7o3ftkmyab9z98abcde'}

×

+ Additional Rule

[Show Advanced Options](#)

Create

Cancel

Create Policy

[Help](#)

i A policy simply allows a [group](#) to work in certain ways with specific types of [resources](#) in a particular [compartment](#). Policies may also only apply under certain [conditions](#). [Learn more](#).

NAME

OS-Access-Pol

No spaces. Only letters, numerals, hyphens, periods, or underscores.

DESCRIPTION

To Access Dyn Grp Pol

KEEP POLICY CURRENT USE VERSION DATE

COMPARTMENT

OKC

intprasnjits (root)/OKC

Policy Statements

[Advanced Policy Editor](#)

STATEMENT 1

⋮ ^ v Allow dynamic-group OS-Access to manage buckets in tenancy ×

STATEMENT 2

⋮ ^ v Allow dynamic-group OS-Access to manage objects in tenancy ×

[+ Another Statement](#)

Example: Allow group [\[group_name\]](#) to [\[verb\]](#) [\[resource-type\]](#) in compartment [\[compartment_name\]](#) where [\[condition\]](#)

 [Show Advanced Options](#)

[Create](#) [Cancel](#)

- Users
- Groups
- Dynamic Groups
- Network Sources
- Policies
- Compartments
- Federation**
- Authentication Settings

Tag Filters [add](#) | [clear](#)

no tag filters applied

Add Identity Provider

[Help](#) [Cancel](#)

NAME

Only letters, numerals, hyphens, periods, or underscores.

DESCRIPTION

TYPE

- MICROSOFT ACTIVE DIRECTORY FEDERATION SERVICE (ADFS)
- SAML 2.0 COMPLIANT IDENTITY PROVIDER
- ORACLE IDENTITY CLOUD SERVICE

Upload the FederationMetadata.xml document from your Active Directory Federation Services server. [Learn more](#)

📎 Drop file here or [select one...](#)

XML file only

ENCRYPT ASSERTION

When selected, the Oracle Cloud Infrastructure authorization service expects encrypted assertions from the IdP. Only the authorization service can decrypt the assertion. When not selected, the authorization service expects SAML tokens to be unencrypted but protected by SSL.

FORCE AUTHENTICATION

If checked, users will always be asked to authenticate at their IdP when redirected by OCI auth service. If unchecked, the user will not be asked to re-authenticate at this IdP if they already have an active login session with that IdP.

AUTHENTICATION CONTEXT CLASS REFERENCES *OPTIONAL*

+ Another Class Reference

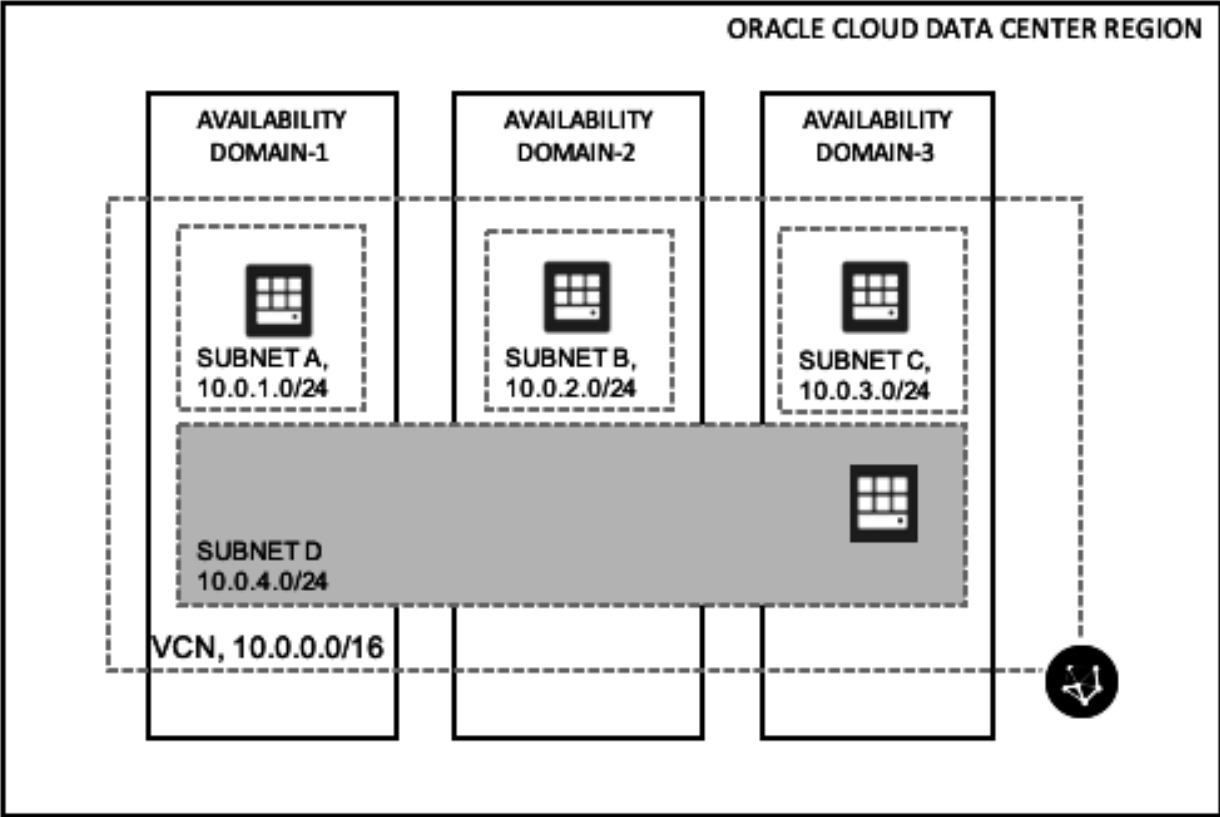
[Show Advanced Options](#)

[Continue](#) [Cancel](#)

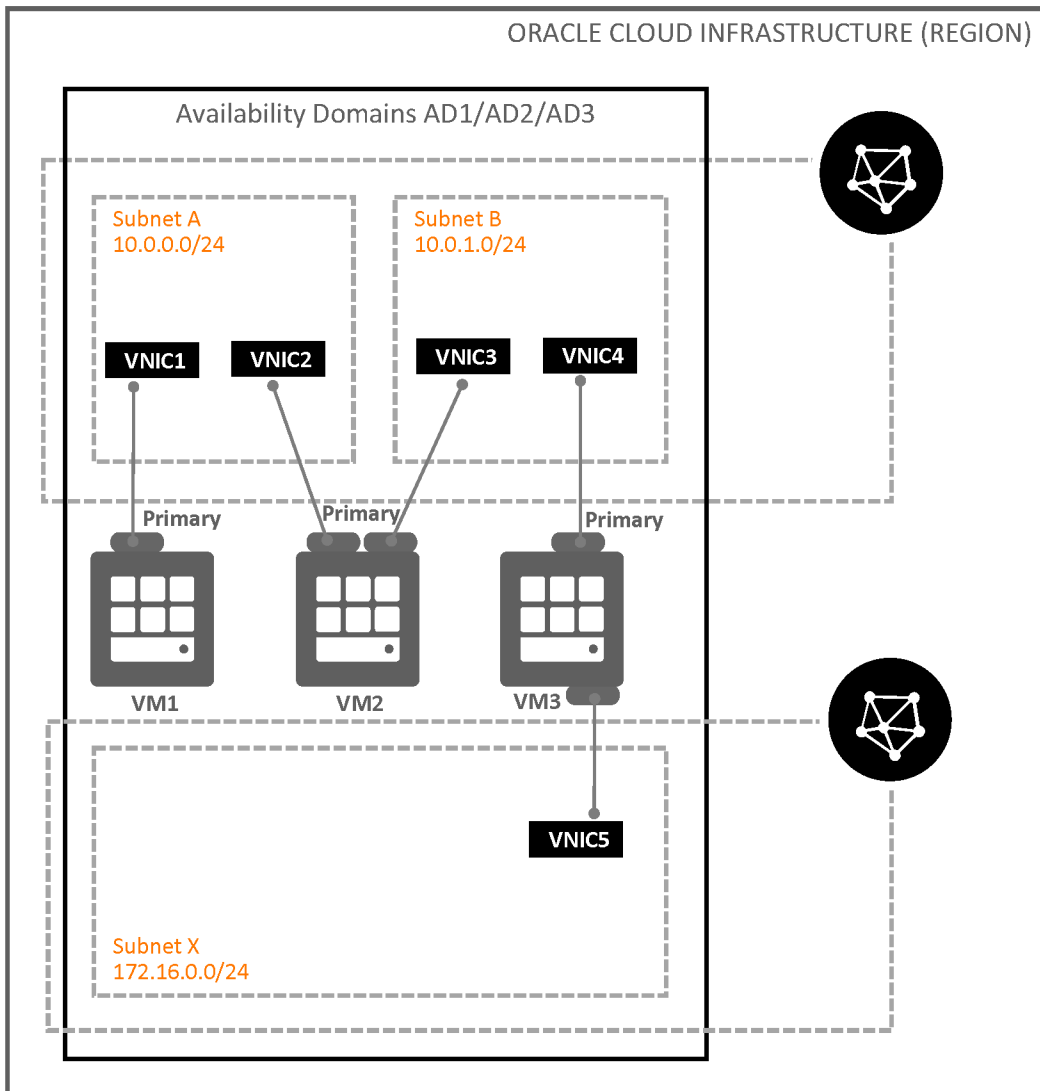
Showing 0 Items < 1 of 1 >

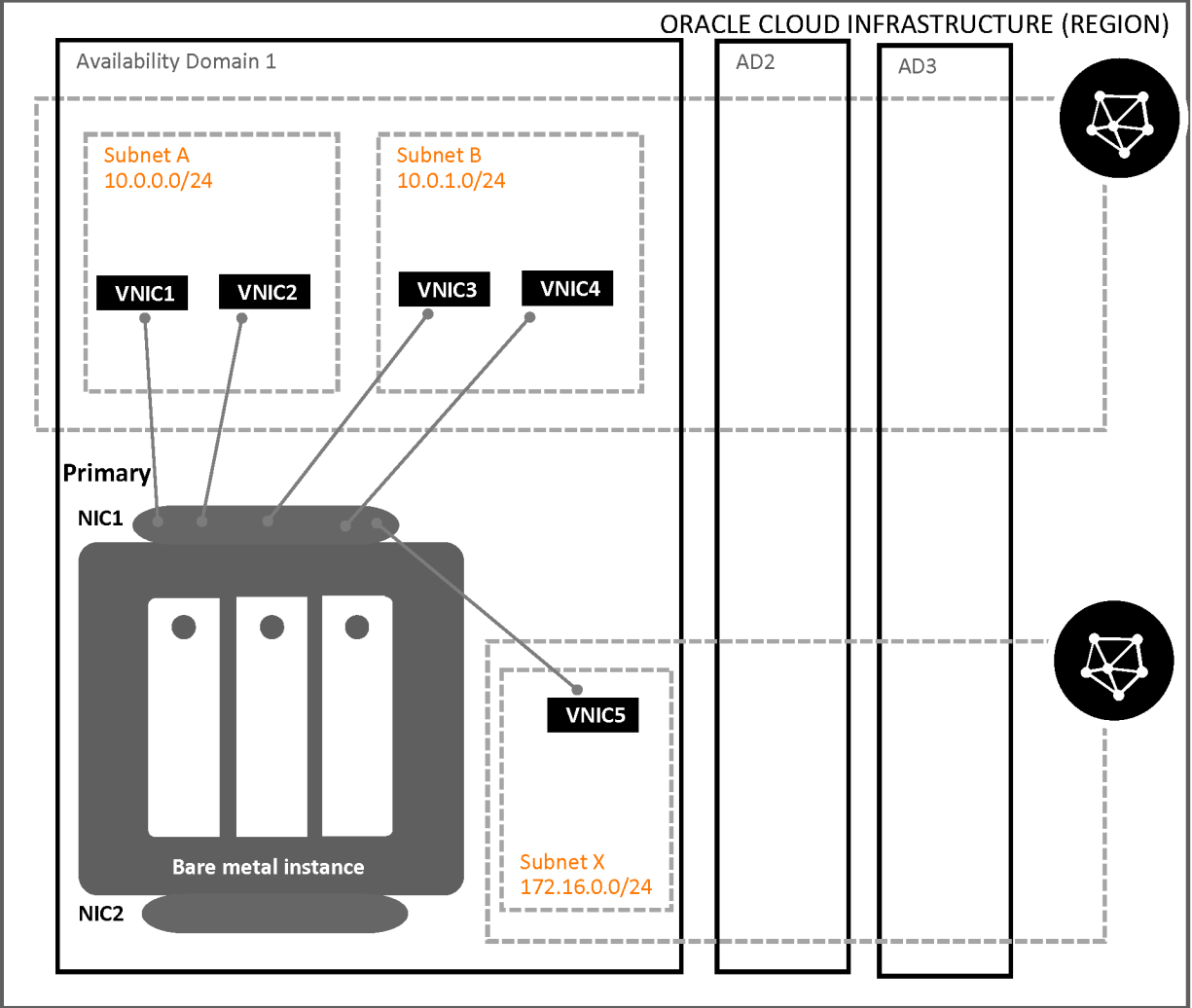
Federation Services or with other
ate information. [Download this](#)

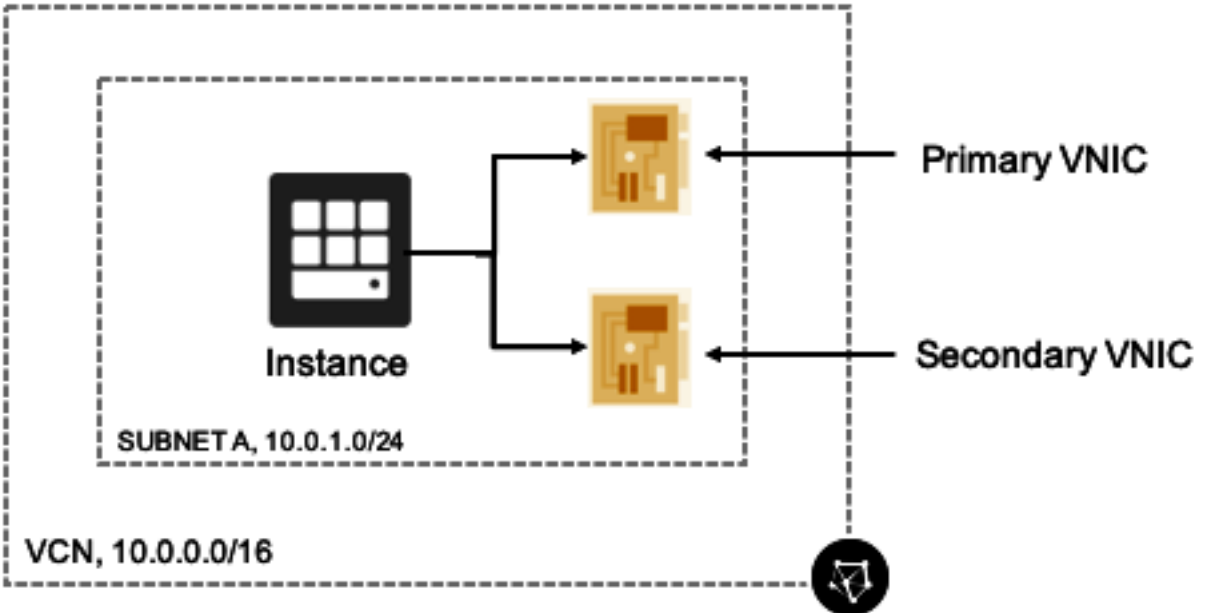
Chapter 3: Designing a Network on Oracle Cloud Infrastructure

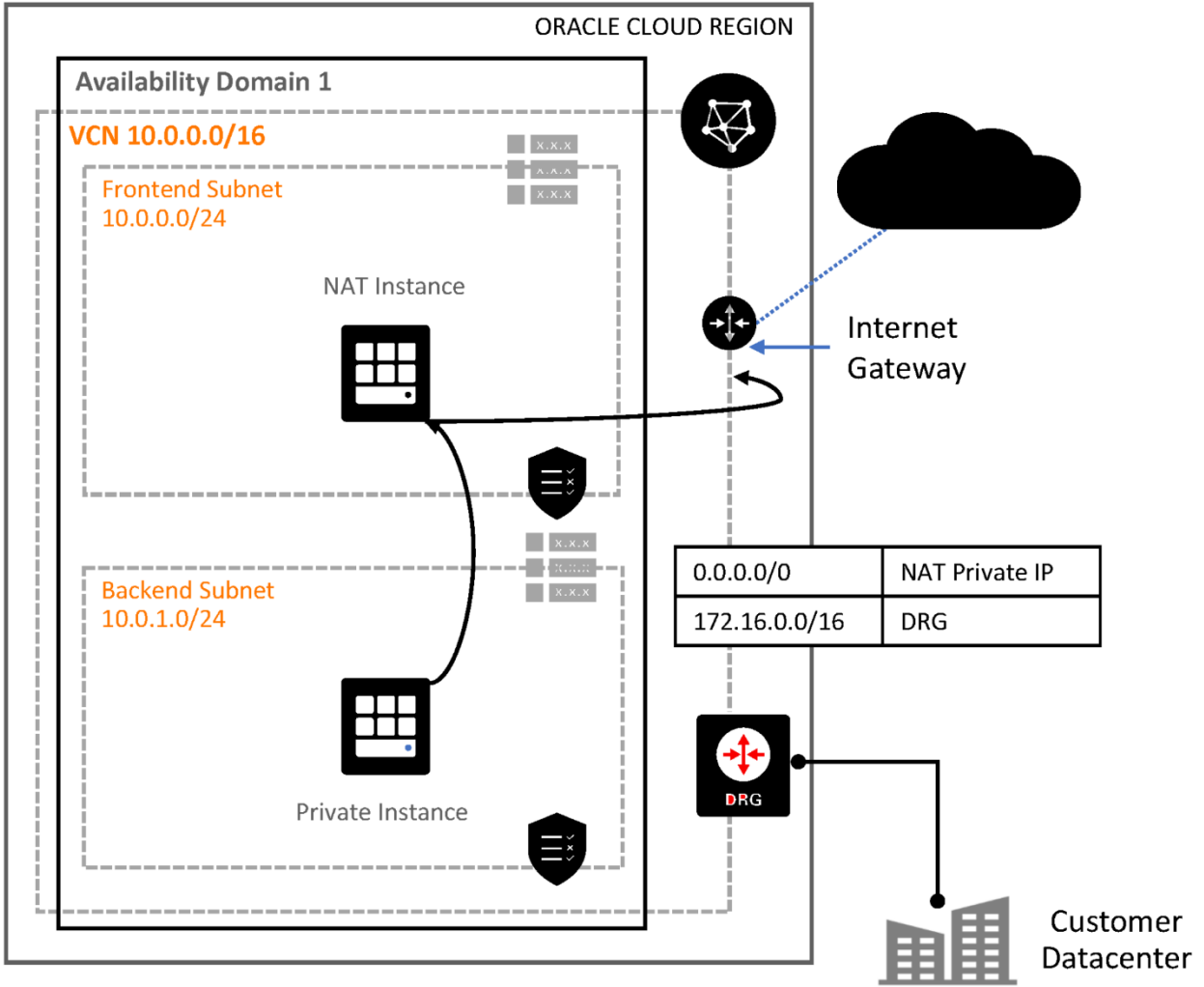


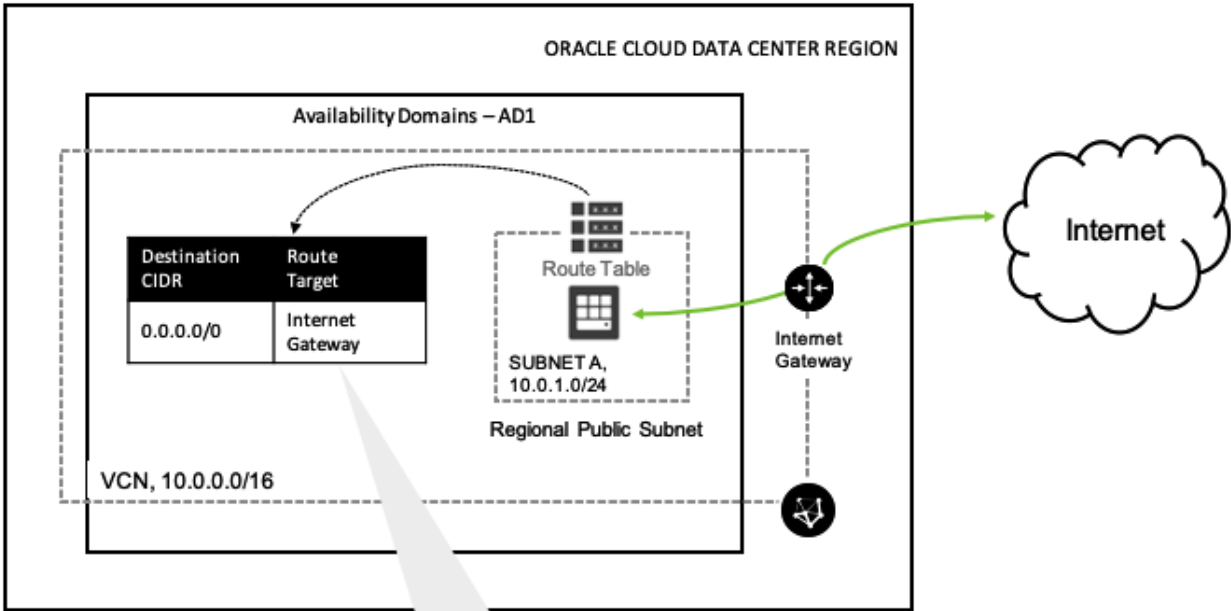
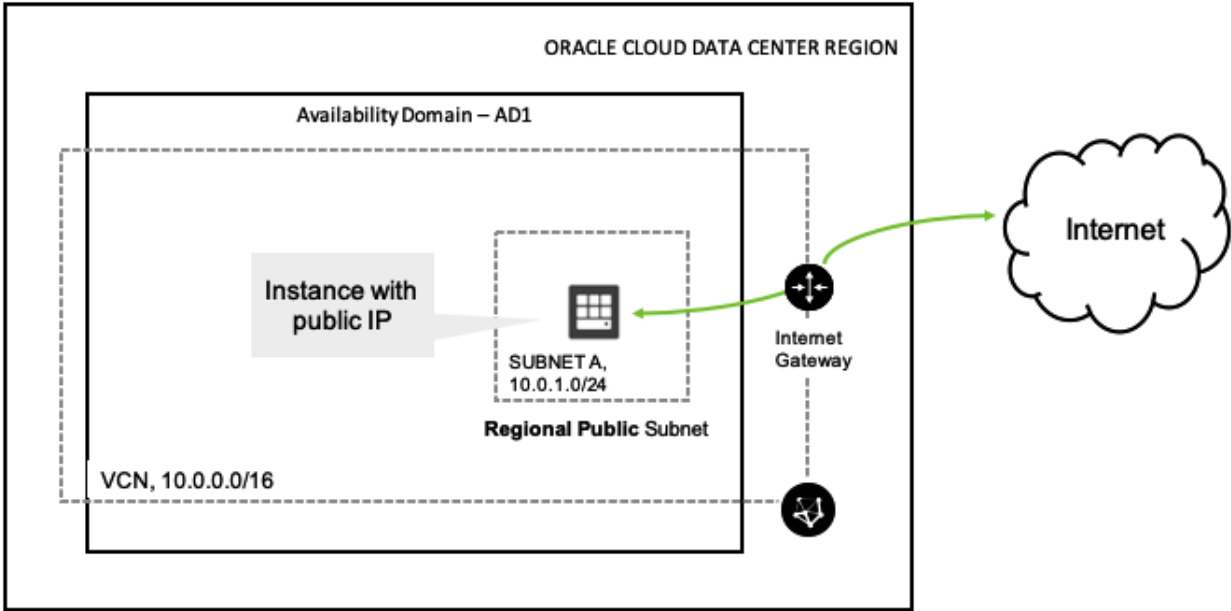
ORACLE CLOUD INFRASTRUCTURE (REGION)



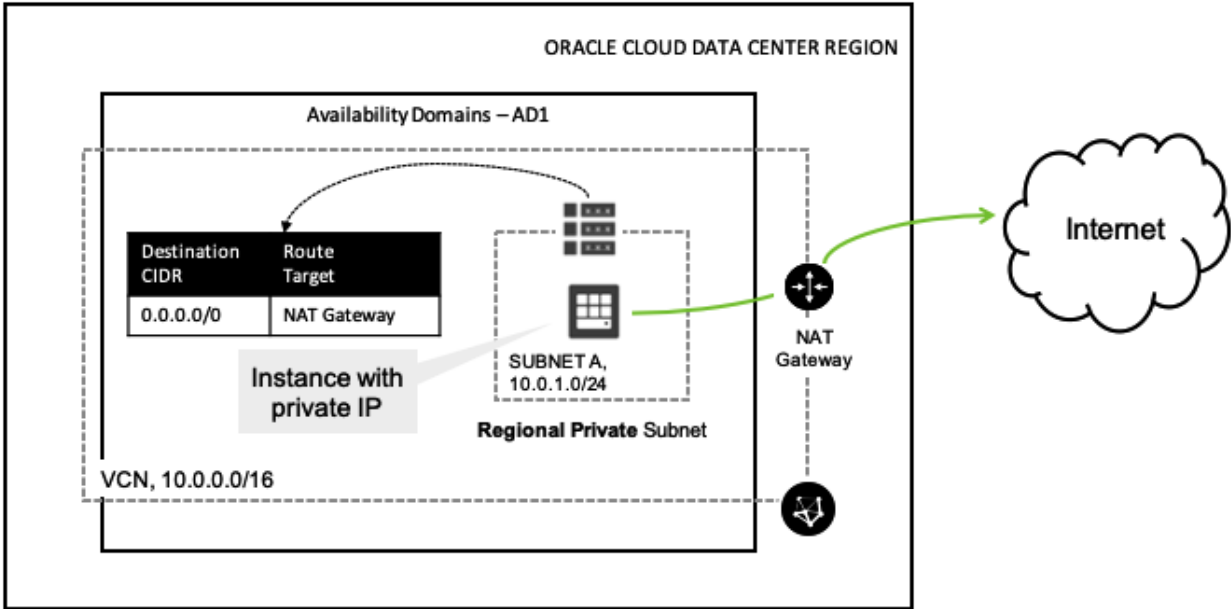
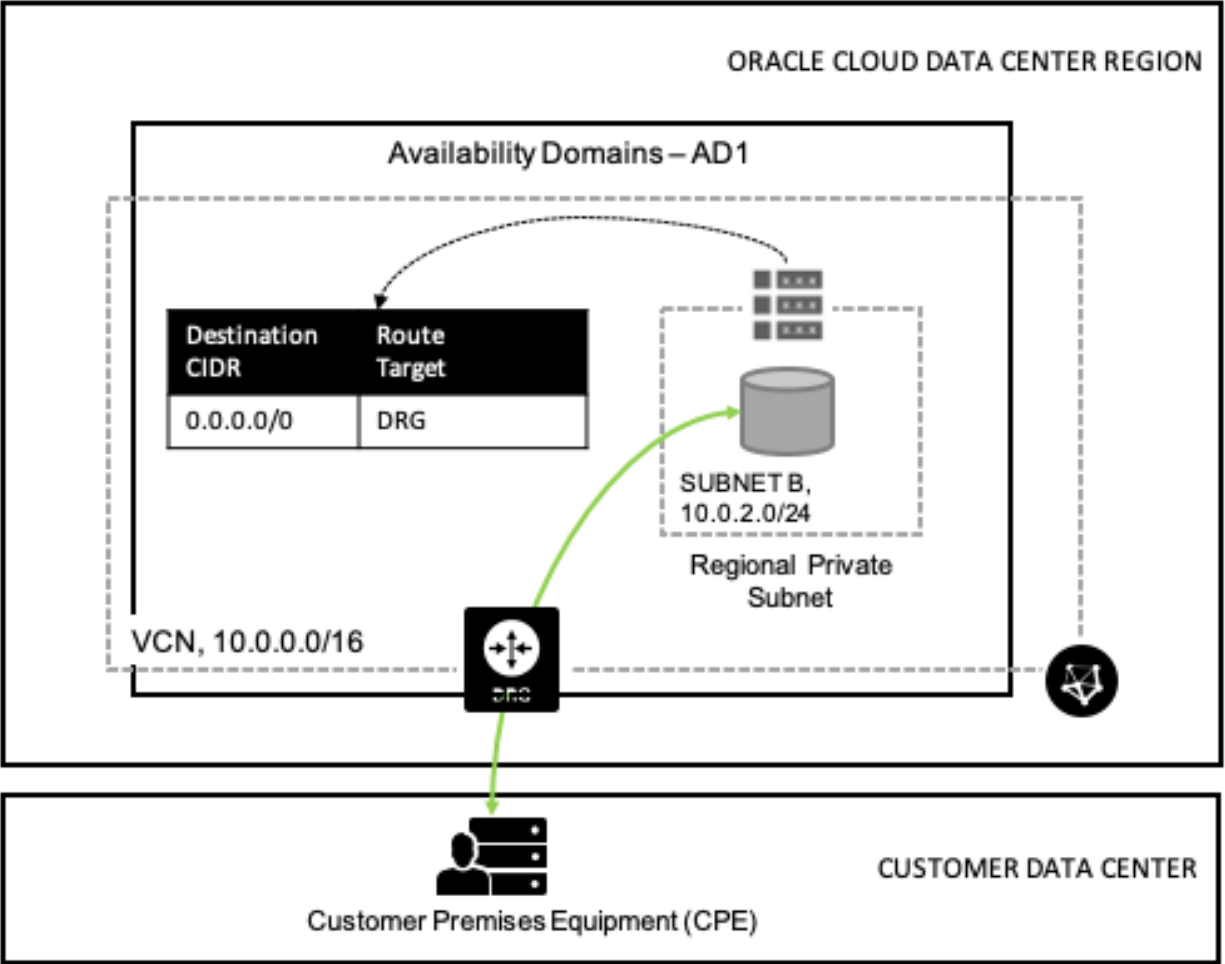


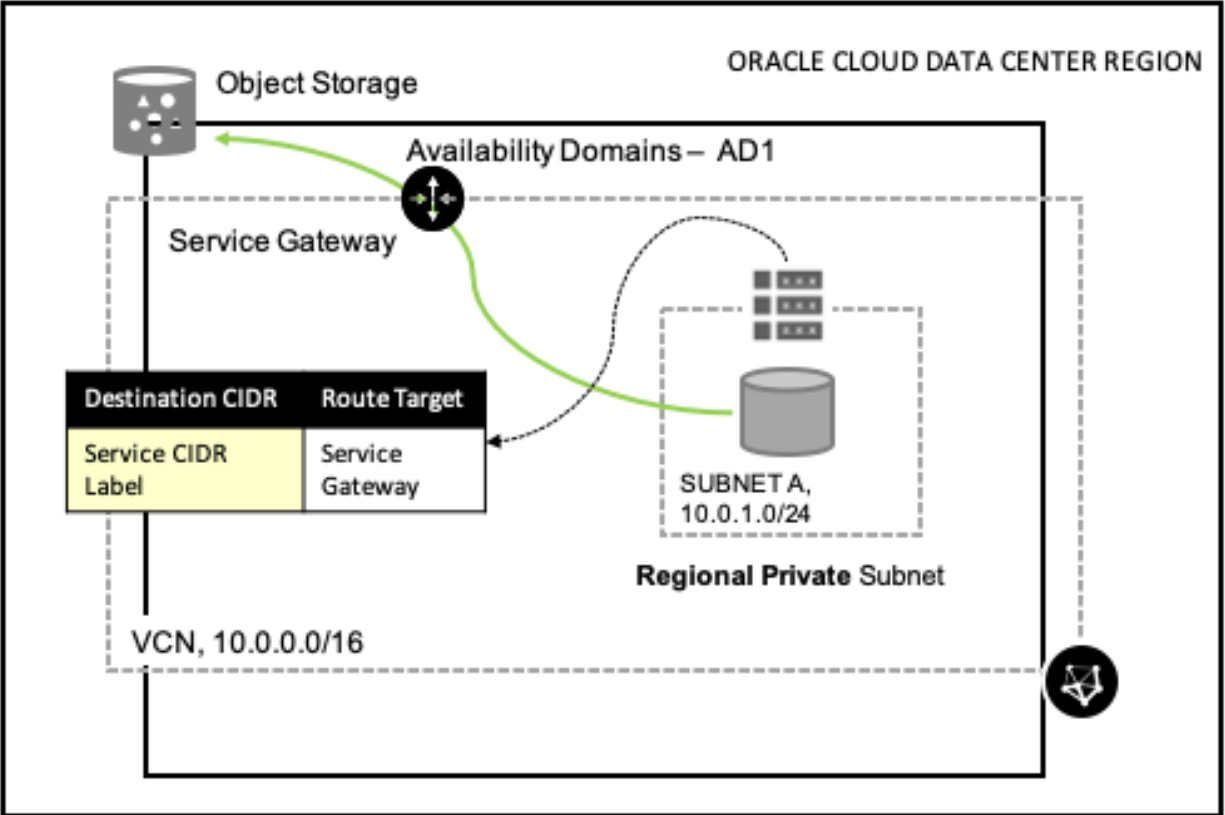


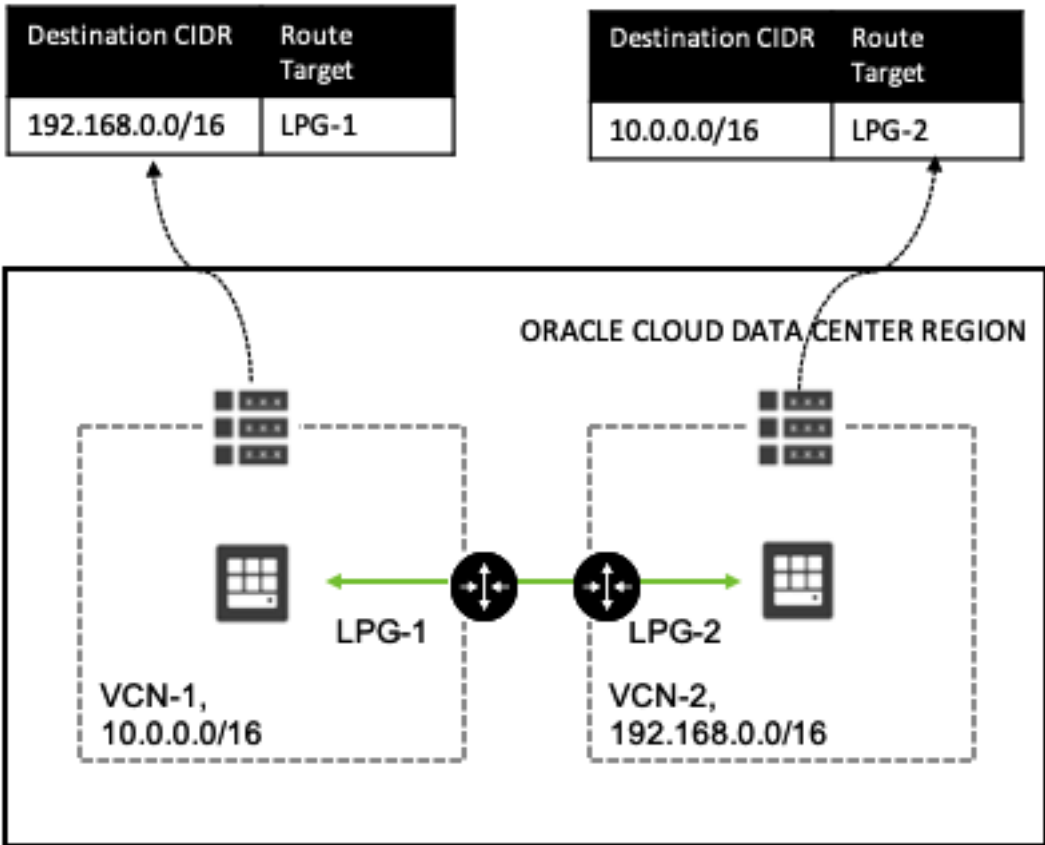




All traffic destined for Internet Gateway

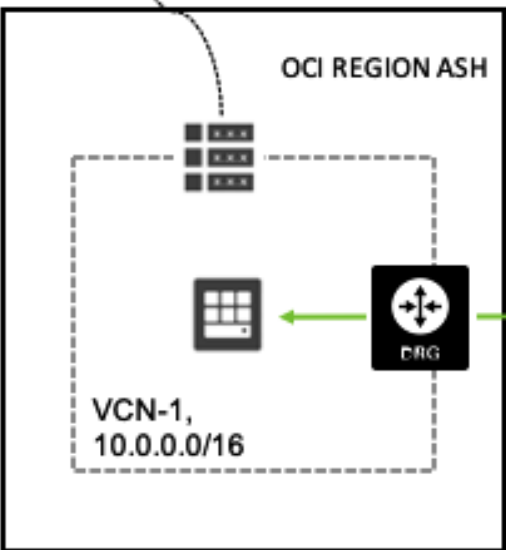




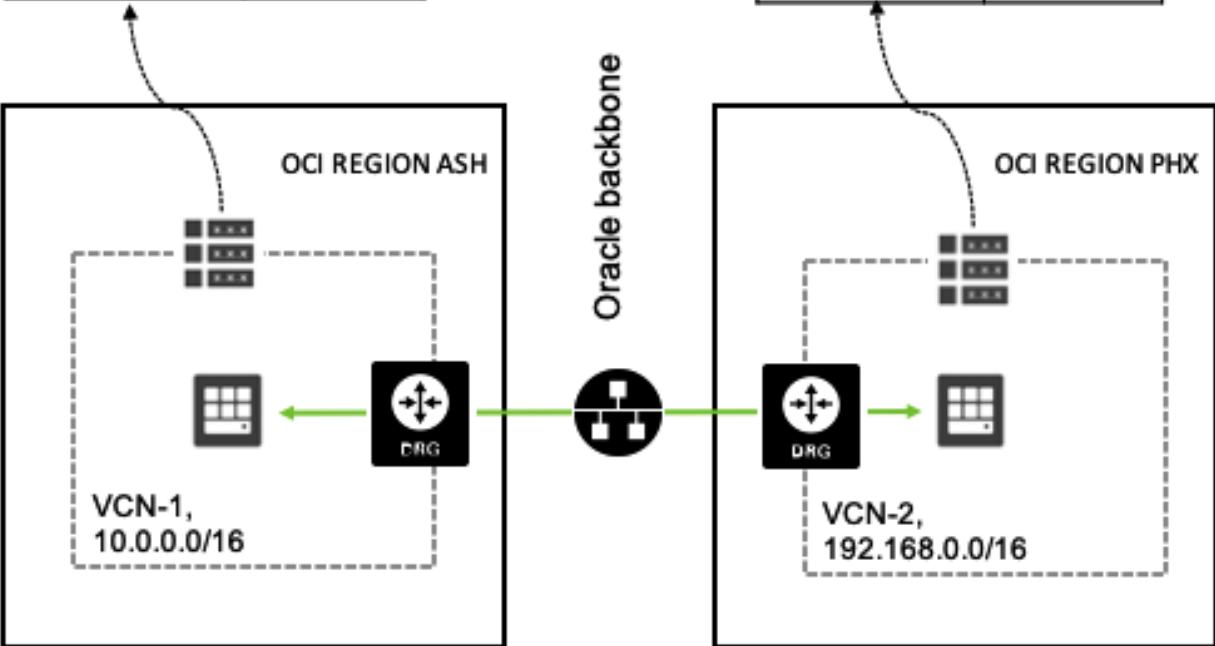
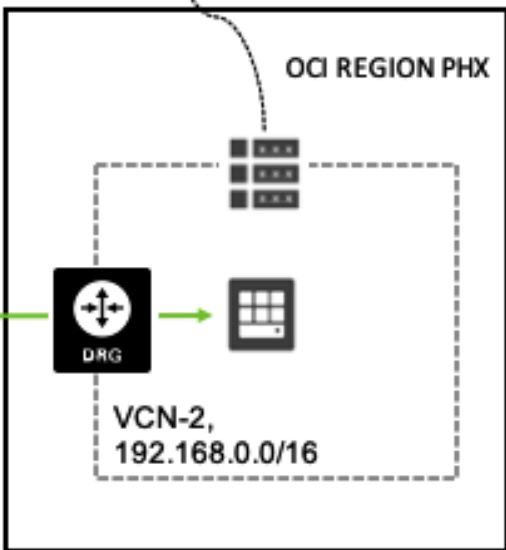


Destination CIDR	Route Target
192.168.0.0/16	DRG-1

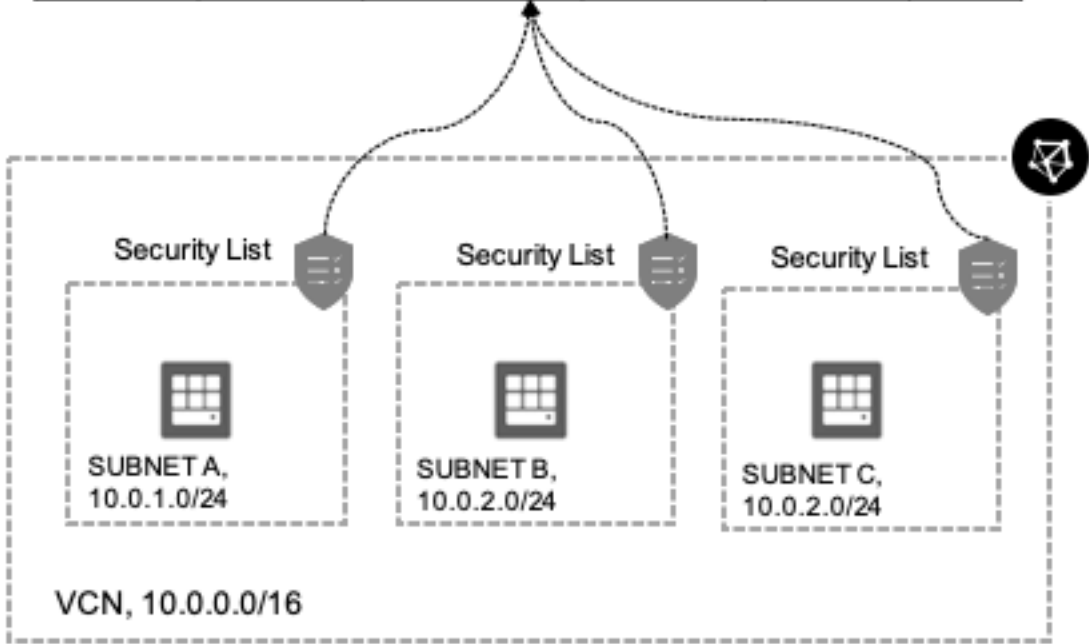
Destination CIDR	Route Target
10.0.0.0/16	DRG-2



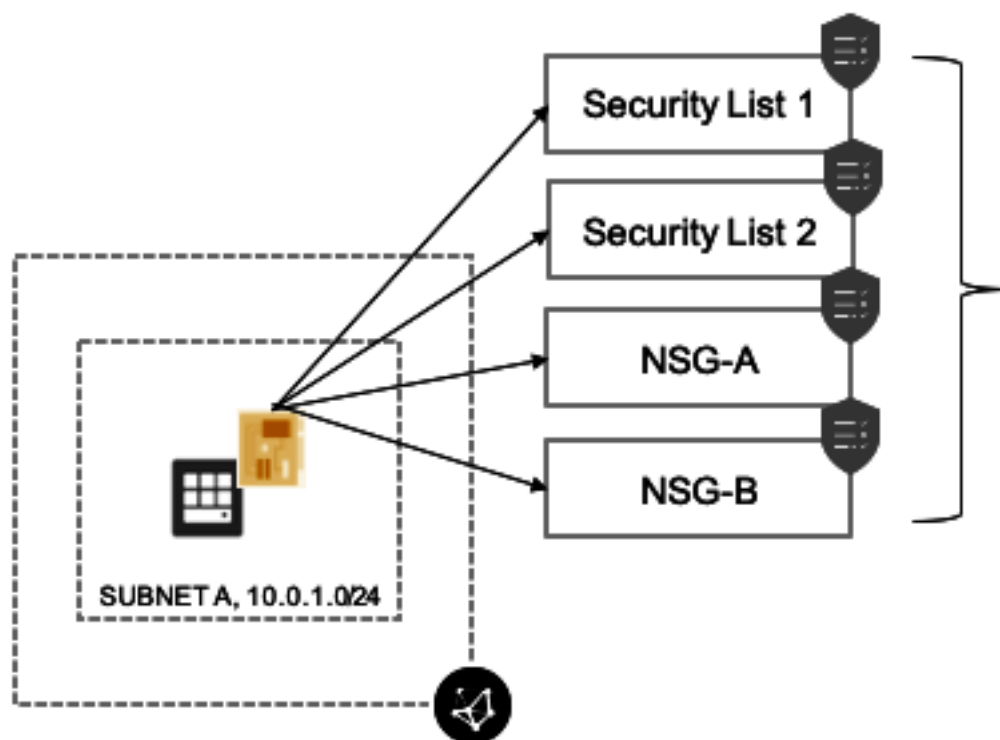
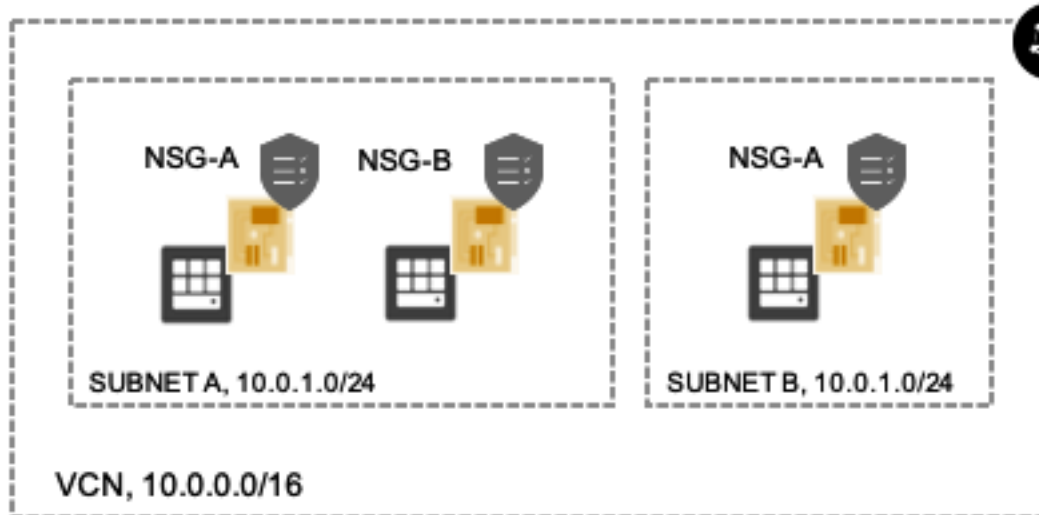
Oracle backbone

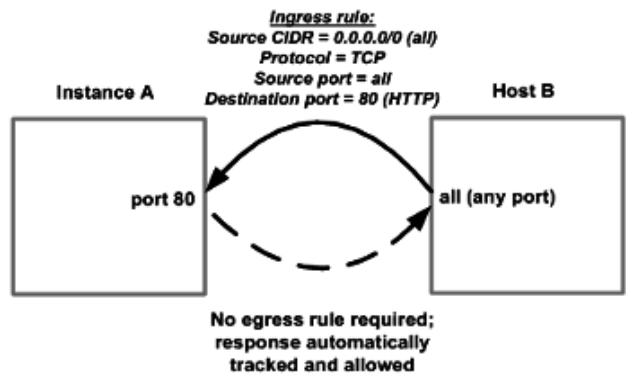


	Direction	CIDR	Protocol	Source Port	Dest Port
Stateful	Ingress	0.0.0.0/0	TCP	All	80
Stateful	Egress	10.0.2.0/24	TCP	All	1521



		Direction	CIDR	Protocol	Source Port	Dest Port
NSG-A	Stateful	Ingress	0.0.0.0/0	TCP	All	80
NSG-B	Stateful	Ingress	0.0.0.0/0	TCP	All	22

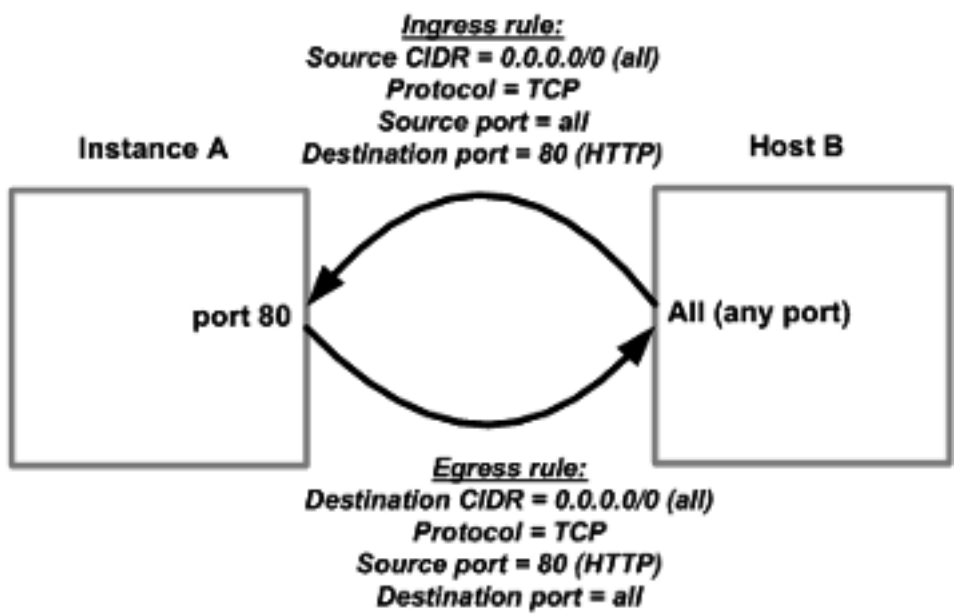


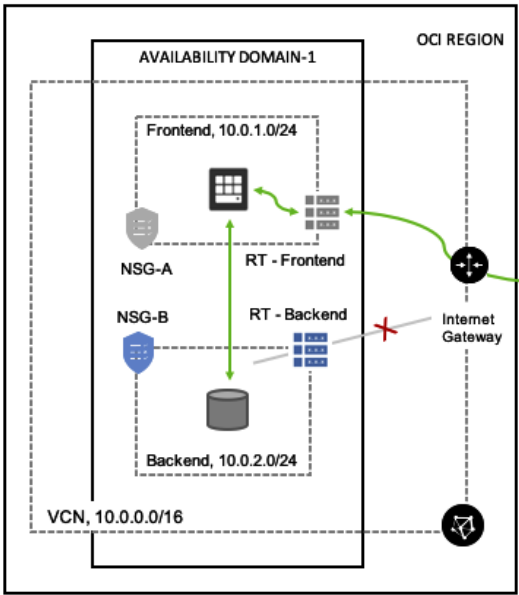
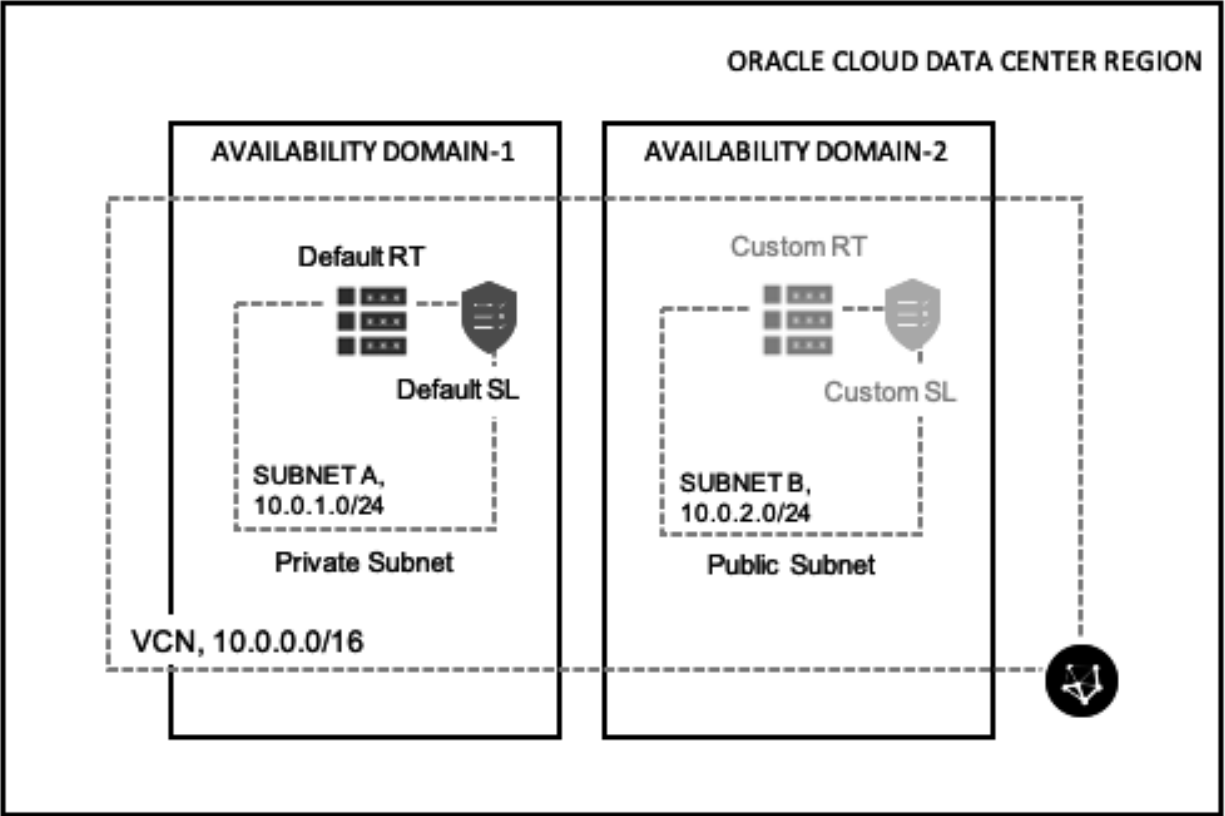


SOURCE TYPE	SOURCE CIDR	IP PROTOCOL	SOURCE PORT RANGE (OPTIONAL)	DESTINATION PORT RANGE (OPTIONAL)
CIDR	0.0.0.0/0	TCP	All	80
	<small>Specified IP addresses: 0.0.0.0-255.255.255.255 (4,294,967,296 IP addresses)</small>	<small>(more information)</small>	<small>Examples: 80, 20-22 or All (more information)</small>	<small>Examples: 80, 20-22 or All (more information)</small>

Hosts in this group are reachable from the internet on Port 80

Stateless Security List: Receive HTTP Traffic





Destination CIDR	Route Target
0.0.0.0/0	Internet Gateway

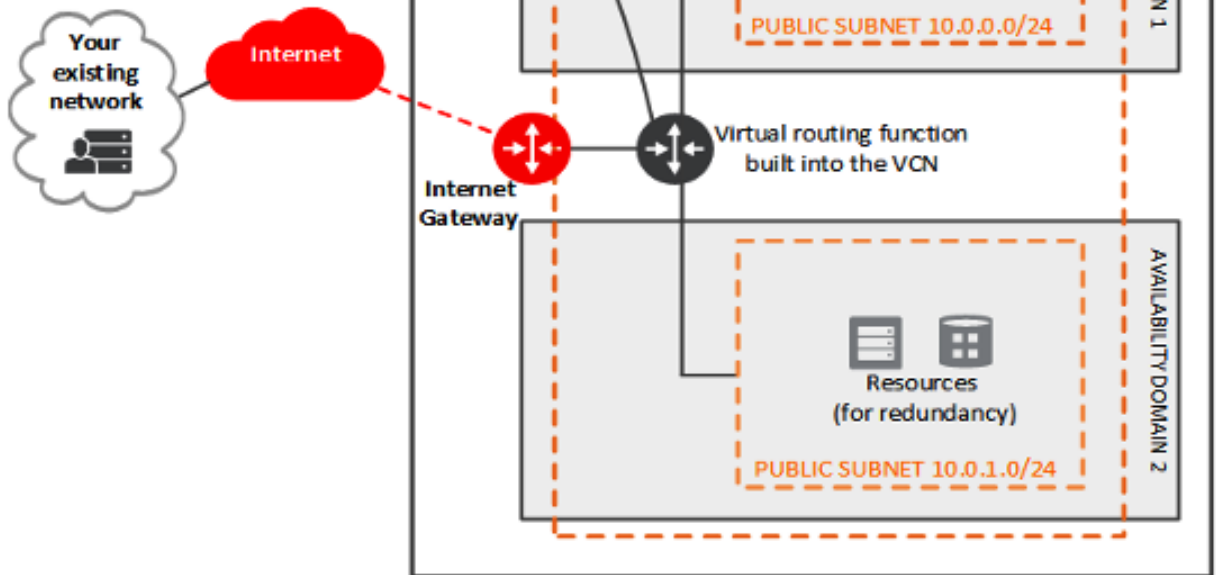
Type	CIDR	Protocol	Source Port	Dest Port
Stateful	Ingress	TCP	All	80
Stateful	Egress	TCP	All	1521

Destination CIDR	Route Target
0.0.0.0/0	NAT/ Service gateway / DRG

Type	CIDR	Protocol	Source Port	Dest Port
Stateful	Ingress	TCP	All	1521
Stateful	Egress	All	All	

Default Route Table

Destination CIDR	Route Target
0.0.0.0/0	Internet Gateway



Create a VCN with Internet Connectivity

[Help](#)

- 1 configuration
- 2 review

Configuration

Important: Before starting:

- **Limits:** Ensure your tenancy has not reached its VCN limit. See [Service Limits](#).
- **Access:** Ensure you have permission to work in the compartment you select.

Basic Information

VCN NAME ⓘ

COMPARTMENT ⓘ

Dev

inprasnjits (root)/Dev

Configure VCN and Subnets

VCN CIDR BLOCK ⓘ

If you plan to peer this VCN with another VCN, the VCNs must not have overlapping CIDRs. [Learn more](#).

PUBLIC SUBNET CIDR BLOCK ⓘ

The subnet CIDR blocks must not overlap.

PRIVATE SUBNET CIDR BLOCK ⓘ

The subnet CIDR blocks must not overlap.

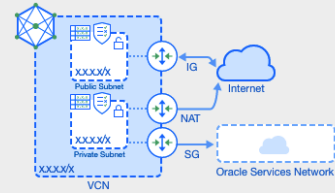
DNS RESOLUTION

USE DNS HOSTNAMES IN THIS VCN

Required for instance hostname assignment if you plan to use VCN DNS or a third-party DNS. This choice cannot be changed after the VCN is created. [Learn more](#).

[Show Tagging Options](#)

VCN with Internet Connectivity



Includes:

- VCN
- Public subnet
- Private subnet
- Internet gateway (IG)
- NAT gateway (NAT)
- Service gateway (SG)

[Next](#) [Cancel](#)

Create Compute Instance

Name

Dev-Instance

Create in compartment

Dev

intraprasenjits (root)/Dev

Configure placement and hardware

[Collapse](#)

The [availability domain](#) helps determine which shapes are available. A [shape](#) is a template that determines the number of CPUs, amount of memory, and other resources allocated to an instance. The image is the operating system that runs on top of the shape.

Availability domain

AD 1

uvZi:PHX-AD-1



AD 2

uvZi:PHX-AD-2

AD 3

uvZi:PHX-AD-3

Choose a fault domain for this instance

If you don't select a fault domain, Oracle will choose the best placement for you. [Learn more](#)

Image



Oracle Linux 7.9

Image Build: 2020.11.10-1

Change Image

Shape



VM.Standard.E3.Flex

Virtual Machine, 1 core OCPU, 16 GB memory, 1 Gbps network bandwidth

Change Shape

Configure networking

[Collapse](#)

[Networking](#) is how your instance connects to the internet and other resources in the Console. To make sure you can [connect to your instance](#), assign a public IP address to the instance.

Network

- Select existing virtual cloud network Create new virtual cloud network Enter subnet OCID

Virtual cloud network in **Dev** [\(Change Compartment\)](#)

oke-vcn-quick-cluster2-2a79cfac3

Subnet

- Select existing subnet Create new public subnet

Subnet in **Dev** [\(Change Compartment\)](#)

oke-subnet-quick-cluster2-2a79cfac3-regional (Regional)

- Use network security groups to control traffic [\(i\)](#)

Public IP address

- Assign a public IPv4 address Do not assign a public IPv4 address



Assigning a public IP address makes this instance accessible from the internet. If you're not sure whether you need a public IP address, you can always assign one later.

Add SSH keys

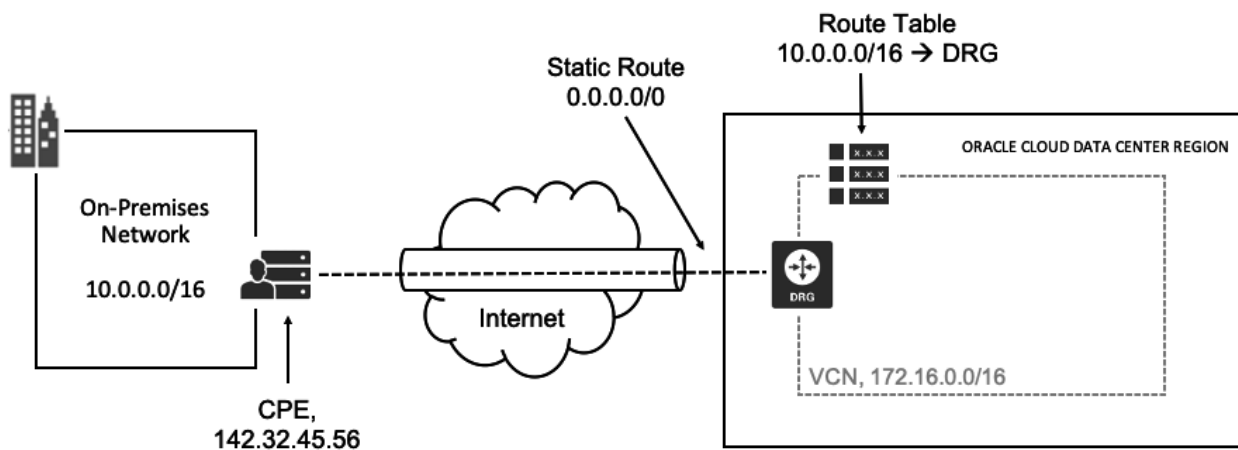
Linux-based instances use an [SSH key pair](#) instead of a password to authenticate remote users. Generate a key pair or upload your own public key now. When you [connect to the instance](#), you will provide the associated private key.

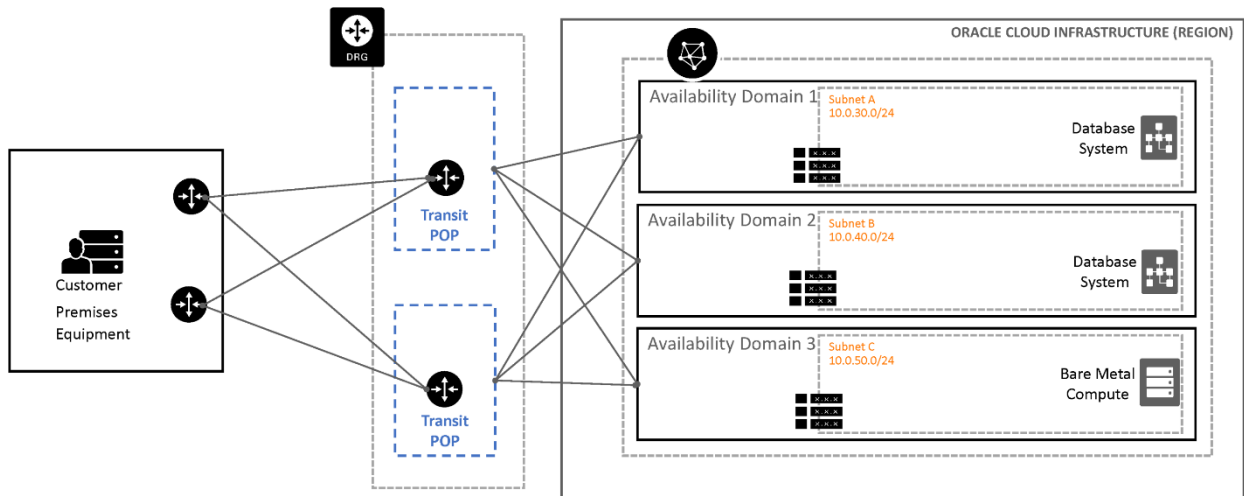
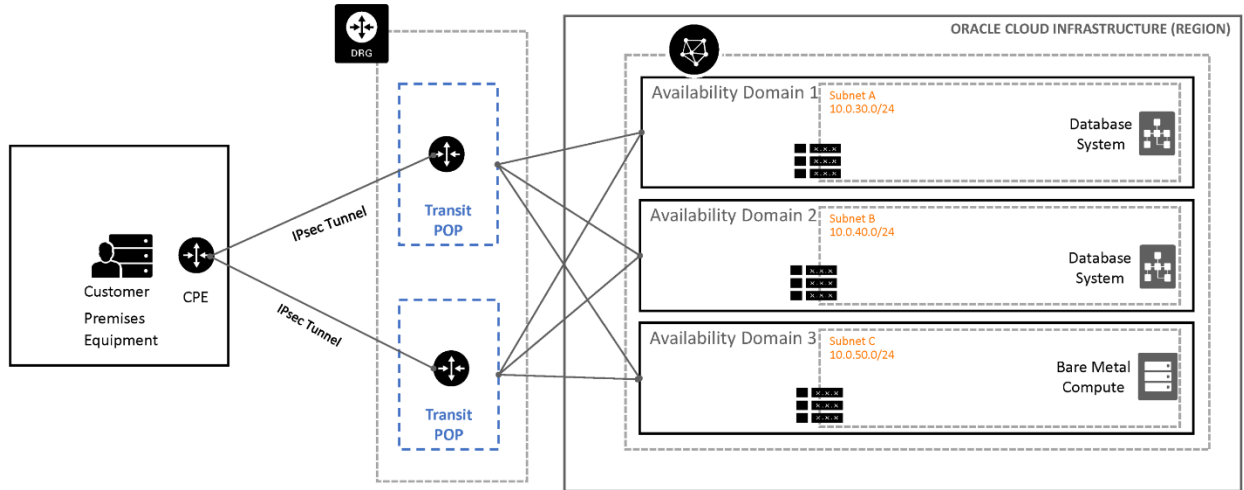
- Generate SSH key pair Choose public key files Paste public keys No SSH keys

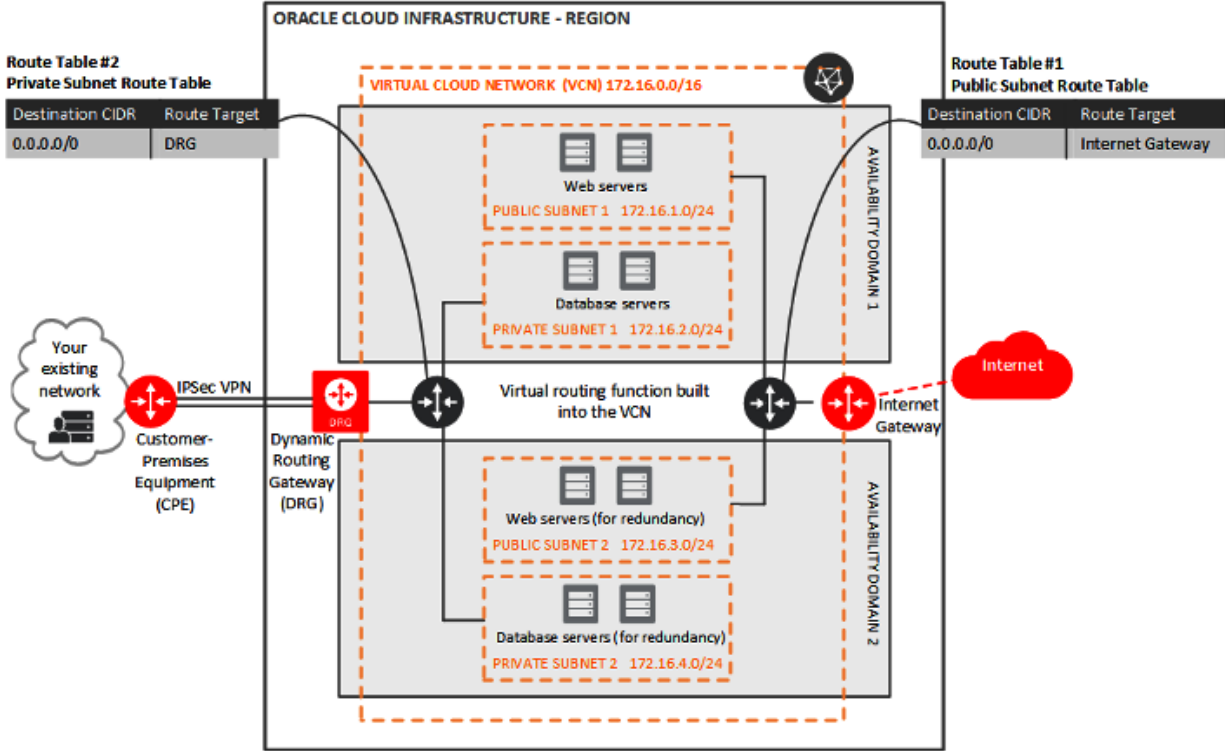


Download the private key so that you can connect to the instance using SSH. It will not be shown again.

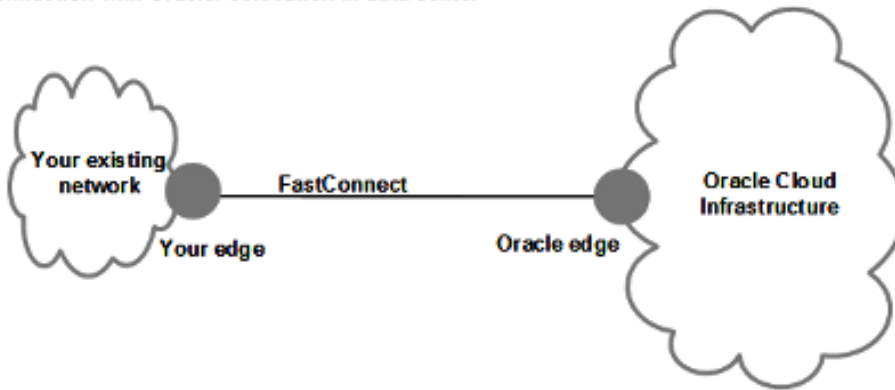
[Save Private Key](#) [Save Public Key](#)



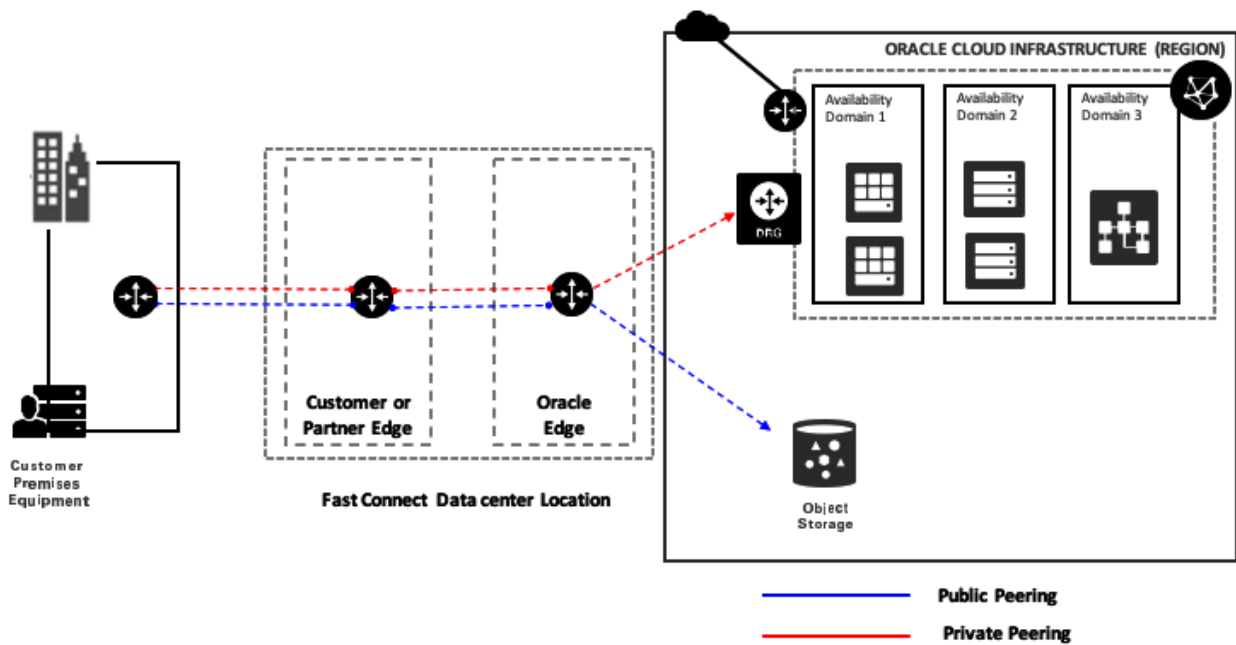
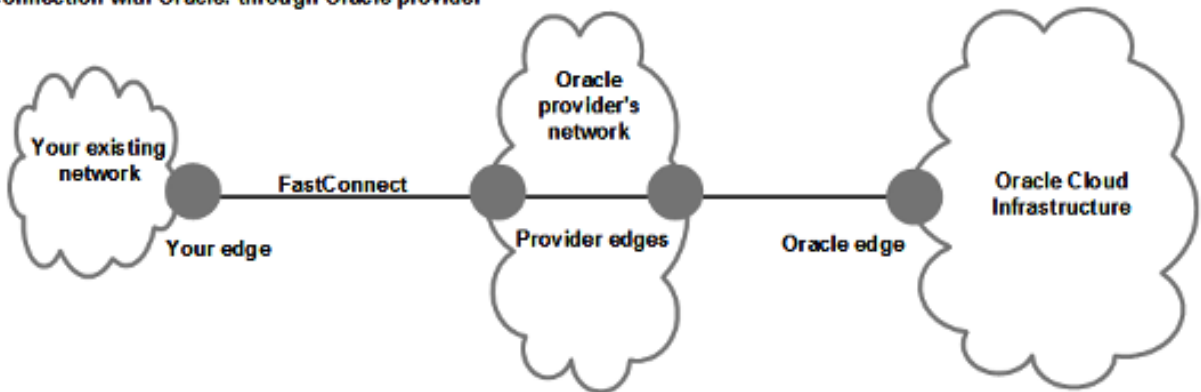


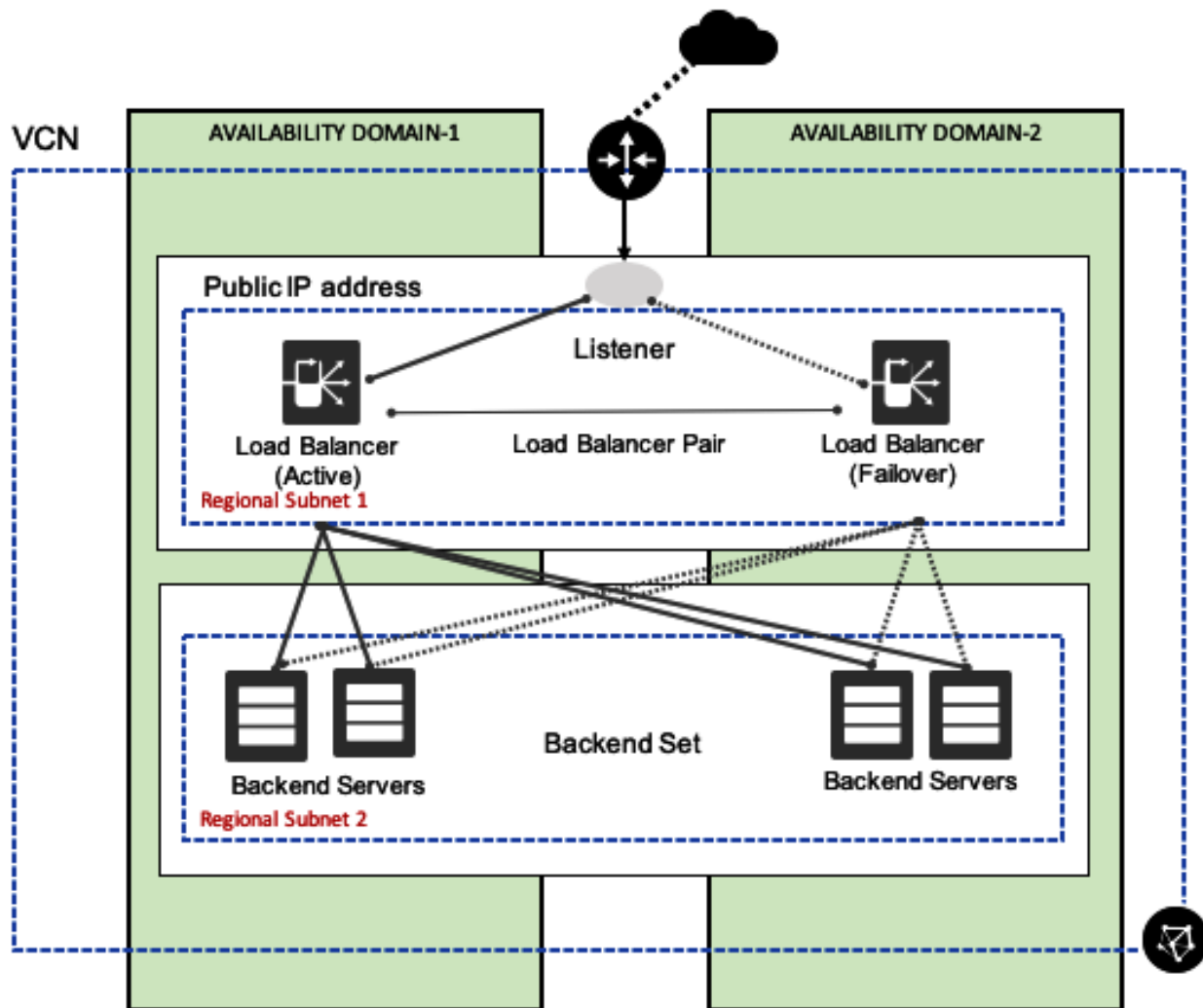


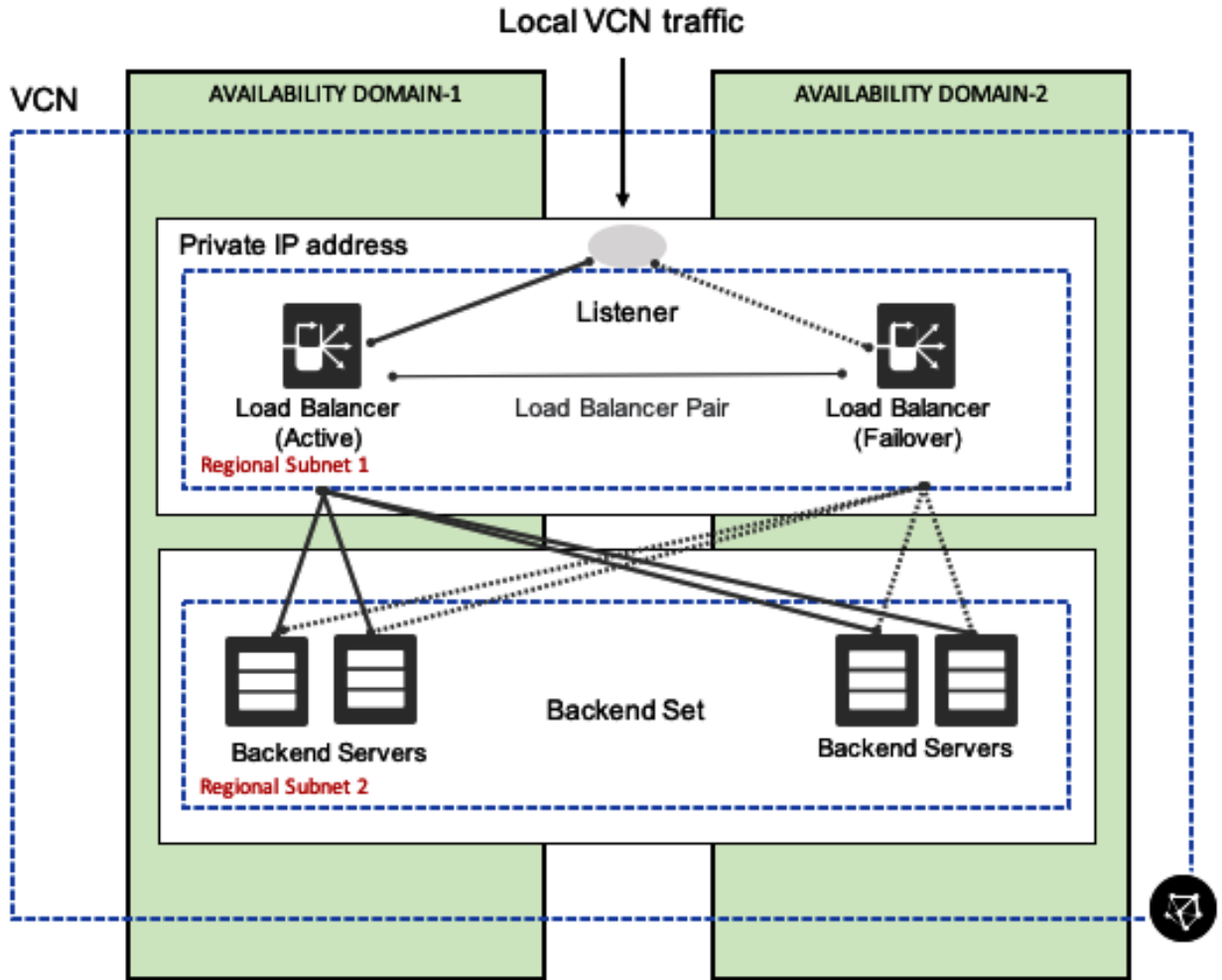
Connection with Oracle: colocation in data center



Connection with Oracle: through Oracle provider







ORACLE Cloud Search for resources, services, and documentation US West (Phoenix)

Logging > Log Group > Log Group (vcnflowloggroup)

vcnflowloggroup

LG

Log Group Information Tags

OCID: ...cyn3bbqbla Show Copy
 Created: Mon, Sep 28, 2020, 12:18:25 UTC
 Compartment: Dev

Resources

Explore Log Group
 Logs
 Metrics

Enable Resource Log

Select Resource

RESOURCE COMPARTMENT
 Dev
 intrasprights (prod)Dev

SERVICE
 Virtual Cloud Network (subnets)

RESOURCE
 okta-subnet-quick-DevOCICluster-cca866854-regional

Configure Log

LOG CATEGORY
 Flow Logs (All records)

LOG NAME
 vcnflowlog

ENABLE AUTO ARCHIVING TO OBJECT STORAGE (LEGACY)

Show Advanced Options

Enable Log Cancel

ORACLE Cloud Search for resources, services, and documentation US West (Phoenix)

vcnflowlogs

Disable Log Edit Change Log Group Add Tags Delete

Log Information Tags

OCID: ...jncaja [Show](#) [Copy](#)

Compartment: intraprenjts (root)/Dev

Log Group: [vcnflowloggroup](#)

Created: Mon, Sep 28, 2020, 13:15:29 UTC

Retention Period: 1 month (default)

Legacy Archival Logs: Disabled

Status: ● Active

Log Details

Log Type: Service log

Service: flowlogs

Log Category: all

Resource: [ose-subnet-quick-DevOCICluster-cca866854-regional](#)

Resources

- Explore Log
- Metrics

Explore Log

Sort: Newest Filter by Time: Past 5 minutes [Explore with Log Search](#)

Number of Log Events Per Minute

Log Data (Right click log events below for more options)

Time	Event	Destination	Bytes	Packets
Mon, Sep 28, 2020, 13:18:21 UTC	vcn.flowlogs.DataEvent	ACCEPT TCP 10.0.20.5 Port 38169 -> 10.0.10.3 Port 10256	335 Bytes	5 Packets
Mon, Sep 28, 2020, 13:18:21 UTC	vcn.flowlogs.DataEvent	ACCEPT TCP 10.0.10.3 Port 10256 -> 10.0.20.5 Port 38169	584 Bytes	5 Packets
Mon, Sep 28, 2020, 13:18:21 UTC	vcn.flowlogs.DataEvent	ACCEPT TCP 10.0.20.4 Port 24396 -> 10.0.10.3 Port 10256	335 Bytes	5 Packets
Mon, Sep 28, 2020, 13:18:21 UTC	vcn.flowlogs.DataEvent	ACCEPT TCP 10.0.10.3 Port 10256 -> 10.0.20.4 Port 24396	584 Bytes	5 Packets
Mon, Sep 28, 2020, 13:18:21 UTC	vcn.flowlogs.DataEvent	ACCEPT TCP 147.154.101.151 Port 443 -> 10.0.10.3 Port 48256	175 Bytes	3 Packets
Mon, Sep 28, 2020, 13:18:21 UTC	vcn.flowlogs.DataEvent	ACCEPT TCP 10.0.10.3 Port 48256 -> 147.154.101.151 Port 443	187 Bytes	3 Packets

ORACLE Cloud Search for resources, services, and documentation US West (Phoenix)

Search

Logging

- Search
- Logs
- Log Groups
- Agent Configurations
- Service Connectors
- Audit

Filter by field or text search: Enter search filters

Select logs to search: Dev/vcnflowloggroup/vcnflowlogs

Filter by time: Past 5 minutes

Reset Search Create Service Connector Search

Visualize

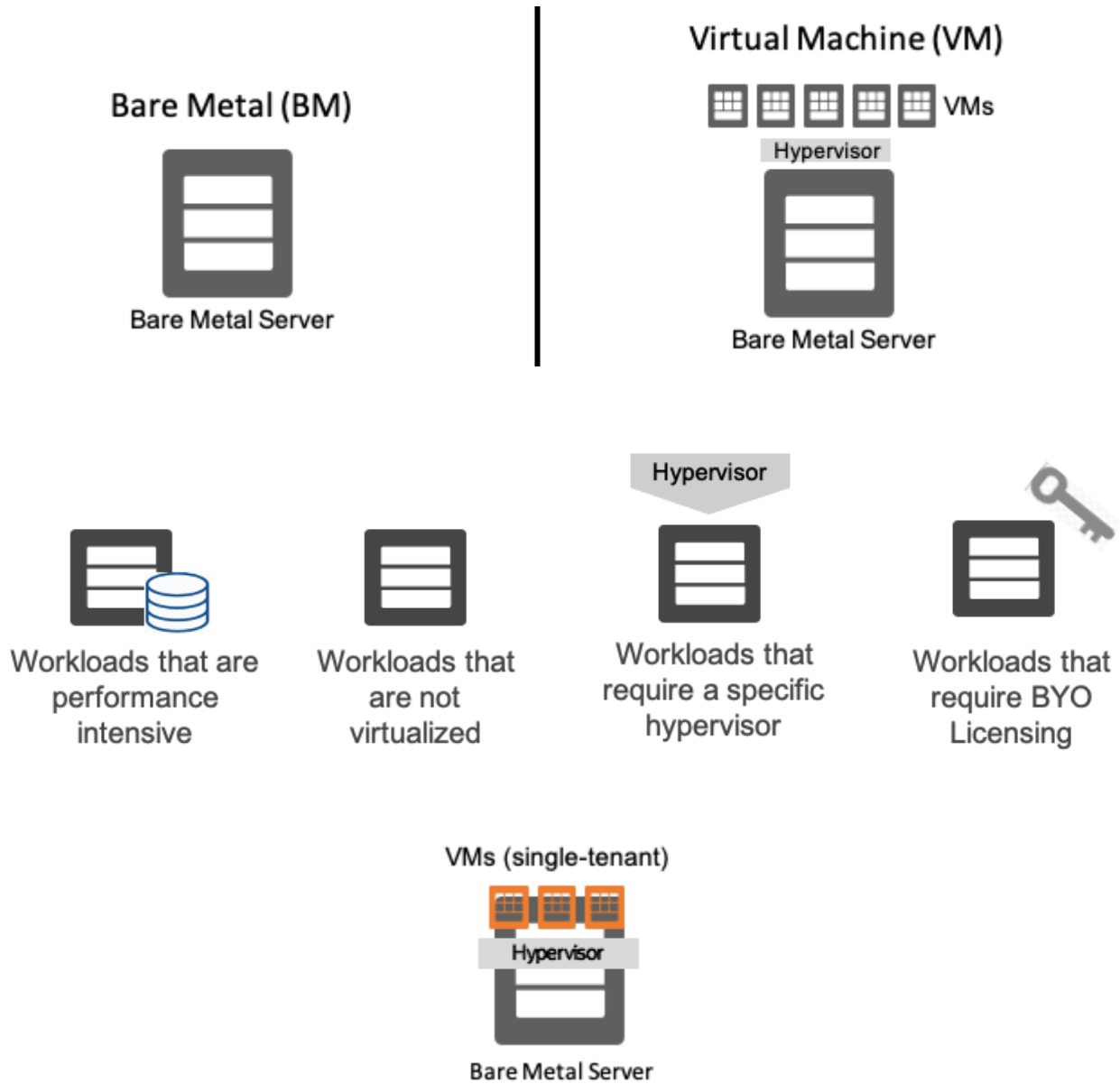
Visualization type: Bar Interval: 1 Minute Group by: data.destinationAddress

Autorefresh: 5 Minutes

753 records found

Group	Sum	13:21	13:22	13:23	13:24	13:25	13:26
10.0.10.3	229	102	65	28	34	0	0
47.42.6.198	108	74	34	0	0	0	0
10.0.10.2	98	28	0	31	39	0	0
10.0.10.4	90	27	0	63	0	0	0
10.0.20.4	60	16	6	24	12	0	0
10.0.20.5	60	16	6	24	12	0	0
147.154.115.198	53	16	5	21	11	0	0

Chapter 4: Compute Choices on Oracle Cloud Infrastructure



Browse All Shapes

A shape is a template that determines the number of CPUs, amount of memory, and other resources allocated to a newly created instance. See [Compute Shapes](#) for more information.

Instance type

Virtual Machine

A virtual machine is an independent computing environment that runs on top of physical bare metal hardware. ✓

Bare Metal Machine

A bare metal compute instance gives you dedicated physical server access for highest performance and strong isolation.

Shape series

AMD **AMD Rome**
Customizable OCPU count. For general purpose workloads. ✓

intel **Intel Skylake**
Fixed OCPU count. Latest generation Intel Standard shapes.

Specialty and Legacy

Earlier generation AMD and Intel Standard shapes. Always Free, Dense I/O, GPU, and HPC shapes.

You can customize the number of OCPUs and the amount of memory allocated to a flexible shape. The other resources scale proportionately. [Learn more about flexible shapes.](#)

NUMBER OF OCPUS



AMOUNT OF MEMORY (GB) ⓘ



Network Bandwidth (Gbps): 40.0 ⓘ

Max. Total VNICs: 24.0 ⓘ

Create Compute Instance

NAME

OCI-Demo

CREATE IN COMPARTMENT

Dev

infraprasnjits (root)/Dev

Configure placement and hardware

[Collapse](#)

The [availability domain](#) helps determine which shapes are available. A [shape](#) is a template that determines the number of CPUs, amount of memory, and other resources allocated to an instance. The image is the operating system that runs on top of the shape.

AVAILABILITY DOMAIN

AD 1

uvZI:PHX-AD-1



AD 2

uvZI:PHX-AD-2

AD 3

uvZI:PHX-AD-3

CHOOSE A FAULT DOMAIN FOR THIS INSTANCE

If you don't select a fault domain, Oracle will choose the best placement for you. [Learn more](#)

FAULT DOMAIN

FAULT-DOMAIN-1

Image



Oracle Linux 7.8

Image Build: 2020.09.23-0

Change Image

Shape



VM.Standard.E3.Flex

Virtual Machine, 1 core OCPU, 16 GB memory, 1 Gbps network bandwidth

Change Shape

Configure networking

[Collapse](#)

[Networking](#) is how your instance connects to the internet and other resources in the Console. To make sure you can [connect to your instance](#), assign a public IP address to the instance.

NETWORK

SELECT EXISTING VIRTUAL CLOUD NETWORK CREATE NEW VIRTUAL CLOUD NETWORK ENTER SUBNET OCID

VIRTUAL CLOUD NETWORK IN DEV [\(CHANGE COMPARTMENT\)](#)

DevVCN

SUBNET

SELECT EXISTING SUBNET CREATE NEW PUBLIC SUBNET

SUBNET IN DEV ⓘ [\(CHANGE COMPARTMENT\)](#)

Public Subnet-DevVCN (Regional)

USE NETWORK SECURITY GROUPS TO CONTROL TRAFFIC ⓘ

PUBLIC IP ADDRESS

ASSIGN A PUBLIC IP ADDRESS DO NOT ASSIGN A PUBLIC IP ADDRESS



Assigning a public IP address makes this instance accessible from the internet. If you're not sure whether you need a public IP address, you can always assign one later.

Add SSH keys

Linux-based instances use an [SSH key pair](#) instead of a password to authenticate remote users. Generate a key pair or upload your own public key now. When you [connect to the instance](#), you will provide the associated private key.

GENERATE SSH KEY PAIR CHOOSE PUBLIC KEY FILES PASTE PUBLIC KEYS NO SSH KEYS



Download the private key so that you can connect to the instance using SSH. It will not be shown again.

↓ Save Private Key

↓ [Save Public Key](#)



RUNNING

OCI-Demo

[Start](#) [Stop](#) [Reboot](#) [Edit](#) [More Actions](#) ▾

Instance Information

[Tags](#)

General Information

Availability Domain: AD-1
Fault Domain: FD-1
Region: phx
OCID: ...vrk3nq [Show](#) [Copy](#)
Launched: Mon, Oct 26, 2020, 20:52:21 UTC
Compartment: intraprasenjits (root)/Dev
Oracle Cloud Agent Management: Enabled ⓘ

Instance Details

Virtual Cloud Network: [DevVCN](#)
Maintenance Reboot: -
Image: [Oracle-Linux-7.8-2020.09.23-0](#)
Launch Mode: NATIVE
Instance Metadata Service: Versions 1 and 2 [Edit](#) ⓘ
Maintenance Recovery Action: Restore instance

Shape Configuration

Shape: VM.Standard.E3.Flex
OCPU Count: 1
Network Bandwidth (Gbps): 1
Memory (GB): 16
Local Disk: Block Storage Only

Instance Access

You [connect to a running Linux instance](#) using a Secure Shell (SSH) connection. You'll need the private key from the SSH key pair that was used to create the instance.

Public IP Address: 129.146.200.107 [Copy](#)
Username: opc

Primary VNIC

Private IP Address: 10.0.0.19
Network Security Groups: None [Edit](#) ⓘ
Internal FQDN: oci-demo... [Show](#) [Copy](#)
Subnet: [Public Subnet-DevVCN](#)

Launch Options

NIC Attachment Type: VFIO
Remote Data Volume: PARAVIRTUALIZED
Firmware: UEFI_64
Boot Volume Type: PARAVIRTUALIZED
In-transit Encryption: Disabled

Resources

[Metrics](#)

[Attached Block Volumes](#)

[Attached VNICS](#)

[Terms of Use and Privacy](#) [Cookie Preferences](#)

Work Requests

A [work request](#) is an activity log that tracks each step in an asynchronous operation. Use work requests to monitor the progress of long-running operations.

Operation	State	% Complete	Accepted	Started	Finished
Create Instance	● Succeeded	100	Mon, Oct 26, 2020, 20:52:20 UTC	Mon, Oct 26, 2020, 20:52:31 UTC	Mon, Oct 26, 2020, 20:53:38 UTC

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Create Compute Instance

Div
storazs9rtp (pod)/Div

Configure placement and hardware

The [availability domain](#) helps determine which shapes are available. A [shape](#) is a template that defines an instance. The image is the operating system that runs on top of the shape.

AVAILABILITY DOMAIN

AD 1 uvZi-PHX-AD-1 ✓ AD 2 uvZi-PHX-AD-2

CHOOSE A FAULT DOMAIN FOR THIS INSTANCE
If you don't select a fault domain, Oracle will choose the best placement for you. [Learn more](#)

Image

Oracle Linux 7.8
Image Build: 2020.09.23-0

Shape

VM.DenseIO2.8
Virtual Machine, 8 core OCPU, 120 GB memory, 8.2 Gbps network bandwidth

Configure networking

[Networking](#) is how your instance connects to the internet and other resources in the Console. To

NETWORK

SELECT EXISTING VIRTUAL CLOUD NETWORK CREATE NEW VIRTUAL CLOUD NETWORK ENTER SUBNET

VIRTUAL CLOUD NETWORK IN DEV [\(CHANGE COMMITMENT\)](#)

DivVCN

Browse All Shapes

A shape is a template that determines the number of CPUs, amount of memory, and other resources allocated to a newly created instance. See [Compute Shapes](#) for more information.

Instance type

Virtual Machine

A virtual machine is an independent computing environment that runs on top of physical bare metal hardware. ✓

Bare Metal Machine

A bare metal compute instance gives you dedicated physical server access for highest performance and strong isolation.

Shape series

AMD Rome

Customizable OCPU count. For general purpose workloads.

Intel Skylake

Fixed OCPU count. Latest generation Intel Standard shapes.

Specialty and Legacy

Earlier generation AMD and Intel Standard shapes. Always Free, Dense IO, GPU, and HPC shapes. ✓

Shape Name	OCPU	Memory (GB)	Local Disk	Network Bandwidth (Gbps)	Max. Total VNICs
<input type="checkbox"/> VM.Standard.E2.1	1	8	Block Storage Only	0.7	2
<input type="checkbox"/> VM.Standard.E2.2	2	16	Block Storage Only	1.4	2
<input type="checkbox"/> VM.Standard.E2.4	4	32	Block Storage Only	2.8	4
<input type="checkbox"/> VM.Standard.E2.8	8	64	Block Storage Only	5.6	8
<input checked="" type="checkbox"/> VM.DenseIO2.8 <small>(i)</small>	8	120	6.4 TB NVMe SSD Storage (1 drives)	8.2	8
<input type="checkbox"/> VM.DenseIO2.16 <small>(i)</small>	16	240	12.8 TB NVMe SSD Storage (2 drives)	16.4	16
<input type="checkbox"/> VM.DenseIO2.24 <small>(i)</small>	24	320	25.6 TB NVMe SSD Storage (4 drives)	24.6	24
<input type="checkbox"/> VM.Standard1.1	1	7	Block Storage Only	0.6	2
<input type="checkbox"/> VM.Standard1.2	2	14	Block Storage Only	1.2	2
<input type="checkbox"/> VM.Standard1.4	4	28	Block Storage Only	1.2	4
<input type="checkbox"/> VM.Standard1.8	8	56	Block Storage Only	2.4	8
<input type="checkbox"/> VM.Standard1.16	16	112	Block Storage Only	4.8	16
<input type="checkbox"/> VM.Standard.B1.1	1	12	Block Storage Only	0.6	2
<input type="checkbox"/> VM.Standard.B1.2	2	24	Block Storage Only	1.2	2
<input type="checkbox"/> VM.Standard.B1.4	4	48	Block Storage Only	2.4	4

Create Compute Instance

NAME

GPU-Instance

CREATE IN COMPARTMENT

Dev

intraprasenjits (root)/Dev

Configure placement and hardware

Collapse

The [availability domain](#) helps determine which shapes are available. A [shape](#) is a template that determines the number of CPUs, amount of memory, and other resources allocated to an instance. The image is the operating system that runs on top of the shape.

AVAILABILITY DOMAIN

AD 1

uvZi:US-ASHBURN-AD-1



AD 2

uvZi:US-ASHBURN-AD-2

AD 3

uvZi:US-ASHBURN-AD-3

CHOOSE A FAULT DOMAIN FOR THIS INSTANCE

If you don't select a fault domain, Oracle will choose the best placement for you. [Learn more](#)

Image



NVIDIA GPU Cloud Machine Image

NVIDIA GPU Cloud is a GPU-accelerated platform optimized for deep learning and scientific computing.

Change Image

Shape



VM.GPU3.1

Virtual Machine, 6 core OCPU, 90 GB memory, 4 Gbps network bandwidth

Change Shape

Configure networking

Collapse

[Networking](#) is how your instance connects to the internet and other resources in the Console. To make sure you can [connect to your instance](#), assign a public IP address to the instance.

Create Compute Instance

NAME: HPC-Demo

CREATE IN COMPARTMENT: Dev (prcsgr8t91300yDev)

Configure placement and hardware

The [availability domain](#) helps determine which shapes are available. A [shape](#) is a template that defines the hardware configuration for a compute instance. The [image](#) is the operating system that runs on top of the shape.

AVAILABILITY DOMAIN: AD 1 (uvZi:PHX-AD-1) | AD 2 (uvZi:PHX-AD-2)

CHOOSE A FAULT DOMAIN FOR THIS INSTANCE
If you don't select a fault domain, Oracle will choose the best placement for you. [Learn more](#)

Image: ORACLE Linux Oracle Linux 7.8 Image BulkId: 2020.09.23-0

Shape: AMD VM.Standard.E3.Flex Virtual Machine, 1 core OCPU, 16 GB memory, 1 Gbps network bandwidth

Configure networking

[Networking](#) is how your instance connects to the internet and other resources in the Console. To...

[Create](#) [Create as Stack](#) [Cancel](#)

Browse All Shapes

A shape is a template that determines the number of CPUs, amount of memory, and other resources allocated to a newly created instance. See [Compute Shapes](#) for more information.

Instance type

Virtual Machine
A virtual machine is an independent computing environment that runs on top of physical bare metal hardware.

Bare Metal Machine
A bare metal compute instance gives you dedicated physical server access for highest performance and strong isolation. ✓

Shape Name	OCPU	Memory (GB)	Local Disk	Network Bandwidth (Gbps)	Max. Total VNICS
<input type="checkbox"/> BM.Standard2.52	52	768	Block Storage Only	50	200
<input type="checkbox"/> BM.Standard.E3.128	128	2048	Block Storage Only	100	256
<input type="checkbox"/> BM.Standard.E2.64	64	512	Block Storage Only	50	150
<input type="checkbox"/> BM.DenseI02.52	52	768	51.2 TB NVMe SSD Storage (8 drives)	50	52
<input type="checkbox"/> BM.Standard1.36	36	256	Block Storage Only	10	100
<input type="checkbox"/> BM.Standard.B1.44	44	512	Block Storage Only	25	44
<input checked="" type="checkbox"/> BM.HPC2.36	36	384	6.7 TB NVMe SSD Storage (8 drives)	25	50

1 Selected Showing 7 items

Don't see the shape you want? [View your service limits and request an increase.](#)

[Select Shape](#) [Cancel](#)

Create Block Volume

[Help](#)

Name

Create In Compartment

intprasenjits (root)/Dev

Availability Domain

Volume Size and Performance

- Default Custom

Volume Size: 1024 GB
Volume Performance: Balanced
IOPS: 25000 IOPS (60 IOPS/GB)
Throughput: 480 MB/s (480 KB/s/GB)

Backup Policies

Select Backup Policy in Dev [\(Change Compartment\)](#)

Encryption

- Encrypt using Oracle-managed keys**
Leaves all encryption-related matters to Oracle.
- Encrypt using customer-managed keys**
Requires you to have access to a valid Key Management key.

 [Show Tagging Options](#)

- View detail page after this block volume is created

[Cancel](#)

Attach to Instance

[Help](#)

Attachment type

- ISCSI
- Paravirtualized

Access Type

- Read/Write
Configures the volume attachment as read/write, not shareable with other instances. This enables attachment to a single instance only and is the default configuration.
- Read/Write - Shareable
Configures the volume attachment as read/write, shareable with other instances. This enables read/write attachments to multiple instances. To prevent data corruption you must configure a clustered file system on the volume.
- Read-only - Shareable
Configures the volume attachment as read-only. This enables attachments to multiple instances.

- Select Instance
- Enter Instance OCID

Choose instance in Dev [\(Change Compartment\)](#)

OCI-Demo

OCID: ocid1.instance.oc1.phx.anyhqjswhrkppacralyszth5wfcj5yuhjwy2juh727s4iz3auo24pvrk3nq
Image: Oracle-Linux-7.8-2020.09.23-0

- Require CHAP credentials

Device Name [?](#)

/dev/oracleoci/oracleldb

[Attach](#) [Cancel](#)

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iSCSI Commands & Information

[Help](#)

ATTACH

COMMANDS

```
sudo iscsiadm -m node -o new -T iqn.2015-12.com.oracleiaas:10a8ce20-0b5f-4c52-a460-a6a1c7b77a01 -p 169.254.2.3:3260
sudo iscsiadm -m node -o update -T iqn.2015-12.com.oracleiaas:10a8ce20-0b5f-4c52-a460-a6a1c7b77a01 -n node.startup -v automatic
sudo iscsiadm -m node -T iqn.2015-12.com.oracleiaas:10a8ce20-0b5f-4c52-a460-a6a1c7b77a01 -p 169.254.2.3:3260 -l
```

[Copy](#)

DETACH COMMANDS

```
sudo iscsiadm -m node -T iqn.2015-12.com.oracleiaas:10a8ce20-0b5f-4c52-a460-a6a1c7b77a01 -p 169.254.2.3:3260 -u
sudo iscsiadm -m node -o delete -T iqn.2015-12.com.oracleiaas:10a8ce20-0b5f-4c52-a460-a6a1c7b77a01 -p 169.254.2.3:3260
```

[Copy](#)

IP ADDRESS AND PORT

169.254.2.3:3260

[Copy](#)

VOLUME IQN

iqn.2015-12.com.oracleiaas:10a8ce20-0b5f-4c52-a460-a6a1c7b77a01

[Copy](#)

[Close](#) [Close](#)


```

[opc@oci-demo ~]$ sudo iscsiadm -m node -o new -T iqn.2015-12.com.oracleiaas:10a8ce20-0b5f-4c52-a460-a6a1c7b77a01 -p 169.254.2.3:3260
New iSCSI node [tcp:[hw,ip,net_if=,iscsi_if=default] 169.254.2.3:3260,-1 iqn.2015-12.com.oracleiaas:10a8ce20-0b5f-4c52-a460-a6a1c7b77a01] added
[opc@oci-demo ~]$ sudo iscsiadm -m node -o update -T iqn.2015-12.com.oracleiaas:10a8ce20-0b5f-4c52-a460-a6a1c7b77a01 -n node_startup -v automatic
[opc@oci-demo ~]$ sudo iscsiadm -m node -T iqn.2015-12.com.oracleiaas:10a8ce20-0b5f-4c52-a460-a6a1c7b77a01 -p 169.254.2.3:3260 -l
Logging in to [iface: default, target: iqn.2015-12.com.oracleiaas:10a8ce20-0b5f-4c52-a460-a6a1c7b77a01, portal: 169.254.2.3:3260] (multiple)
Login to [iface: default, target: iqn.2015-12.com.oracleiaas:10a8ce20-0b5f-4c52-a460-a6a1c7b77a01, portal: 169.254.2.3:3260] successful.
[opc@oci-demo ~]$ sudo fdisk -l
WARNING: fdisk GPT support is currently new, and therefore in an experimental phase. Use at your own discretion.

Disk /dev/sda: 50.0 GB, 50010783744 bytes, 97677312 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 4096 bytes
I/O size (minimum/optimal): 4096 bytes / 1048576 bytes
Disk label type: gpt
Disk identifier: 44AC4447-A5E0-4668-89B1-E76DC030F60E

#           Start          End          Size      Type          Name
#           +-----+-----+-----+-----+-----+
1           2048            411647      200M     EFI System    EFI System Partition
2           411648          17188863    8G       Linux swap    Linux swap
3           17188864          97675263   30.4G    Microsoft    Microsoft basic

Disk /dev/sdb: 1099.5 GB, 1099511627776 bytes, 2147483648 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 4096 bytes
I/O size (minimum/optimal): 4096 bytes / 1048576 bytes

[opc@oci-demo ~]$

```

Compute

Boot Volumes in Dev Compartment

A [boot volume](#) is a storage device that contains the operating system, or image, that's used to boot a compute instance.

- Instances
- Dedicated Virtual Machine Hosts
- Instance Configurations
- Instance Pools
- Cluster Networks
- Autoscaling Configurations
- Custom Images
- Boot Volumes**
- Boot Volume Backups
- OS Management

List Scope

Compartment
 Dev

Scope

State
 Any state

Availability Domains

- UvZi:PHX-AD-1
- UvZi:PHX-AD-2
- UvZi:PHX-AD-3

Tag Filters [add](#) | [clear](#)

no tag filters applied

Name	State	Size	Default Performance	Auto-tune	Current Performance	Availability Domain	Backup Policy	Created
OCI-DenselO (Boot Volume)	Terminated	47 GB	Balanced	Off	Balanced	uvZi:PHX-AD-1	-	Mon, Oct 26, 2020, 21:04:15 UTC
OCI-Demo (Boot Volume)	Available	47 GB	Balanced	Off	Balanced	uvZi:PHX-AD-1	-	Mon, Oct 26, 2020, 20:52:33 UTC
oke-cstnirgzqt-nsdkzbsgjq-t-sjvnltr4a-0 (Boot Volume)	Available	47 GB	Balanced	Off	Balanced	uvZi:PHX-AD-3	-	Fri, Sep 18, 2020, 15:37:23 UTC
oke-cstnirgzqt-nsdkzbsgjq-t-sjvnltr4a-2 (Boot Volume)	Available	47 GB	Balanced	Off	Balanced	uvZi:PHX-AD-2	-	Fri, Sep 18, 2020, 15:37:22 UTC
oke-cstnirgzqt-nsdkzbsgjq-t-sjvnltr4a-1 (Boot Volume)	Available	47 GB	Balanced	Off	Balanced	uvZi:PHX-AD-1	-	Fri, Sep 18, 2020, 15:37:20 UTC

Showing 5 items < 1 of 1 >

Terminate Instance [Help](#) [Cancel](#)

Terminating the instance deletes it. Are you sure you want to terminate the instance **OCI-Demo**?

PERMANENTLY DELETE THE ATTACHED BOOT VOLUME

Terminate Instance Cancel

ORACLE Cloud

US West (Phoenix) v
🔍 🔔 ? 🗺️ 👤

Create Compute Instance

NAME
instance-20201027-0944

CREATE IN COMPARTMENT
Dev
intprasnrgts (root)/Dev

Configure placement and hardware

The [availability domain](#) helps determine which shapes are available. A [sha](#) and other resources allocated to an instance. The image is the operating s

AVAILABILITY DOMAIN

AD 1
uvZi:PHX-AD-1

AD 2
uvZi:PHX-AD-2

CHOOSE A FAULT DOMAIN FOR THIS INSTANCE
If you don't select a fault domain, Oracle will choose the best placement for you. [Learn more](#)

Image

Oracle Linux 7.8
Image Build: 2020.09.23-0

Shape

VM.Standard.E3.Flex
Virtual Machine, 1 core OCPU, 16 GB memory, 1 Gb

Configure networking

[Networking](#) is how your instance connects to the internet and other resour assign a public IP address to the instance.

Create Create as Stack Cancel

Browse All Images

An image is a template of a virtual hard drive that determines the operating system and other software for an instance. Images shown according to permissions in compartment Dev. [CHANGE COMPARTMENT](#)

Platform Images Oracle Images Partner Images Custom Images **Boot Volumes** Image OCID

Boot volumes available for creating a new instance in availability domain uvZi:PHX-AD-1.

Boot Volume Name	Availability Domain	Size (GB)	Created
<input checked="" type="checkbox"/> OCI-Demo (Boot Volume)	uvZi:PHX-AD-1	47	Mon, Oct 26, 2020, 20:52:33 UTC

1 Selected Showing 1 Item < 1 of 1 >

Select Boot Volume Cancel



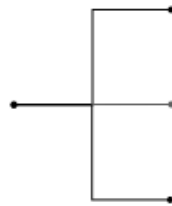
Virtual Machine



Custom Image



Creating custom image in the console.



Able to have consistency when launching.

Compute > Instances > Instance Details



RUNNING

oke-cstinjrgzqt-nsdkzbsgjq-t-sjvnltrt4a-0

Start Stop Reboot Edit **More Actions**

- Create Custom Image
- Create Instance Configuration
- Send Diagnostic Interrupt
- Move Resource
- Add Tags
- Terminate

Instance Information

General Information

Availability Domain: AD-3
 Fault Domain: FD-1
 Region: phx
 OCID: ...fumkeq [Show](#) [Copy](#)
 Launched: Fri, Sep 18, 2020, 15:37 [Terminate](#)
 Compartment: intraprenjts (root/Dev)
 Oracle Cloud Agent Management: Enabled ⓘ

Instance Details

Virtual Cloud Network: [oke-vcn-quick-DevOCICluster-cca866854](#)
 Maintenance Reboot: -
 Image: [Oracle-Linux-7.8-2020.08.26-0](#)
 Launch Mode: NATIVE
 Instance Metadata Service: Versions 1 and 2 [Edit](#) ⓘ
 Maintenance Recovery Action: Restore Instance

Shape Configuration

Shape: VM.Standard2.1
 OCPU Count: 1
 Network Bandwidth (Gbps): 1
 Memory (GB): 15
 Local Disk: Block Storage Only

Instance Access

You [connect to a running Linux instance](#) using a Secure Shell (SSH) connection. You'll need the private key from the SSH key pair that was used to create the instance.

Public IP Address: 129.146.176.160 [Copy](#)
 Username: opc

Primary VNIC

Private IP Address: 10.0.10.4
 Network Security Groups: None [Edit](#) ⓘ
 Internal FQDN: oke-cstinjrgzqt-nsdkzbsgjq-t-sjvnltrt4a-0... [Show](#) [Copy](#)
 Subnet: [oke-subnet-quick-DevOCICluster-cca866854-regional](#)

Launch Options

NIC Attachment Type: PARAVIRTUALIZED
 Remote Data Volume: PARAVIRTUALIZED
 Firmware: UEFI_64
 Boot Volume Type: PARAVIRTUALIZED
 In-transit Encryption: Disabled

Compute

- Instances
- Dedicated Virtual Machine Hosts
- Instance Configurations
- Instance Pools
- Cluster Networks
- Autoscaling Configurations
- Custom Images**
- Boot Volumes
- Boot Volume Backups
- OS Management

Custom Images *in Dev Compartment*

An image is a template of a virtual hard drive. It determines the operating system and other software for an instance. You can [create custom images](#), [export and import images](#) across tenancies and regions, and [bring your own image](#) to the cloud.

Import Image			
Name	State	Original Image	Created
OCIDevImage	● Available	Oracle-Linux-7.8-2020.09.23-0	Tue, Oct 13, 2020, 19:51:56 UTC

Showing 1 Item < 1 of 1 >

Browse All Images

An image is a template of a virtual hard drive that determines the operating system and other software for an instance.

Images shown according to permissions in compartment Dev. [CHANGE COMPARTMENT](#)

- Platform Images
- Oracle Images
- Partner Images
- Custom Images**
- Boot Volumes
- Image OCID

Custom images created or imported into your Oracle Cloud Infrastructure environment. See [Managing Custom Images](#) for more information.

Custom Image Name	Created
<input type="checkbox"/> OCIDevImage	Tue, Oct 13, 2020, 19:51:56 UTC

1 Selected Showing 1 Item < 1 of 1 >

Export Image

[Help](#)

EXPORT TO AN OBJECT STORAGE BUCKET

EXPORT TO AN OBJECT STORAGE URL

BUCKET IN DEV [\(CHANGE COMPARTMENT\)](#)

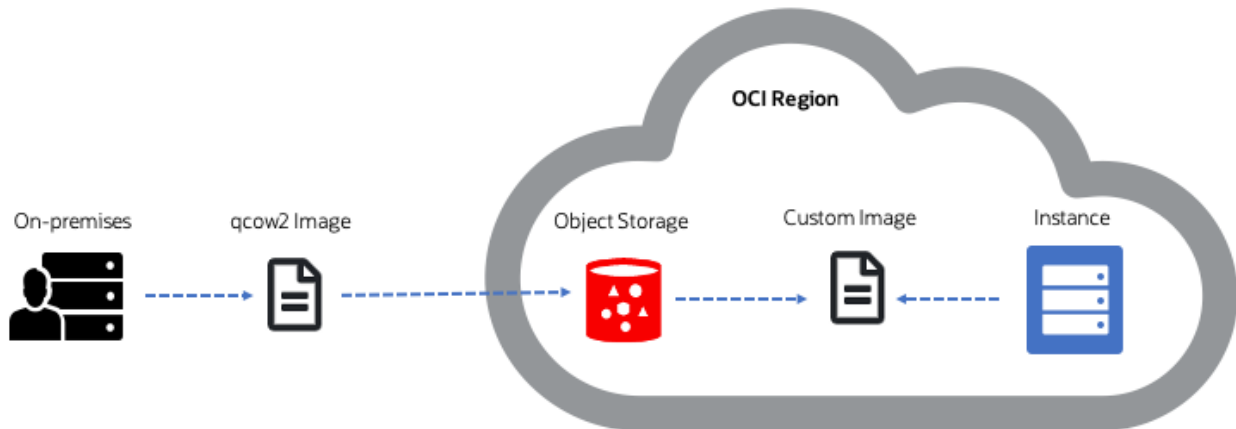
oke-bucket

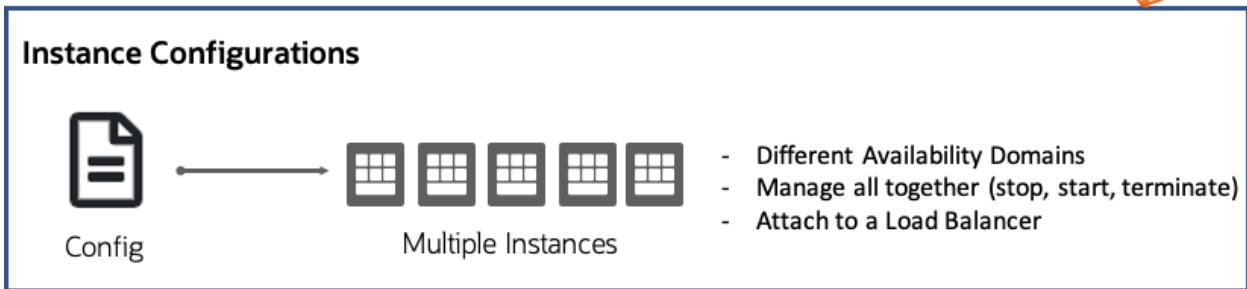
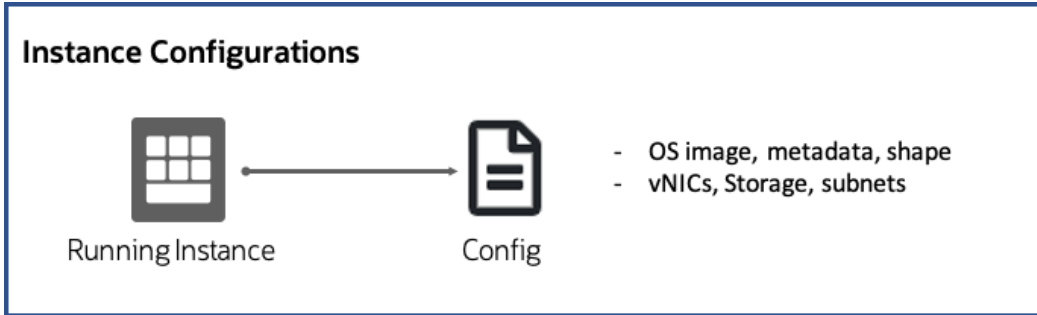
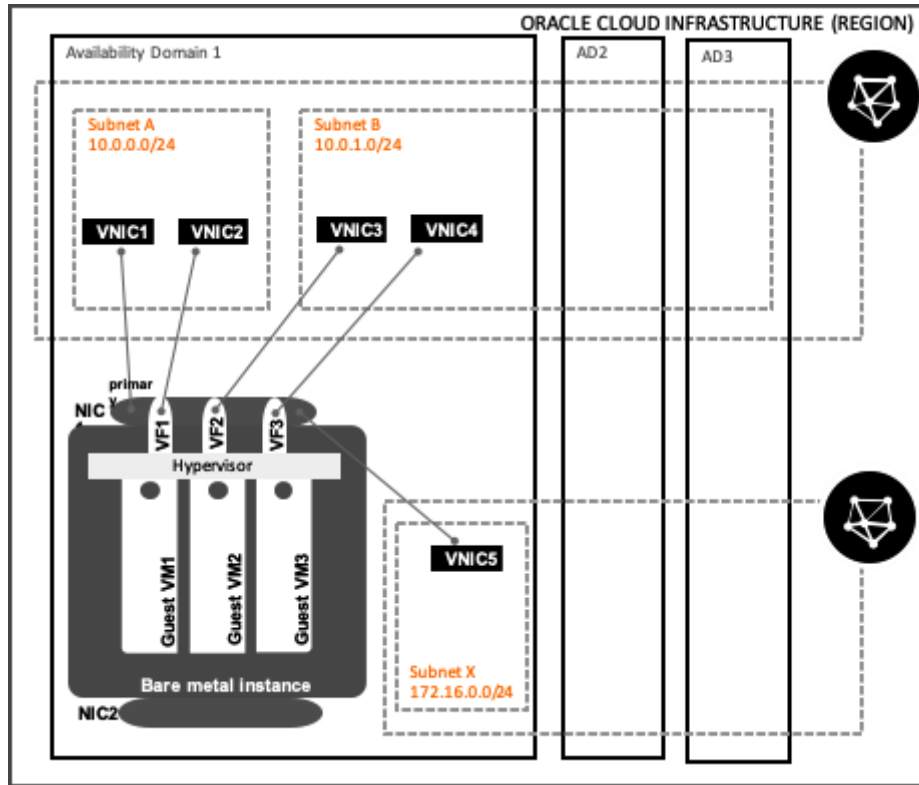
NAME YOUR EXPORTED IMAGE

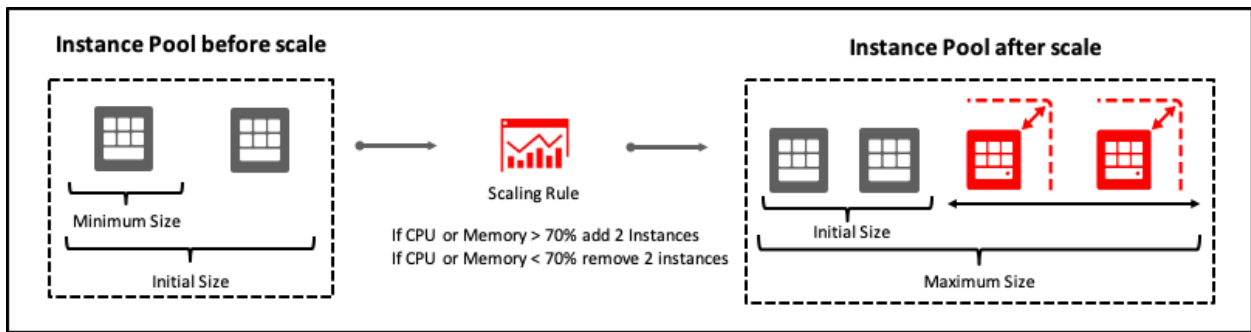
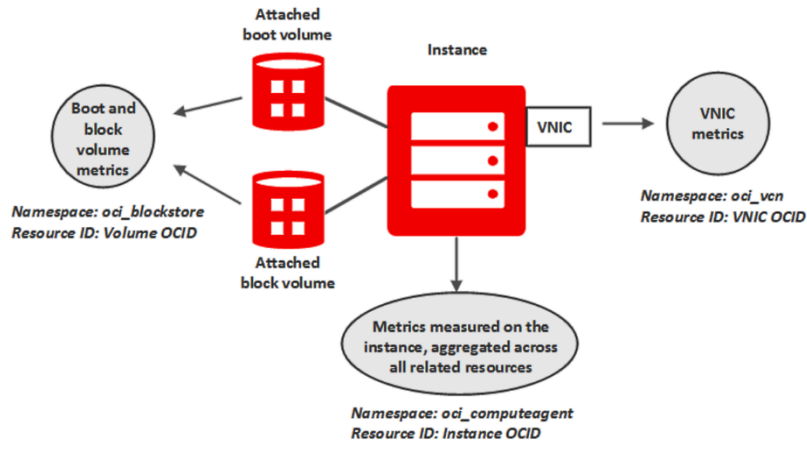
ol-export-image



Images will be exported in .oci format.







Create Instance Pool

[Help](#)

- 1 Add Basic Details
- 2 **Configure Pool Placement**
- 3 Review

CREATE IN COMPARTMENT

Dev ▾

intprasenjits (root)/Dev

NAME

instance-pool-demo

INSTANCE CONFIGURATION IN DEV [\(CHANGE COMPARTMENT\)](#)

instance-config-demo ▾

NUMBER OF INSTANCES

2 ▾

The number of instances that can be provisioned is limited by your tenancy's service limits.

Instance Configuration Details

Boot Volume Type: Oracle-Provided OS Image

Compartment: intprasenjits (root)/Dev

Image Operating System: Oracle Linux 7.8

Boot Volume Size (in GB): 46.6 GB

Shape: VM.Standard.E3.Flex (1 OCPU, 16GB RAM)

Memory (GB): 4

OCPU Count: 1

Local Disk: Block Storage Only

Network Bandwidth (Gbps): 1

[Show Tagging Options](#)

Create Instance Pool

[Help](#)

- 1 [Add Basic Details](#)
- 2 **Configure Pool Placement**
- 3 [Review](#)

Availability Domains

Availability Domain Selection 1 ✕

AVAILABILITY DOMAIN

AD 1 ▾

FAULT DOMAINS ⓘ

FAULT-DOMAIN-1 ✕ ▾

Primary VNIC

SELECT A VIRTUAL CLOUD NETWORK IN DEV [\(CHANGE COMPARTMENT\)](#)

DevVCN ▾

SELECT A SUBNET IN DEV ⓘ [\(CHANGE COMPARTMENT\)](#)

Public Subnet-DevVCN (Regional) ▾

Availability Domain Selection 2 ✕

AVAILABILITY DOMAIN

AD 2 ▾

FAULT DOMAINS ⓘ

FAULT-DOMAIN-2 ✕ ▾

Primary VNIC

SELECT A VIRTUAL CLOUD NETWORK IN DEV [\(CHANGE COMPARTMENT\)](#)

DevVCN ▾

SELECT A SUBNET IN DEV ⓘ [\(CHANGE COMPARTMENT\)](#)

Public Subnet-DevVCN (Regional) ▾

+ Another Availability Domain

ATTACH A LOAD BALANCER

Create Autoscaling Configuration

[Help](#)

1 **Add Basic Details**

2 **Configure Autoscaling Policy**

3 **Review**

CREATE IN COMPARTMENT

Dev

intprasenjits (root)/Dev

NAME

autoscaling-config-demo

INSTANCE POOL IN DEV [\(CHANGE COMPARTMENT\)](#)

instance-pool-demo

[Show Tagging Options](#)

Create Autoscaling Configuration

[Help](#)

1 **Add Basic Details**

2 **Configure Autoscaling Policy**

3 **Review**

Metric-based Autoscaling

Performance metrics such as CPU utilization trigger autoscaling events.

Schedule-based Autoscaling

Autoscaling events take place at the specific times that you schedule.

Configure Autoscaling Policy

AUTOSCALING POLICY NAME

autoscaling-policy-demo

COOLDOWN IN SECONDS ⓘ

300

Minimum value is 300 seconds.

PERFORMANCE METRIC ⓘ

CPU utilization

Scale-out rule

SCALE-OUT OPERATOR

Greater than (>)

THRESHOLD PERCENTAGE ⓘ

70

NUMBER OF INSTANCES TO ADD

1

Scale-in rule

SCALE-IN OPERATOR

Less than (<)

THRESHOLD PERCENTAGE ⓘ

50

NUMBER OF INSTANCES TO REMOVE

1

Scaling limits

MINIMUM NUMBER OF INSTANCES

2

MAXIMUM NUMBER OF INSTANCES ⓘ

4

INITIAL NUMBER OF INSTANCES

2

ORACLE Cloud Search for resources, services, and documentation US West (Phoenix)

General Information

Availability Domain: AD-1
 Fault Domain: FD-1
 Region: phx
 OCID: ...o7znrq [Show](#) [Copy](#)
 Launched: Tue, Oct 27, 2020,
 Compartment: intprasnjlts
 Oracle Cloud Agent Manage

Instance Details

Virtual Cloud Network: [DevV](#)
 Maintenance Reboot: -
 Image: [Oracle-Linux-7.8-2020](#)
 Launch Mode: NATIVE
 Instance Metadata Service:
 Maintenance Recovery Actio

Shape Configurati

Shape: VM.Standard.E3.Flex
 OCPU Count: 1
 Network Bandwidth (Gbps):
 Memory (GB): 4
 Local Disk: Block Storage On

Console Connec

Use a [console connection](#) to rem

[Create Console Connection](#)

State

Create Console Connection [Help](#)

CHOOSE PUBLIC KEY FILE PASTE PUBLIC KEY

SSH KEY

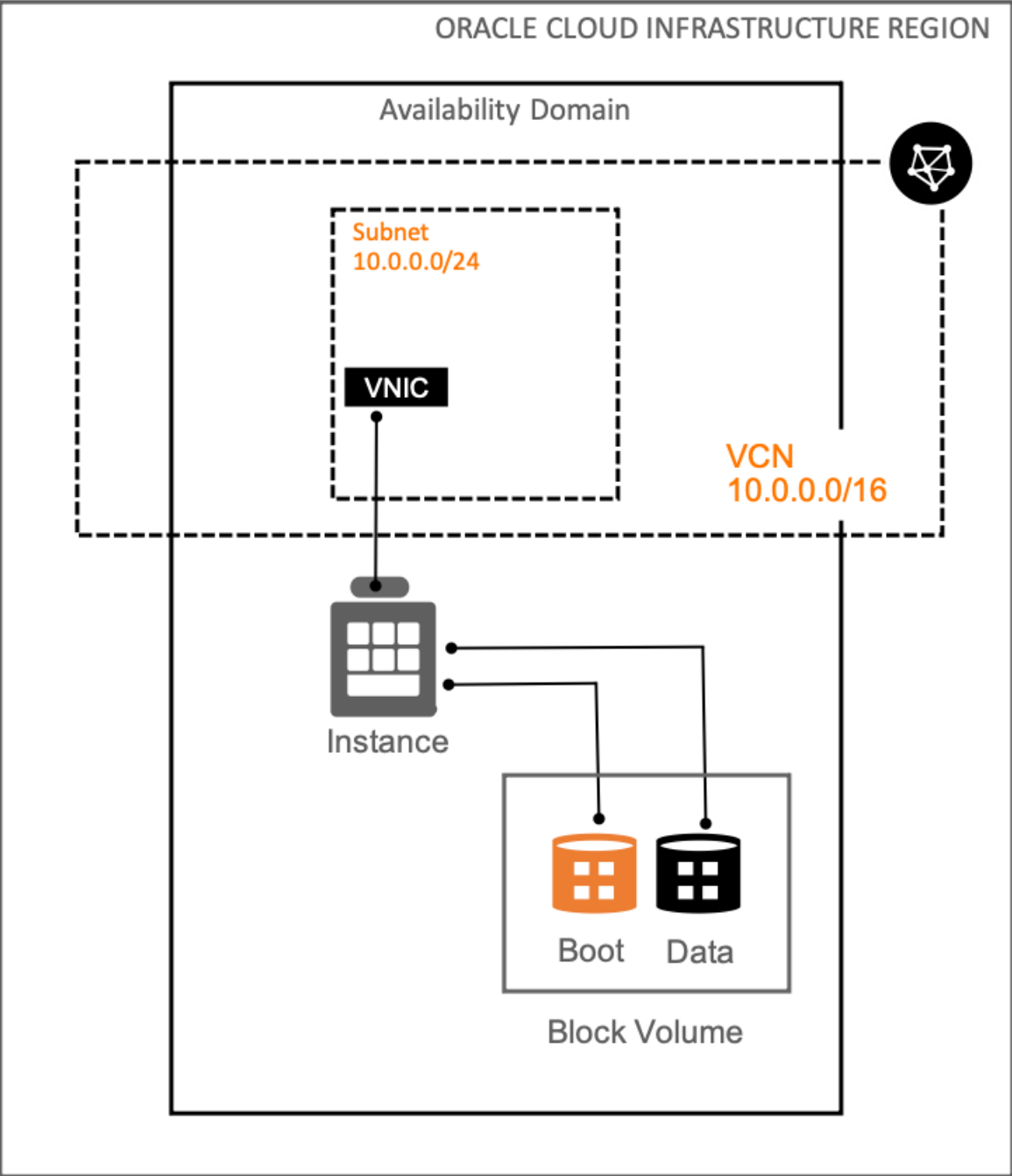
Drop file here. [Or browse to a location.](#)
SSH public key (.pub) file only.

id_rsa.pub x

[Create Console Connection](#) [Cancel](#)

```
prassark@grassark-mac ~ % ssh -i ~/Documents/Documents-Backup/ssh-keys/id_rsa -o ProxyCommand='ssh -i ~/Documents/Documents-Backup/ssh-keys/id_rsa -W %h:%p -p 443 ocid1.instanceconsoleconnection.oc1.phx.anyhqljswhrkppacrcxnx57xeo2c2156znd72h3bbirvqlasoue339g3axa@instance-console.us-phenix-1.oraclecloud.com' ocid1.instance.oc1.phx.anyhqljswhrkppacq6xmb6d3vvsqzv4j6eyfhgxs6h2qohylkz2o7znrq
=====
IMPORTANT: Use a console connection to troubleshoot a malfunctioning instance. For normal operations, you should connect to the instance using a Secure Shell (SSH) or Remote Desktop connection. For steps, see https://docs.cloud.oracle.com/iaas/Content/Compute/Tasks/accessinginstance.htm
For more information about troubleshooting your instance using a console connection, see the documentation: https://docs.cloud.oracle.com/en-us/iaas/Content/Compute/References/serialconsole.htm#four
=====
Oracle Linux Server 7.8
Kernel 4.14.35-1982.386.2.el7uek.x86_64 on an x86_64
oci-demo login: █
```

Chapter 5: Understanding Oracle Cloud Infrastructure Storage Options



Volume Size and Performance

Default Custom

Size (in GB)

1024

Size must be between 50 GB and 32,768 GB (32 TB). Volume performance varies with volume size.

Default Volume Performance



Recommended for the most IO-demanding workloads that require the best possible performance including large databases. [Learn more](#)

Default Volume Performance

IOPS: 35000 IOPS (75 IOPS/GB)

Throughput: 480 MB/s (600 KB/s/GB)

ORACLE Cloud Search for resources, services, and documentation US West (Phoenix) [Icons]

Block Storage **Block Volumes** Block volumes provide high-p

[Create Block Volume](#)

Name: DevVol

Create In Compartment: Dev
inprasnjits (root)/Dev

Availability Domain: uvzi:PHX-AD-1

Volume Size and Performance
 Default Custom

Size (in GB): 1024
Size must be between 50 GB and 32,768 GB (32 TB). Volume performance varies with volume size.

Default Volume Performance
Lower Cost Balanced Higher Performance

Recommended for the most IO-demanding workloads that require the best possible performance including large databases. [Learn more](#)

Default Volume Performance
IOPS: 35000 IOPS (75 IOPS/GB)
Throughput: 480 MB/s (600 KB/s/GB)

Backup Policies
Select Backup Policy in Dev [\(Change Compartment\)](#)
Gold

Encryption
 Encrypt using Oracle-managed keys
Leaves all encryption-related matters to Oracle.
 Encrypt using customer-managed keys
Requires you to have access to a valid Key Management key.

[Show Tagging Options](#)

View detail page after this block volume is created

[Create Block Volume](#) [Cancel](#)

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Block Storage

Block Volumes

Block volumes provide high-p

[Create Block Volume](#)

Name

[TestVol](#)

[DevVol](#)

List Scope

Compartment

Dev

intraprasjits (root)/Dev

Scope

State

Any state

Availability Domains

- LVZ:PHX-AD-1
- LVZ:PHX-AD-2
- LVZ:PHX-AD-3

Tag Filters [add](#) | [clear](#)

no tag filters applied

Edit Volume

[Help](#)

Name

TestVol

Volume Size and Performance

Volume Size (in GB)

2048

Size must be an integer between the current size (1,024 GB) and 32,768 GB (32 TB). Volume performance varies with volume size.

i After the volume is provisioned, for the volume resize to take effect, you need to extend the partition. [Learn More](#)

Default Volume Performance

Lower Cost Balanced Higher Performance

Balanced choice for most workloads including those that perform random I/O such as boot disks. [Learn more](#)

Auto-tune Performance

On

Auto-tune performance changes the volume performance to lower cost when the volume is detached. When the volume is reattached, the volume performance is automatically adjusted to the previous setting. [Learn more](#)

Default Volume Performance

IOPS: 25000 IOPS (60 IOPS/GB)

Throughput: 480 MB/s (480 KB/s/GB)

Current Performance

IOPS: 25000 IOPS (60 IOPS/GB)

Throughput: 480 MB/s (480 KB/s/GB)

Current performance of the volume. When auto-tune is enabled for the volume, it will automatically change to Lower Cost setting when the volume is detached.

Backup Policies

Select Backup Policy in Dev [\(Change Compartment\)](#)

Bronze

Monthly incremental backups. At midnight on the 1st of the month. Retain 12 months. Yearly full backups. At midnight January 1. Retain 5 years.

Cross Region Copy Target: None [\(i\)](#)

[Save Changes](#) [Cancel](#)



AVAILABLE

DevVol

[Edit](#) [Move Resource](#)

Block Volume Information

Availability Domain: u
Compartment: intras
OCID: ...mwmxla Sho
Created: Wed, Dec 2,
Default Performance:
Auto-tune Performan
Current Performance:
Size: 1024 GB ⓘ

Attached Instances

[Attach to Instance](#)

Name

Resources

- Metrics
- Attached Instances**
- Block Volume Backups
- Block Volume Clones

List Scope

Compartment
Dev
intrasenjts (root)/Dev

Attach to Instance

[Help](#)

Attachment type

- ISCSI
- Paravirtualized

Access Type

- Read/Write
Configures the volume attachment as read/write, not shareable with other instances. This enables attachment to a single instance only and is the default configuration.
- Read/Write - Shareable
Configures the volume attachment as read/write, shareable with other instances. This enables read/write attachments to multiple instances. To prevent data corruption you must configure a clustered file system on the volume.
- Read-only - Shareable
Configures the volume attachment as read-only. This enables attachments to multiple instances.

- Select Instance
- Enter Instance OCID

Choose instance in Dev [\(Change Compartment\)](#)

Dev-Instance

OCID: ocid1.instance.oc1.phx.anyhqjjswhrkppac64refjluguddms6layvtkrvra21vr15vbm2rzjmi4aa
Image: Oracle-Linux-7.9-2020.11.10-1

Require CHAP credentials

Device Name ⓘ

/dev/oracleoci/oracleldb

[Attach](#) [Cancel](#)

ORACLE Cloud Search for resources, services, and documentation US West (Phoenix)

Block Storage > Block Volumes > Block Volume Details

DevV iSCSI Commands & Information

ATTACH COMMANDS

```
sudo iscsiadm -m node -o new -T iqn.2015-12.com.oraclelaas:269270cb-d3d7-4c75-8ea5-3416051d5bf1 -p 169.254.2.2:3260
sudo iscsiadm -m node -o update -T iqn.2015-12.com.oraclelaas:269270cb-
```

DETACH COMMANDS

```
sudo iscsiadm -m node -T iqn.2015-12.com.oraclelaas:269270cb-d3d7-4c75-8ea5-3416051d5bf1 -p 169.254.2.2:3260 -u
```

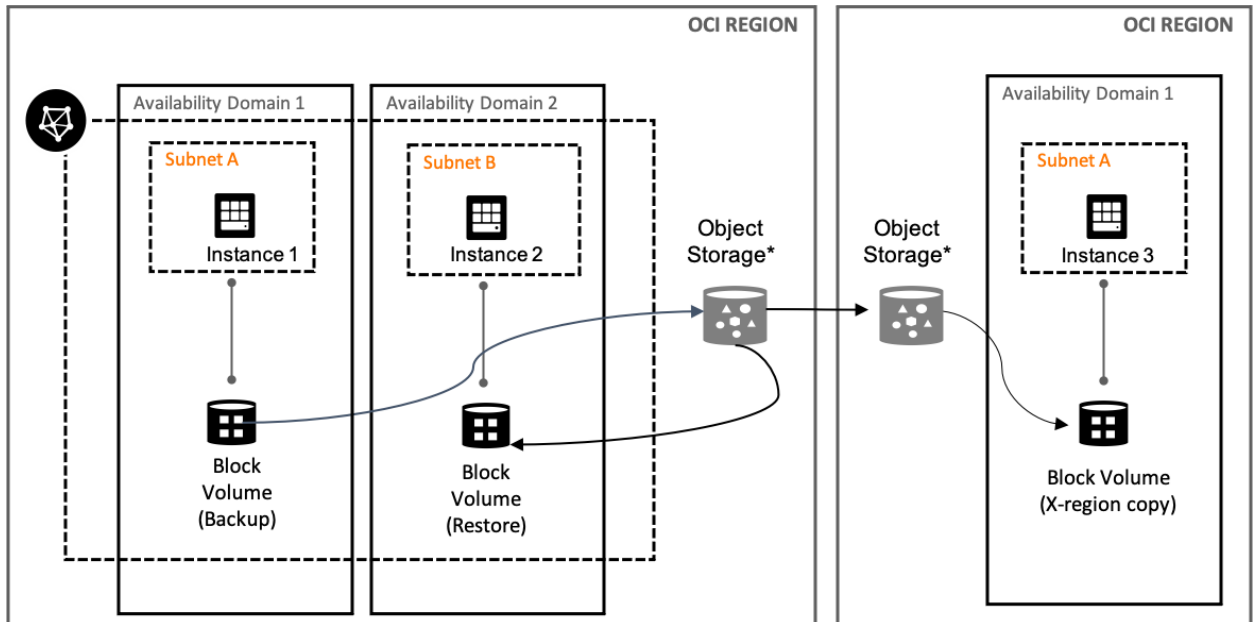
IP ADDRESS AND PORT

169.254.2.2:3260

VOLUME IQN

iqn.2015-12.com.oraclelaas:269270cb-d3d7-4c75-8ea5-3416051d5bf1

Name	State	Shape	Attachment Type	Attachment Access	In-Transit Encryption	Device Name	Created
Dev-Instance	Attached	VM.Standard.E3.Flex	iSCSI	Read/Write		/dev/oracleoci /oraclepdb	Wed, Dec 2, 2020, 23:39:35 UTC



Block Volumes *in Dev Compartment*

Block volumes provide high-performance network storage to support a broad range of I/O intensive workloads. [Learn more](#)

- Block Volumes**
- Block Volume Backups
- Volume Groups
- Volume Group Backups
- Backup Policies

List Scope

Compartment
Dev
intprasnjits (root)/Dev

Scope

State
Any state

- Availability Domains
- UvZi:PHX-AD-1
 - UvZi:PHX-AD-2
 - UvZi:PHX-AD-3

Tag Filters [add](#) | [clear](#)

no tag filters applied

[Create Block Volume](#)

Name	State	Size	Default Performance	Auto-tune	Current Performance	Availability Domain	Backup Policy	Created
DevVol	● Available	1024 GB	Higher Performance	Off	Higher Performance	uvZi:PHX-AD-1	Gold	View Block Volume Details Edit Create Clone Create Manual Backup Assign Master Encryption Key Move Resource Copy OCID View Tags Add Tags Terminate

Block Storage

Block Volumes *in Dev Compartment*

Block volumes provide high-per

[Create Block Volume](#)

Name
[DevVol](#)

List Scope

Compartment
Dev
intprasnjits (root)/Dev

Scope

State
Any state

Availability Domains

- UvZi:PHX-AD-1
- UvZi:PHX-AD-2
- UvZi:PHX-AD-3

Tag Filters [add](#) | [clear](#)

no tag filters applied

Create Block Volume Backup [Help](#)

Name
Test-Manual

Backup Type
Full Backup

[Show Tagging Options](#)

[Create Block Volume Backup](#) [Cancel](#)

Create Clone

[Help](#)

Name

Test-Clone

Create In Compartment

Dev

intprasenjits (root)/Dev

Volume Size and Performance

Default Custom

Volume Size (in GB)

1024

Size must be an integer between the current size (1024 GB) and 32,768 GB (32 TB). Volume performance varies with volume size.



After the volume is provisioned, for the volume resize to take effect, you need to extend the partition. [Learn More](#)

Default Volume Performance



Recommended for the most IO-demanding workloads that require the best possible performance including large databases. [Learn more](#)

Default Volume Performance

IOPS: 35000 IOPS (75 IOPS/GB)

Throughput: 480 MB/s (600 KB/s/GB)

Encryption

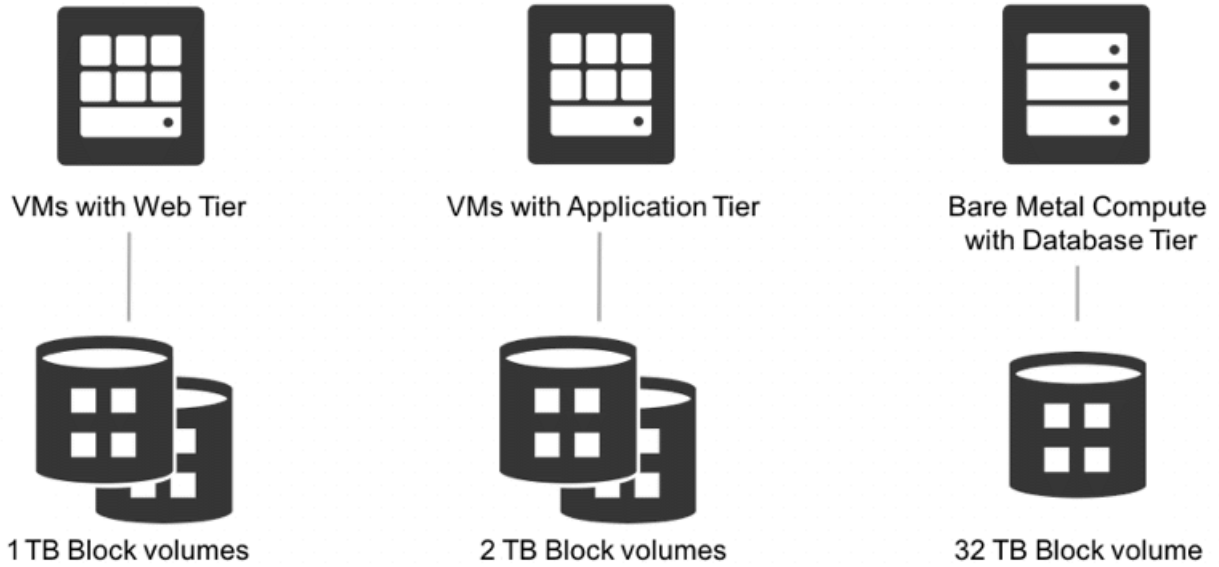
- Encrypt using Oracle-managed keys**
Leaves all encryption-related matters to Oracle.
- Encrypt using customer-managed keys**
Requires you to have access to a valid Key Management key.

[Show Tagging Options](#)

Create Clone

[Cancel](#)

Typical Enterprise Application Storage Architecture



Create Volume Group

[Help](#)

Name

Test-Vol-Grp

Create In Compartment

Dev

intprasenjits (root)/Dev

Create In Availability Domain

uvZi:PHX-AD-1

Volumes

Compartment

Dev

intprasenjits (root)/Dev

Volume

DevVol

TestVol

intprasenjits (root)/Dev

+ Volume

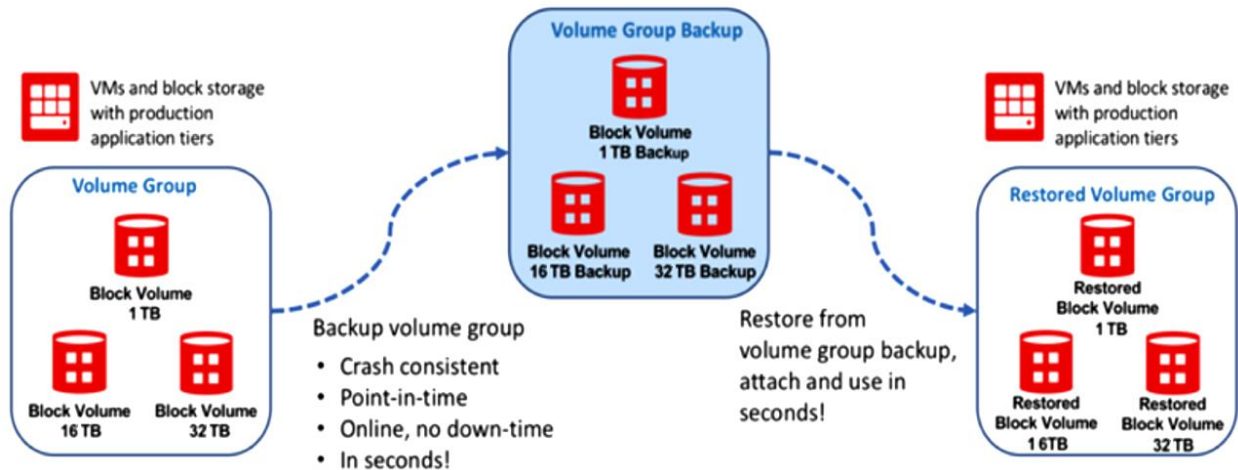
View detail page after this volume group is created

Create Volume Group

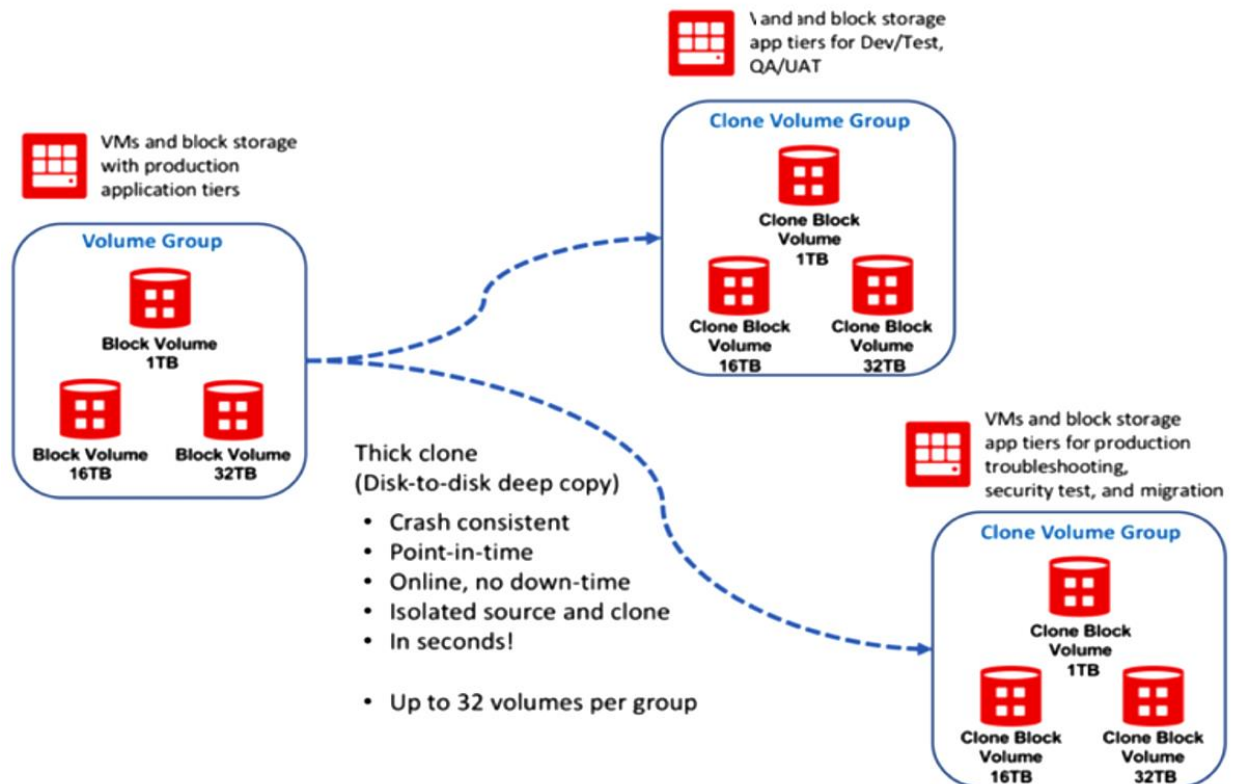
Cancel

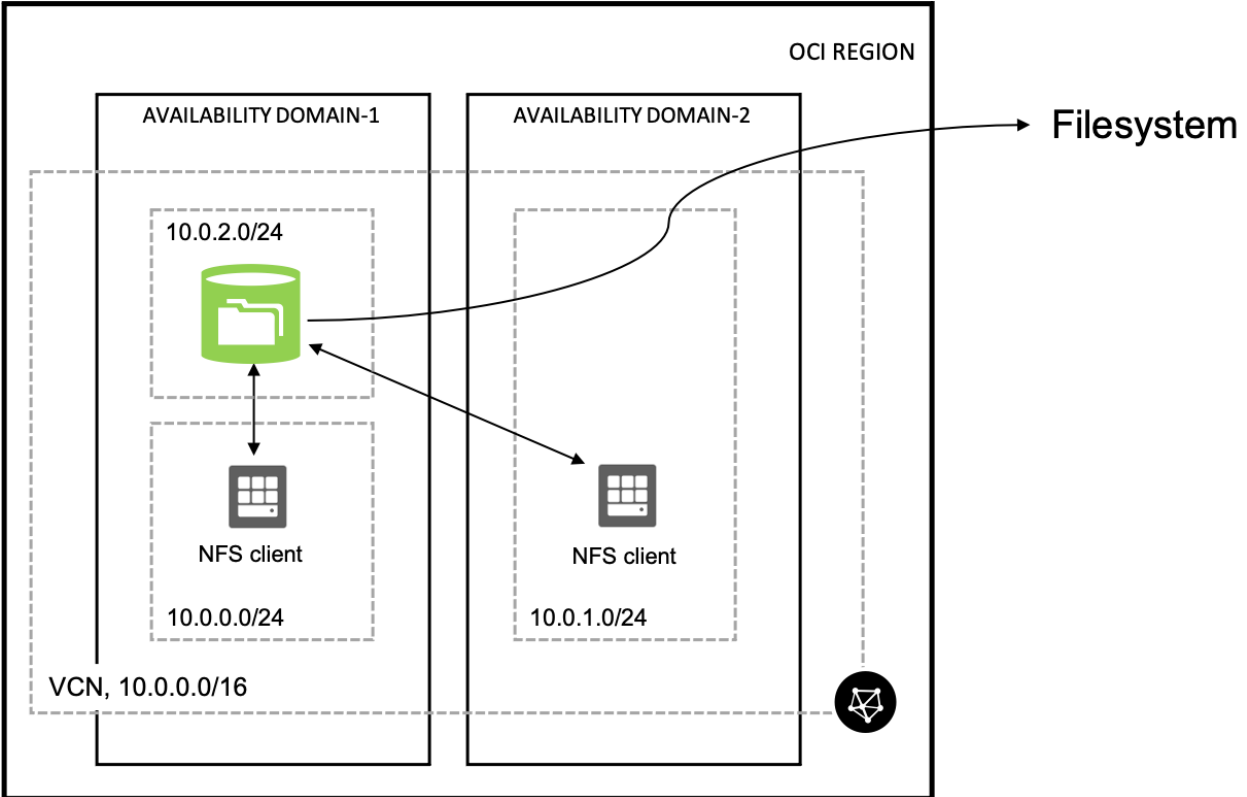
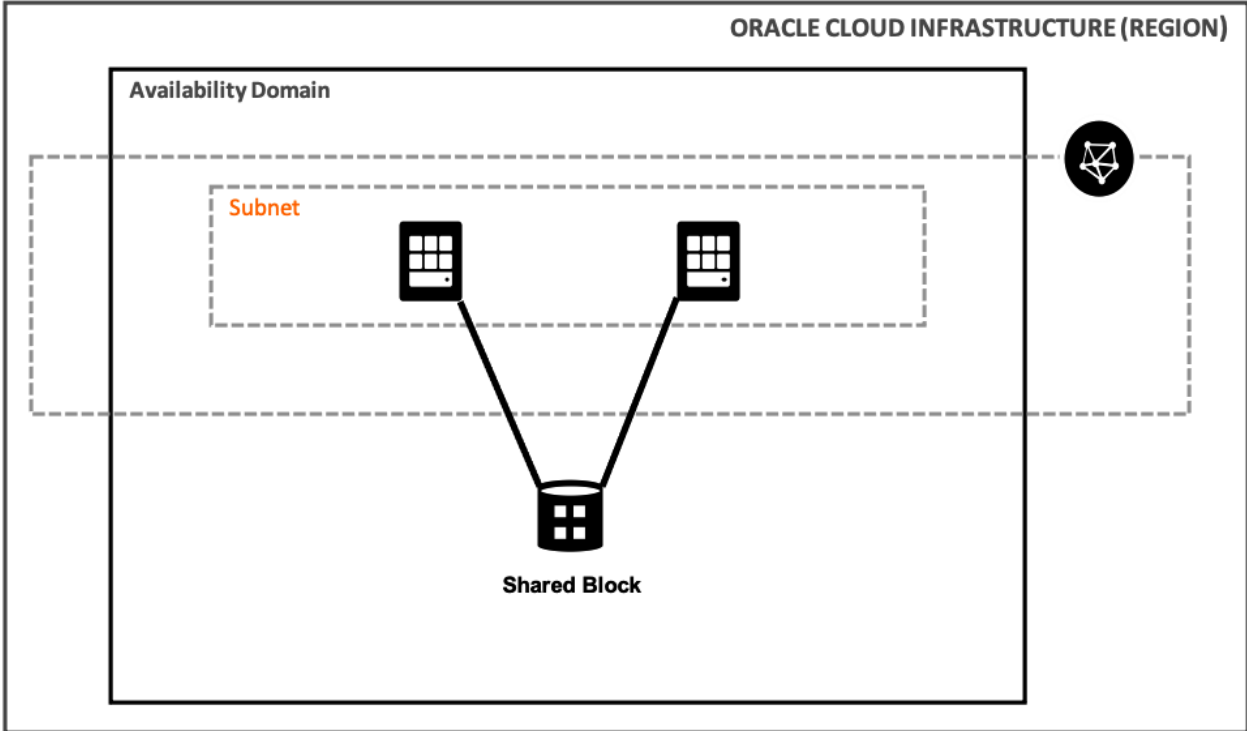
Cancel

Volume Groups for Coordinated Backups



Volume Groups for Coordinated Clones





File Storage

File Systems

Mount Targets

List Scope

Compartment

Dev

inprasnjits (root)/Dev

Filters

State

Any state

Availability Domains

- UvZr:PHX-AD-1
- UvZi:PHX-AD-2
- UvZi:PHX-AD-3

Tag Filters [add](#) | [clear](#)

no tag filters applied

Create File System

File Storage provides durable, scalable, and secure file systems. [Learn More](#)

[Create File System](#) [Delete](#)

Name

0 Selected

Create File System

[Help](#)

File Storage provides durable, scalable, and secure file systems.

File System Information

[Edit Details](#)

Name: FileSystem-20201205-1456-09

Availability Domain: uvZi:PHX-AD-1

Encryption Key: Oracle-managed key

Export Information

[Edit Details](#)

Exports control which file systems are available to a given mount target. Create a new export to make your file system available through the selected mount target. [Learn more.](#)

Export Path: /FileSystem-20201205-1456-09

Use Secure Export Options: Disabled ⓘ

Mount Target Information

[Edit Details](#)

Mount targets are NFS endpoints used to access your file systems. The following mount target will be created and associated with your new file system. [Learn more.](#)

New Mount Target Name: MountTarget-20201205-1456-09

Compartment: inprasnjits (root)/Dev

Virtual Cloud Network: DevVCN

Subnet: Private Subnet-DevVCN

[Create](#) [Cancel](#)



ACTIVE

Resources

NFS Export Options (1)

/File

Mount

Expo

ociD

Creat

Exp

Edit N

Source

0.0.0.0/

Mount Commands

[Help](#)



Before mounting a file system, you must configure security rules to allow network traffic to and from the mount target. You can set up security rules in subnet security lists, network security groups, or by using a combination of both. [Learn more](#)

- Stateful **ingress** to TCP ports 111, 2048, 2049, and 2050, and UDP ports 111 and 2048.
- Stateful **egress** for TCP source ports 111, 2048, 2049, and 2050, and UDP source port 111.



You can mount the file system using an FQDN if you [specify](#) a hostname for the mount target. Ensure that the FQDN resolves to the mount target's IP address. [Learn more](#)

Image

Oracle Linux

Command to install NFS client

```
sudo yum install nfs-utils
```

[Copy](#)

Command to create the mount point directory

```
sudo mkdir -p /mnt/FileSystem-20201205-1839-19
```

[Copy](#)

Command to mount the file system

```
sudo mount 10.0.1.5:/FileSystem-20201205-1839-19 /mnt/FileSystem-
```

[Copy](#)

[Close](#)

-1839-19

205-1839-19

Squash GID

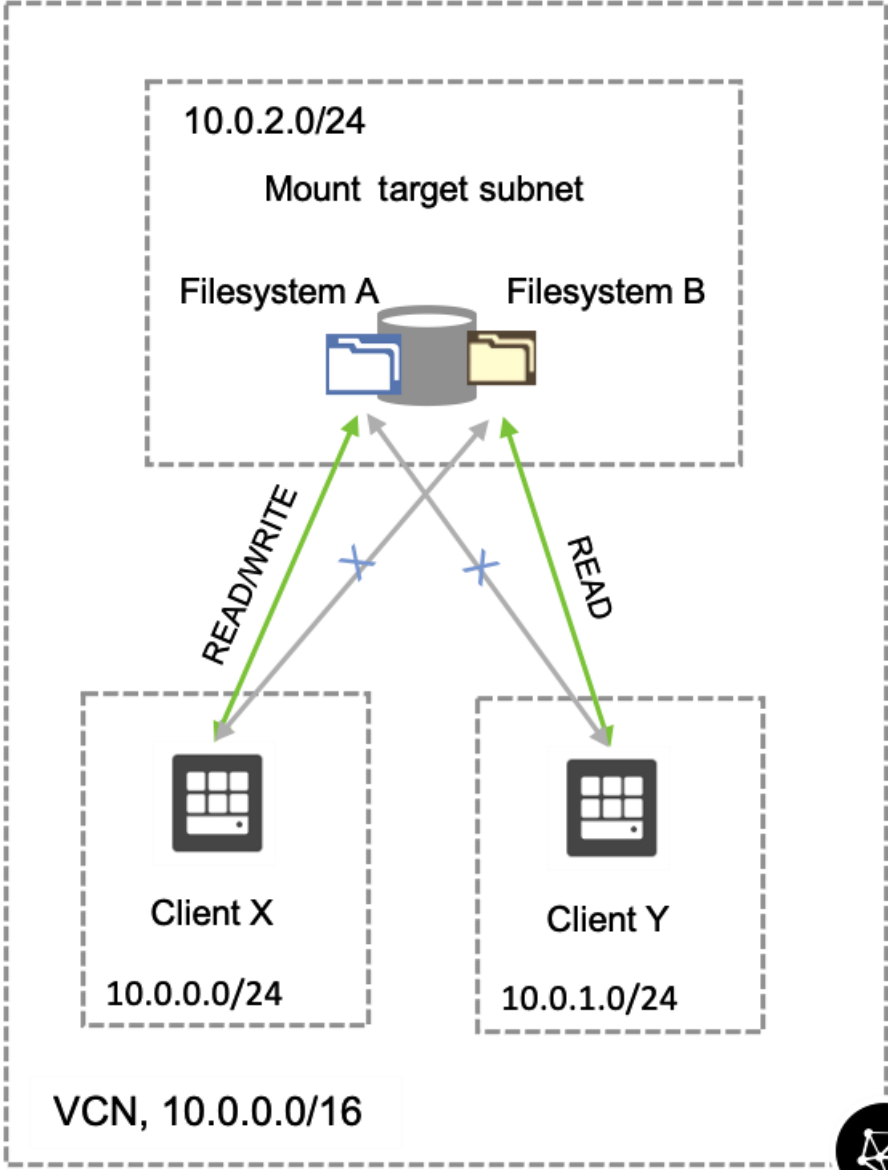
Not used

Exports

[Edit NFS Export Options](#)

Source	Ports	Access	Squash	Squash UID	Squash GID
0.0.0.0/0	Any	Read/Write	None	Not used	Not used

Showing 1 Item



Object Storage

- Object Storage
- Data Transfer - Import
- Data Transfer - Export

List Scope

Compartment: Dev

Tag Filters

no tag filters applied

Bucket

Create

Name

Create Bucket

[Help](#)

Bucket Name: repl-bucket

Storage Tier: Storage tier for a bucket can only be specified during creation. Once set, you cannot change the storage tier in which a bucket resides.

- Standard
- Archive

Object Events: Emit Object Events

Object Versioning: Enable Object Versioning

- Encryption:
- Encrypt using Oracle managed keys
Leaves all encryption-related matters to Oracle.
 - Encrypt using customer-managed keys
Requires a valid key from a vault that you have access to. [Learn More](#)

Tags: Tagging is a metadata system that allows you to organize and track resources within your tenancy. Tags are composed of keys and values that can be attached to resources. [Learn more about tagging](#)

Tag Namespace	Tag Key	Value
None (add a free-form t...)		

+ Additional Tag

Create Bucket

stored in buckets. [Learn more](#)

Created

Showing 0 Items < 1 of 1 >

Upload Objects

[Help](#)

Object Name Prefix *Optional*

Choose Files from your Computer

Drop files here or [select files](#)

cross region copy.png 140.61 KIB



1 files, 140.61 KIB total

[Hide Optional Response Headers and Metadata](#)

When uploading objects, you can add optional Response Headers and Metadata. Select the Type, then enter the Name and Value.
[Learn more](#)

Type

Response Header

Name

Select a header

Value



+ Add More Headers or Metadata



Upload

[Cancel](#)

Create Pre-Authenticated Request

[Help](#)

Name

par-object-ol-export-image-20201206-1525

Pre-Authenticated Request Target

Bucket

You can only use the pre-authenticated request URL to create objects in this bucket. You cannot read from or list the objects in the bucket.

Object

Object Name

ol-export-image

Access Type

Permit reads on the object

Permit writes to the object

Permit reads on and writes to the object

Expiration

Dec 13, 2020 15:24 UTC



Create Pre-Authenticated Request

[Cancel](#)



oke-bucket

Edit Visibility Move Reso

Bucket Information

Visibility: Private
Namespace: intprasnjits
Storage Tier: Standard
Approximate Count: 2 obj
ETag: 8ee4dcad-e48b-466
OCID: ...yjpyyd3a [Show](#)

Resources

- Objects
- Metrics
- Pre-Authenticated Requests
- Work Requests
- Lifecycle Policy Rules
- Replication Policy**
- Retention Rules
- Logs

Replication Pol

Create Policy

Name	Destination
------	-------------

Create Replication Policy

[Help](#)

Name

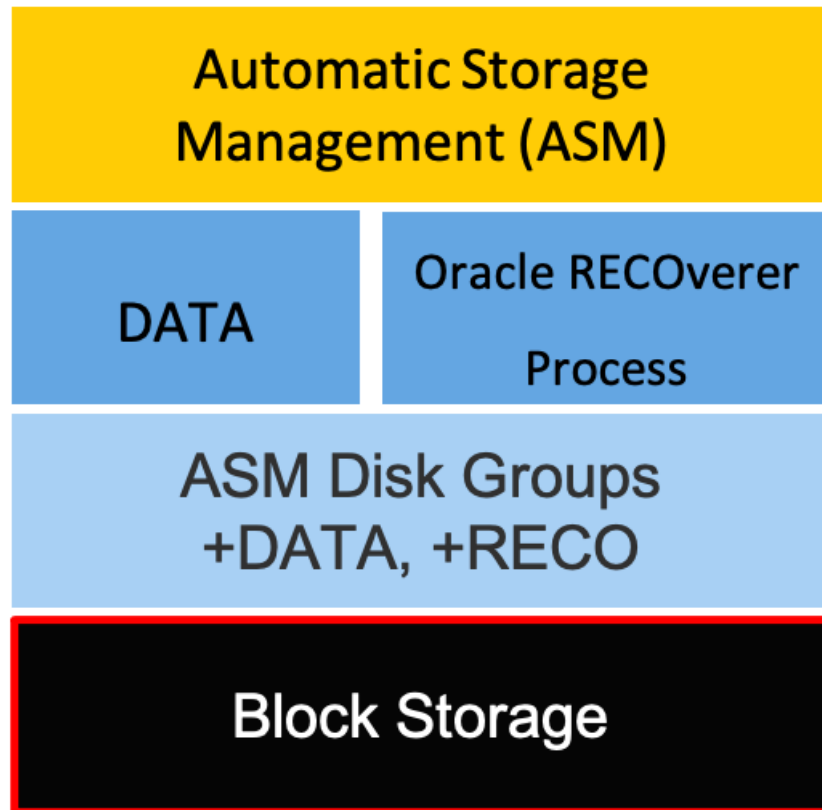
Destination Region

Destination Bucket in Dev [\(Change Compartment\)](#)

Replication overwrites any object in the destination bucket that has the same name as an object in the source bucket.

Create Cancel

Chapter 6: Understanding Database Choices on Oracle Cloud Infrastructure



Bare Metal Server X7

Oracle Database

ASM for 12c +, ACFS for 11g

DB Management Agent

Oracle Linux 6.8

36/52 CPU cores

512/768 GB RAM

28.8/51.2 TB NVMe raw

Automatic Storage
Management (ASM)

DATA

RECO

ASM Disk Groups
+DATA, +RECO

NVMe

Overview » [Autonomous Database](#) » Autonomous Databases

Autonomous Database

Autonomous Database

Dedicated Infrastructure ⓘ

[Autonomous Container Database](#)

[Autonomous Exadata Infrastructure](#)

List Scope

Compartment

JED-01 ▾

hasan (root)/JED-01

Autonomous Databases in JED-01 Compartment

Autonomous Database delivers fast performance and requires no database administration. It performs all routine database maintenance tasks while the system is running, without human intervention. Autonomous Databases located in the Oracle cloud can run on dedicated or shared infrastructure. [Learn more.](#)

Create Autonomous Database

Display Name	State	Dedicated	OCPU	Storage (TB)	Workload Type	Autonomous Data Guard	Created
No Items							
Displaying 0 Autonomous Databases < 1 of 1 >							

Create Autonomous Database

[Help](#)

Provide basic information for the Autonomous Database

Compartment

FRA-01

thasan (root)/FRA-01

Display name

DemoDatabase

A user-friendly name to help you easily identify the resource.

Database name

TestDB

The name must contain only letters and numbers, starting with a letter. Maximum of 14 characters.

Choose a workload type

Data Warehouse

Built for decision support and data warehouse workloads. Fast queries over large volumes of data.

Transaction Processing

Built for transactional workloads. High concurrency for short-running queries and transactions. ✓

JSON

Built for JSON-centric application development. Developer-friendly document APIs and native JSON storage.

APEX

Built for Oracle APEX application development. Creation and deployment of low-code applications, with database included.

Choose a deployment type

Shared Infrastructure

Run Autonomous Database on shared Exadata infrastructure. ✓

Dedicated Infrastructure

Run Autonomous Database on dedicated Exadata infrastructure.

Configure the database

Choose database version

19c

OCPU count

1

The number of OCPU cores to enable. Available cores are subject to your tenancy's service limits.

Storage (TB)

1

The amount of storage to allocate.

Auto scaling

Allows system to use up to three times the provisioned number of cores as the workload increases. [Learn more.](#)

Create Autonomous Database

[Cancel](#)

Create administrator credentials (i)

Username *Read-Only*

ADMIN

ADMIN username cannot be edited.

Password

.....

Confirm password

.....

Choose network access

Access Type

Secure access from everywhere

Restrict access to specified IP addresses and VCNs.



Private endpoint access only

Restrict access to a private endpoint within an OCI VCN.

Configure access control rules (i)

Choose a license type

Bring Your Own License (BYOL)

Bring my organization's Oracle Database software licenses to the Database service. [Learn more.](#)

License Included

Subscribe to new Oracle Database software licenses and the Database service.



Provide up to 10 maintenance contacts

Add Contact



[Show Advanced Options](#)

Create Autonomous Database

[Cancel](#)

[Terms of Use and Privacy](#) [Cookie Preferences](#)



AVAILABLE

DemoDB

- DB Connection
- Performance Hub
- Service Console
- Scale Up/Down
- More Actions

Autonomous Database Information **Tools** Tags

Database administration and developer tools for Autonomous Database

Database Actions

Load, explore, transform, model, and catalog your data. Use an SQL worksheet, build REST interfaces and low-code apps, manage users and connections, build and apply machine learning models. [Learn more.](#)

Open Database Actions

Oracle Application Express

Oracle Application Express (APEX) is a low-code development platform that enables you to build scalable, secure enterprise apps that can be deployed anywhere. [Learn more.](#)

Open APEX

Oracle ML User Administration

Oracle Machine Learning is a development environment that uses a web-based interface to enable you to perform data analytics, data discovery and data visualizations. [Learn more.](#)

Open Oracle ML User Administration

SODA Drivers

Simple Oracle Document Access (SODA) is a set of APIs that let you work with JSON documents managed by the Oracle Database without needing to use SQL. SODA drivers are available for REST, Java, Node.js, Python, PL/SQL, and C. [Learn more.](#)

Download SODA Drivers

Graph Studio

Oracle Graph Studio lets you create property graph databases and automates the creation of graph models and in-memory graphs from database tables. To access Graph Studio, you must log in as a graph-enabled database user. Create this user in Database Actions. [Learn more.](#)

Open Graph Studio

Development

SQL Execute queries and scripts, and create database objects	DATA MODELER Create relational diagrams for database objects
REST Deploy REST APIs for your database	JSON Manage your JSON Document Database
APEX Build web applications rapidly	

Data Tools

DATA LOAD Load or access data from local files or remote databases	CATALOG Understand data dependencies and the impact of changes
DATA INSIGHTS Discover anomalies, outliers and hidden patterns in your data	BUSINESS MODELS Create business models for performance and analysis



Administration

DATABASE USERS Create, edit privileges and other parameters, and REST-enable database users

Monitoring

PERFORMANCE HUB View consolidated performance data for the database

Navigator Worksheets

ADMIN
Tables
Search...  

```
1 CREATE TABLE persons(  
2   person_id NUMBER GENERATED BY DEFAULT AS IDENTITY,  
3   first_name VARCHAR2(50) NOT NULL,  
4   last_name VARCHAR2(50) NOT NULL,  
5   PRIMARY KEY(person_id)  
6 );
```

Consumer Group: LOW  

Query Result Script Output DBMS Output Explain Plan Autotrace SQL History Data Loading












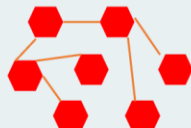


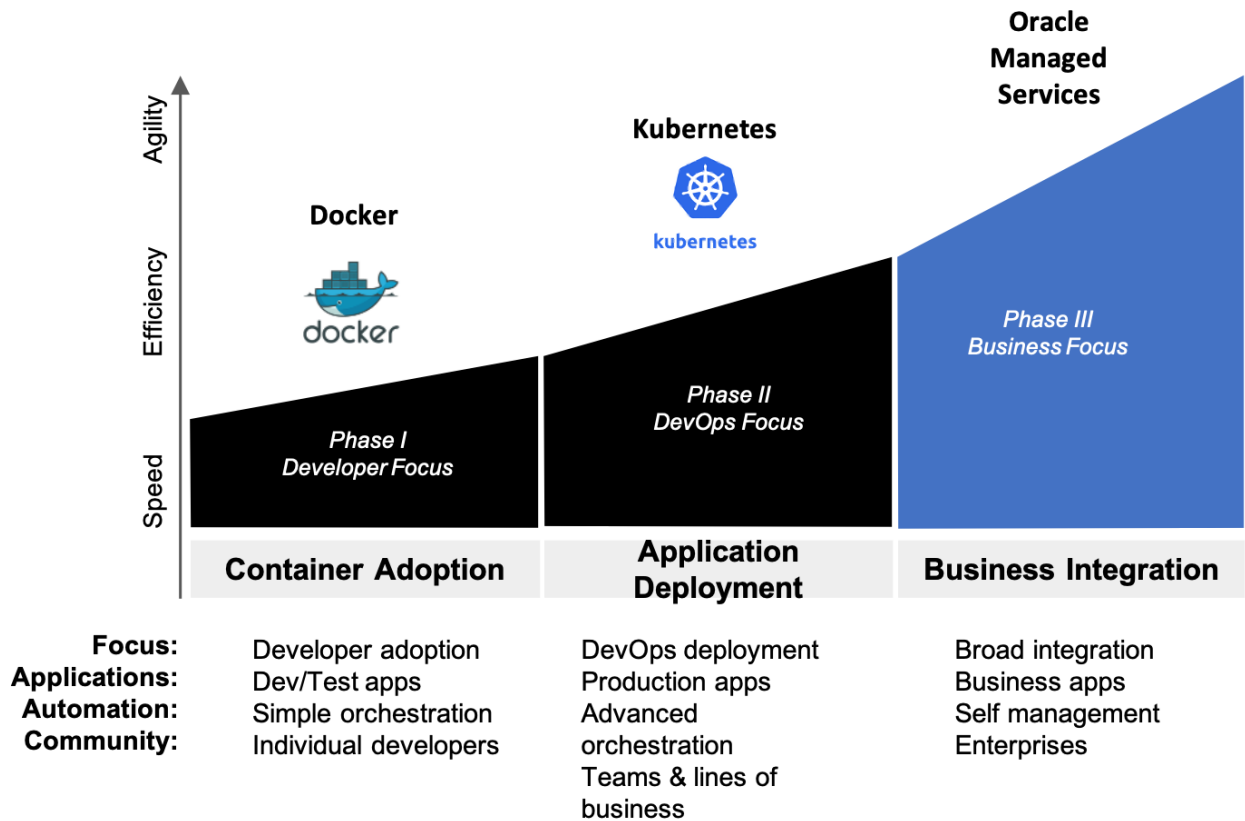
 

Table PERSONS created.
Elapsed: 00:00:00.301

Chapter 7: Building a Cloud-Native Application on Oracle Cloud Infrastructure

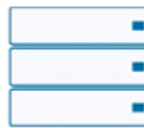
	Development Process	Application Architecture	Deployment and Packaging	Application Infrastructure
~ 1980	Waterfall 	Monolithic 	Physical Server 	Datacenter 
~ 1990				
~ 2000	Agile 	N-Tier 	Virtual Servers 	Hosted 
~ 2010	DevOps 	Microservices 	Containers 	Cloud 
Now				



Monolithic Architecture



App Services



Bare Metal

Microservices Architecture



Microservice



Bare Metal



Microservice



Virtualized



Microservice



Containers

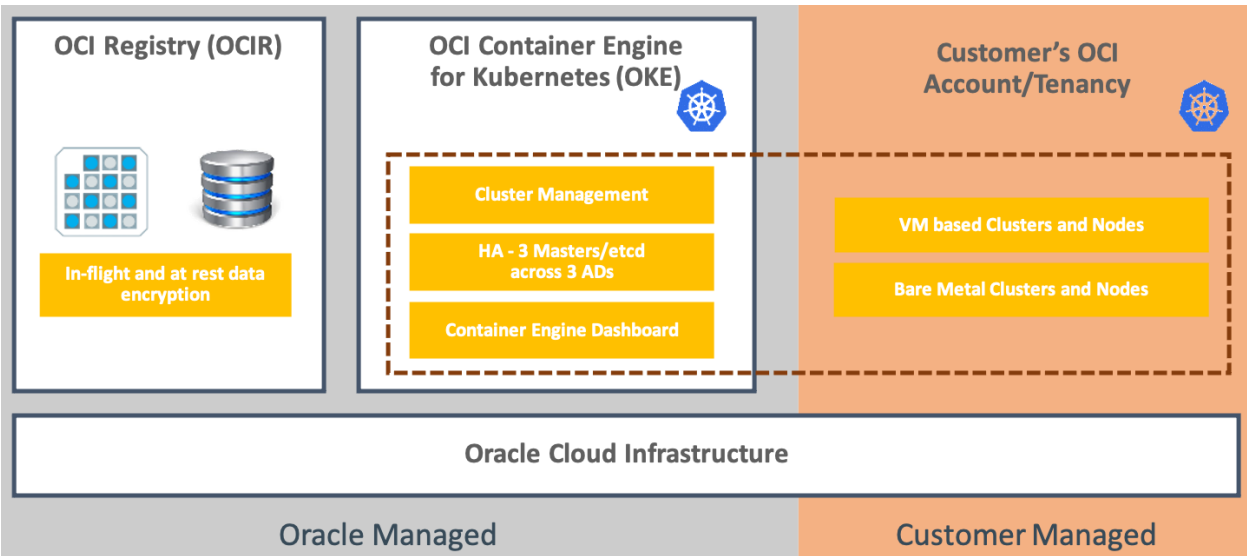


Microservice



Public Cloud

Applications





ACTIVE

prase

PrasenjittSa

Edit User

Generate Token [Help](#) [Cancel](#)

DESCRIPTION

Generate Token

Add Tags

Delete

User Information

Tags

OCID: ...rkhwqa [Show](#) [Copy](#)

Federated: No

Created: Thu, Aug 4, 2016, 19:02:48 UTC

My Oracle Support account: -

Multi-factor authentication: Disabled

Email: -

Capabilities

Local password: Yes

SMTP credentials: Yes

API keys: Yes

Customer secret keys: Yes

Auth tokens: Yes

Resources

Groups

API Keys

Auth Tokens

Customer Secret Keys

SMTP Credentials

Auth Tokens

Generate Token

Description	Created	
Demo	Wed, Jun 10, 2020, 19:33:34 UTC	⋮

Showing 1 Item

ORACLE Cloud Search for resources, services, and documentation US West (Phoenix) ?

Identity » Users » User Details » Auth Tokens

prase
PrasenjitaSa

Generate Token [Help](#) [Close](#)

Generated Token
Copy this token for your records. It will not be shown again.
4Fjc;f#[zBk]7<M+3Yv [Hide](#) [Copy](#)

ACTIVE

OCID: ...rkhwqa [Show](#) [Copy](#) Federated: No
 Created: Thu, Aug 4, 2016, 19:02:48 UTC My Oracle Support account: -
 Multi-factor authentication: Disabled
 Email: -

Capabilities

Local password: Yes SMTP credentials: Yes
 API keys: Yes Customer secret keys: Yes
 Auth tokens: Yes

Resources

- Groups
- API Keys
- Auth Tokens**
- Customer Secret Keys
- SMTP Credentials

Auth Tokens

[Generate Token](#)

Description	Created
Demo	Wed, Jun 10, 2020, 19:33:34 UTC
For OCI Architects	Mon, Aug 17, 2020, 15:40:07 UTC

Showing 2 Items

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Developer Services > Container Clusters (OKE)

Marketplace Registry (OCIR)

ORACLE Cloud

Containers

Clusters

Registry

[Create Repository](#)

Create Repository [cancel](#)

REPOSITORY NAME

example_repo

ACCESS

PRIVATE PUBLIC
Enables unauthenticated access

[Submit](#)

```

prasenjit@cloudshell:~ (us-phoenix-1)$ ls
admin.yaml  ansible-oke  filebeat-kubernetes.yaml  kubeconfig  kube-state-metrics  mushop  ngrok  OCI-APIGW-Demo-API  o1cnc-deploy.sh
ansible  docker-compose  flask-rate-limiter-cors-auth  kubectrl  metricbeat-kubernetes.yaml  myscript.sh  ngrok-stable-linux-amd64.zip  oke-admin-service-account.yaml  svcacct.yaml
prasenjit@cloudshell:~ (us-phoenix-1)$ docker images
REPOSITORY          TAG          IMAGE ID          CREATED          SIZE
prasenjit@cloudshell:~ (us-phoenix-1)$ cd flask-rate-limiter-cors-auth/
prasenjit@cloudshell:flask-rate-limiter-cors-auth (us-phoenix-1)$ ls
api-deployment.yaml  api-service.yaml  Dockerfile  flask-rate-api.py
prasenjit@cloudshell:flask-rate-limiter-cors-auth (us-phoenix-1)$ docker build -t flaskapp:latest .
Sending build context to Docker daemon 111.1kB
Step 1/8 : FROM python3.7-slim
Trying to pull repository docker.io/library/python ...
3.7-slim: Pulling from docker.io/library/python
6ec7b7d162b2: Pull complete
80ff6536d04b: Pull complete
651d8336e95: Pull complete
6ee84404158b: Pull complete
6e001f327b45: Pull complete
Digest: sha256:d25e3d36f0cc835804117697733cfa367e2e7bd626f7b357c8a46be4eba5973
Status: Downloaded newer image for python:3.7-slim
--> ea1296513d7
Step 2/8 : WORKDIR /home/app
--> Running in 0b52f786c3bd
Removing intermediate container 0b52f786c3bd
--> 8444ea2bd8ec
Step 3/8 : COPY flask-rate-api.py /home/app/
--> 5369ce4fab72
Step 4/8 : RUN apt-get update -y &&addgroup --system app &&adduser --system --ingroup app --no-create-home app &&pip install --upgrade pip &&pip install flask &&pip install Flask-Limiter &&pip install f
lask-cors
--> Running in f5c452f6dd0
Get:1 http://deb.debian.org/debian buster InRelease [121 kB]
Get:2 http://security.debian.org/debian-security buster/updates InRelease [65.4 kB]
Get:3 http://deb.debian.org/debian buster-updates InRelease [51.9 kB]
Get:4 http://security.debian.org/debian-security buster/updates/main amd64 Packages [256 kB]
Get:5 http://deb.debian.org/debian buster/main amd64 Packages [7907 kB]
Get:6 http://deb.debian.org/debian buster-updates/main amd64 Packages [7856 B]
Fetched 8410 kB in 2s (4128 kB/s)
Reading package lists...
Adding group 'app' (GID 101) ...
Done.
Adding system user `app' (UID 101) ...
Adding new user `app' (UID 101) with group `app' ...
Not creating home directory /home/app/.
Requirement already satisfied: pip in /usr/local/lib/python3.7/site-packages (20.3.3)
Collecting flask
  Downloading Flask-1.1.2-py2.py3-none-any.whl (94 kB)
Collecting click<=5.1
  Downloading click-7.1.2-py2.py3-none-any.whl (82 kB)
Collecting itsdangerous<=0.24
  Downloading itsdangerous-1.1.0-py2.py3-none-any.whl (16 kB)
Collecting Jinja2<=2.10.1
  Downloading Jinja2-2.11.2-py2.py3-none-any.whl (125 kB)
Collecting MarkupSafe<=0.23
  Downloading MarkupSafe-1.1.1-cp37-cp37m-manylinux1_x86_64.whl (27 kB)
Collecting Werkzeug<=0.15
  Downloading Werkzeug-1.0.1-py2.py3-none-any.whl (298 kB)
Installing collected packages: MarkupSafe, Werkzeug, Jinja2, itsdangerous, click, flask
Successfully installed Jinja2-2.11.2 MarkupSafe-1.1.1 Werkzeug-1.0.1 click-7.1.2 flask-1.1.2 itsdangerous-1.1.0
Collecting Flask-Limiter
  Downloading Flask-Limiter-1.4-py3-none-any.whl (15 kB)
Requirement already satisfied: Flask<=0.8 in /usr/local/lib/python3.7/site-packages (from Flask-Limiter) (1.1.2)
Requirement already satisfied: Jinja2<=2.10.1 in /usr/local/lib/python3.7/site-packages (from Flask<=0.8->Flask-Limiter) (2.11.2)
Requirement already satisfied: click<=5.1 in /usr/local/lib/python3.7/site-packages (from Flask<=0.8->Flask-Limiter) (7.1.2)
Requirement already satisfied: itsdangerous<=0.24 in /usr/local/lib/python3.7/site-packages (from Flask<=0.8->Flask-Limiter) (1.1.0)
Requirement already satisfied: Werkzeug<=0.15 in /usr/local/lib/python3.7/site-packages (from Flask<=0.8->Flask-Limiter) (1.0.1)
Requirement already satisfied: MarkupSafe<=0.23 in /usr/local/lib/python3.7/site-packages (from Jinja2<=2.10.1->Flask<=0.8->Flask-Limiter) (1.1.1)
Collecting six<=1.4.1
  Downloading six-1.15.0-py2.py3-none-any.whl (10 kB)
Collecting limits
  Downloading limits-1.5.1.tar.gz (37 kB)

```

```

Cloud Shell
Password:
WARNING! Your password will be stored unencrypted in /home/prasenjit/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
prasenjit@cloudshell:flask-rate-limiter-cors-auth (us-phoenix-1)$
prasenjit@cloudshell:flask-rate-limiter-cors-auth (us-phoenix-1)$
prasenjit@cloudshell:flask-rate-limiter-cors-auth (us-phoenix-1)$ docker tag 35255459d043 phx.ocir.io/intprasenjits/demoproject/flaskapp:latest
prasenjit@cloudshell:flask-rate-limiter-cors-auth (us-phoenix-1)$
prasenjit@cloudshell:flask-rate-limiter-cors-auth (us-phoenix-1)$ docker images
REPOSITORY          TAG          IMAGE ID          CREATED          SIZE
flaskapp            latest      35255459d043     10 minutes ago  141MB
phx.ocir.io/intprasenjits/demoproject/flaskapp  latest      35255459d043     10 minutes ago  141MB
python              3.7-slim    fb940aff3fdb     11 hours ago    112MB
prasenjit@cloudshell:flask-rate-limiter-cors-auth (us-phoenix-1)$

```


Developer Services

Registry

[Settings](#)

- Kubernetes Clusters
- Container Registry**
- Functions
- API Gateway

[Create Repository](#) ↻

🏠 intrasenjits

- ▼ demoproject/flaskapp 
- ▶ latest
- ▶ instance-demo-repo/oci-list-instances
- ▶ instance-demo-repo/testfunc
- ▶ ledger-node
- ▶ mushop/mushop-storefront (Public)

latest Actions

Full Path: intrasenjits/demoproject/flaskapp:latest **Repository:** demoproject/flaskapp **Size:** 57.62 MB

Pushed by: ...6vywstixdrkhwqa [Show](#) [Copy](#) **Date Created:** a minute ago **Total Pulls:** 0

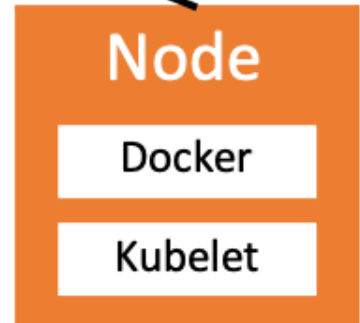
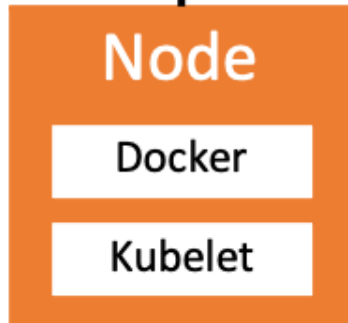
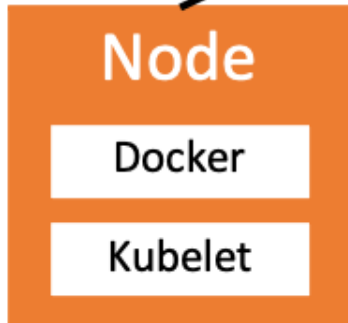
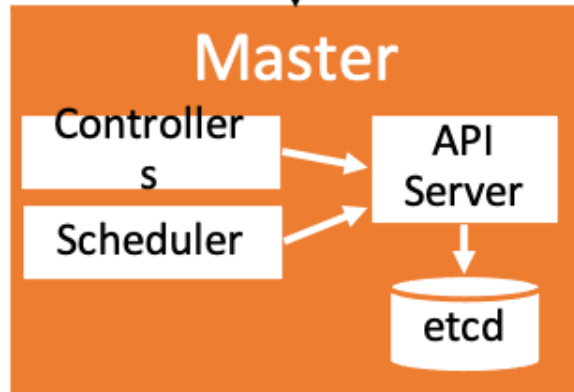
Digest: ...7243ac02c37248e [Show](#) [Copy](#) **Last Pull:** Never

Layers Associated Tags

Digest	Size	Date
...fe2de9d71f73795 Show Copy	25.85 MB	Wed, 25 Nov 2020 13:58:25 GMT
...ae9a397cc4b4dbb Show Copy	2.62 MB	Wed, 25 Nov 2020 13:58:17 GMT
...e9460a274648262 Show Copy	9.59 MB	Wed, 25 Nov 2020 13:58:21 GMT
...03f6a65750f6c2e Show Copy	234 B	Wed, 25 Nov 2020 13:58:14 GMT
...7001d5d82d5eb09 Show Copy	2.3 MB	Wed, 25 Nov 2020 13:58:15 GMT
...72511f03a7b2664 Show Copy	112 B	Wed, 25 Nov 2020 13:58:14 GMT
...2ee01559d941fb2 Show Copy	522 B	Wed, 25 Nov 2020 13:58:14 GMT
...d762dfc1200be92 Show Copy	17.25 MB	Wed, 25 Nov 2020 13:58:19 GMT
...3cd3ddeae7ff015 Show Copy	9.46 KB	Wed, 25 Nov 2020 13:58:25 GMT



User with kubectl



Node

Pod0 – IP:10.1.1.1

Container

Container

Volume

A diagram of a Node represented as a large orange rectangle. At the top center is the word "Node" in white. Below it, on the left, is a white rectangle labeled "Pod0 – IP:10.1.1.1". Inside this pod are two overlapping orange rectangles, each labeled "Container". To the right of the pod is a white cylinder with an orange outline, labeled "Volume".

Node

Pod1 – IP:10.1.1.2

Container

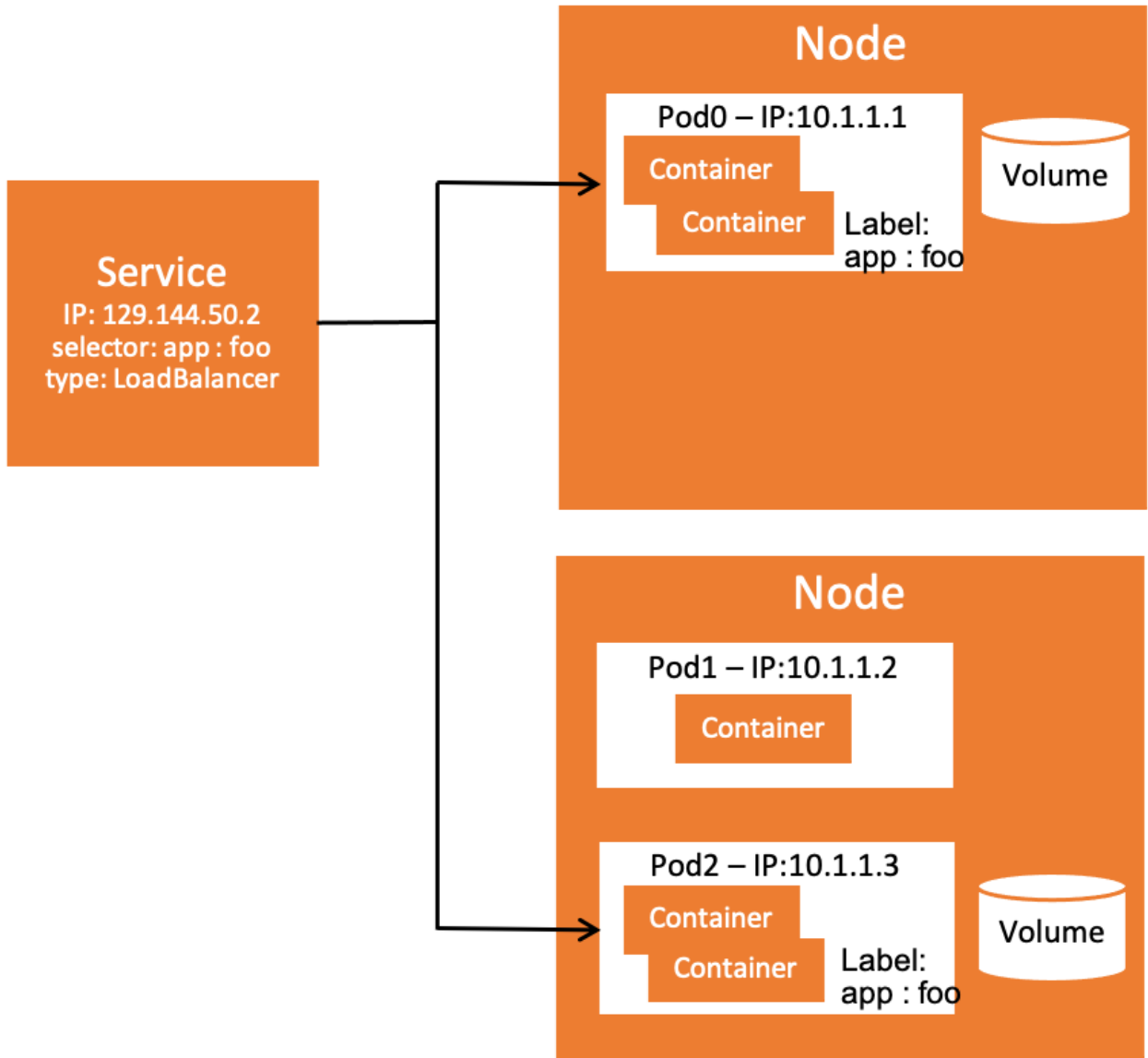
Pod2 – IP:10.1.1.3

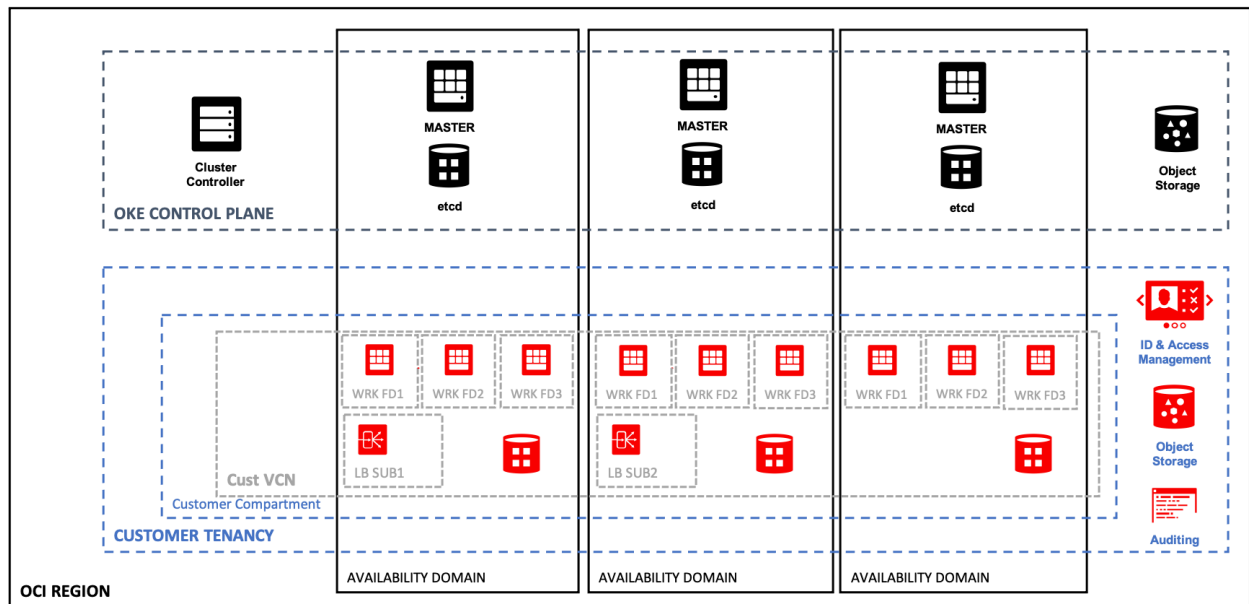
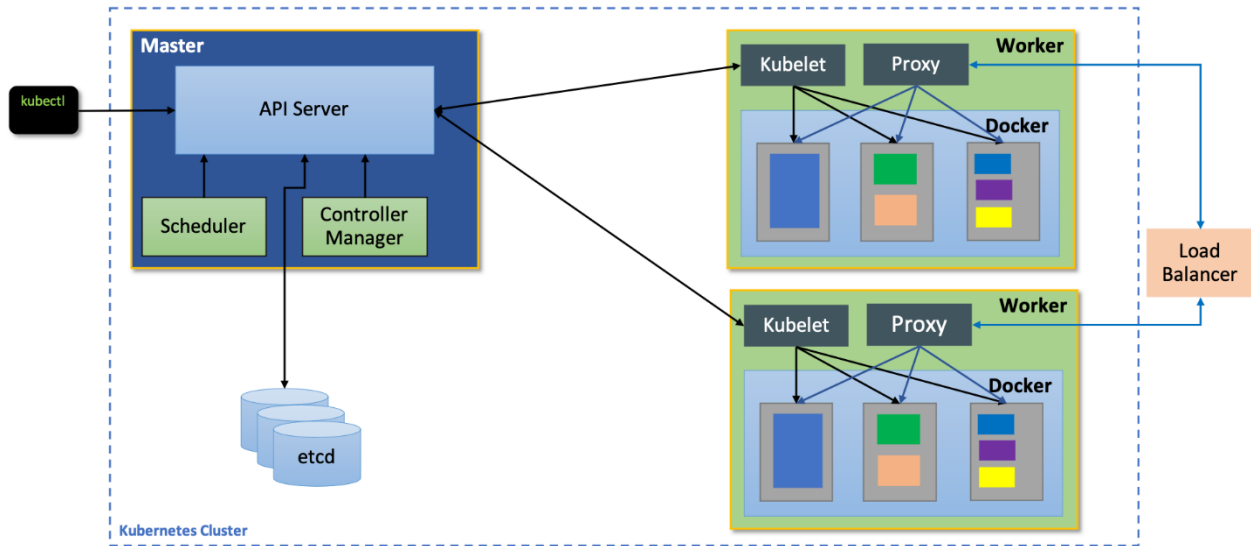
Container

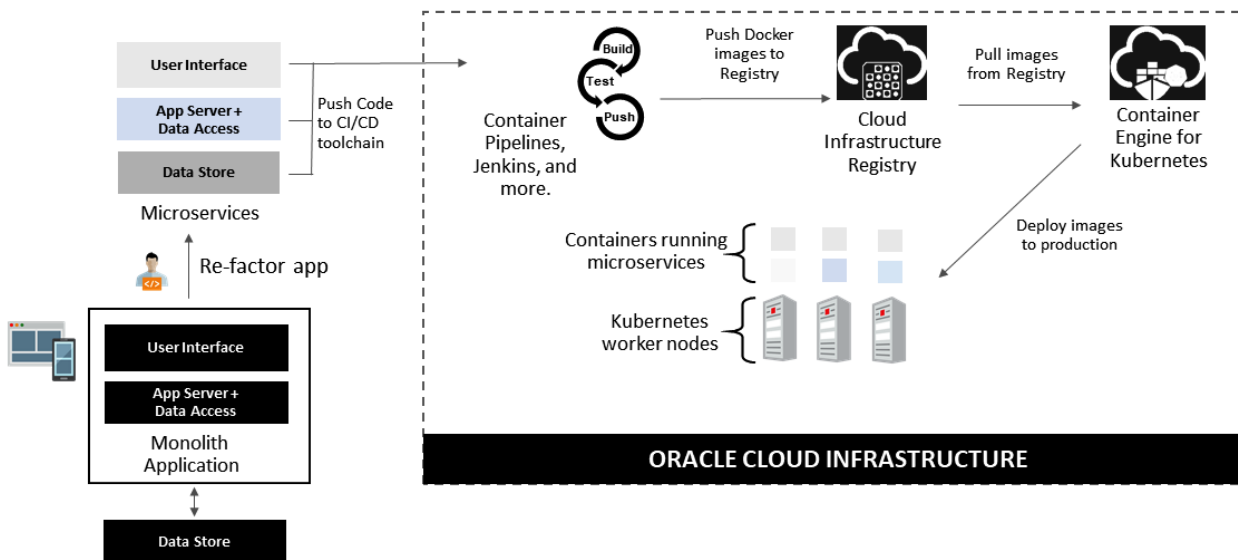
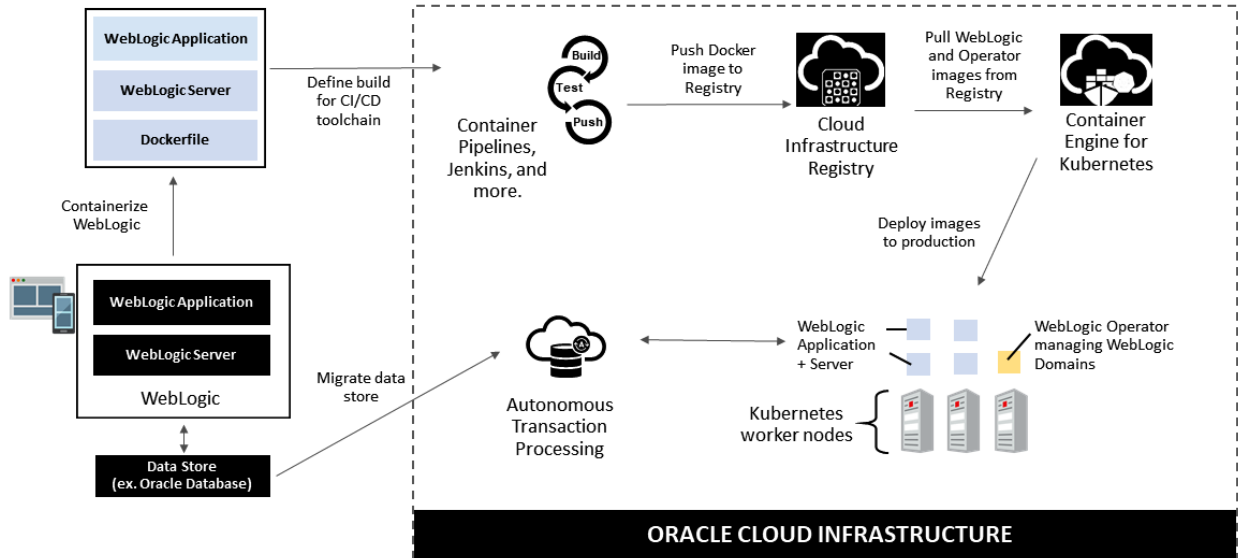
Container

Volume

A diagram of a Node represented as a large orange rectangle. At the top center is the word "Node" in white. Below it, on the left, is a white rectangle labeled "Pod1 – IP:10.1.1.2" containing one orange rectangle labeled "Container". Below that is another white rectangle labeled "Pod2 – IP:10.1.1.3" containing two overlapping orange rectangles, each labeled "Container". To the right of the pods is a white cylinder with an orange outline, labeled "Volume".







Kubernetes Clusters

Container Registry

Functions

API Gateway

List Scope

Compartment

Dev

inprasejts (root)/Dev

Clus

Cre

Name

DevO

Create Cluster

[Help](#)

Quick Create

Select the Quick Create option to create a new cluster, along with creating new network resources. New network resources include one regional subnet for worker nodes , and another regional subnet for load balancers.

Custom Create

New resources include:

- Virtual Cloud Network (VCN)
- Internet Gateway (IG)
- NAT Gateway (NAT)
- Kubernetes cluster
- Kubernetes worker nodes(s) and node pool

Launch Workflow

Cancel

[Cancel](#)

Created

Fri, Sep 18, 2020, 15:32:34 UTC

Showing 1 Item

Create Cluster

- 1 Create Cluster
- 2 Review

Name
cluster2

Compartment
Dev
intprasanjits (root)/Dev

Kubernetes Version ⓘ
v1.18.10

Choose Visibility Type

Private
The Kubernetes worker nodes that are created will be hosted in private subnet(s) ✓

Public
The Kubernetes worker nodes that are created will be hosted in public subnet(s)

Shape ⓘ
VM.Standard.E3.Flex

You can customize the number of OCPUs that are allocated to a flexible shape. The other resources scale proportionately. [Learn more about flexible shapes.](#)

Select the number of OCPUs

1 16 32 48 64 1 ⓘ

Amount of Memory (GB) ⓘ

6 256 512 768 1024 6 ⓘ

Network Bandwidth (Gbps): 1.0 ⓘ **Max. Total VNICs: 2** ⓘ

Number of nodes ⓘ
3

Specify a custom boot volume size
[Volume performance](#) varies with volume size. Default boot volume size: 46.6 GB

[Hide Advanced Options](#)

Public SSH Key *Optional*

Input SSH public key

In order to access your private nodes with a public SSH key you will need to set up a bastion host (a.k.a. jump box). [Learn more about setting up a bastion](#)

Next Cancel

Containers > Clusters > cluster2

Access Your Cluster

Cloud Shell Access

Use Kubectl to manage the cluster remotely via Cloud Shell. ✓

Local Access

Use kubectl and the Kubernetes Dashboard to manage the cluster Locally.

Manage the cluster via Cloud Shell.

- 1 Launch Cloud Shell
- 2 To access the kubeconfig for your cluster, copy the following command to Cloud Shell:


```
$ oci ce cluster create-kubeconfig --cluster-id ocid1.cluster.oc1.phx.aaaaaaaafrtszdeha2tan3bgy2temrugezdmn3emi3dcobsgc2tmyzvgm3d --file $HOME/.kube/config --region us-phoenix-1 --token-version 2.0.0
```

[Learn more about Cloud Shell](#)

Close

```
Cloud Shell
Welcome to Oracle Cloud Shell.
Your Cloud Shell machine comes with 5GB of storage for your home directory. Your Cloud Shell (machine and home directory) are located in: US West (Phoenix).
Type 'help' for more info.
prasenjit@cloudshell:~ (us-phoenix-1)$ oci ce cluster create-kubeconfig --cluster-id ocid1.cluster.oc1.phx.aaaaaaaafrtszdeha2tan3bgy2temrugezdmn3emi3dcobsgc2tmyzvgm3d --file $HOME/.kube/config --region us-phoenix-1 --token-version 2.0.0
Existing Kubeconfig file found at /home/prasenjit/.kube/config and new config merged into it
prasenjit@cloudshell:~ (us-phoenix-1)$
```

```
prasenjit@cloudshell:~ (us-phoenix-1)$ kubectl get nodes -o wide
NAME          STATUS    ROLES    AGE   VERSION   INTERNAL-IP   EXTERNAL-IP   OS-IMAGE           KERNEL-VERSION   CONTAINER-RUNTIME
10.0.10.2     Ready    node     20m   v1.18.10  10.0.10.2     <none>         Oracle Linux Server 7.9  5.4.17-2036.100.6.1.e17uek.x86_64  docker://19.3.11
10.0.10.3     Ready    node     20m   v1.18.10  10.0.10.3     <none>         Oracle Linux Server 7.9  5.4.17-2036.100.6.1.e17uek.x86_64  docker://19.3.11
10.0.10.4     Ready    node     20m   v1.18.10  10.0.10.4     <none>         Oracle Linux Server 7.9  5.4.17-2036.100.6.1.e17uek.x86_64  docker://19.3.11
prasenjit@cloudshell:~ (us-phoenix-1)$
```

```
Cloud Shell
prasenjit@cloudshell:~ (us-phoenix-1)$ kubectl get deployment ratelimitapi
NAME          READY    UP-TO-DATE   AVAILABLE   AGE
ratelimitapi  3/3      3             3           13m
prasenjit@cloudshell:~ (us-phoenix-1)$ kubectl get po
NAME          READY    STATUS    RESTARTS   AGE
ratelimitapi-7985dcd8f-5c29x  1/1     Running   0           14m
ratelimitapi-7985dcd8f-m4q22  1/1     Running   0           14m
ratelimitapi-7985dcd8f-s2b4d  1/1     Running   0           14m
prasenjit@cloudshell:~ (us-phoenix-1)$
```

```

prasenjit_@cloudshell:~ (us-phoenix-1)$ kubectl get svc
NAME      TYPE      CLUSTER-IP    EXTERNAL-IP    PORT(S)          AGE
kubernetes ClusterIP  10.96.0.1      <none>         443/TCP          56m
ratelimitapi LoadBalancer 10.96.28.47   129.146.222.154 5000:31961/TCP  18m
prasenjit_@cloudshell:~ (us-phoenix-1)$ curl -X GET -H "Content-type: application/json" http://129.146.222.154:5000/ping
PONG
prasenjit_@cloudshell:~ (us-phoenix-1)$
prasenjit_@cloudshell:~ (us-phoenix-1)$
prasenjit_@cloudshell:~ (us-phoenix-1)$
    
```

Developer Services

Kubernetes Clusters

Container Registry

Functions

API Gateway

List Scope

Compartment

Dev

intprasenjits (root)/Dev

Clusters in Dev Compartment

Create Cluster

Name	Status	Node Pools	VCN	Version	Created	
DevOCICluster	● Active	1	oke-vcn-quick-DevOCICluster-cca866854	⚠ v1.17.9	Fri, Sep 18, 2020,	View Cluster Details
cluster2	● Active	1	oke-vcn-quick-cluster2-94e006e04	✔ v1.18.10	Mon, Dec 21, 202	View Node Pools
						Upgrade Available
						Delete Cluster

Upgrade Cluster Master

[Help](#)

Your Kubernetes master node is currently running version v1.17.9.

An upgrade is available. Upgrading your master node will allow you to create new node pools with the upgraded Kubernetes version. Ensure that you have tested that your app is compatible with the new version before upgrading.

Warning: After upgrading a master node, it cannot be downgraded.

Kubernetes Version

v1.18.10

Upgrade

[Cancel](#)

Containers > Clusters > DevOCICluster

DevOCICluster

CL
ACTIVE

[Access Cluster](#) [Upgrade](#)

Cluster Details

Cluster Status: ● Active
Node Pools: 1
Cluster Id: ...cstinjrgzqt [St](#)
Compartment: intraprasenjlt
Launched: Fri, Sep 18, 2022
Created By: prasenjit.sarka

Network Inform

VCN Name: oke-vcn-quick
VCN Id: ...26njsybq [Show](#)
Compartment: intraprasenjlt

Node Pools

[Add Node Pool](#)

[pool1](#)

Node Pool Status: ● Active
Node Pool Id: ...kzbsgjq [St](#)
Compartment: intraprasenjlt

Edit Node Pool

You may edit certain characteristics of a node pool.

Name: pool1
The new name for the node pool

Version: v1.18.10 (current cluster version)
Nodes added to this node pool will run the upgraded version

Image: Oracle-Linux-7.9-2020.11.10-1

Shape: VM.Standard2.1

Specify a custom boot volume size
Volume performance varies with volume size. Default boot volume size: 46.6 GB

Public SSH Key: Optional
 Input SSH public key

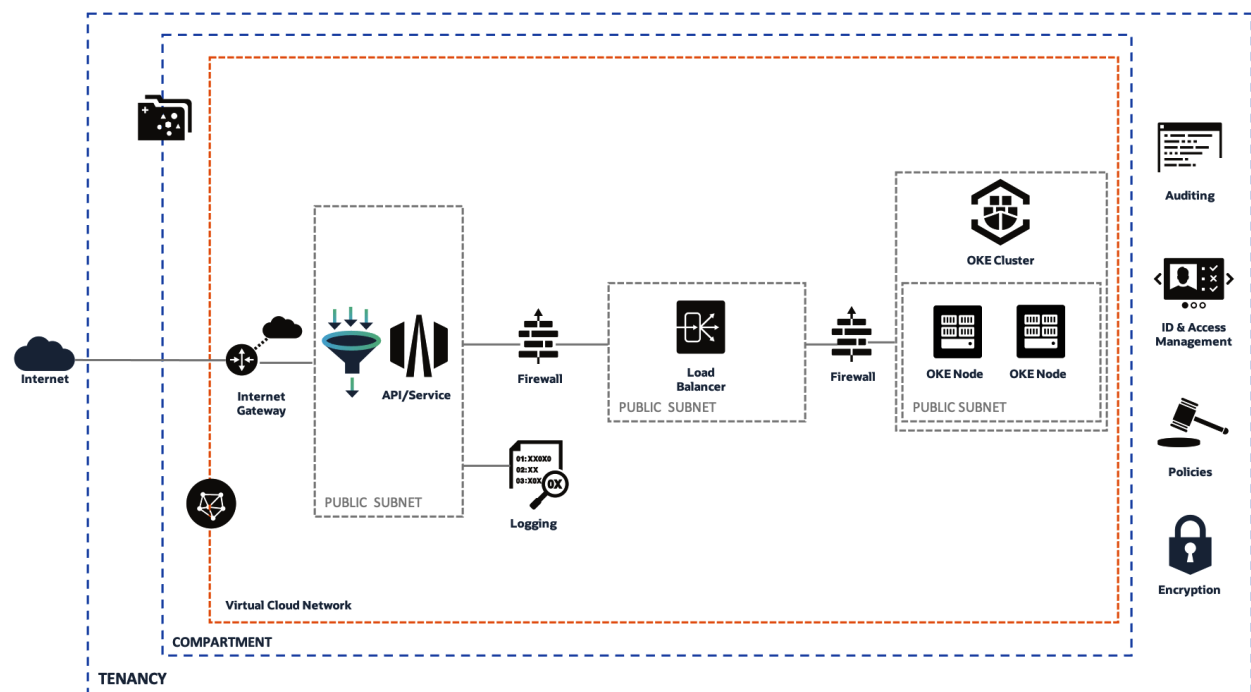
Kubernetes Labels

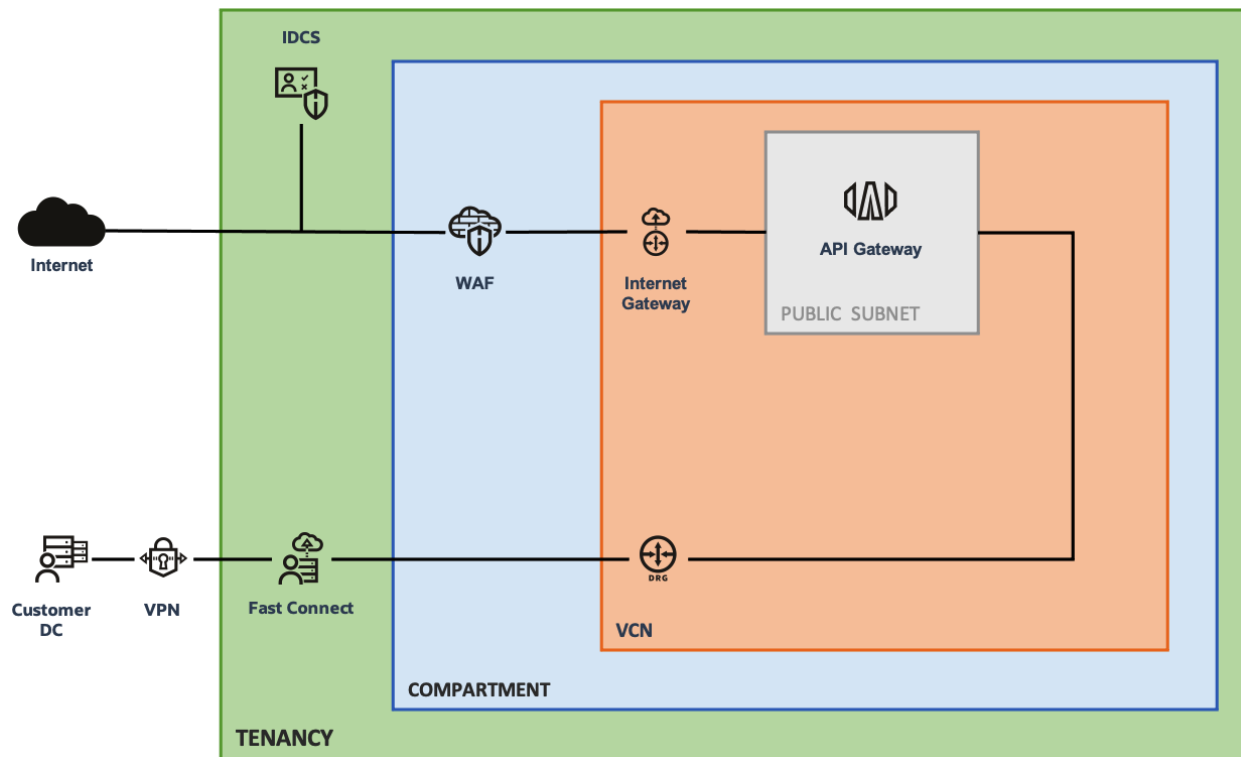
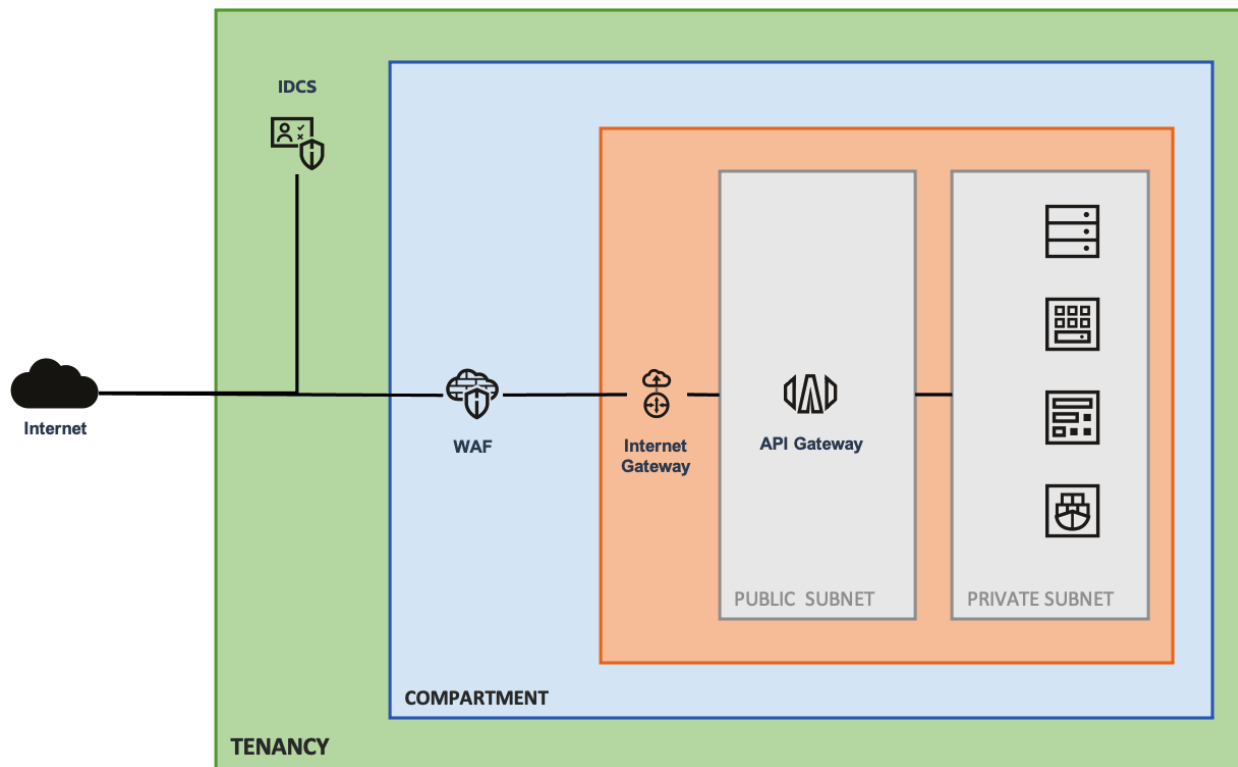
Key	Value
name	pool1

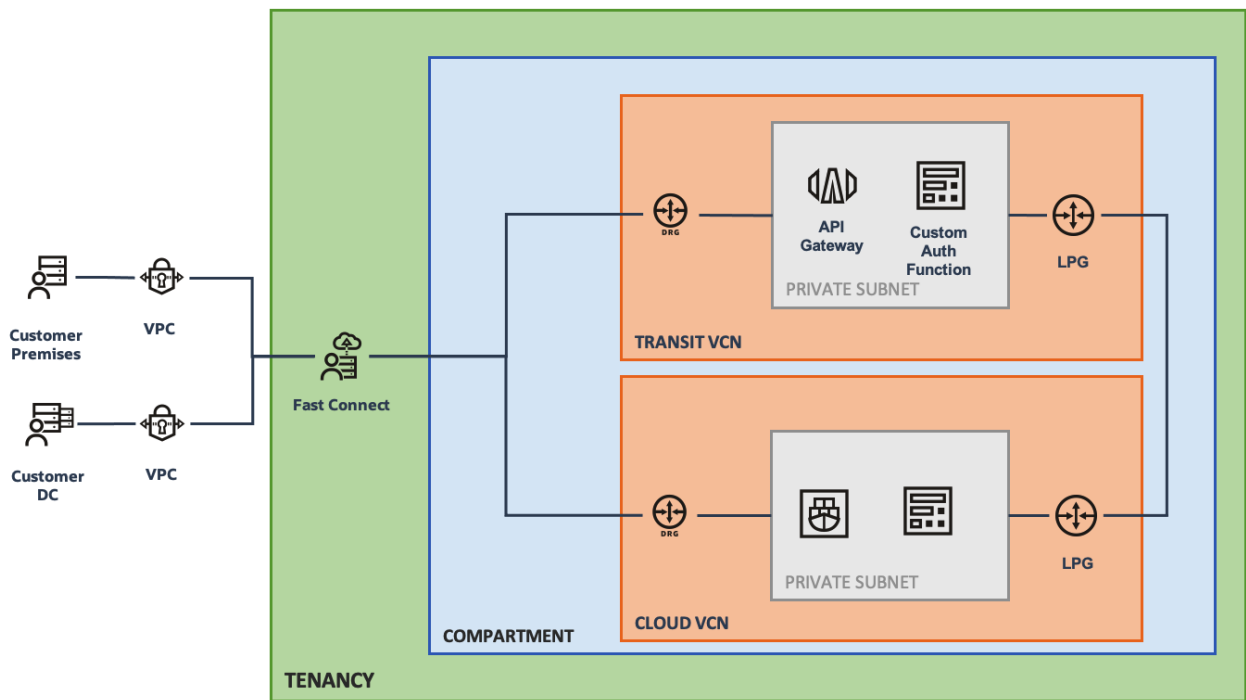
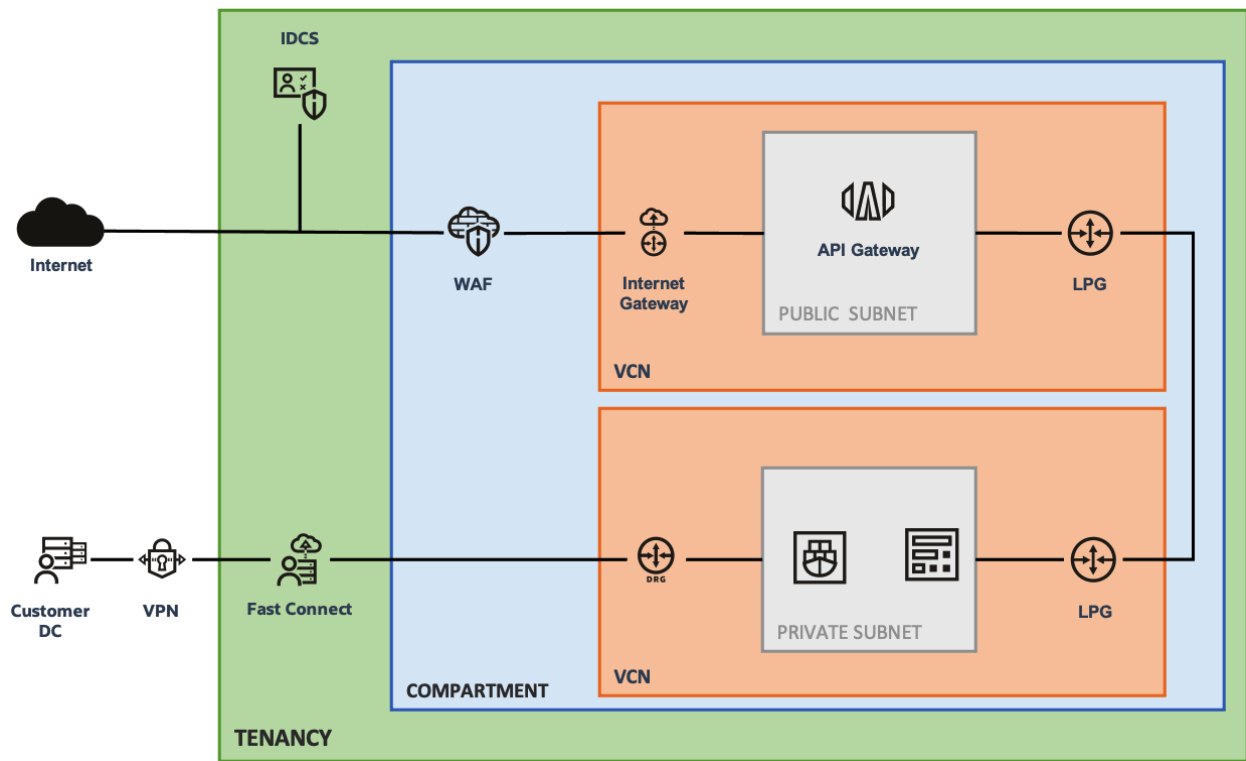
Nodes added to this node pool will automatically get one or more Kubernetes labels applied, enabling users to target Kubernetes workloads in a specific pool

[+ Another Pair](#)

[Save Changes](#) [Cancel](#)







API Gateway

Gateways

APIs

Certificates

List Scope

COMPARTMENT

Dev

inprasenjits (root)/Dev

Filters

STATE

Any state

Tag Filters

[add](#) | [clear](#)

no tag filters applied

Gateways

Create Gateway

Name

ExampleGW

OKEGW

Create Gateway

[Help](#)

NAME

ExampleGW

TYPE

Public

COMPARTMENT

Dev

inprasenjits (root)/Dev

CUSTOM DNS ⓘ

VIRTUAL CLOUD NETWORK IN DEV [\(CHANGE COMPARTMENT\)](#)

DevVCN

SUBNET IN DEV [\(CHANGE COMPARTMENT\)](#)

Public Subnet-DevVCN

TAGS

Tagging is a metadata system that allows you to organize and track resources within your tenancy. Tags are composed of keys and values that can be attached to resources.

[Learn more about tagging](#)

TAG NAMESPACE

None (add a free-form tag)

TAG KEY

VALUE

+ Additional Tag

Create

Cancel

Create Deployment

[Help](#)

- 1 **Basic Information**
- 2 [Routes](#)
- 3 [Review](#)

From Scratch
Deploy a custom API using the provided form ✓

Upload an existing Deployment API
Upload a JSON file containing the API

Basic Information

NAME

PATH PREFIX ⓘ

COMPARTMENT
 ▾
intprasenjits (root)/Dev

API Request Policies

Authentication
Configures authentication Add

CORS
Configures CORS access Add

Rate Limiting
Configures rate limiting Add

API Logging Policies

EXECUTION LOG LEVEL
 ▾

The API Gateway service stores logs in Oracle Cloud Infrastructure. [Learn more](#) about logging.

[Show Advanced Options](#)

Next Cancel

Create Deployment

[Help](#)

1 Basic Information

2 Routes

3 Review

Route 1

PATH ⓘ

METHODS

TYPE

Specifies the type of the backend service. [Learn more](#) about the HTTP backend.

URL

CONNECTION ESTABLISHMENT TIMEOUT IN SECONDS OPTIONAL

REQUEST TRANSMIT TIMEOUT IN SECONDS OPTIONAL

READING RESPONSE TIMEOUT IN SECONDS OPTIONAL

DISABLE SSL VERIFICATION

[Show Route Request Policies](#)

[Show Route Response Policies](#)

[Show Route Logging Policies](#)

+ Another Route

Previous **Next** [Cancel](#)

API Gateway » Gateways » Gateway Details



TestGW

- Edit
- Move Resource
- Add Tags
- Delete

Gateway Information

OCID: ...555j3w2wxq [Show](#) [Copy](#) **Compartment:** intraprasenjits (root)/Dev
Type: Public **Subnet:** oke-svcibsubnet-quick-cluster2-94e006e04-regional
Created: Tue, Dec 22, 2020, 16:59:57 UTC **Hostname:** ...oci.customer-oci.com [Show](#) [Copy](#)
Updated: Tue, Dec 22, 2020, 17:01:34 UTC **IP address:** 158.101.38.193 [Copy](#)

Resources

- Metrics
- Deployments**
- Work Requests

Filters

STATE
Any state [dropdown]

Scope

COMPARTMENT ⓘ
Dev [dropdown]
intraprasenjits (root)/Dev

Tag Filters [add](#) | [clear](#)

no tag filters applied

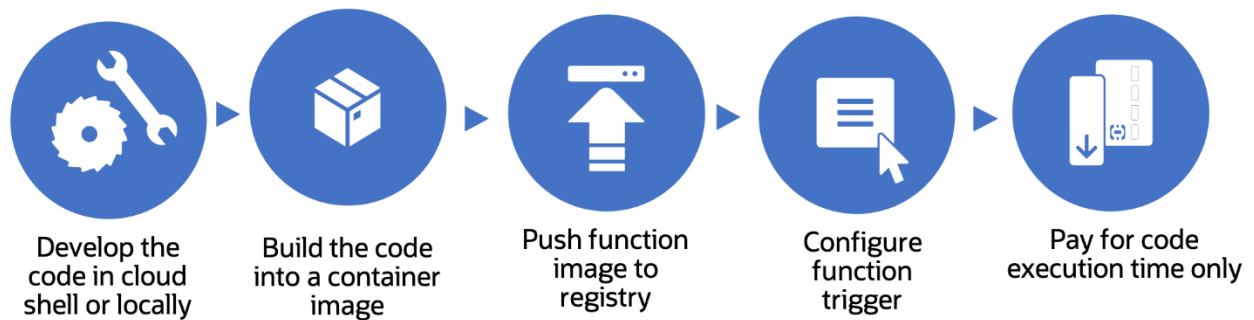
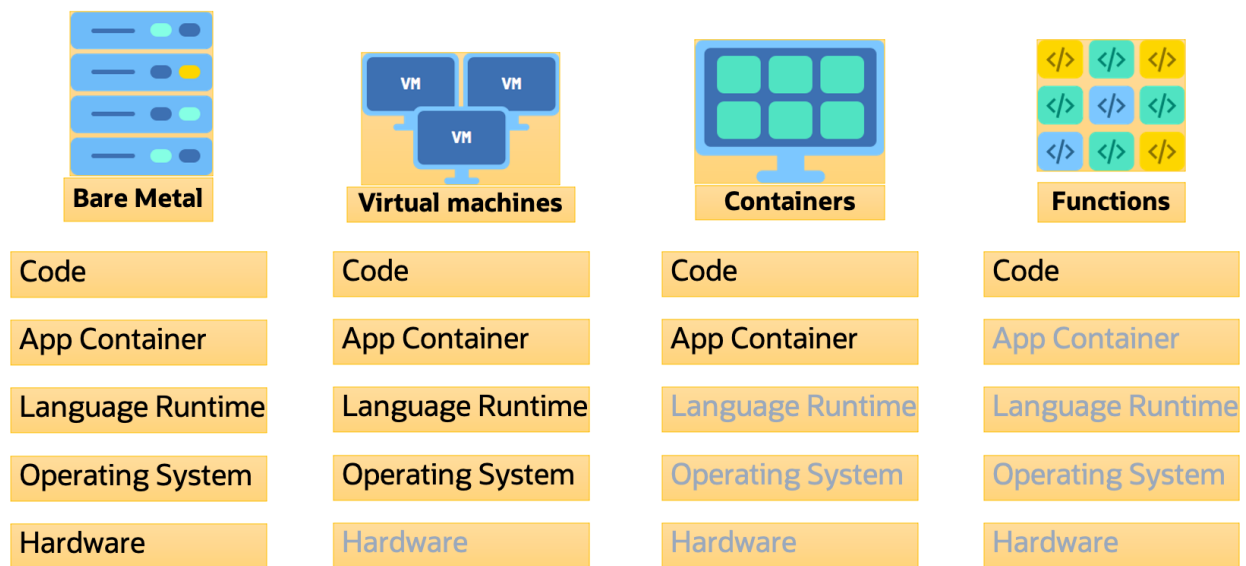
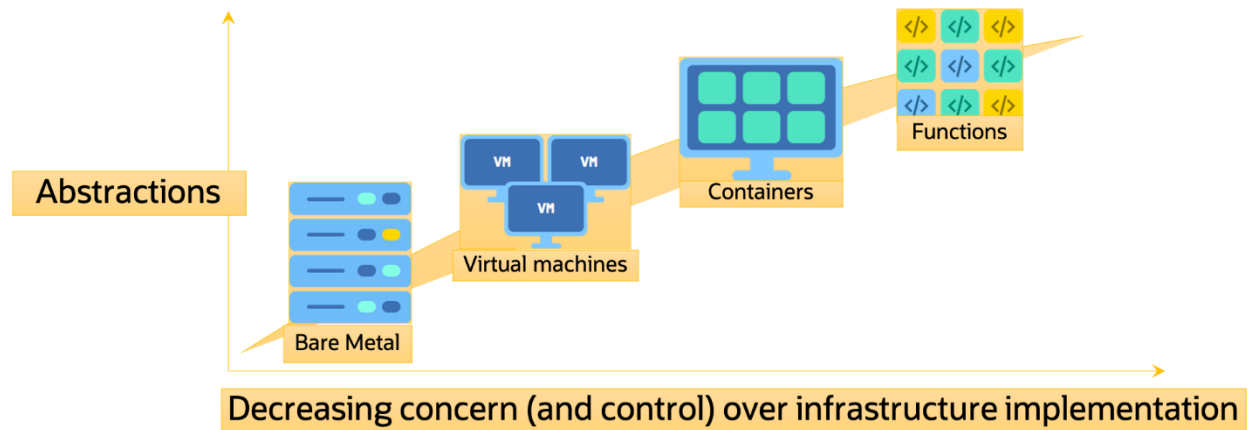
Deployments

Create Deployment

Name	Path Prefix	State	Endpoint	Deployed
testdepl	/v1	● Active	https://n2njavhnh563o3znokcrau2qf.m.apigateway.us-phoenix-1.oci.customer-oci.com/v1 Hide Copy	Tue, Dec 22, 2020, 17:02:00 UTC

Showing 1 Item < 1 of 1 >

Chapter 8: Running a Serverless Application on Oracle Cloud Infrastructure



Create Policy

[Help](#)

NAME

function-pol

No spaces. Only letters, numerals, hyphens, periods, or underscores.

DESCRIPTION

this is for function

COMPARTMENT

intrasenjits (root)

Policy Builder

[Switch to Basic Builder](#)

Allow group func-pol to use cloud-shell in tenancy
Allow group func-pol to manage repos in tenancy
Allow group func-pol to read objectstorage-namespaces in tenancy
Allow group func-pol to read metrics in tenancy
Allow group func-pol to manage functions-family in tenancy
Allow group func-pol to use virtual-network-family in tenancy

Example: Allow group [\[group_name\]](#) to [\[verb\]](#) [\[resource-type\]](#) in compartment [\[compartment_name\]](#) where [\[condition\]](#)

 [Show Advanced Options](#)

Create

[Cancel](#)

CREATE ANOTHER POLICY

New Application

[Cancel](#)

NAME

VCN IN DEV [\(CHANGE COMPARTMENT\)](#)

SUBNETS IN DEV [\(CHANGE COMPARTMENT\)](#)

Tagging is a metadata system that allows you to organize and track resources within your tenancy. Tags are composed of keys and values that can be attached to resources.

[Learn more about tagging](#)

TAG NAMESPACE

TAG KEY

VALUE

×

+ Additional Tag

Create



list-compartment

[Move Application](#)
[Add Tags](#)
[Delete](#)

[Application Information](#)
[Tags](#)

OCID: ...gogm6n5a [Show](#) [Copy](#)
Compartment: Dev
Logging Policy: None
 Created: Mon, Feb 8, 2021, 20:17:11 UTC
Last updated: Mon, Feb 8, 2021, 20:17:11 UTC

Resources

Getting Started

[Functions](#)

[Metrics](#)

[Network](#)

[Configuration](#)

[Logs](#)

Getting Started

Cloud Shell Setup

Quickly create, deploy and invoke functions using Cloud Shell

Local Setup

Set up a development machine to create, deploy and invoke functions

Begin your Cloud Shell session

[Learn more about Cloud Shell](#)

1 [Launch Cloud Shell](#)

Setup fn CLI on Cloud Shell

2 Use the context for your region

```
fn list context Copy
fn use context us-phoenix-1 Copy
```

```

Cloud Shell
prasenjit@cloudshell:~ (us-phoenix-1)$ git clone https://github.com/oracle/oracle-functions-samples
Cloning into 'oracle-functions-samples'...
remote: Enumerating objects: 216, done.
remote: Counting objects: 100% (216/216), done.
remote: Compressing objects: 100% (175/175), done.
remote: Total 772 (delta 87), reused 135 (delta 28), pack-reused 556
Receiving objects: 100% (772/772), 4.74 MiB | 0 bytes/s, done.
Resolving deltas: 100% (342/342), done.
prasenjit@cloudshell:~ (us-phoenix-1)$ cd oracle-functions-samples/samples/oci-list-compartments-python/
prasenjit@cloudshell:oci-list-compartments-python (us-phoenix-1)$ Terminal Disconnected
prasenjit@cloudshell:~ (us-phoenix-1)$ fn -v deploy --app list-compartment

Fn: could not find function file

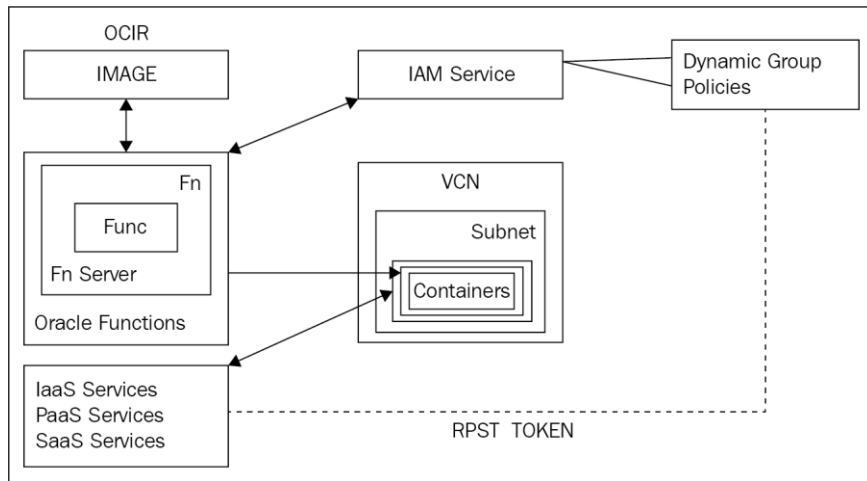
See 'fn <command> --help' for more information. Client version: 0.6.1
prasenjit@cloudshell:~ (us-phoenix-1)$ cd oracle-functions-samples/samples/oci-list-compartments-python/
prasenjit@cloudshell:oci-list-compartments-python (us-phoenix-1)$
prasenjit@cloudshell:oci-list-compartments-python (us-phoenix-1)$
prasenjit@cloudshell:oci-list-compartments-python (us-phoenix-1)$ fn -v deploy --app list-compartment
Deploying oci-list-compartments-python to app: list-compartment
Bumped to version 0.0.2
Building image oci-list-compartments-python:0.0.2
FN_REGISTRY: FN_REGISTRY is not set.
Current Context: us-phoenix-1
Sending build context to Docker daemon 14.85kB
Step 1/13 : FROM fnproject/python:3.8.5-dev as build-stage
Trying to pull repository docker.io/fnproject/python ...
3.8.5-dev: Pulling from docker.io/fnproject/python
d121f8d1c412: Pull complete
ca572574cc82: Pull complete
776716b0aa87: Pull complete
c37461631ba3: Pull complete
bdb458dd27ea: Pull complete
ef48ec0a621c: Pull complete
Digest: sha256:322c3d377c9f5e656d72f7a96fc5c92b64394f3f95cfa27a4ceb20cff63e6636
Status: Downloaded newer image for fnproject/python:3.8.5-dev
-> 6f44a31e7620
Step 2/13 : WORKDIR /function
-> Running in 7c31aa96ac15
Removing intermediate container 7c31aa96ac15
-> a3decac3aa44
Step 3/13 : ADD requirements.txt /function/
-> cb95c9564985
Step 4/13 : RUN pip3 install --target /python/ --no-cache --no-cache-dir -r requirements.txt &&
rm -fr ~/.cache/pip /tmp* requirements.txt func.yaml Dockerfile
venv &&
chmod -R o+r /python
-> Running in 231f24394aef
    
```

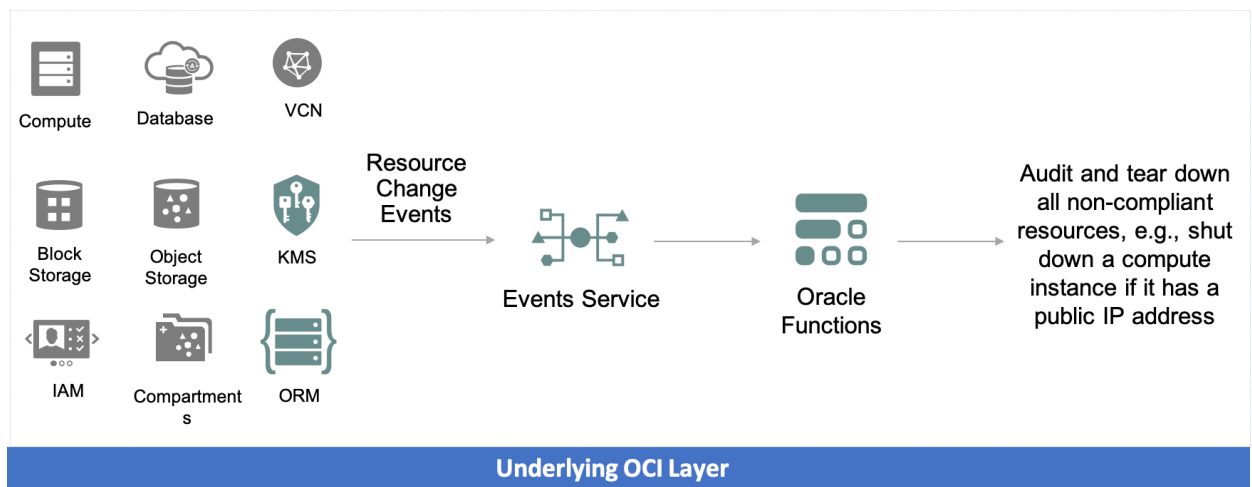
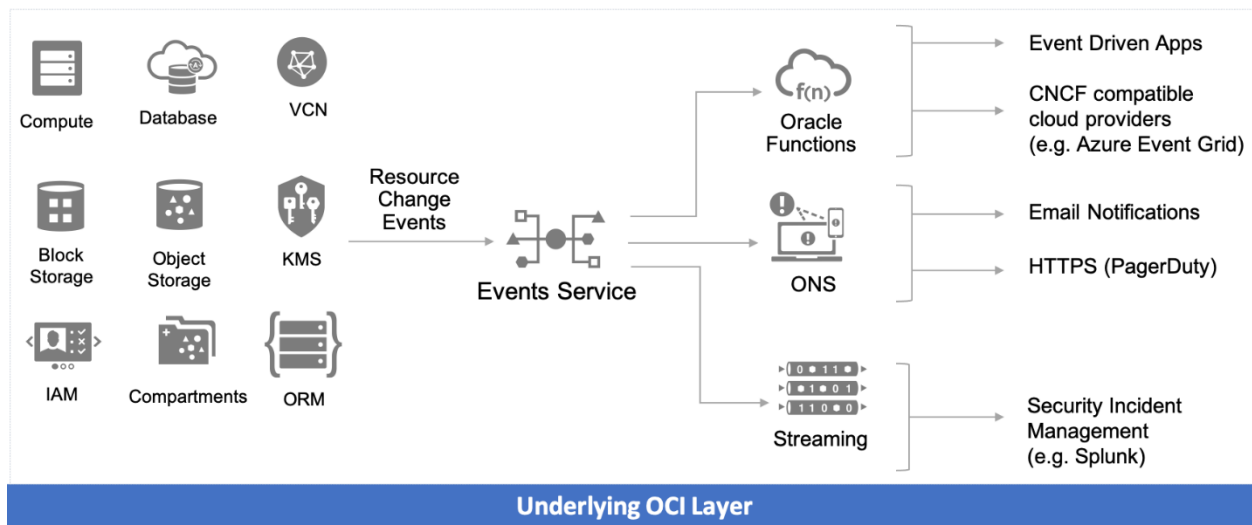
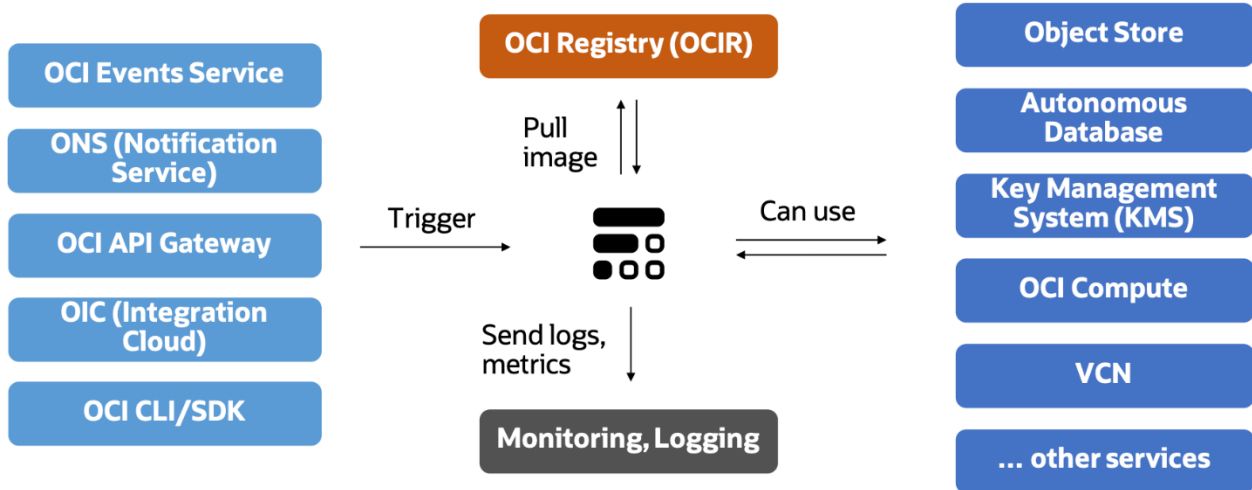
```
FROM oraclelinux:7-slim

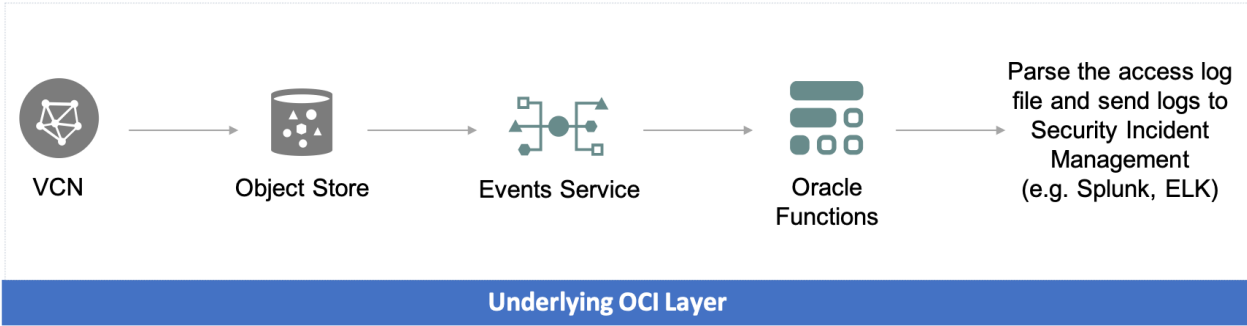
RUN yum -y install oracle-release-el7 oracle-nodejs-release-el7 && \
  yum-config-manager --disable ol7_developer_EPEL && \
  yum -y install oracle-instantclient19.3-basiclite nodejs && \
  rm -rf /var/cache/yum && \
  groupadd --gid 1000 fn && \
  adduser --uid 1000 --gid fn fn

WORKDIR /function
ADD . /function/
RUN npm install

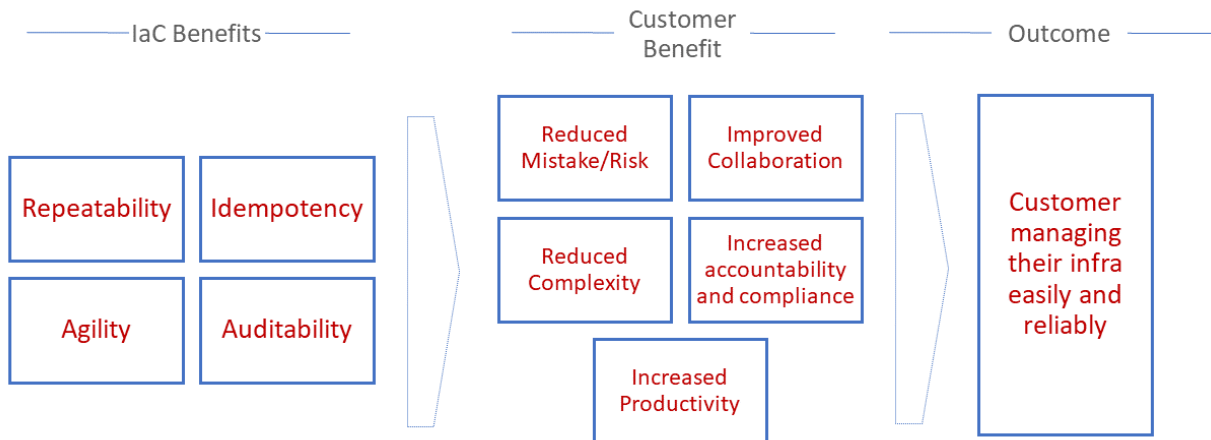
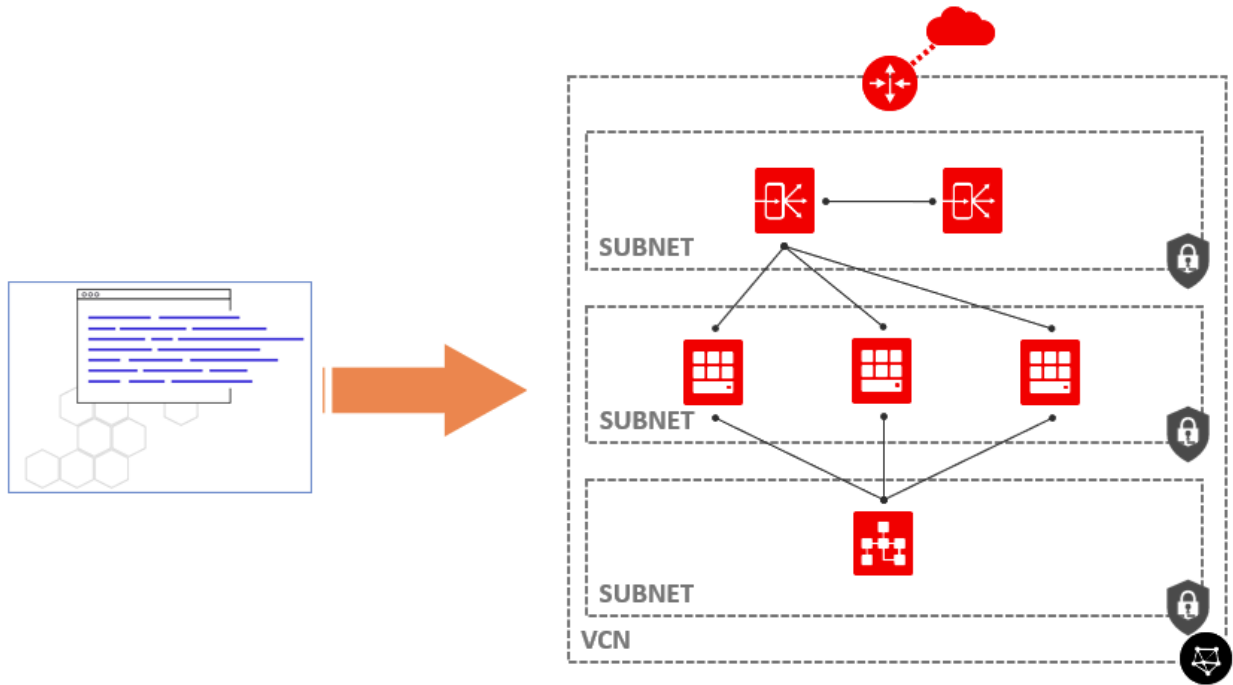
CMD exec node func.js
```

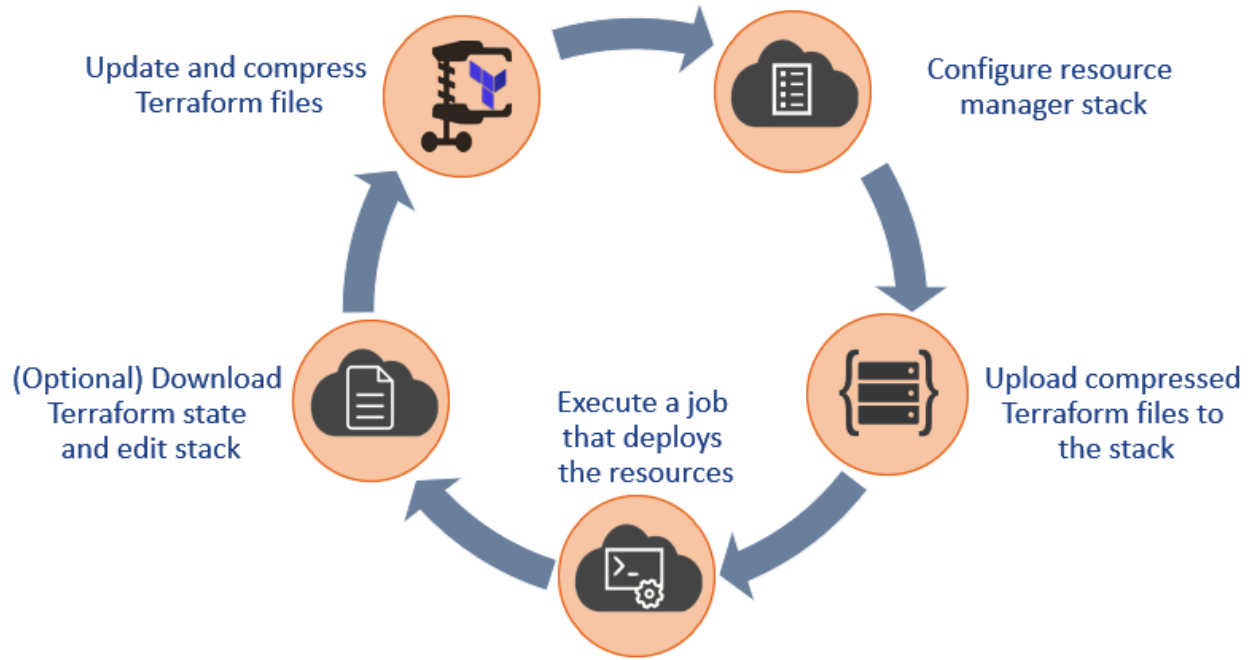
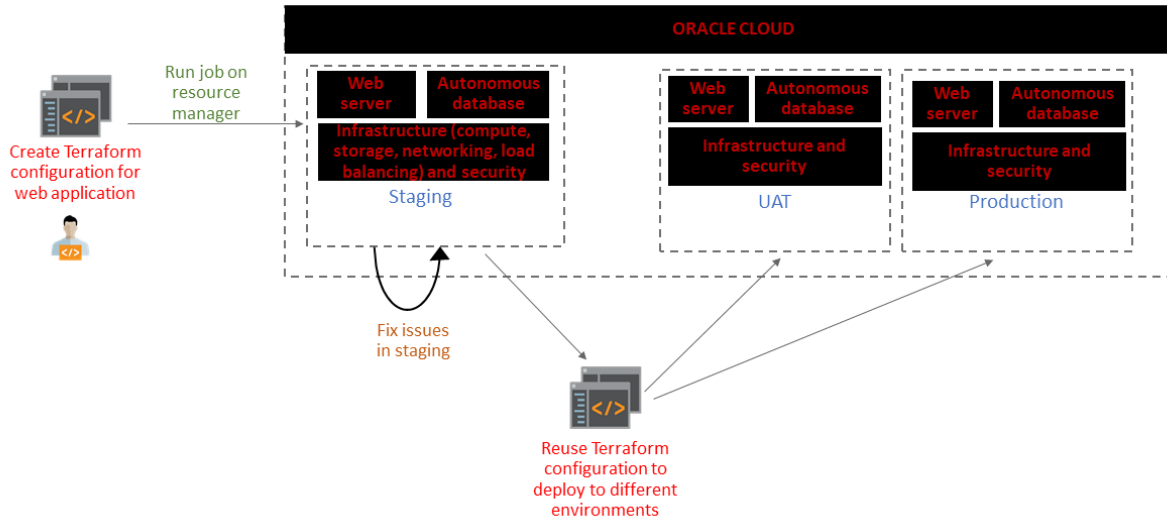




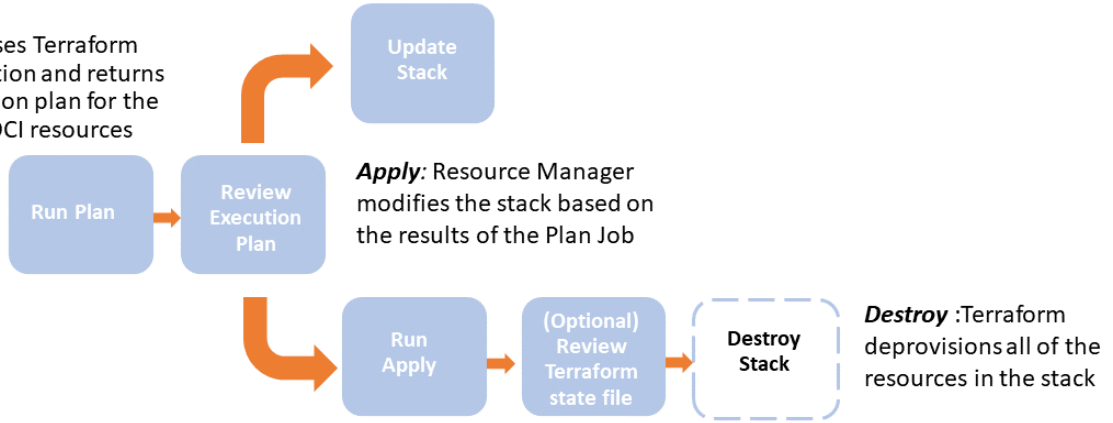


Chapter 9: Managing Infrastructure as Code on Oracle Cloud Infrastructure





Plan : Parses Terraform configuration and returns an execution plan for the effected OCI resources



Create Stack

- 1 **Stack Information**
- 2 [Configure Variables](#)
- 3 [Review](#)

A [stack](#) is a [Terraform configuration](#) that you can use to provision and manage your OCI resources. To provision the resources stack, [apply the configuration](#).

Choose the origin of the Terraform configuration. The Terraform configuration outlines the cloud resources to provision for this

- My Configuration**
Upload Terraform configuration files.
- Template**
Select an Oracle-provided template or private template.
- Source Code Control System**
Select a Terraform configuration from GitHub and GitLab.
- Existing Compartment**
Create a stack that captures resources from the selected compartment (resource discovery).

Stack Configuration ⓘ

Terraform configuration source

- Folder
- .Zip file

Drop a .zip file. [Browse](#)

OKE-TF.zip ×

Working Directory

The OKE-TF folder is being used as the working directory.

Name *Optional*

OKE-TF-20210330112005

Description *Optional*

Create in compartment

Demo

intprasenijits (root)/Demo

Terraform version

0.13.x

Support for Terraform version 0.11.x ends in May 2021.

Tags

Tagging is a metadata system that allows you to organize and track resources within your tenancy. Tags are composed of keys be attached to resources.

[Learn more about tagging](#)

[Next](#) [Cancel](#)

Create Stack

- 1 Stack Information
- 2 **Configure Variables**
- 3 Review

Configure the variables for the infrastructure resources that this stack will create when you run the apply job for this execution plan.

Compartment_ocid *Optional*

Region *Optional*

Node_pool_ssh_public_key *Optional*

Resource Manager » Stacks » Stack Details



OKE-TF-20210330112005

Edit Stack Move Resource Terraform Actions Add Tags More Actions

- Plan
- Apply
- Import State
- Destroy

Stack Information Tag

Description:

OCID: ...aknn4q [Show](#) [Copy](#)

Working Directory: OKE-TF

Terraform version: 0.13.x

Compartment: intraprenjts (root)/Demo

Terraform Configuration File (.zip): [Uploaded](#) [Upload New File](#) [Download](#)

Created: Tue, Mar 30, 2021, 10:20:28 UTC

Resources

Jobs

Variables

Work Requests

Jobs

A [job](#) is created when you run a Terraform action on a [stack](#). Use these Terraform actions to [plan](#), [provision](#), and [destroy](#) your OCI resources according to your configuration. You can also [import state files](#).

Name	Type	State	Start Time	End Time
No items				



SUCCEEDED

plan-job-20210330112040

[Edit Job](#) [Download Terraform Configuration](#) [Add Tags](#)

Job Information [Tags](#)

OCID: ...5zcg7q [Show](#) [Copy](#)

Compartment: intraprasenjts (root)/Demo

Job Type: Plan

State: ● Succeeded

Working Directory: OKE-TF

Start Time: Tue, Mar 30, 2021, 10:20:44 UTC

End Time: Tue, Mar 30, 2021, 10:21:16 UTC

Resources

[Logs](#)

[Variables](#)

Logs

[Download Logs](#) [Show Timestamps](#)

```
Initializing provider plugins...
- Finding latest version of hashicorp/oci...
- Installing hashicorp/oci v4.19.0...
- Installed hashicorp/oci v4.19.0 (unauthenticated)

The following providers do not have any version constraints in configuration,
so the latest version was installed.

To prevent automatic upgrades to new major versions that may contain breaking
changes, we recommend adding version constraints in a required_providers block
in your configuration, with the constraint strings suggested below.

*hashicorp/oci: version = ">= 4.19.0"

Terraform has been successfully initialized!

You may now begin working with Terraform. Try running "terraform plan" to see
any changes that are required for your infrastructure. All Terraform commands
should now work.

If you ever set or change modules or backend configuration for Terraform,
rerun this command to reinitialize your working directory. If you forget, other
commands will detect it and remind you to do so if necessary.
Refreshing Terraform state in-memory prior to plan...
The refreshed state will be used to calculate this plan, but will not be
```

Apply

[Help](#)

Name *Optional*

apply-job-20210330112314

Apply Job Plan Resolution

Automatically approve

Choose automatically approve or from the latest succeed plan job to apply



Resources defined by this stack will be deployed immediately. If you want to remove these resources later, you can run the Destroy job for this stack.

[Show Advanced Options](#)



SUCCEEDED

apply-job-20210330112314

[Edit Job](#)
[Download Terraform Configuration](#)
[Download Terraform State](#)
[Add Tags](#)

Job Information Tags

OCID: ...44mmsa [Show](#) [Copy](#)
Compartment: intrasenjlts (root)/Demo
Job Type: Apply **Plan Job ID:** Automatically approved
State: ● Succeeded **Working Directory:** OKE-TF
Start Time: Tue, Mar 30, 2021, 10:23:46 UTC **End Time:** Tue, Mar 30, 2021, 10:31:13 UTC

Resources

[Logs](#)

[Variables](#)

[Associated Resources](#)

[Outputs](#)

[View State](#)

Logs

[Download Logs](#)
[Show Timestamps](#)

```

oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [3m30s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [3m40s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [3m50s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [4m0s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [4m10s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [4m20s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [4m30s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [4m40s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [4m50s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [5m0s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [5m10s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [5m20s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [5m30s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [5m40s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [5m50s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [6m0s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [6m10s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [6m20s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [6m30s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Still creating... [6m40s elapsed]
oci_containerengine_cluster.OCI-Dev-Cluster: Creation complete after 6m44s [id=ociid1.cluster.oci.phx.aaaaaaafsdg2ddga2dgy1bhbhtgcyjzmzqvcnlogjrdkzrygydaodcmq2g]
oci_containerengine_node_pool.pool1: Creating...
oci_containerengine_node_pool.pool1: Creation complete after 8s [id=ociid1.nodepool.oci.phx.aaaaaaaeztizldme4dmrqmfrtimgmygojsgiytombzmn2giy1bg5sg]

Apply complete! Resources: 10 added, 0 changed, 0 destroyed.
    
```

Resources

[Logs](#)

[Variables](#)

[Associated Resources](#)

[Outputs](#)

[View State](#)

Associated Resources

Name	Type	Attributes	Time Created
Default DHCP Options for oke-vcn	oci_core_default_dhcp_options	9 attributes Show Copy	Tue, Mar 30, 2021, 10:24:09 UTC
OCI-Dev-Cluster	oci_containerengine_cluster	14 attributes Show Copy	-
oke-igw	oci_core_internet_gateway	10 attributes Show Copy	Tue, Mar 30, 2021, 10:24:09 UTC
oke-routetable	oci_core_default_route_table	9 attributes Show Copy	Tue, Mar 30, 2021, 10:24:09 UTC
oke-seclist	oci_core_security_list	11 attributes Show Copy	Tue, Mar 30, 2021, 10:24:10 UTC
oke-subnet-regional	oci_core_subnet	22 attributes Show Copy	Tue, Mar 30, 2021, 10:24:10 UTC
oke-svcibseclist	oci_core_default_security_list	10 attributes Show Copy	Tue, Mar 30, 2021, 10:24:09 UTC
oke-svcibsubnet-regional	oci_core_subnet	22 attributes Show Copy	Tue, Mar 30, 2021, 10:24:13 UTC
oke-vcn	oci_core_vcn	18 attributes Show Copy	Tue, Mar 30, 2021, 10:24:09 UTC
pool1	oci_containerengine_node_pool	19 attributes Show Copy	-

Showing 10 Associated Resources < 1 of 1 >

Create Stack

- 1 **Stack Information**
- 2 [Configure Variables](#)
- 3 [Review](#)

A [stack](#) is a [Terraform configuration](#) that you can use to provision and manage your OCI resources. To provision the stack, [apply the configuration](#).

Choose the origin of the Terraform configuration. The Terraform configuration outlines the cloud resources to provision.

- My Configuration**
Upload Terraform configuration files.
- Template**
Select an Oracle-provided template or private template.
- Source Code Control System**
Select a Terraform configuration from GitHub and GitLab.
- Existing Compartment**
Create a stack that captures resources from the selected compartment (resource discovery).

Stack Configuration ⓘ

Compartment for Resource Discovery

Demo

inprasejits (root)/Demo

Region for Resource Discovery

us-phoenix-1

Terraform Provider Services ⓘ

- All
- Selected

Services [Select All](#) [Clear All](#)

Select...

Note: Subcompartments are not used in stack creation.

Name *Optional*

from-compartment-Demo-20210330123335

Description *Optional*

Create in compartment

Demo

inprasejits (root)/Demo



Support for Terraform version 0.11.x ends in May 2021.

Tags

Tagging is a metadata system that allows you to organize and track resources within your tenancy. Tags are composed be attached to resources.

[Next](#)

[Cancel](#)



ACTIVE

from-compartment-Demo-20210330123335

- Edit Stack
- Move Resource
- Terraform Actions
- Add Tags
- More Actions

Stack Information

Stack Information

Description:
Compartment: intraprasnjits (root)/Demo
OCID: ...qulemq [Show](#) [Copy](#)
Terraform Configuration File (.zip): Uploaded [Upload New File](#) [Download](#)
Created: Tue, Mar 30, 2021, 11:40:29 UTC
Terraform version: 0.13.x

Configuration Source Information

Compartment: intraprasnjits (root)/Demo
Region: PHX

ORACLE Cloud Search for resources, services, and documentation US West (Phoenix) [Icons]

Resource Manager Configuration Source Providers in Demo Compartment

A [configuration source provider](#) defines the endpoint information for a source code control system. This integration enables you to achieve creating a [stack](#), you can select a configuration source provider and options for the [Terraform configuration](#) you want.

[Create Configuration Source Provider](#)

Name	Type	Created
No items		

List Scope: Demo (intraprasnjits (root)/Demo)

Tag Filters: add | clear

Create Configuration Source Provider

A [configuration source provider](#) defines the endpoint information for a source code control system. This integration enables you to achieve [continuous integration and continuous delivery \(CI/CD\)](#) for provisioning your infrastructure. When creating a [stack](#), you can select a configuration source provider and options for the [Terraform configuration](#) you want.

Name: github

Description: Optional

Compartment: Demo (intraprasnjits (root)/Demo)

Type: GitHub

Server URL: https://github.com

Personal Access Token: [Redacted]

The token must be granted the read_repo scope. [Learn more](#)

[Show Advanced Options](#)

[Create](#) [Cancel](#)

Create Stack

- 1 Stack Information
- 2 Configure Variables
- 3 Review

A [stack](#) is a [Terraform configuration](#) that you can use to provision and manage your OCI resources. To provision the res stack, [apply the configuration](#).

Choose the origin of the Terraform configuration. The Terraform configuration outlines the cloud resources to provision

- My Configuration
Upload Terraform configuration files.
- Template
Select an Oracle-provided template or private template.
- Source Code Control System
Select a Terraform configuration from GitHub and GitLab.
- Existing Compartment
Create a stack that captures resources from the selected compartment (resource discovery).

Stack Configuration ⓘ

Configuration Source Provider in **Demo** [\(Change Compartment\)](#)

github

Repository

oke-terraform-ci-cd

Branch

master

Name *Optional*

Stack-20210330134045

Description *Optional*

Create in compartment

Demo

intprasnjlts (root)/Demo

Terraform version

0.13.x

ⓘ Support for Terraform version 0.11.x ends in May 2021.

Tags

Tagging is a metadata system that allows you to organize and track resources within your tenancy. Tags are composed be attached to resources.

[Learn more about tagging](#)

Tag Namespace

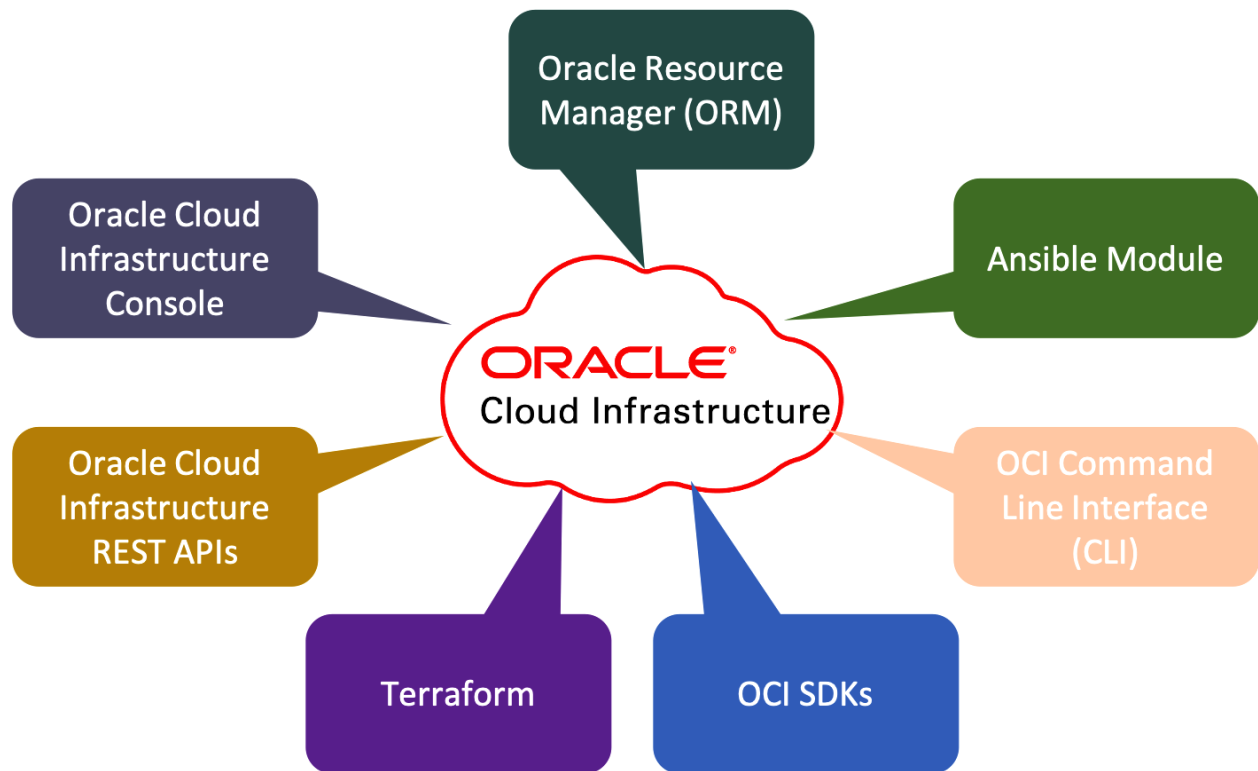
Tag Key

Value

Next

[Cancel](#)

Chapter 10: Interacting with Oracle Cloud Infrastructure Using the CLI/API/SDK



Create Compute Instance

NAME

CREATE IN COMPARTMENT

intraprasenjits (root)/Dev

Configure placement and hardware Collapse

The [availability domain](#) helps determine which shapes are available. A [shape](#) is a template that determines the number of CPUs, amount of memory, and other resources allocated to an instance. The image is the operating system that runs on top of the shape.

AVAILABILITY DOMAIN

AD 1 uvZi:PHX-AD-1 ✓	AD 2 uvZi:PHX-AD-2	AD 3 uvZi:PHX-AD-3
--------------------------------	------------------------------	------------------------------

CHOOSE A FAULT DOMAIN FOR THIS INSTANCE
If you don't select a fault domain, Oracle will choose the best placement for you. [Learn more](#)

FAULT DOMAIN

Image

	Oracle Linux 7.8 Image Build: 2020.09.23-0	<input type="button" value="Change Image"/>
---	---	---

Shape

	VM.Standard.E3.Flex Virtual Machine, 1 core OCPU, 16 GB memory, 1 Gbps network bandwidth	<input type="button" value="Change Shape"/>
---	---	---

Configure networking

[Collapse](#)

[Networking](#) is how your instance connects to the internet and other resources in the Console. To make sure you can [connect to your instance](#), assign a public IP address to the instance.

NETWORK

- SELECT EXISTING VIRTUAL CLOUD NETWORK CREATE NEW VIRTUAL CLOUD NETWORK ENTER SUBNET OCID

VIRTUAL CLOUD NETWORK IN DEV [\(CHANGE COMPARTMENT\)](#)

DevVCN

SUBNET

- SELECT EXISTING SUBNET CREATE NEW PUBLIC SUBNET

SUBNET IN DEV ⓘ [\(CHANGE COMPARTMENT\)](#)

Public Subnet-DevVCN (Regional)

- USE NETWORK SECURITY GROUPS TO CONTROL TRAFFIC ⓘ

PUBLIC IP ADDRESS

- ASSIGN A PUBLIC IP ADDRESS DO NOT ASSIGN A PUBLIC IP ADDRESS



Assigning a public IP address makes this instance accessible from the internet. If you're not sure whether you need a public IP address, you can always assign one later.

Add SSH keys

Linux-based instances use an [SSH key pair](#) instead of a password to authenticate remote users. Generate a key pair or upload your own public key now. When you [connect to the instance](#), you will provide the associated private key.

- GENERATE SSH KEY PAIR CHOOSE PUBLIC KEY FILES PASTE PUBLIC KEYS NO SSH KEYS



Download the private key so that you can connect to the instance using SSH. It will not be shown again.

↓ Save Private Key

↓ [Save Public Key](#)



OCI-Demo

Start Stop Reboot Edit More Actions

Instance Information Tags

General Information

Availability Domain: AD-1
Fault Domain: FD-1
Region: phx
OCID: ...vrk3nq Show Copy
Launched: Mon, Oct 26, 2020, 20:52:21 UTC
Compartment: intraprenjits (root)/Dev
Oracle Cloud Agent Management: Enabled ⓘ

Instance Details

Virtual Cloud Network: DevVCN
Maintenance Reboot: -
Image: Oracle-Linux-7.8-2020.09.23-0
Launch Mode: NATIVE
Instance Metadata Service: Versions 1 and 2 Edit ⓘ
Maintenance Recovery Action: Restore Instance

Shape Configuration

Shape: VM.Standard.E3.Flex
OCPU Count: 1
Network Bandwidth (Gbps): 1
Memory (GB): 16
Local Disk: Block Storage Only

Instance Access

You [connect to a running Linux instance](#) using a Secure Shell (SSH) connection. You'll need the private key from the SSH key pair that was used to create the instance.

Public IP Address: 129.146.200.107 Copy
Username: opc

Primary VNIC

Private IP Address: 10.0.0.19
Network Security Groups: None Edit ⓘ
Internal FQDN: oci-demo... Show Copy
Subnet: Public Subnet-DevVCN

Launch Options

NIC Attachment Type: VFIO
Remote Data Volume: PARAVIRTUALIZED
Firmware: UEFI_64
Boot Volume Type: PARAVIRTUALIZED
In-transit Encryption: Disabled

Resources

- [Metrics](#)
- [Attached Block Volumes](#)
- [Attached VNICs](#)

[Terms of Use and Privacy](#) [Cookie Preferences](#)

Work Requests

A [work request](#) is an activity log that tracks each step in an asynchronous operation. Use work requests to monitor the progress of long-running operations.

Operation	State	% Complete	Accepted	Started	Finished
Create instance	● Succeeded	100	Mon, Oct 26, 2020, 20:52:20 UTC	Mon, Oct 26, 2020, 20:52:31 UTC	Mon, Oct 26, 2020, 20:53:38 UTC

```
prassark — opc@oci-cli:~ — ssh -i Desktop/ssh-keys/jid_rsa opc@129.146.167.152 — 202x88
[opc@oci-cli ~]$ bash -c "$(curl -L https://raw.githubusercontent.com/oracle/oci-cli/master/scripts/install/install.sh)"
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 17353 100 17353 0 0 71895 0 --:--:-- --:--:-- --:--:-- 72004

*****
You have started the OCI CLI Installer in interactive mode. If you do not wish
to run this in interactive mode, please include the --accept-all-defaults option.
If you have the script locally and would like to know more about
input options for this script, then you can run:
./install.sh -h
If you would like to know more about input options for this script, refer to:
https://github.com/oracle/oci-cli/blob/master/scripts/install/README.rst
*****
Downloading Oracle Cloud Infrastructure CLI install script from https://raw.githubusercontent.com/oracle/oci-cli/v2.22.0/scripts/install/install.py to /tmp/oci_cli_install_tmp_JYGq.
***** 100.0%
Running install script.
python3 /tmp/oci_cli_install_tmp_JYGq
-- Verifying Python version.
-- Python version 3.6.8 okay.

[====> In what directory would you like to place the install? (leave blank to use '/home/opc/lib/oracle-cli'):]
-- Creating directory '/home/opc/lib/oracle-cli'.
-- We will install at '/home/opc/lib/oracle-cli'.

[====> In what directory would you like to place the 'oci' executable? (leave blank to use '/home/opc/bin'):]
-- Creating directory '/home/opc/bin'.
-- The executable will be in '/home/opc/bin'.

[====> In what directory would you like to place the OCI scripts? (leave blank to use '/home/opc/bin/oci-cli-scripts'):]
-- Creating directory '/home/opc/bin/oci-cli-scripts'.
-- The scripts will be in '/home/opc/bin/oci-cli-scripts'.

[====> Currently supported optional packages are: ['db (will install cx_Oracle)']]
What optional CLI packages would you like to be installed (comma separated names; press enter if you don't need any optional packages)?:
-- The optional packages installed will be ''.
-- Trying to use python3 venv.
-- Executing: ['/usr/bin/python3', '-m', 'venv', '/home/opc/lib/oracle-cli']
-- Executing: ['/home/opc/lib/oracle-cli/bin/pip', 'install', '--upgrade', 'pip']
Collecting pip
Using cached https://files.pythonhosted.org/packages/cd/82/04e9aaf683fdbaecb4323b9e723f13c92c245f6ab2902195c53987848c78/pip-21.1.2-py3-none-any.whl
Installing collected packages: pip
Found existing installation: pip 9.0.3
Uninstalling pip-9.0.3:
Successfully uninstalled pip-9.0.3
Successfully installed pip-21.1.2
-- Executing: ['/home/opc/lib/oracle-cli/bin/pip', 'install', '--cache-dir', '/tmp/tmpnv_7cjpj', 'wheel', '--upgrade']
Collecting wheel
Downloading wheel-0.36.2-py2.py3-none-any.whl (35 kB)
Installing collected packages: wheel
Successfully installed wheel-0.36.2
-- Executing: ['/home/opc/lib/oracle-cli/bin/pip', 'install', '--cache-dir', '/tmp/tmpnv_7cjpj', 'oci_cli', '--upgrade']
Collecting oci_cli
Downloading oci_cli-2.25.1-py2.py3-none-any.whl (18.9 MB)
|#####| 18.9 MB 2.4 MB/s
Collecting six==1.14.0
Downloading six-1.14.0-py2.py3-none-any.whl (10 kB)
Collecting arrow==0.17.0
Downloading arrow-0.17.0-py2.py3-none-any.whl (50 kB)
|#####| 50 kB 10.8 MB/s
Collecting oci==2.39.0
Downloading oci-2.39.0-py2.py3-none-any.whl (9.4 MB)
|#####| 9.4 MB 47.1 MB/s
Collecting pytz==2016.10
Downloading pytz-2021.1-py2.py3-none-any.whl (510 kB)
|#####| 510 kB 35.4 MB/s
Collecting terminaltables==3.1.0
Downloading terminaltables-3.1.0.tar.gz (12 kB)
Collecting PyYAML==5.4.1
Downloading PyYAML-5.4.1-cp36-cp36m-manylinux1_x86_64.whl (640 kB)
|#####| 640 kB 50.2 MB/s
Collecting certifi
Downloading certifi-2021.5.30-py2.py3-none-any.whl (145 kB)
|#####| 145 kB 55.8 MB/s
Collecting jmespath==0.10.0
Downloading jmespath-0.10.0-py2.py3-none-any.whl (24 kB)
Collecting python-dateutil<3.0.0,>=2.5.3
Downloading python_dateutil-2.8.1-py2.py3-none-any.whl (227 kB)
|#####| 227 kB 54.5 MB/s
Collecting cryptography==3.3.2
Downloading cryptography-3.3.2-cp36-abi3-manylinux2010_x86_64.whl (2.6 MB)
|#####| 2.6 MB 44.2 MB/s
Collecting click==6.7
Downloading click-6.7-py2.py3-none-any.whl (71 kB)
|#####| 71 kB 14.3 MB/s
Collecting configparser==4.0.2
Downloading configparser-4.0.2-py2.py3-none-any.whl (22 kB)
Collecting pyOpenSSL==19.1.0
```



```
[opc@oci-cli ~]$ oci setup config
This command provides a walkthrough of creating a valid CLI config file.

The following links explain where to find the information required by this
script:

User API Signing Key, OCID and Tenancy OCID:

    https://docs.cloud.oracle.com/Content/API/Concepts/apisigningkey.htm#Other

Region:

    https://docs.cloud.oracle.com/Content/General/Concepts/regions.htm

General config documentation:

    https://docs.cloud.oracle.com/Content/API/Concepts/sdkconfig.htm

Enter a location for your config [/home/opc/.oci/config]:
Enter a user OCID: ocid1.user.oc1..aaaaaaaa4al7gtyucaw7jyzk73aldx7qhfpy476ccd6ru6vywstixdrkhwqa
Enter a tenancy OCID: ocid1.tenancy.oc1..aaaaaaaaqmq5gmfb7vyqn7smwvyk7orckdwa5wf3f2xqe2i34zygqqa6bha
Enter a region by index or name(e.g.
1: ap-chiyoda-1, 2: ap-chuncheon-1, 3: ap-hyderabad-1, 4: ap-melbourne-1, 5: ap-mumbai-1,
6: ap-osaka-1, 7: ap-seoul-1, 8: ap-sydney-1, 9: ap-tokyo-1, 10: ca-montreal-1,
11: ca-toronto-1, 12: eu-amsterdam-1, 13: eu-frankfurt-1, 14: eu-zurich-1, 15: me-dubai-1,
16: me-jeddah-1, 17: sa-santiago-1, 18: sa-saopaulo-1, 19: sa-vinhedo-1, 20: uk-cardiff-1,
21: uk-gov-cardiff-1, 22: uk-gov-london-1, 23: uk-london-1, 24: us-ashburn-1, 25: us-gov-ashburn-1,
26: us-gov-chicago-1, 27: us-gov-phoenix-1, 28: us-langley-1, 29: us-luke-1, 30: us-phoenix-1,
31: us-sanjose-1): us-phoenix-1
Do you want to generate a new API Signing RSA key pair? (If you decline you will be asked to supply the path to an existing key.) [Y/n]: Y
Enter a directory for your keys to be created [/home/opc/.oci]:
Enter a name for your key [oci_api_key]:
Public key written to: /home/opc/.oci/oci_api_key_public.pem
Enter a passphrase for your private key (empty for no passphrase):
Private key written to: /home/opc/.oci/oci_api_key.pem
Fingerprint: 1d:ff:db:ab:85:70:6c:e4:fb:5a:74:96:11:61:00:7f
Config written to /home/opc/.oci/config

If you haven't already uploaded your API Signing public key through the
console, follow the instructions on the page linked below in the section
'How to upload the public key':

    https://docs.cloud.oracle.com/Content/API/Concepts/apisigningkey.htm#How2

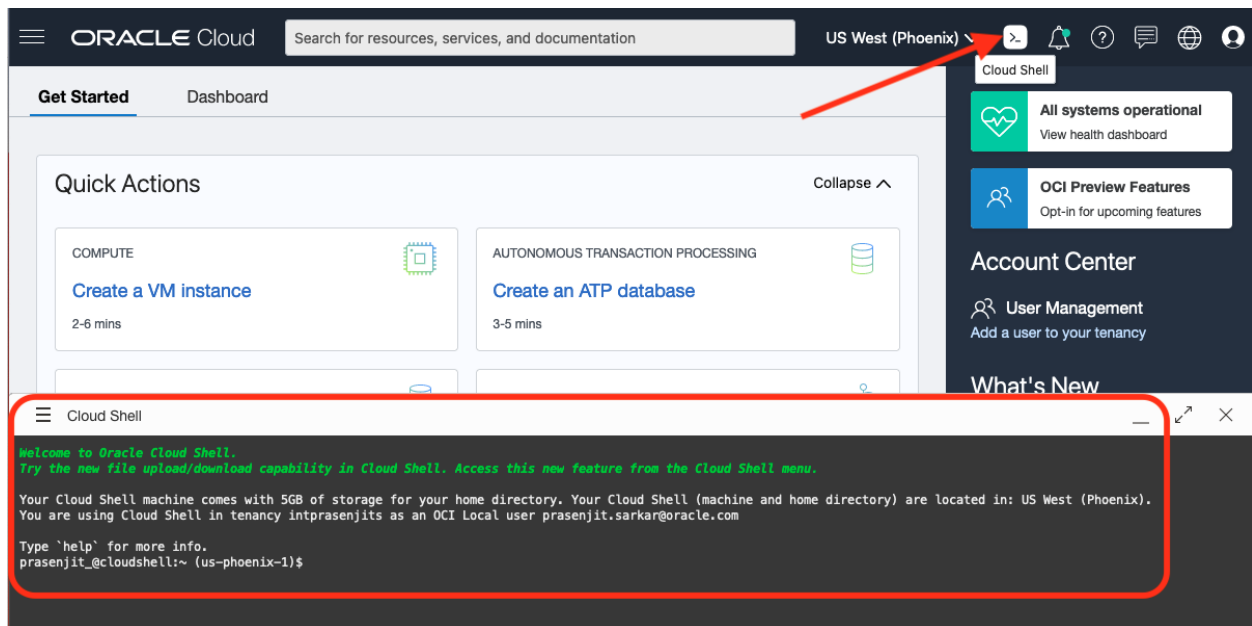
[opc@oci-cli ~]$ █
```

```
[opc@oci-cli ~]$ oci iam compartment list -c ocid1.tenancy.oc1..aaaaaaaaaamq5gmfb7vyqn7smvvyk7orckdtwa5wf3f2xqe2i34zygqqa6bha
```

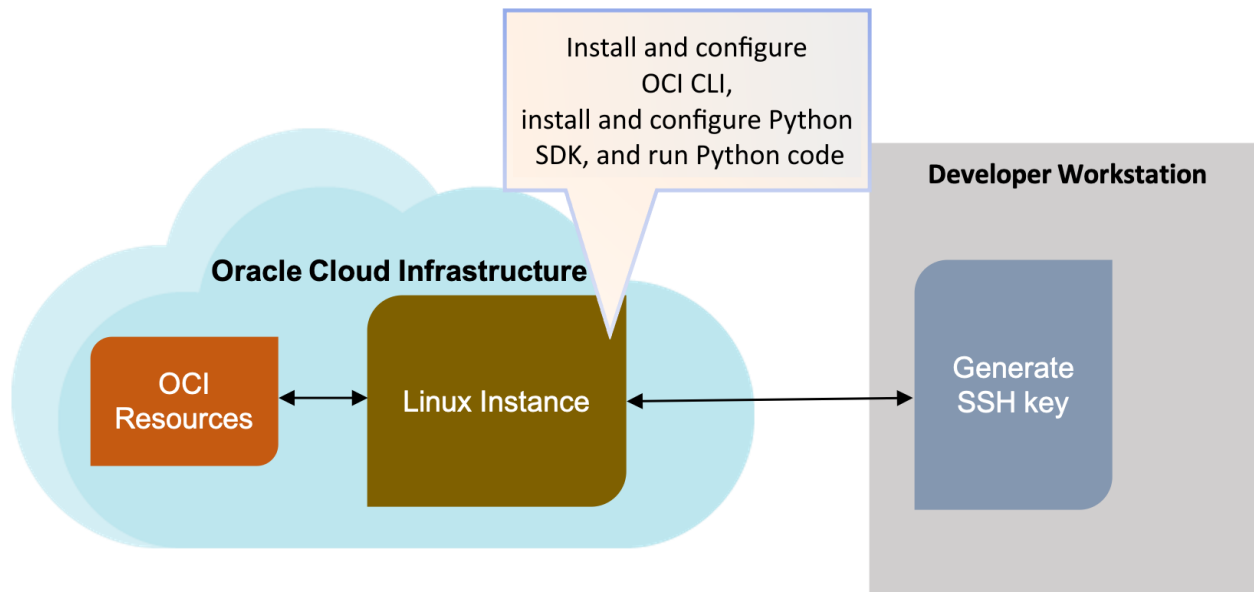
```
{
  "data": [
    {
      "compartment-id": "ocid1.tenancy.oc1..aaaaaaaaaamq5gmfb7vyqn7smvvyk7orckdtwa5wf3f2xqe2i34zygqqa6bha",
      "defined-tags": {},
      "description": "This is the main compartment",
      "freeform-tags": {},
      "id": "ocid1.compartment.oc1..aaaaaaaa7v7w53f52covek2m7nk2mvzvu2lijj5x2w4kjjqaundch733il3q",
      "inactive-status": null,
      "is-accessible": null,
      "lifecycle-state": "ACTIVE",
      "name": "Demo",
      "time-created": "2021-01-20T09:44:57.466000+00:00"
    },
    {
      "compartment-id": "ocid1.tenancy.oc1..aaaaaaaaaamq5gmfb7vyqn7smvvyk7orckdtwa5wf3f2xqe2i34zygqqa6bha",
      "defined-tags": {
        "OracleInternalReserved": {
          "ServiceType": "Other"
        }
      },
      "description": "Dev Comp",
      "freeform-tags": {},
      "id": "ocid1.compartment.oc1..aaaaaaaabif133rrjfy7qckktu3jkbq7b5jaf471xcgk226igq6vcox6qj5a",
      "inactive-status": null,
      "is-accessible": null,
      "lifecycle-state": "ACTIVE",
      "name": "Dev",
      "time-created": "2020-08-06T17:50:11.213000+00:00"
    },
    {
      "compartment-id": "ocid1.tenancy.oc1..aaaaaaaaaamq5gmfb7vyqn7smvvyk7orckdtwa5wf3f2xqe2i34zygqqa6bha",
      "defined-tags": {},
      "description": "For Dyn Demo and Test",
      "freeform-tags": {},
      "id": "ocid1.compartment.oc1..aaaaaaa4tmuc26fodp6qiyytaimvbxw4si2aldgjmj2cox4yaujh33skglq",
      "inactive-status": null,
      "is-accessible": null,
      "lifecycle-state": "ACTIVE",
      "name": "Dyn",
      "time-created": "2017-09-14T14:04:42.893000+00:00"
    },
    {
      "compartment-id": "ocid1.tenancy.oc1..aaaaaaaaaamq5gmfb7vyqn7smvvyk7orckdtwa5wf3f2xqe2i34zygqqa6bha",
      "defined-tags": {},
      "description": "Test",
      "freeform-tags": {},
      "id": "ocid1.compartment.oc1..aaaaaaaaaxqpui6bihjyr5eueflge53yksuroheizm6wbuczajqacamma",
      "inactive-status": null,
      "is-accessible": null,
      "lifecycle-state": "ACTIVE",
      "name": "FirstTuesday",
      "time-created": "2017-02-07T13:00:30.325000+00:00"
    },
    {
      "compartment-id": "ocid1.tenancy.oc1..aaaaaaaaaamq5gmfb7vyqn7smvvyk7orckdtwa5wf3f2xqe2i34zygqqa6bha",
      "defined-tags": {},
      "description": "PoC",
      "freeform-tags": {},
      "id": "ocid1.compartment.oc1..aaaaaaa5q2efwl7wzugahn4fy5c4hxzf6vcywg4i2tainvaquz5d56iybwq",
      "inactive-status": null,
      "is-accessible": null,
      "lifecycle-state": "ACTIVE",
      "name": "Golang",
      "time-created": "2017-05-24T09:33:28.939000+00:00"
    },
    {
      "compartment-id": "ocid1.tenancy.oc1..aaaaaaaaaamq5gmfb7vyqn7smvvyk7orckdtwa5wf3f2xqe2i34zygqqa6bha",
      "defined-tags": {},
      "description": "This is the Mgmt Comp for Managing Management Resources",
      "freeform-tags": {},
      "id": "ocid1.compartment.oc1..aaaaaaaadron74mugrb4csyzy3k64dbc5k27zggqd2kzh2rvrughn7m5vkvq",
      "inactive-status": null,
      "is-accessible": null,
      "lifecycle-state": "ACTIVE",
      "name": "Management",
      "time-created": "2017-10-19T16:01:38.956000+00:00"
    },
    {
      "compartment-id": "ocid1.tenancy.oc1..aaaaaaaaaamq5gmfb7vyqn7smvvyk7orckdtwa5wf3f2xqe2i34zygqqa6bha",
      "defined-tags": {},
      "description": "This is for all OSS Testing",
      "freeform-tags": {},
      "id": "ocid1.compartment.oc1..aaaaaaaarcnhae2ua5d52woc4wnvhifsq6obv3rq7o3ftkmyul5d52qlrua",
      "inactive-status": null,

```

```
[opc@oci-cli ~]$ oci os bucket create --name testbucket --compartment-id ocid1.compartment.oc1..aaaaaaaa7v7w53f52covek2m7nk2mvzvu21ijj5x2w4kjjqandch733i13q
{
  "data": {
    "approximate-count": null,
    "approximate-size": null,
    "auto-tiering": null,
    "compartment-id": "ocid1.compartment.oc1..aaaaaaaa7v7w53f52covek2m7nk2mvzvu21ijj5x2w4kjjqandch733i13q",
    "created-by": "ocid1.user.oc1..aaaaaaaa4al7gyucaw7jyzk73aldx7qhfp476cc6ru6vywtixdrkhwqa",
    "defined-tags": {},
    "etag": "8d1b3f90-f95c-4b4a-8682-92c80e43bb4b",
    "freeform-tags": {},
    "id": "ocid1.bucket.oc1.phx.aaaaaaaaadmc6je5zbay6hbffjq2ghiutmo21mnfltxgezthuputxw6kha",
    "is-read-only": false,
    "kms-key-id": null,
    "metadata": {},
    "name": "testbucket",
    "namespace": "intprajenits",
    "object-events-enabled": false,
    "object-lifecycle-policy-etag": null,
    "public-access-type": "NoPublicAccess",
    "replication-enabled": false,
    "storage-tier": "Standard",
    "time-created": "2021-06-05T09:12:25.522000+00:00",
    "versioning": "Disabled"
  },
  "etag": "8d1b3f90-f95c-4b4a-8682-92c80e43bb4b"
}
[opc@oci-cli ~]$
```



Java SDK	Python SDK	Ruby SDK	Go SDK	Typescript and JavaScript SDK	.NET SDK
GitHub or Maven	GitHub or Python Package Index (PyPi)	GitHub or RubyGems	Download: GitHub	GitHub or NPM	GitHub or Nuget



```

prassark — opc@oci-cli:~ — ssh -i Desktop/ssh-keys/id_rsa opc@129.146.167.152 — 294x88
[opc@oci-cli ~]$ python3.6 -m pip install oci
Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: oci in /usr/lib/python3.6/site-packages (2.28.0)
Requirement already satisfied: certifi in /usr/lib/python3.6/site-packages (from oci) (2018.10.15)
Requirement already satisfied: configparser==4.0.2 in /usr/lib/python3.6/site-packages (from oci) (4.0.2)
Collecting cryptography==3.2.1
  Downloading cryptography-3.2.1-cp35-abi3-manylinux2010_x86_64.whl (2.6 MB)
    |████████████████████████████████████████| 2.6 MB 19.3 MB/s
Collecting pyOpenSSL<=19.1.0,>=17.5.0
  Downloading pyOpenSSL-19.1.0-py2.py3-none-any.whl (53 kB)
    |████████████████████████████████████████| 53 kB 3.9 MB/s
Collecting python-dateutil<3.0.0,>=2.5.3
  Downloading python_dateutil-2.8.1-py2.py3-none-any.whl (227 kB)
    |████████████████████████████████████████| 227 kB 54.8 MB/s
Requirement already satisfied: pytz>=2016.10 in /usr/lib/python3.6/site-packages (from oci) (2016.10)
Collecting six>=1.4.1
  Downloading six-1.16.0-py2.py3-none-any.whl (11 kB)
Requirement already satisfied: cffi!=1.11.3,>=1.8 in /usr/local/lib64/python3.6/site-packages (from cryptography==3.2.1->oci) (1.14.5)
Requirement already satisfied: pycparser in /usr/lib/python3.6/site-packages (from cffi!=1.11.3,>=1.8->cryptography==3.2.1->oci) (2.14)
Installing collected packages: six, cryptography, python-dateutil, pyOpenSSL
Successfully installed cryptography-3.2.1 pyOpenSSL-19.1.0 python-dateutil-2.8.1 six-1.16.0
[opc@oci-cli ~]$

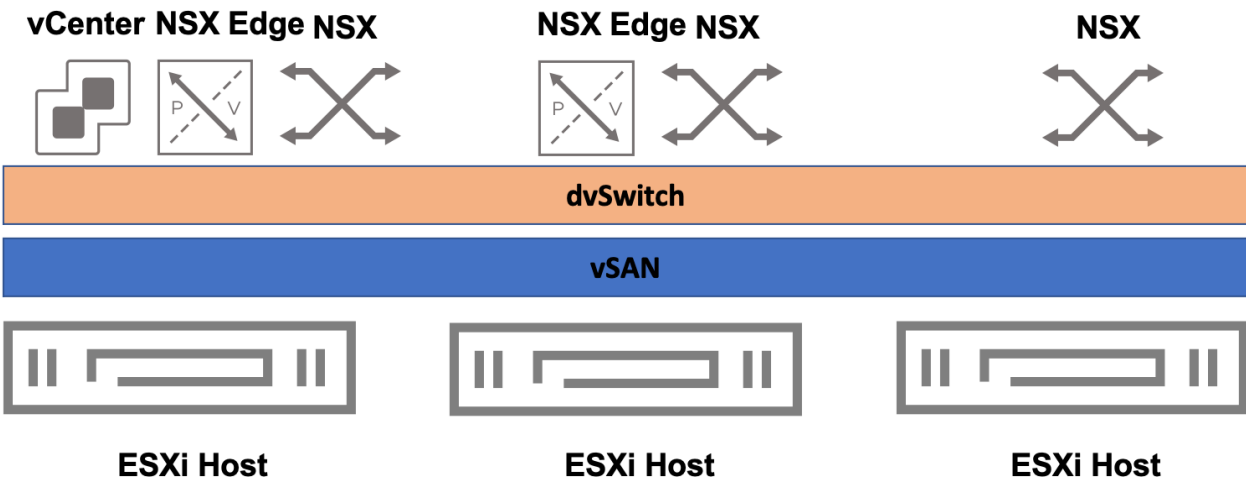
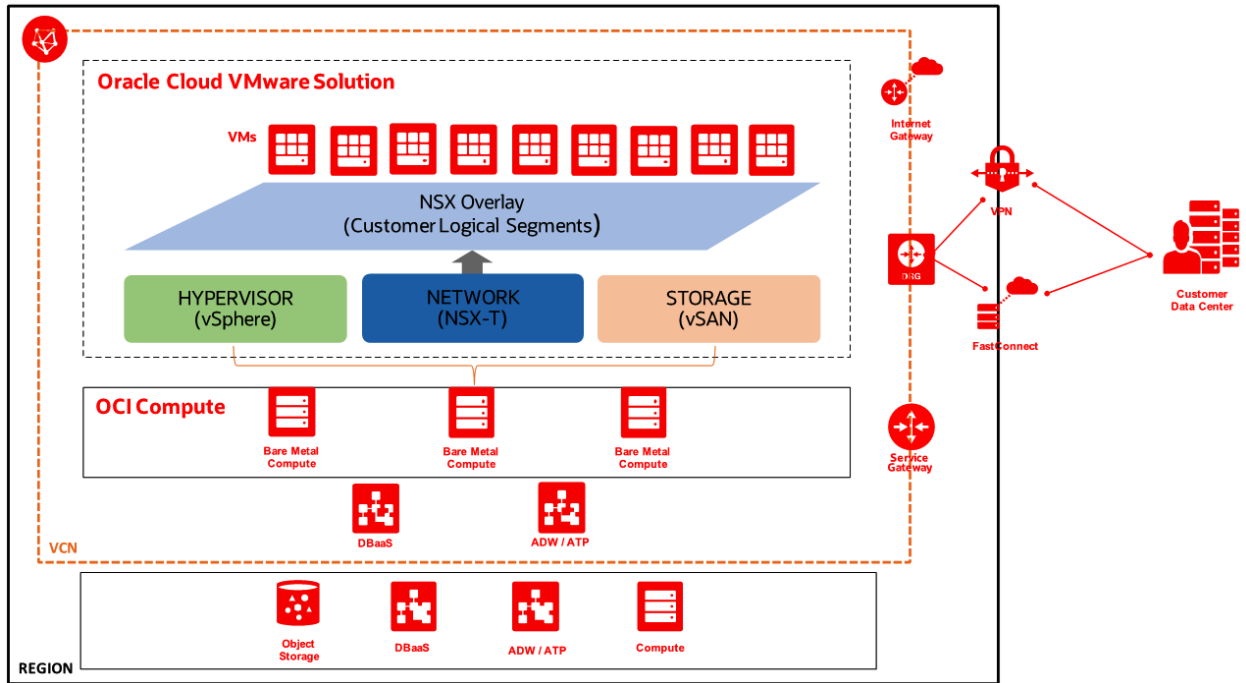
```

```
[[opc@oci-cli ~]$ python3.6 user.py
{
  "capabilities": {
    "can_use_api_keys": true,
    "can_use_auth_tokens": true,
    "can_use_console_password": true,
    "can_use_customer_secret_keys": true,
    "can_use_o_auth2_client_credentials": true,
    "can_use_smtp_credentials": true
  },
  "compartment_id": "ocid1.tenancy.oc1..aaaaaaaamq5gmfb7vyqn7smwvyk7orckdwa5wf3f2xqe2i34zygqqa6bha",
  "defined_tags": {},
  "description": "PrasenjitSarkar",
  "email": null,
  "email_verified": false,
  "external_identifier": null,
  "freeform_tags": {},
  "id": "ocid1.user.oc1..aaaaaaa4al7gtyucauw7jyzk73aldx7qhfp476ccd6ru6vystixdrkhwqa",
  "identity_provider_id": null,
  "inactive_status": null,
  "is_mfa_activated": false,
  "last_successful_login_time": "2021-06-05T10:44:42.400000+00:00",
  "lifecycle_state": "ACTIVE",
  "name": "prasenjit.sarkar@oracle.com",
  "previous_successful_login_time": null,
  "time_created": "2016-08-04T19:02:48.925000+00:00"
}
[[opc@oci-cli ~]$
[[opc@oci-cli ~]$
```

```
< HTTP/1.1 200 OK
< Date: Tue, 08 Jun 2021 11:48:51 GMT
< opc-request-id: /D1C875961F6B4290CC7ED434E27EDB89/C5CCF7A484BDEA066E0461E4144E4FE3
< Content-Type: application/json
< Connection: keep-alive
< X-Content-Type-Options: nosniff
< Content-Length: 3986
```

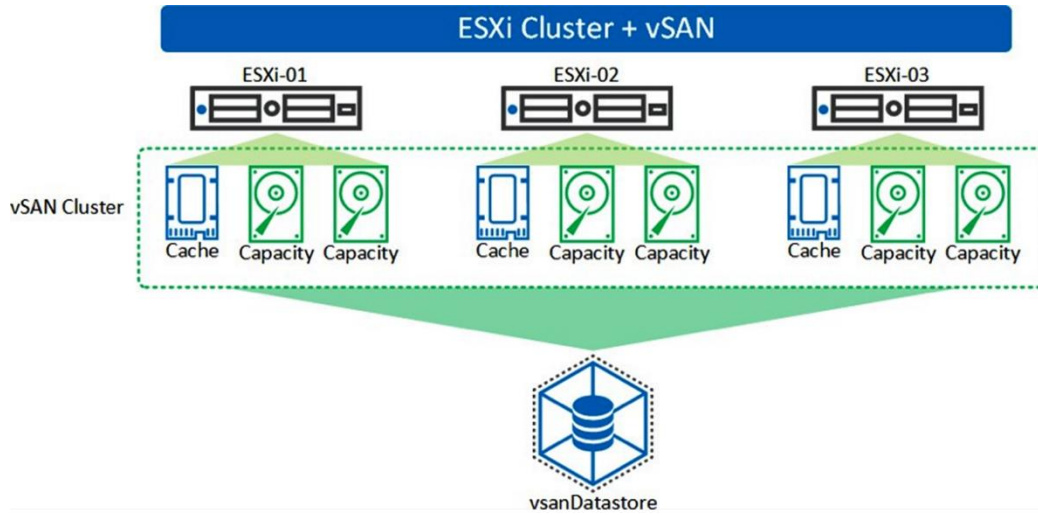
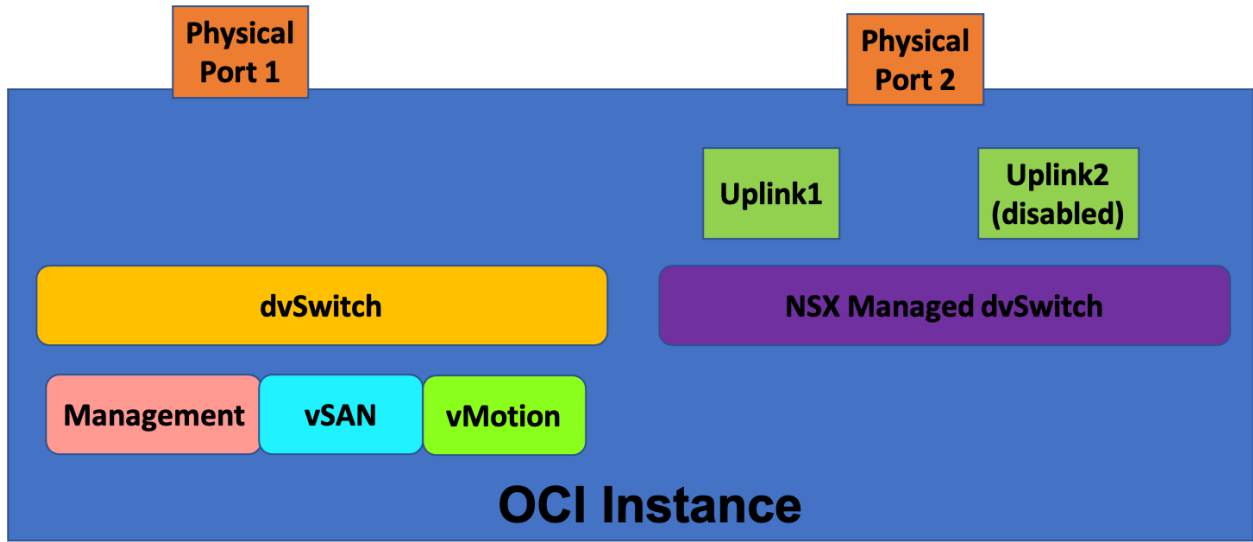
```
[{"cidrBlock": "10.0.0.0/16", "cidrBlocks": ["10.0.0.0/16"], "compartmentId": "ocid1.compartment.oc1..aaaaaaa7v7w53f52covek2m7nk2mvzwu21jj5x2w4kjjqandch733i13q", "defaultDhcpOptionsId": "ocid1.dhcpoptions.oc1.pbx.aaaaaaaquuu7lyqj17ls6pmfblhngldgum3K5en4ekj3w37kmbzi5o6q", "defaultRouteTableId": "ocid1.routeTable.oc1.pbx.aaaaaaa6d6bz6r3bn4gweawjddzcrjrsupypjovlpt5kko4224vprua", "defaultSecurityListId": "ocid1.securitylist.oc1.pbx.aaaaaaaajevki4l027p7fssekvqs tiv47sgpezgwa6ibw3t2lnsdwcfzka", "definedTags": {}, "displayName": "demo-vcn", "dnsLabel": "tfexamplevcn", "freeformTags": {}, "id": "ocid1.vcn.oc1.pbx.aaaaaaaahrkppaaavlrgzlfmcretzm4fh7jspanfye4d6njrdwzfgb5jq", "lifecycleState": "AVAILABLE", "timeCreated": "2021-03-11T17:39:10.678Z", "vcnDomainName": "tfexamplevcn.oraclelevcn.com"}, {"cidrBlock": "10.0.0.0/16", "cidrBlocks": ["10.0.0.0/16"], "compartmentId": "ocid1.compartment.oc1..aaaaaaa7v7w53f52covek2m7nk2mvzwu21jj5x2w4kjjqandch733i13q", "defaultDhcpOptionsId": "ocid1.dhcpoptions.oc1.pbx.aaaaaaaaj6buwgcjzm3duu6tuptsmlxhjciryxlegvx46bet3vifvm2xca", "defaultRouteTableId": "ocid1.routeTable.oc1.pbx.aaaaaaaamrehj4gopbc2izutgmt6dwzxdpv17irxjr34lbn73hdkwbok2cva", "defaultSecurityListId": "ocid1.securitylist.oc1.pbx.aaaaaaaekrtkgkg tx325sa723um7tdeop3wut56gbxze5x16a6r316bdla", "definedTags": {}, "displayName": "Testdemo", "dnsLabel": "testdemo", "freeformTags": {"VCN": "VCN-2021-03-09T10:06:16"}, "id": "ocid1.vcn.oc1.pbx.aaaaaaaahrkppaa32uhchmdenjojr4xjgl2gbngwyz23i5gdqkoz5dvxvq", "lifecycleState": "AVAILABLE", "timeCreated": "2021-03-09T10:07:26.660Z", "vcnDomainName": "testdemo.oraclelevcn.com"}, {"cidrBlock": "10.0.0.0/16", "cidrBlocks": ["10.0.0.0/16"], "compartmentId": "ocid1.compartment.oc1..aaaaaaa7v7w53f52covek2m7nk2mvzwu21jj5x2w4kjjqandch733i13q", "defaultDhcpOptionsId": "ocid1.dhcpoptions.oc1.pbx.aaaaaaaanb5y7kmbh5anylhnm373ouharlduf6lqqowk5yg7i62o471lwaq", "defaultRouteTableId": "ocid1.routeTable.oc1.pbx.aaaaaaaak2lclbr2agot3vpfnh5d5gseyb4qldao3tm4gotxylltnd62huw", "defaultSecurityListId": "ocid1.securitylist.oc1.pbx.aaaaaaaasyxlygn6kogx2vqyozqskx1647dmgodf3v6itd2msik4hlmcw3ccq", "definedTags": {}, "displayName": "demotest", "dnsLabel": "demotest", "freeformTags": {"VCN": "VCN-2021-02-25T10:52:07"}, "id": "ocid1.vcn.oc1.pbx.aaaaaaaahrkppaa67qyopwzjanwkrstajswxskwzhzyz5e57ob7fbbhqvca", "lifecycleState": "AVAILABLE", "timeCreated": "2021-02-25T10:55:43.520Z", "vcnDomainName": "demotest.oraclelevcn.com"}, {"cidrBlock": "10.0.0.0/16", "cidrBlocks": ["10.0.0.0/16"], "compartmentId": "ocid1.compartment.oc1..aaaaaaa7v7w53f52covek2m7nk2mvzwu21jj5x2w4kjjqandch733i13q", "defaultDhcpOptionsId": "ocid1.dhcpoptions.oc1.pbx.aaaaaaaahk66ifsiqnb7vbwux6g7p4hfpns222tdxskgdwdbn5ys4xsm2qq", "defaultRouteTableId": "ocid1.routeTable.oc1.pbx.aaaaaaaahgdajid7fcnzfcbzfc456idjhwosredoxfcs6o5bgiwxc52g3sa", "defaultSecurityListId": "ocid1.securitylist.oc1.pbx.aaaaaaaavzy4q6z7vpjuzyg5d236kk6bqdkf3jvwuqneu2iauu571f3n3a", "definedTags": {}, "displayName": "demotestvcn", "dnsLabel": "demotestvcn", "freeformTags": {}, "id": "ocid1.vcn.oc1.pbx.aaaaaaaahrkppaa3ulba57qpx6nca2oo5fmsnpw7xn2iune2t5f5p5scaijq", "lifecycleState": "Connection #0 to host iaas.us-phoenix-1.oraclecloud.com left intact", "timeCreated": "2021-02-18T10:45:23.786Z", "vcnDomainName": "demotestvcn.oraclelevcn.com"}, {"cidrBlock": "10.0.0.0/16", "cidrBlocks": ["10.0.0.0/16"], "compartmentId": "ocid1.compartment.oc1..aaaaaaa7v7w53f52covek2m7nk2mvzwu21jj5x2w4kjjqandch733i13q", "defaultDhcpOptionsId": "ocid1.dhcpoptions.oc1.pbx.aaaaaaaabq67jz2ec6mubbxixevsp4ky2p6samenug7f7prqmqb5u4shb4a", "defaultRouteTableId": "ocid1.routeTable.oc1.pbx.aaaaaaaoh6gcvhba6smkn7thblm6o3rmhgerddmqh3zpe25xlxg22maa", "defaultSecurityListId": "ocid1.securitylist.oc1.pbx.aaaaaaa4tu3tu75ne6ecndz16xucunbqm3qir5dzfqwh1fezo35kaljq", "definedTags": {}, "displayName": "OCI_HOL_VCN", "dnsLabel": "ociholvcn", "freeformTags": {"VCN": "VCN-2021-01-25T07:50:11"}, "id": "ocid1.vcn.oc1.pbx.aaaaaaaahrkppaatn6ehvcnc71kcp5shdeofuhrq4rsthhxoemy4avtvzq", "lifecycleState": "AVAILABLE", "timeCreated": "2021-01-25T07:56:52.564Z", "vcnDomainName": "ociholvcn.oraclelevcn.com"}]]
```

Chapter 11: Building a Hybrid Cloud on Oracle Cloud Infrastructure using Oracle Cloud VMware Solution



Management Traffic

Guest Traffic



- 1 Basic information
- 2 Networking
- 3 Review and Create

Basic Information

This workflow sets up an SDDC with a minimum of three ESXi hosts in a VCN. Each host in the SDDC is created with VMware, storage, and access to the vCenter management utility.

- In the next few pages, you provide information required to create and configure the hosts within a VCN of your choice.
- Then, the workflow provisions the SDDC. **The provisioning process can take up to two and a half hours.**
- When provisioning is complete, a username and one-time password are provided that let you access the vCenter management utility for the SDDC.

SDDC Name ⓘ

Test-SDDC

SDDC Compartment ⓘ

FRA-01

thasan (root)/FRA-01

HCX ⓘ

Enable HCX

Install the HCX plugin. You cannot install this plugin after the SDDC is created. [Learn more.](#)

HCX License Type

Advanced License (No additional cost)

Includes 3 license keys. Choose this option if you're migrating a few workloads.

Enterprise License (Additional monthly cost)

Includes 10 license keys. Choose this option if you're migrating many mission-critical workloads.

VMware Software Version ⓘ

7.0 update 2

Pricing Interval Commitment ⓘ

Hourly Commitment

Hourly pricing requires a minimum of 8 hours of usage

Monthly Commitment

Monthly pricing requires a minimum of 1 month of usage.

One Year Commitment

One year pricing requires a minimum of 1 year of usage.

Three Years Commitment

Three years pricing requires a minimum of 3 years of usage.

You can't change the pricing option for a host until the end of the selected pricing interval. If you cancel your commitment before the end of the selected pricing interval, billing continues until the interval ends.

Pricing interval must be confirmed to continue

For complete information on pricing, billing terms and rates, visit the [Oracle Cost Estimator](#).

[Next](#) [Cancel](#)

Oracle Cloud Help

[VMware Overview](#) ⓘ

[Setting Up VMware Solution](#) ⓘ

ESXi Hosts (i)

Number of ESXi Hosts (i)

3

Minimum 3 required, maximum 64

Prefix for ESXi Hosts

Optional (i)

Test-SDDC



To connect to ESXi hosts, you need to use an SSH key pair. Ensure that you have specified a public SSH key file (.pub) if the image does not already include one, and that you have access to the associated private SSH key file (.ppk).

See [Managing Key Pairs on Linux Instances](#) and [Connecting to an Instance](#).

SSH Key (i)

Choose SSH Key file

Paste SSH Keys

Drop SSH Key File or [select file](#)
.pub file

Availability Domain (i)

sLOq:EU-FRANKFURT-1-AD-1

[Show Advanced Options](#)

Next

Cancel

Virtual Cloud Network (VCN)

Your Oracle VCN contains the subnet and VLANs required to provision the SDDC.

Choose a VCN in FRA-01 ⓘ [\(Change Compartment\)](#)

OCI-FRA (CIDR: 172.16.0.0/16) ⇅

Create New Subnet and VLANs

Uses a CIDR block of your choice to create a subnet and VLANs, along with basic security rules and route tables. ✓

Select Existing Subnet and VLANs

You choose a subnet and VLANs that are already configured appropriately in your VCN.

SDDC Networks

The SDDC CIDR is used to provision the required subnet and VLANs. Enter a CIDR block contained in the VCN and click **Check Availability**. The CIDR must meet the workflow requirements for size and availability, and it cannot overlap with any other subnet or VLAN CIDR in the VCN.

SDDC CIDR ⓘ

172.16.40.0/22

Example: 10.0.0.0/22

Minimum size /22



This CIDR block is available.

∨ [Hide Network Details](#)

NAT Gateway ⓘ

A NAT gateway is required by HCX Manager for license activation, updates, and VMware enhanced support.

There is already a NAT gateway attached to the selected VCN. The workflow creates the route table rule that allows traffic to the NAT gateway for internet access.

NAT Gateway Name: OCI-FRA-NGW-01

Compartment: fhasan (root)/FRA-01

Public IP: 193.122.52.140

Subnet (1)

The subnet is used to provision the SDDC and ESXi hosts. Oracle recommends using a private subnet that is already configured with access to your on-premises network. To update network options, choose **Configure Subnet** from the actions menu.

Function ⓘ	Subnet Name ⓘ	CIDR ⓘ	Subnet Access ⓘ
Provisioning Subnet ⓘ	Subnet-Test-SDDC	172.16.40.0/25	Private ⋮

VLANs (8)

Each of the 8 VMware components requires a VLAN. To update network options, choose **Configure VLAN** from the actions menu.

Function ⓘ	VLAN Name ⓘ	VLAN Gateway CIDR ⓘ
NSX Edge Uplink 1 ⓘ	VLAN-Test-SDDC-NSX Edge Uplink 1	172.16.40.128/25 ⋮
NSX Edge Uplink 2 ⓘ	VLAN-Test-SDDC-NSX Edge Uplink 2	172.16.41.0/25 ⋮
NSX Edge VTEP ⓘ	VLAN-Test-SDDC-NSX Edge VTEP	172.16.41.128/25 ⋮
NSX VTEP ⓘ	VLAN-Test-SDDC-NSX VTEP	172.16.42.0/25 ⋮
vMotion ⓘ	VLAN-Test-SDDC-vMotion	172.16.42.128/25 ⋮
vSAN ⓘ	VLAN-Test-SDDC-vSAN	172.16.43.0/25 ⋮
vSphere ⓘ	VLAN-Test-SDDC-vSphere	172.16.43.128/26 ⋮
HCX ⓘ	VLAN-Test-SDDC-HCX	172.16.43.192/26 ⋮

SDDC Workload Network

Network segments are logical networks used by workload VMs in the SDDC NSX network. SDDCs are created without a default network segment. You can provide a CIDR block value to create an initial logical segment for your VMs. The specified CIDR block must not overlap with the VCN or the SDDC networks. You can add network segments in NSX Manager after provisioning is complete.

SDDC Workload CIDR *Optional* ⓘ

Example: 172.0.0.0/24

Minimum size /30

- ✓ Basic Information
- ✓ Networking
- 3 Review and Create

Review and Create

Basic Information [Edit](#)

SDDC Name: Test-SDDC
HCX: Enabled
HCX License Type: Advanced
SDDC Compartment: FRA-01
VMware Software Version: 7.0 update 2
Pricing Interval Commitment: Monthly Commitment
Number of ESXi Hosts: 3
Prefix for ESXi Hosts: Test-SDDC
SSH Key: `...iilUNcO0YWAumrmSv prassark@prassark-Mac`
Availability Domain: sLOq;EU-FRANKFURT-1-AD-1
Tags: VMware: VMware-2021-06-15T20:29:40

Networking [Edit](#)

VCN: OCI-FRA
NAT Gateway: OCI-FRA-NGW-01
SDDC Workload CIDR: 192.168.0.0/24
Create New Subnet and VLANs
SDDC CIDR: 172.16.40.0/22

Subnet (1)

Function	Subnet Name	CIDR	Subnet Access
Provisioning Subnet	Subnet-Test-SDDC	172.16.40.0/25	Private ▼

VLANs (8)

Function	VLAN Name	VLAN Gateway CIDR
vSphere	VLAN-Test-SDDC-vSphere	172.16.43.128/26 ▼
vMotion	VLAN-Test-SDDC-vMotion	172.16.42.128/25 ▼

[Previous](#)[Create SDDC](#)[Cancel](#)

Create Compute Instance

Name

Jump-host-01

Create in compartment

FRA-01

thasan (root)/FRA-01

Placement

[Collapse](#)

The [availability domain](#) helps determine which shapes are available.

Availability domain

AD 1

sLOq:EU-FRANKFURT-1-AD-1



AD 2

sLOq:EU-FRANKFURT-1-AD-2

AD 3

sLOq:EU-FRANKFURT-1-AD-3

[Show advanced options](#)

Image and shape

[Collapse](#)

A [shape](#) is a template that determines the number of CPUs, amount of memory, and other resources allocated to an instance. The image is the operating system that runs on top of the shape.

Image



Windows Server 2019 Standard

Image build: 2021.05.12-0

[Change Image](#)

Shape



VM.Standard.E4.Flex

Virtual Machine, 1 core OCPU, 16 GB memory, 1 Gbps network bandwidth

[Change Shape](#)

[Create](#)

[Save as Stack](#)

[Cancel](#)

Create Compute Instance

Networking

[Collapse](#)

[Networking](#) is how your instance connects to the internet and other resources in the Console. To make sure you can [connect to your instance](#), assign a public IP address to the instance.

Network

- Select existing virtual cloud network Create new virtual cloud network Enter subnet OCID

Virtual cloud network in **FRA-01** [\(Change Compartment\)](#)

OCI-FRA

Subnet

- Select existing subnet Create new public subnet

Subnet in **FRA-01** [\(Change Compartment\)](#)

Public-Subnet (Regional)

Public IP Address

- Assign a public IPv4 address Do not assign a public IPv4 address



Assigning a public IP address makes this instance accessible from the internet. If you're not sure whether you need a public IP address, you can always assign one later.



[Show advanced options](#)



Login Credentials

A user name and initial password will be generated when you create the instance. They will be available on the details screen for the newly launched instance. You must reset the password when you sign in to the instance for the first time.

Boot volume

Your [boot volume](#) is a detachable device that contains the image used to boot your compute instance.

- Specify a custom boot volume size
[Volume performance](#) varies with volume size. Default boot volume size: 256.0 GB
- Use in-transit encryption
[Encrypts data](#) in transit between the instance, the boot volume, and the block volumes.
- Encrypt this volume with a key that you manage

Create

Save as Stack

[Cancel](#)



RUNNING

JUMP-HOST-01

[Start](#) [Stop](#) [Reboot](#) [Edit](#) [More Actions](#) ▼

Instance Information

Oracle Cloud Agent

Tags

General Information

Availability Domain: AD-1
Fault Domain: FD-1
Region: eu-frankfurt-1
OCID: ...5eeuvq [Show](#) [Copy](#)
Launched: Sat, Jun 27, 2020, 18:56:08 UTC
Compartment: fhasan (root)/FRA-01
Capacity type: On-demand

Instance Details

Virtual Cloud Network: [OCI-FRA](#)
Maintenance Reboot: -
Image: [Windows-Server-2012-R2-Standard-Edition-VM-Gen2-2018.11.20-0](#)
Launch Mode: NATIVE
Instance Metadata Service: Versions 1 and 2 [Edit](#) ⓘ
Live Migration: Use recommended default ⓘ
Maintenance Recovery Action: Restore instance

Shape Configuration

Shape: VM.Standard2.1
OCPUs Count: 1
Network Bandwidth (Gbps): 1
Memory (GB): 15
Local Disk: Block Storage Only

Instance Access

You [connect to a running Windows instance](#) using Remote Desktop. The network that the instance is in must allow Remote Desktop Protocol (RDP) access. Use the instance's initial password to sign in for the first time, and then use the password that you set.

Public IP Address: [130.61.128.98](#) [Copy](#)

Username: opc

Initial Password: - ⓘ

Primary VNIC

Private IP Address: 172.16.254.2
Network Security Groups: None [Edit](#) ⓘ
Subnet: [Public-Subnet](#)
Private DNS record: Enable
Hostname: jump-host-01
Internal FQDN: jump-host-01... [Show](#) [Copy](#)

Launch Options

NIC Attachment Type: VFIO
Remote Data Volume: PARAVIRTUALIZED
Firmware: UEFI_64
Boot Volume Type: PARAVIRTUALIZED
In-transit Encryption: Disabled



Welcome to VMware vSphere

Not secure | vcenter-oci-fra-sddc.sddc.fra.oci.oraclecloud.com

Google Chrome isn't your default browser [Set as default](#)

vmware

Getting Started

The vSphere Flash-based Web Client is deprecated in vSphere 6.7. We recommend switching to the all-new modern HTML5-based vSphere client as the primary client and only reverting to the Flash-based Web Client when necessary.

[LAUNCH VSPHERE CLIENT \(HTML5\)](#)

[LAUNCH VSPHERE WEB CLIENT \(FLEX\)](#) *Deprecated*

Documentation

[VMware vSphere Documentation Center](#)

[Functionality Updates for the vSphere Client \(HTML5\)](#)

For Administrators

Web-Based Datastore Browser

Use your web browser to find and download files (for example, virtual machine and virtual disk files).

[Browse datastores in the vSphere inventory](#)

For Developers

vSphere Web Services SDK

Learn about our latest SDKs, Toolkits, and APIs for managing VMware ESXi and VMware vCenter. Get sample code, reference documentation, participate in our Forum Discussions, and view our latest Sessions and Webinars.

[Learn more about the Web Services SDK](#)

[Browse objects managed by vSphere](#)

[Browse vSphere REST APIs](#)

[Download trusted root CA certificates](#)

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Recycle Bin
Google Chrome
PuTTY (64-bit)
WinSCP

vSphere - vcenter-oci-fra-sddc.sddc.fra.oci.oraclecloud.com

Not secure | vcenter-oci-fra-sddc.sddc.fra.oci.oraclecloud.com/ui/#?extensionId=vsphere.core.folder.relatedHostsTab&objectId=um:vmomi:Folder:group-d1:febe23ab-51f7-46d1-9208-088...

vm vSphere Client | Administrator@VSPHERE.LOCAL

vcenter-oci-fra-sddc.sddc.fra.oci.oraclecloud.com | ACTIONS

Summ... Moni... Config... Permissi... Datacent... Hosts & Clus... V... Datasto... Netwo... Linked vCenter Server Sy... Extensi... Upda...

oci-w01dc

- BenH-AVX-Testing
- Discovered virtual ma...
- Management
 - nsx-edge-01
 - nsx-edge-02
 - nsxt-01
 - nsxt-02
 - nsxt-03
 - vcenter
 - Docker-Host
 - K8S-Master-01
 - SDDC-DNS-01
 - Test-Web-01
 - Test-Web-02
 - Test-Web-03
 - ubuntu-18.04-template

Hosts | Clusters | Host Profiles

Name ↑	State	Status	Cluster	Consumed CPU %	Consumed Memor...	HA State
172.16.0.2	Connected	✓ Normal	oci01-w01-cons...	2%	10%	✓ Connected (Sla...
172.16.0.3	Connected	✓ Normal	oci01-w01-cons...	3%	13%	✓ Connected (Sla...
172.16.0.4	Connected	✓ Normal	oci01-w01-cons...	2%	11%	✓ Running (Master)

Export | 3 items

Recent Tasks | Alarms

Task Name	Target	Status	Details	Initiator	Queued For	Start Time ↓	Completion Time	Server
Deploy plug-in	vcenter-oci-fra-s...	✓ Completed	com.vmware.vcintegri...	VSPHERE.LOCAL/vsp...	13 ms	06/16/2021, 12:07:39 AM	06/16/2021, 12:07:39 AM	vcenter-oci-fra-sddc.s...

All | More Tasks

The image shows a browser window displaying the NSX-T Overview dashboard. The browser's address bar shows the URL: `nsx-oci-fra-sddc.sddc.fra.oci.oraclecloud.com/nsx/#/app/home/overview`. The dashboard is titled "vm NSX-T" and includes a navigation menu with "Home", "Networking", "Security", "Inventory", "Plan & Troubleshoot", "System", and "Advanced Networking & Security". A search bar is located at the top of the dashboard content area.

The main content area is divided into four sections:

- NETWORKING**
 - 1 Tier-0 Gateway
 - 2 Tier-1 Gateway
 - 7 Segment
 - 0 VPN Services
 - 0 NAT Rules
 - 0 Load Balancers
- SECURITY**
 - 0 Distributed FW Policies
 - 1 Gateway Policies
 - 0 Endpoint Policies
 - 1 Network Introspection EW ...
 - 0 Network Introspection NS ...
- INVENTORY**
 - 15 Virtual Machines
 - 0 Groups
 - 409 Services
 - 63 Context Profiles
- SYSTEM**
 - 3 NSX Management Nodes
 - 4 Transport Zones
 - 3 Host Transport Nodes
 - 2 Edge Transport Nodes
 - 1 Host Clusters

At the bottom of the System section, there is a note: "Need help preparing more Hosts or Edges? Visit [GET STARTED](#)".

The desktop environment includes a taskbar with icons for Recycle Bin, Google Chrome, PuTTY (64-bit), and WinSCP. The browser's taskbar shows icons for File Explorer, Google Chrome, and PuTTY.



ACTIVE

OCI-FRA-SDDC

[Edit SDDC](#)
[Move Resource](#)
[Add Tags](#)
[Terminate](#)

[Configure connectivity to your on-premises network](#)

[Configure connectivity to Oracle Services Network](#)

[Configure connectivity to the internet through NAT gateway](#)

[Configure connectivity to VCN resources](#)

SDDC Information

Tags

Oracle Cloud VMware Solution

HCX: Disabled

VMware Software Version: 6.7 update 3

Availability Domain: sLOq:EU-FRANKFURT-1-AD-1

SDDC Workload Segment Name: workload

SDDC Workload CIDR: Not Available

NSX Edge IP Address: ...2.16.0.131 [Show](#) [Copy](#)

OCID: ...yu6gka [Show](#) [Copy](#)

Created: Tue, Jul 21, 2020, 13:43:37 UTC

vCenter Information

vSphere <https://vcenter-oci-fra-sddc.sddc.fra.oci.oraclecloud.com>

Client: [Copy](#)

vSphere Client IP Address: <https://172.16.3.134> [Copy](#)

vCenter Initial Username: administrator@vsphere.local

vCenter Initial Password: ***** [Show](#) [Copy](#)

NSX Manager Information

NSX Manager: <https://nsx-oci-fra-sddc.sddc.fra.oci.oraclecloud.com> [Copy](#)

NSX Manager IP Address: <https://172.16.3.135> [Copy](#)

NSX Manager Initial Username: admin

NSX Manager Initial Password: ***** [Show](#) [Copy](#)

Resources

[ESXi Hosts](#)

[SDDC Networks](#)

[Work Requests](#)

ESXi Hosts

[Create ESXi Host](#)

ESXi Host Name	ESXi Host State	Pricing Interval	Pricing Interval End	Next Pricing Interval	Created
OCI-FRA-SDDC-1	Active	Monthly	Mon, Jun 21, 2021, 13:43:49 UTC	Monthly	Tue, Jul 21, 2020, 13:43:37 UTC
OCI-FRA-SDDC-2	Active	Monthly	Mon, Jun 21, 2021, 13:43:49 UTC	Monthly	Tue, Jul 21, 2020, 13:43:37 UTC
OCI-FRA-SDDC-3	Active	Monthly	Mon, Jun 21, 2021, 13:43:49 UTC	Monthly	Tue, Jul 21, 2020, 13:43:37 UTC

Configure Connectivity to the Internet Through NAT Gateway

[Help](#)

This workflow helps you configure connectivity from the SDDC to the internet using a network address translation (NAT) gateway. A NAT gateway gives SDDC resources without public IP addresses access to the internet without exposing those resources to incoming internet connections.

- The workflow determines requirements for enabling routing from the NSX Edge Uplink 1 VLAN to the internet. If there's no NAT gateway attached to the VCN, the workflow helps you create one.
- Finally, any missing route tables or route rules are created or updated.

[Learn more.](#)

Resource Details

A NAT gateway is already attached to the SDDC VCN. The workflow creates a route rule to allow traffic to the NAT gateway.

NAT Gateway ⓘ

NAT Gateway Name: OCI-FRA-NGW-01

Compartment: fhasan (root)/FRA-01

Public IP: 193.122.52.140

Route Table ⓘ

Route Table Name: [Route Table for VLAN-OCI-FRA-SDDC-NSX Edge Uplink 1](#) ↗

Adds a default (0.0.0.0/0) route rule in the **VLAN-OCI-FRA-SDDC-NSX Edge Uplink 1** VLAN's route table to target the NAT gateway for internet access.

Add route rules to this route table.

Destination	Target Type	Target
0.0.0.0/0	NAT Gateway	...ne6z6a Show Copy

Network Security Group ⓘ

Network Security Group Name: [NSG for NSX Edge Uplink VLANs in OCI-FRA-SDDC](#) ↗

This NSG already has the following required rules.

Egress	
Source → Destination	Stateless
0.0.0.0/0 → 0.0.0.0/0 (All)	No

[Apply Configuration](#)

[Cancel](#)