Oracle® Fusion Middleware

Migrating Oracle WebCenter Content to Oracle Cloud Infrastructure

12c (12.2.1.4.0)

F31797-01

June 2020

About Migrating WebCenter Content to Oracle Cloud Infrastructure

As companies began to adopt cloud solutions, some workloads moved quickly and easily, demonstrating the elasticity and agility of the cloud. But that wasn’t true for all workloads. Many companies found it difficult to move core business applications which presented additional challenges and tight requirements around predictable performance, security, and control.

Most of the customers are running Oracle Enterprise Content Management platform in their own data center. This guide explains the approach (one of many possible options) we recommend for moving Oracle Webcenter Content/ Imaging from your current on-premises deployment to Oracle Cloud Infrastructure. The guide is created based on prior experience successfully migrating customer environments. It addresses the key implementation concerns, technical requirements, and existing business challenges that need to be addressed as part of the migration. In addition, it summarizes the supporting cloud services, third-party integrations, and best deployment practices that can best align with your application environment and requirements.

Top Level Value Proposition

Oracle provides a simple way to migrate most on-premises Webcenter Content/ Imaging deployments to Oracle Cloud Infrastructure that doesn't require significant re-architecture, re-integration or business process changes. As Oracle Cloud Infrastructure provides multiple variants of hardware and easy scalable solutions, WebCenter Content/Imaging will be more flexible, more reliable, and deliver higher performance at a lower cost than deployments running on-premises or with other cloud providers. With Oracle Cloud Infrastructure, you can take advantages of:

- 35% to 45% lower TCO
- Quick and seamless migration without re-architecture
- Near instant scale up or down
- No need to worry about hardware maintenance or upgradation
- Multiple options of database including autonomous

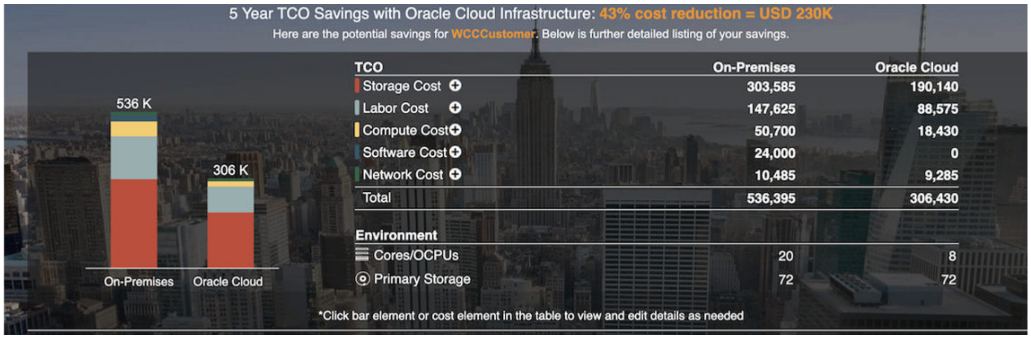
- Very easy to manage from a single web-interface

TCO Analysis

Beyond the benefits of being straight-forward to migrate, easier to manage, and more flexible to scale, a Webcenter Content Suite implementation on Oracle Cloud Infrastructure is actually cheaper than running it on premises or on another cloud. Here is the TCO analysis for a use case of generic Transactional Document Management System for a customer who uses WebCenter Content for enterprise level document management with 50TB of Content storage with these assumption:

- Number of Peak Users at a time: 500
- User Activity Peak: 10 pages per minute
- Peak Check-in: 20 per seconds
- Number of Environment: 4
- Total CPU including Database: 20
- Total RAM including Database: 256
- Total Storage: 82TB
- Outbound Data per month: 3TB

5 Years TCO saving with OCI: 43% (The calculation is based on Oracle Valuenavigator Tool)



5 Year TCO Savings with Oracle Cloud Infrastructure: 43% cost reduction = USD 230K

Here are the potential savings for WCCCustomer. Below is further detailed listing of your savings.

TCO	On-Premises	Oracle Cloud
Storage Cost ⊕	303,585	190,140
Labor Cost ⊕	147,625	88,575
Compute Cost ⊕	50,700	18,430
Software Cost ⊕	24,000	0
Network Cost ⊕	10,485	9,285
Total	536,395	306,430
Environment		
Cores/OCPUs	20	8
Primary Storage	72	72

*Click bar element or cost element in the table to view and edit details as needed

Overview of the Migration

This will explain some of the key steps to configuring a publicly available WebCenter Content installation on Oracle Cloud Infrastructure. The operating systems used on premise such as Windows, Linux, and Solaris are also available on cloud. The installation steps and methods are the same as with on-premise installations. The same documentation and KM notes apply whether the product is installed on premise or on the cloud. If you're moving an existing WebCenter Content installation to the cloud, you can explore using the new lift and shift method of migration. See *Migrating Oracle WebCenter Content* for information as you move to the Oracle cloud.

Our example configuration contains the following products:

- WebCenter Content 12.2.1.4.0 cluster
- WebCenter Content user interface 12.2.1.4.0 cluster
- WebCenter Content Inbound Refinery 12.2.1.4.0 cluster
- Oracle HTTP Server 12.2.1.4.0 (OHS)
- OCI Compute, File Storage, and Load Balancer
- Database Cloud Service
- Capture and Imaging

The way in which we're choosing to install and configure WebCenter Content and Oracle Cloud Infrastructure for this setup is not the only way it could or should be done. It is one of many possible ways that exist. The exact steps that you take in some respects for your setup may differ greatly from ours. Some screenshots are included along the way. The screenshots are accurate as of the spring of 2020 and were taken from our actual installation. Due to the rapid pace of development, they may not be completely accurate long-term as far as looks, but they should still give a sense of what can be done.

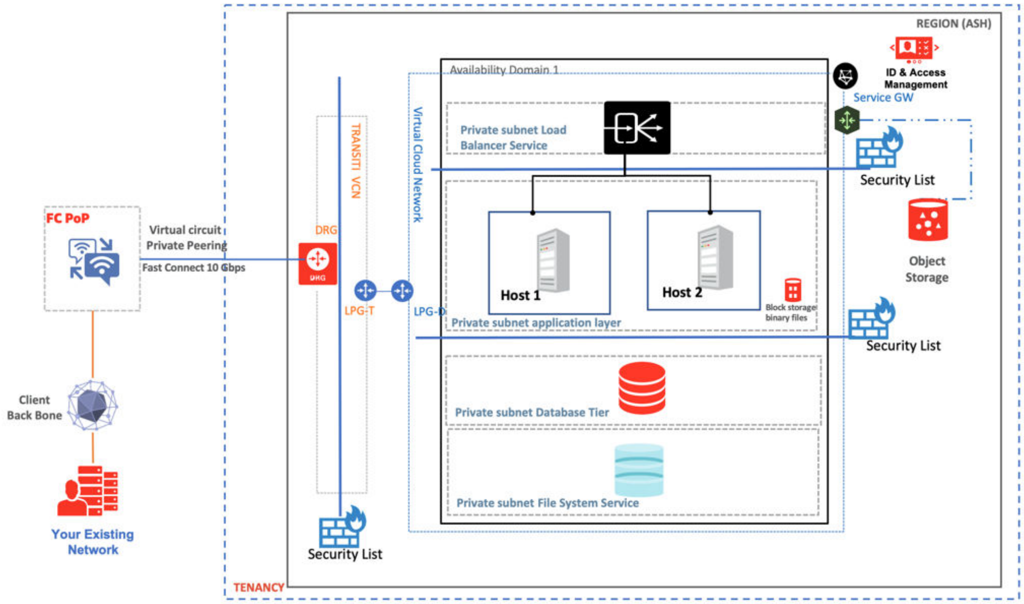
Architecture

Oracle Webcenter Content Suite runs on Oracle Cloud for Infrastructure just like the Oracle Webcenter Content Suite that you run on premises in your data center today — the same applications you may have customized, bought, and trained your staff on, but on a combination of Oracle's Infrastructure as a Service (IaaS) and Database as a Service (DBaaS).

Oracle Webcenter Content Suite deployment on Oracle Cloud Infrastructure choices include the following:

- Infrastructure-as-a-Service: You can use Oracle Cloud Infrastructure Compute capabilities, storage capabilities and virtual network capabilities to run Webcenter Content Suite application tier and Database tier.
- Infrastructure-as-a-Service + Database-as-a-Service: You can use Oracle Cloud Infrastructure Compute capabilities, storage capabilities and virtual network capabilities to run Webcenter Content Suite application tier. You can use the Oracle Cloud Infrastructure database system, Exadata database system, or Autonomous database system to run your database tier, enabling you to provision your chosen database configuration quickly and easily.

The diagram below depicts a standard architecture of two nodes clustered environment. To know more about Oracle Cloud Infrastructure architecture, visit *Oracle Cloud Infrastructure Architecture Center*.



Deployment Process

The key steps to configure a publicly available WebCenter Content installation on Oracle Cloud Infrastructure are:

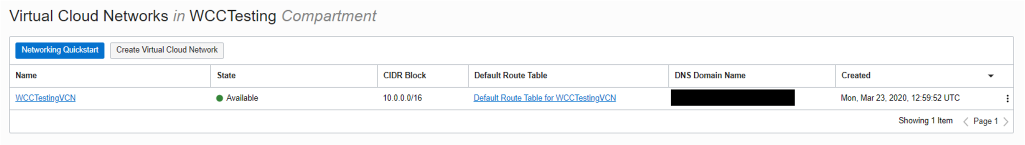
- Create the Compartment
- Create and Configure the Virtual Cloud Network
- Create the Mount Target
- Create the Shared File System
- Configure Security Rules
- Create the Database Instance
- Create the Compute Instances
- Configure the Compute Instances
- Configure the Local File System
- Install or Migrate Oracle WebCenter Content
- Configure Oracle HTTP Server
- Create the Load Balancer
- Integrate with Identity Cloud Service

Create the Compartment

We create a compartment called `WCCTesting` in our Cloud account used for this setup via the **Governance and Administration - Identity - Compartments** menu option in Oracle Cloud Infrastructure.

Create and Configure the Virtual Cloud Network

Next, we select our `WCCTesting` compartment and create a virtual cloud network (VCN) for it using the **Core Infrastructure - Networking - Virtual Cloud Networks** menu option in OCI. The VCN has a CIDR block of 10.0.0.0/16.



Virtual Cloud Networks *in* WCCTesting *Compartment*

Name	State	CIDR Block	Default Route Table	DNS Domain Name	Created
WCCTestingVCN	● Available	10.0.0.0/16	Default Route Table for WCCTestingVCN	[redacted]	Mon, Mar 23, 2020, 12:59:52 UTC

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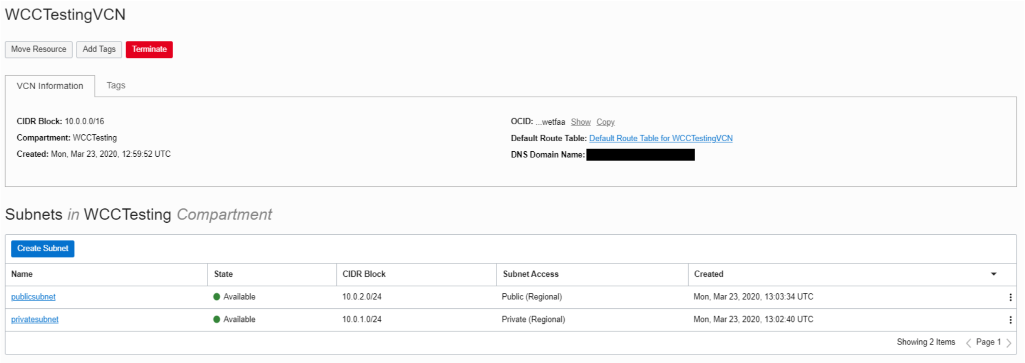
Then we configure two subnets within the VCN:

- `privatesubnet` - private subnet with a CIDR block of 10.0.1.0/24
- `publicsubnet` - public subnet with a CIDR block of 10.0.2.0/24



WCCTestingVCN

CIDR Block: 10.0.0.0/16
Compartment: WCCTesting
Created: Mon, Mar 23, 2020, 12:59:52 UTC

OCID: ...wetfaa
Default Route Table: Default Route Table for WCCTestingVCN
DNS Domain Name: [redacted]

Subnets *in* WCCTesting *Compartment*

Name	State	CIDR Block	Subnet Access	Created
publicsubnet	● Available	10.0.2.0/24	Public (Regional)	Mon, Mar 23, 2020, 13:03:34 UTC
privatesubnet	● Available	10.0.1.0/24	Private (Regional)	Mon, Mar 23, 2020, 13:02:40 UTC

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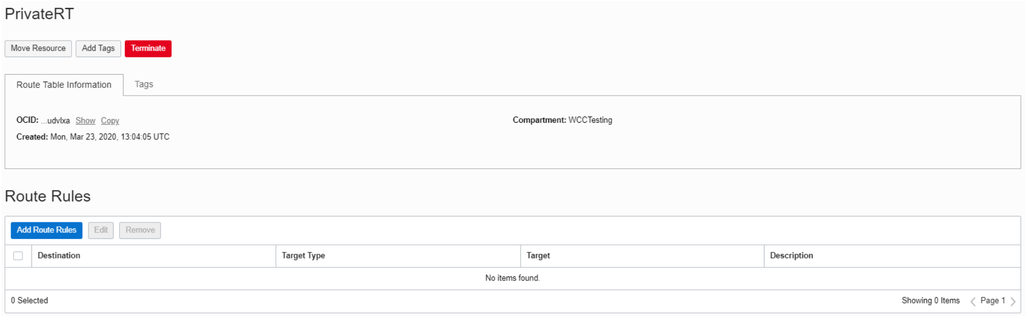
Each of the two subnets each has its own route tables and security lists. The public subnet has an internet gateway. Another way of doing it is to have it all in a private subnet. In that case, you would access the compute instances we create later on via bastion hosts.

The mount target and the file system we configure runs in the private subnet. The public subnet is where we will have two compute instances that access the shared file system.

Since the default route table has a route going to the internet gateway, we create a new private route table so that the file system and mount target are not exposed through the default route table.



PrivateRT

OCID: ...udvlxa

Created: Mon, Mar 23, 2020, 13:04:05 UTC

Compartment: WCCTesting

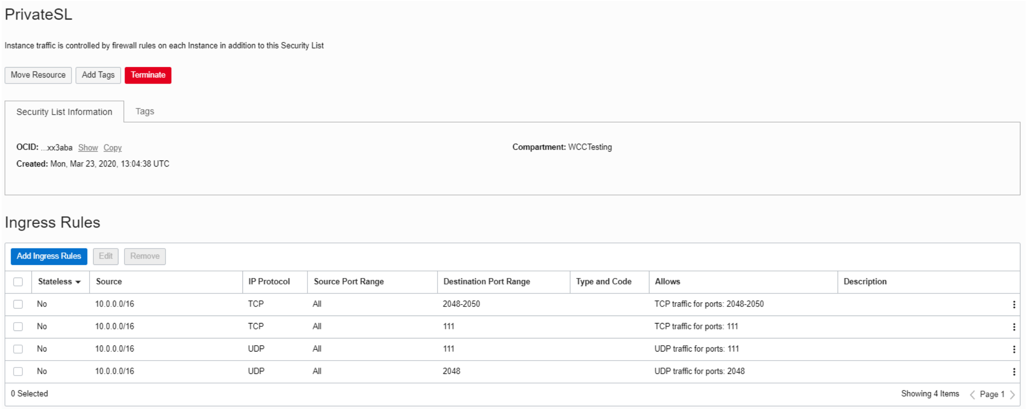
Route Rules

□	Destination	Target Type	Target	Description
	No items found.			

0 Selected

Showing 0 Items Page 1

Next we create a private security list with its own ingress and egress rules to allow communication for the shared file system running in File Storage. We also create stateful ingress and egress security list rules to allow access to the private subnet. If this is not done, then the NFS clients will not have access to the private subnet and will then be unable to mount the file system. Both stateful ingress and egress rules are done so that it can survive a failover in case the mount target has a problem. This is because the file system is highly available.



PrivateSL

Instance traffic is controlled by firewall rules on each Instance in addition to this Security List

OCID: ...xx3aba

Created: Mon, Mar 23, 2020, 13:04:38 UTC

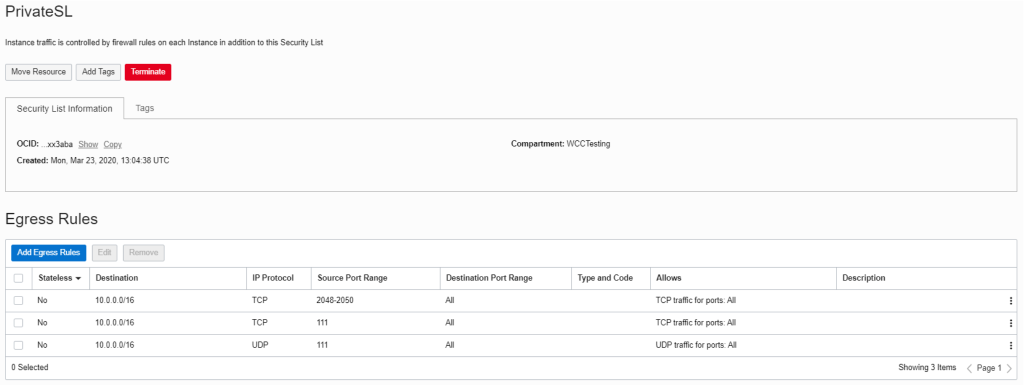
Compartment: WCCTesting

Ingress Rules

□	Stateless	Source	IP Protocol	Source Port Range	Destination Port Range	Type and Code	Allows	Description
□	No	10.0.0.0/16	TCP	All	2048-2050		TCP traffic for ports: 2048-2050	
□	No	10.0.0.0/16	TCP	All	111		TCP traffic for ports: 111	
□	No	10.0.0.0/16	UDP	All	111		UDP traffic for ports: 111	
□	No	10.0.0.0/16	UDP	All	2048		UDP traffic for ports: 2048	

0 Selected

Showing 4 Items Page 1



PrivateSL

Instance traffic is controlled by firewall rules on each Instance in addition to this Security List

OCID: ...xx3aba

Created: Mon, Mar 23, 2020, 13:04:38 UTC

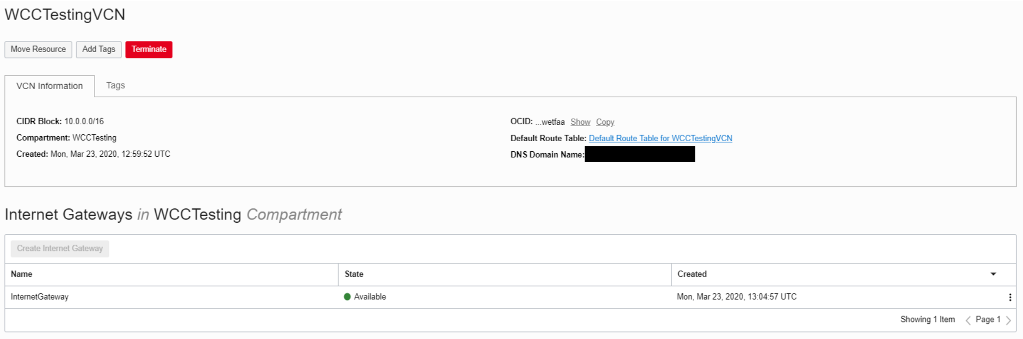
Compartment: WCCTesting

Egress Rules

□	Stateless	Destination	IP Protocol	Source Port Range	Destination Port Range	Type and Code	Allows	Description
□	No	10.0.0.0/16	TCP	2048-2050	All		TCP traffic for ports: All	
□	No	10.0.0.0/16	TCP	111	All		TCP traffic for ports: All	
□	No	10.0.0.0/16	UDP	111	All		UDP traffic for ports: All	

0 Selected

Showing 3 Items Page 1



CIDR Block: 10.0.0.0/16
Compartment: WCCTesting
Created: Mon, Mar 23, 2020, 12:59:52 UTC

OCID: ...wetfaa Show Copy
Default Route Table: Default Route Table for WCCTestingVCN
DNS Domain Name: [redacted]

Internet Gateways *in* WCCTesting *Compartment*

Name	State	Created
InternetGateway	● Available	Mon, Mar 23, 2020, 13:04:57 UTC

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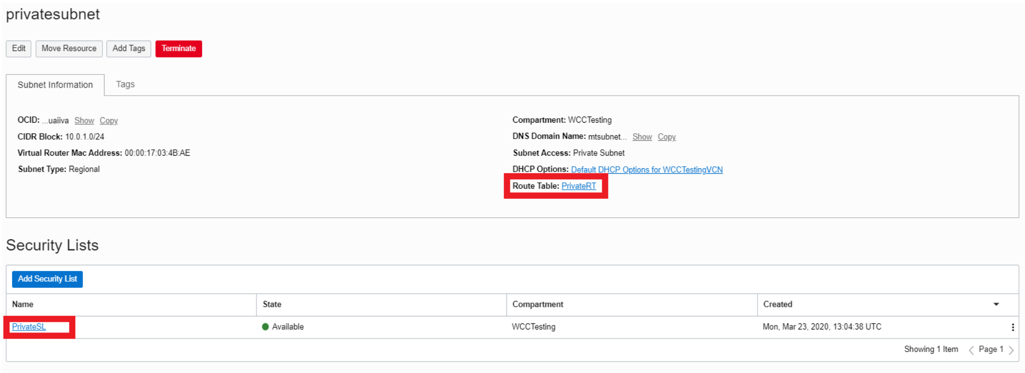
We change the private subnet to use the private route table and private security list.



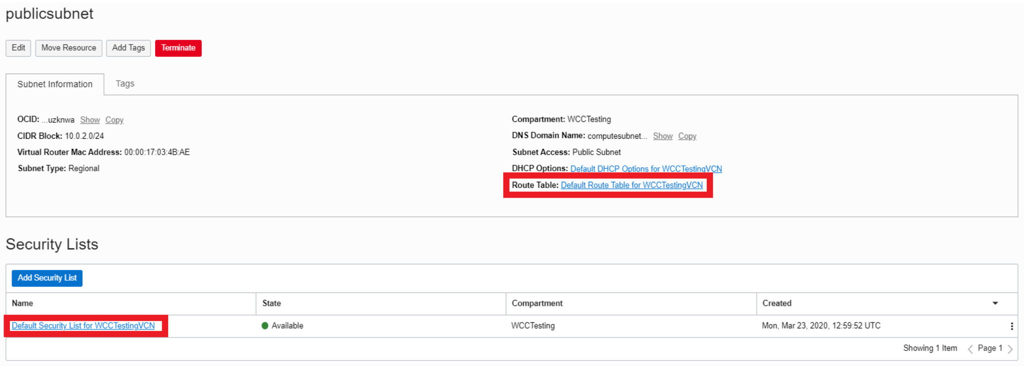
OCID: ...uaiiva Show Copy
CIDR Block: 10.0.1.0/24
Virtual Router Mac Address: 00:00:17:03:4B:AE
Subnet Type: Regional

Compartment: WCCTesting
DNS Domain Name: mtsubnet... Show Copy
Subnet Access: Private Subnet
DHCP Options: Default DHCP Options for WCCTestingVCN
Route Table: PrivateRT

Security Lists

Name	State	Compartment	Created
PrivateSL	● Available	WCCTesting	Mon, Mar 23, 2020, 13:04:38 UTC

Showing 1 Item ‹ Page 1 ›



OCID: ...uzknwa Show Copy
CIDR Block: 10.0.2.0/24
Virtual Router Mac Address: 00:00:17:03:4B:AE
Subnet Type: Regional

Compartment: WCCTesting
DNS Domain Name: computesubnet... Show Copy
Subnet Access: Public Subnet
DHCP Options: Default DHCP Options for WCCTestingVCN
Route Table: Default Route Table for WCCTestingVCN

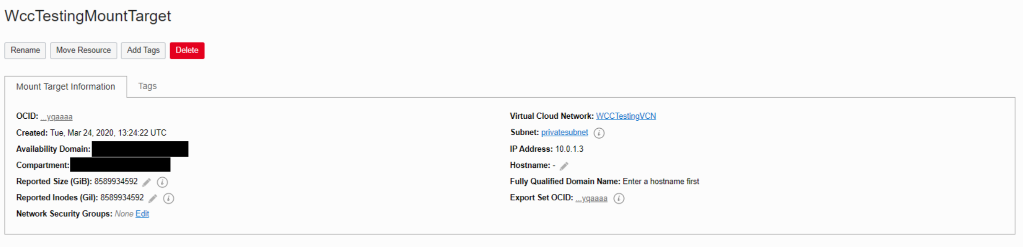
Security Lists

Name	State	Compartment	Created
Default Security List for WCCTestingVCN	● Available	WCCTesting	Mon, Mar 23, 2020, 12:59:52 UTC

Showing 1 Item ‹ Page 1 ›

Create the Mount Target

In Oracle Cloud Infrastructure, we create the mount target using the **Core Infrastructure - File Storage - Mount Targets** menu option and place it in the private subnet, while making sure that it is assigned a private IP address.



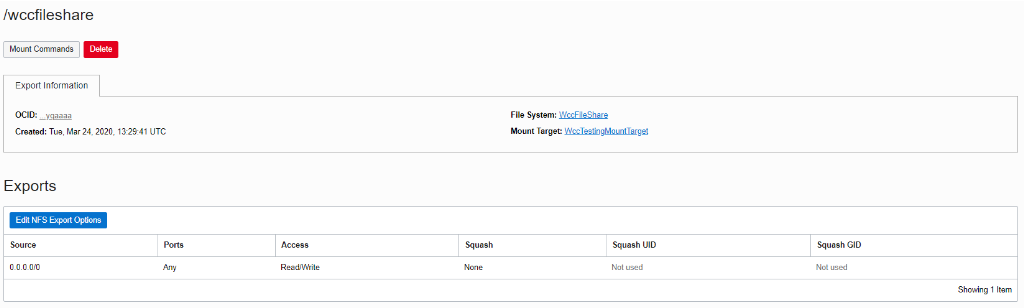
WccTestingMountTarget

OCID: ...yqaaaa
Created: Tue, Mar 24, 2020, 13:24:22 UTC
Availability Domain: [redacted]
Compartment: [redacted]
Reported Size (GiB): 8589934592
Reported Inodes (GiI): 8589934592
Network Security Groups: *None* Edit

Virtual Cloud Network: WCCTestingVCN
Subnet: privatesubnet
IP Address: 10.0.1.3
Hostname: -
Fully Qualified Domain Name: Enter a hostname first
Export Set OCID: ...yqaaaa

Create the Shared File System

If a shared/remote file system is going to be used, as in the case of a clustered WebCenter Content, the requirements explained in Note 1209496.1 must be met. For our sample setup, we use the Oracle Cloud Infrastructure’s File Storage Service to provide the compute instances with a shared file system. See: Create the Shared File System and Configuring VCN Security Rules for File Storage.



/wccfileshare

OCID: ...yqaaaa
Created: Tue, Mar 24, 2020, 13:29:41 UTC

File System: WccFileShare
Mount Target: WccTestingMountTarget

Exports

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

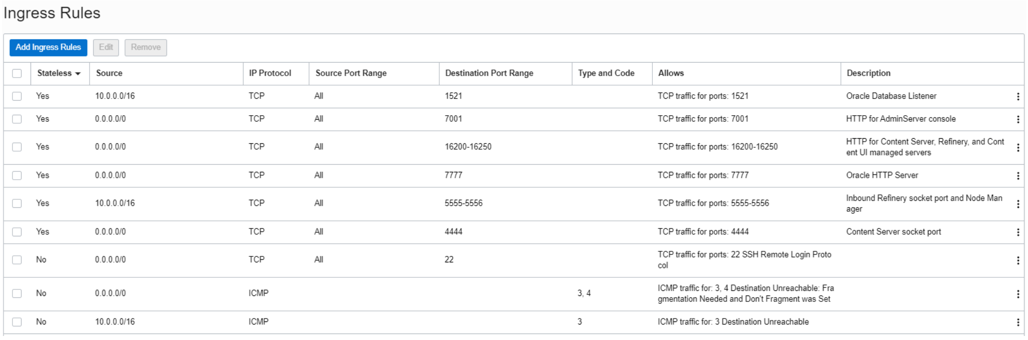
Showing 1 Item

Configure Security Rules

Before we install WebCenter Content to the compute instances in the public subnet, we configure the security list's stateless ingress and egress rules to allow for successful communication. The ports listed below are default ports. You may choose to use different ports in your setup.

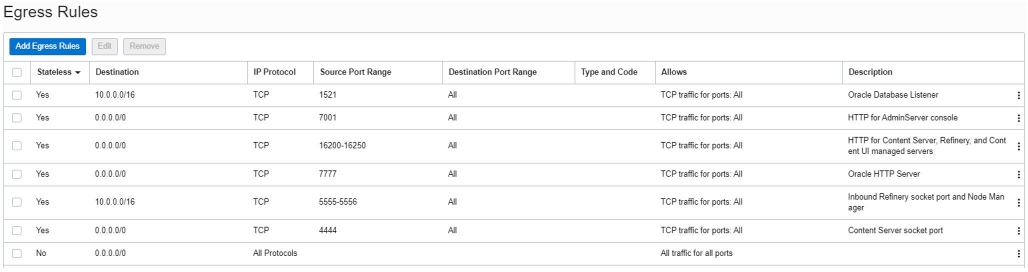
- 1521 / 1433 - Database
- 4444 - Socket port for WebCenter Content
- 5555 - Socket port for Refinery Server
- 5556 - NodeManager
- 7001 - AdminServer
- 7777 - OHS
- 16200 - HTTP WebCenter Content
- 16225 - HTTP WebCenter Content Web Interface
- 16250 - HTTP Refinery Server

- 16000 - Imaging
- 16400 - Capture



Ingress Rules

□	Stateless	Source	IP Protocol	Source Port Range	Destination Port Range	Type and Code	Allows	Description
□	Yes	10.0.0.0/16	TCP	All	1521		TCP traffic for ports: 1521	Oracle Database Listener
□	Yes	0.0.0.0/0	TCP	All	7001		TCP traffic for ports: 7001	HTTP for AdminServer console
□	Yes	0.0.0.0/0	TCP	All	16200-16250		TCP traffic for ports: 16200-16250	HTTP for Content Server, Refinery, and Content UI managed servers
□	Yes	0.0.0.0/0	TCP	All	7777		TCP traffic for ports: 7777	Oracle HTTP Server
□	Yes	10.0.0.0/16	TCP	All	5555-5556		TCP traffic for ports: 5555-5556	Inbound Refinery socket port and Node Manager
□	Yes	0.0.0.0/0	TCP	All	4444		TCP traffic for ports: 4444	Content Server socket port
□	No	0.0.0.0/0	TCP	All	22		TCP traffic for ports: 22 SSH Remote Login Protocol	
□	No	0.0.0.0/0	ICMP			3, 4	ICMP traffic for: 3, 4 Destination Unreachable: Fragmentation Needed and Don't Fragment was Set	
□	No	10.0.0.0/16	ICMP			3	ICMP traffic for: 3 Destination Unreachable	



Egress Rules

□	Stateless	Destination	IP Protocol	Source Port Range	Destination Port Range	Type and Code	Allows	Description
□	Yes	10.0.0.0/16	TCP	1521	All		TCP traffic for ports: All	Oracle Database Listener
□	Yes	0.0.0.0/0	TCP	7001	All		TCP traffic for ports: All	HTTP for AdminServer console
□	Yes	0.0.0.0/0	TCP	16200-16250	All		TCP traffic for ports: All	HTTP for Content Server, Refinery, and Content UI managed servers
□	Yes	0.0.0.0/0	TCP	7777	All		TCP traffic for ports: All	Oracle HTTP Server
□	Yes	10.0.0.0/16	TCP	5555-5556	All		TCP traffic for ports: All	Inbound Refinery socket port and Node Manager
□	Yes	0.0.0.0/0	TCP	4444	All		TCP traffic for ports: All	Content Server socket port
□	No	0.0.0.0/0	All Protocols				All traffic for all ports	

Create the Database Instance

We create a database using the Oracle Cloud Infrastructure's **Database - Bare Metal, VM, and Exadata - DB Systems** menu option. See Creating Bare Metal and Virtual Machine DB Systems.

Afterwards, we connect to the database as explained in Connecting to a DB System.

Create the Compute Instances

We create two compute instances in the public subnet and connect to them by following the instructions given in Creating an Instance and Connecting to an Instance.

Configure the Compute Instances

We perform a variety of actions on both of the compute instances:

1. Create an `oracle` user:

   ```
   sudo useradd -m oracle -p <password>
   ```

2. Create an oracle directory and assign ownership to the oracle user:

```
sudo mkdir /oracle
sudo chown -R oracle:oracle /oracle
```

3. Install the latest packages using yum:

```
sudo yum update
```

4. Install the "Cinnamon Desktop" group and "Server with GUI" group:

```
sudo yum groupinstall "Cinnamon Desktop"
sudo yum groupinstall "Server with GUI"
```

5. Change the default target of systemctl to be graphical.target:

```
sudo systemctl set-default graphical.target
```

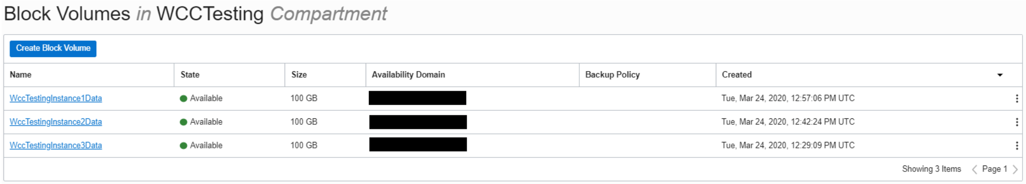
6. Configure firewalld to allow http traffic, socket traffic, and database traffic on ports used when you configured security rules. For example, to allow traffic on 7777:

```
sudo firewall-cmd --permanent --zone=public --add-port=7777/tcp
sudo systemctl
          restart firewalld
```

7. Create a console connection following the instructions in Instance Console Connections.

Configure the Local File System

For the local file system on each of the compute instances, we use additional block storage through the **Core Infrastructure - Block Storage - Block Volumes** to add 100GB of additional disk space formatted as ext4 to each instance. This allows sufficient space for product installations and patches to be applied in the future. We partition it and format it ourselves after the disk is added to the compute instance. See Creating a Volume and Attaching a Volume.



Block Volumes *in* WCCTesting *Compartment*

Name	State	Size	Availability Domain	Backup Policy	Created
WccTestingInstance1Data	● Available	100 GB	[redacted]		Tue, Mar 24, 2020, 12:57:06 PM UTC
WccTestingInstance2Data	● Available	100 GB	[redacted]		Tue, Mar 24, 2020, 12:42:24 PM UTC
WccTestingInstance3Data	● Available	100 GB	[redacted]		Tue, Mar 24, 2020, 12:29:09 PM UTC

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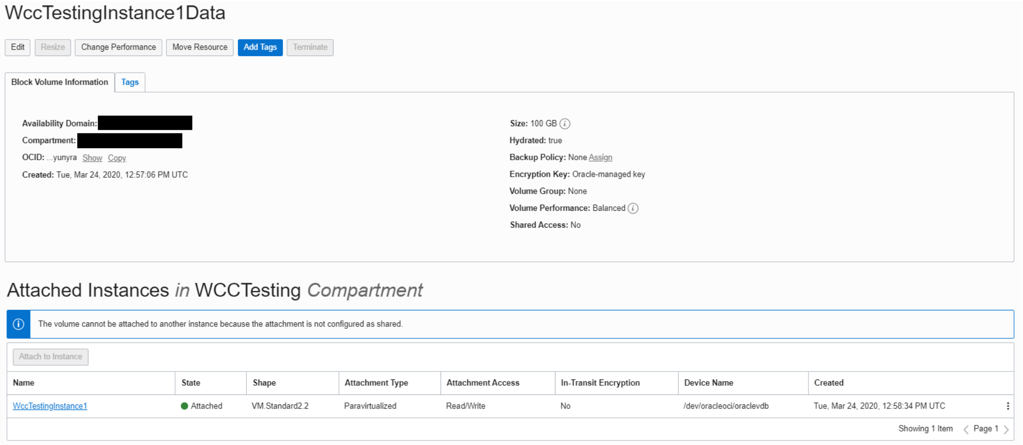


WccTestingInstance1Data

Availability Domain: [redacted]
Compartment: [redacted]
OCID: ...yunyra Show Copy
Created: Tue, Mar 24, 2020, 12:57:06 PM UTC

Size: 100 GB
Hydrated: true
Backup Policy: None Assign
Encryption Key: Oracle-managed key
Volume Group: None
Volume Performance: Balanced
Shared Access: No

Attached Instances *in* WCCTesting *Compartment*

The volume cannot be attached to another instance because the attachment is not configured as shared.

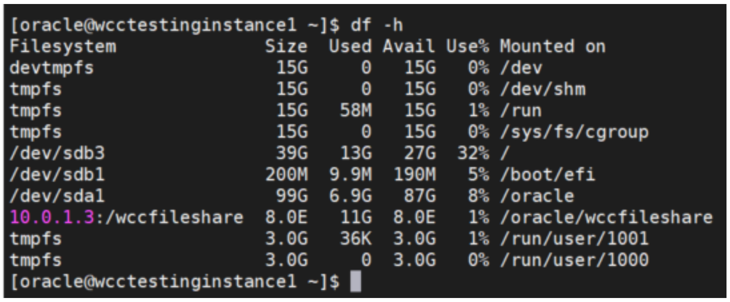
Name	State	Shape	Attachment Type	Attachment Access	In-Transit Encryption	Device Name	Created
WccTestingInstance1	● Attached	VM.Standard2.2	Paravirtualized	Read/Write	No	/dev/oracleoci/oraclevdb	Tue, Mar 24, 2020, 12:58:34 PM UTC

Showing 1 Item Page 1

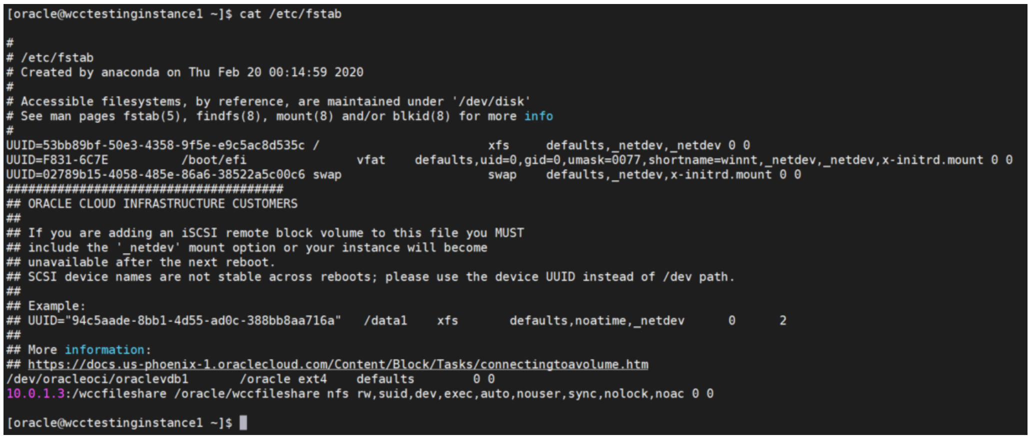
Each of the compute instances has the below line in its /etc/fstab file for automounting during startup (The IP address shown is internal to our VCN.)

```
10.0.1.3:/wccfileshare /oracle/wccfileshare nfs
          rw,suid,dev,exec,auto,nouser,sync,nolock,noac 0 0
```

Here are a couple of screenshots as a reference from the first instance showing `df -h` output along with what is in the `/etc/fstab` file:



```
[oracle@wcctestinginstance1 ~]$ df -h
Filesystem              Size  Used Avail Use% Mounted on
devtmpfs                 15G     0   15G   0% /dev
tmpfs                    15G     0   15G   0% /dev/shm
tmpfs                    15G   58M   15G   1% /run
tmpfs                    15G     0   15G   0% /sys/fs/cgroup
/dev/sdb3                39G   13G   27G  32% /
/dev/sdb1               200M  9.9M  190M   5% /boot/efi
/dev/sda1                99G  6.9G   87G   8% /oracle
10.0.1.3:/wccfileshare  8.0E   11G  8.0E   1% /oracle/wccfileshare
tmpfs                   3.0G   36K  3.0G   1% /run/user/1001
tmpfs                   3.0G     0  3.0G   0% /run/user/1000
[oracle@wcctestinginstance1 ~]$ 
```



```
[oracle@wcctestinginstance1 ~]$ cat /etc/fstab

#
# /etc/fstab
# Created by anaconda on Thu Feb 20 00:14:59 2020
#
# Accessible filesystems, by reference, are maintained under '/dev/disk'
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info
#
UUID=53bb89bf-50e3-4358-9f5e-e9c5ac8d535c /                       xfs     defaults,_netdev,_netdev 0 0
UUID=F831-6C7E          /boot/efi               vfat    defaults,uid=0,gid=0,umask=0077,shortname=winnt,_netdev,_netdev,x-initrd.mount 0 0
UUID=02789b15-4058-485e-86a6-38522a5c00c6 swap                    swap    defaults,_netdev,x-initrd.mount 0 0
######################################
## ORACLE CLOUD INFRASTRUCTURE CUSTOMERS
##
## If you are adding an iSCSI remote block volume to this file you MUST
## include the '_netdev' mount option or your instance will become
## unavailable after the next reboot.
## SCSI device names are not stable across reboots; please use the device UUID instead of /dev path.
##
## Example:
## UUID="94c5aade-8bb1-4d55-ad0c-388bb8aa716a"   /data1    xfs       defaults,noatime,_netdev      0      2
##
## More information:
## https://docs.us-phoenix-1.oraclecloud.com/Content/Block/Tasks/connectingtoavolume.htm
/dev/oracleoci/oraclevdb1       /oracle ext4    defaults        0 0
10.0.1.3:/wccfileshare /oracle/wccfileshare nfs rw,suid,dev,exec,auto,nouser,sync,nolock,noac 0 0

[oracle@wcctestinginstance1 ~]$ 
```

Install or Migrate Oracle WebCenter Content

We follow the standard Fusion Middleware and WebCenter Content documentation and KM notes to install a new setup using WebLogic Server, WebCenter Content, and so on. Alternatively we the new lift and shift method can be used to move WebCenter Content to the Oracle Cloud Infrastructure. When creating the weblogic domain, we use the internal 10.x.x.x IP addresses / host names as the listen addresses for the various managed servers and node managers. Since our WebCenter Content is public, we set the HttpServerAddress to have a public IP address. The HttpServerAddress configuration entry is used in building various URLs throughout WebCenter Content.

Configure Oracle HTTP Server

We add the below settings to our mod_wl_ohs.conf file for OHS on each host in two spots:

- `DOMAINHOME/config/fmwconfig/components/OHS/<componentname>/mod_wl_ohs.conf`
- `DOMAINHOME/config/fmwconfig/components/OHS/instances/<componentname>/mod_wl_ohs.conf`

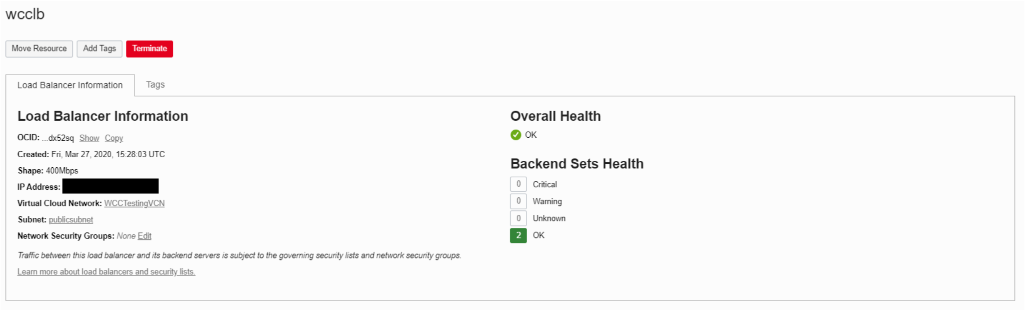
```
# WCC
<Location /cs>
WebLogicCluster 10.0.2.2:16200,10.0.2.3:16200
SetHandler weblogic-handler
WLCookieName JSESSIONID
</Location>


# WCC
ADF auth <Location /adfAuthentication>
WebLogicCluster 10.0.2.2:16200,10.0.2.3:16200
SetHandler weblogic-handler
WLCookieName JSESSIONID
</Location>


# WCC
WebDAV <Location /_dav>
WebLogicCluster 10.0.2.2:16200,10.0.2.3:16200
SetHandler weblogic-handler
WLCookieName JSESSIONID
</Location>


# WCC WebServices
<Location /idcws> WebLogicCluster 10.0.2.2:16200,10.0.2.3:16200
```

```
SetHandler weblogic-handler WLCookieName JSESSIONID
</Location>


# WCC HttpHelpRoot & HttpSystemHelpRoot
<Location /_ocsh> WebLogicCluster 10.0.2.2:16200,10.0.2.3:16200
SetHandler weblogic-handler WLCookieName JSESSIONID
</Location>


# WCC Content UI
<Location /wcc> WebLogicCluster 10.0.2.2:16225,10.0.2.3:16225
SetHandler weblogic-handler WLCookieName WCCSID
</Location>


# Imaging
        <Location /imaging>
WebLogicCluster 10.0.2.2:16000,10.0.2.3:16000
SetHandler weblogic-handler
WLCookieName JSESSIONID
</Location>


# Capture Client
<Location /dc-client>
WebLogicCluster 10.0.2.2:16400,10.0.2.3:16400
SetHandler weblogic-handler
WLCookieName JSESSIONID
</Location>


# Capture Console
<Location /dc-console>
WebLogicCluster 10.0.2.2:16400,10.0.2.3:16400
SetHandler weblogic-handler
WLCookieName JSESSIONID
</Location>
```

Create the Load Balancer

Now that WebCenter Content is installed along with OHS, we next configure a load balancer. For this we use the Load Balancer in Oracle Cloud Infrastructure's networking. See Overview of Load Balancing.

Our load balancer is a public one and handles both http traffic and socket traffic. See screenshots of our load balancer details, listeners, and backend sets:



wcclb

Load Balancer Information

OCID: ...dx52sq Show Copy

Created: Fri, Mar 27, 2020, 15:28:03 UTC

Shape: 400Mbps

IP Address: [redacted]

Virtual Cloud Network: WCCTestingVCN

Subnet: publicsubnet

Network Security Groups: *None* Edit

Traffic between this load balancer and its backend servers is subject to the governing security lists and network security groups.

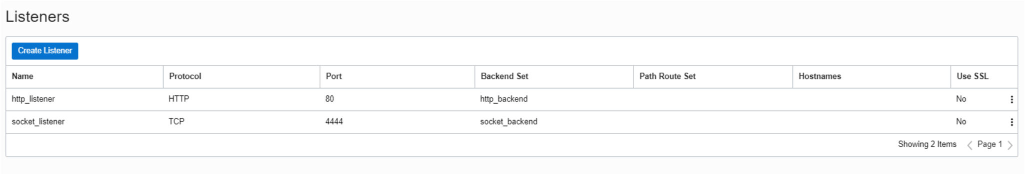
Learn more about load balancers and security lists.

Overall Health

✓ OK

Backend Sets Health

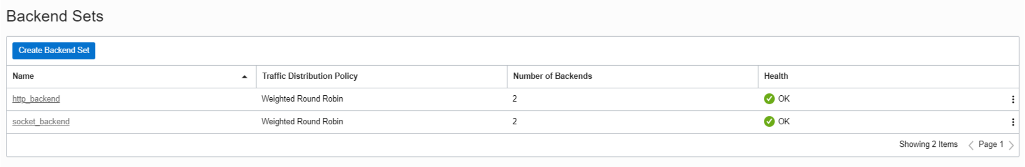
0	Critical
0	Warning
0	Unknown
2	OK



Listeners

Name	Protocol	Port	Backend Set	Path Route Set	Hostnames	Use SSL
http_listener	HTTP	80	http_backend			No
socket_listener	TCP	4444	socket_backend			No

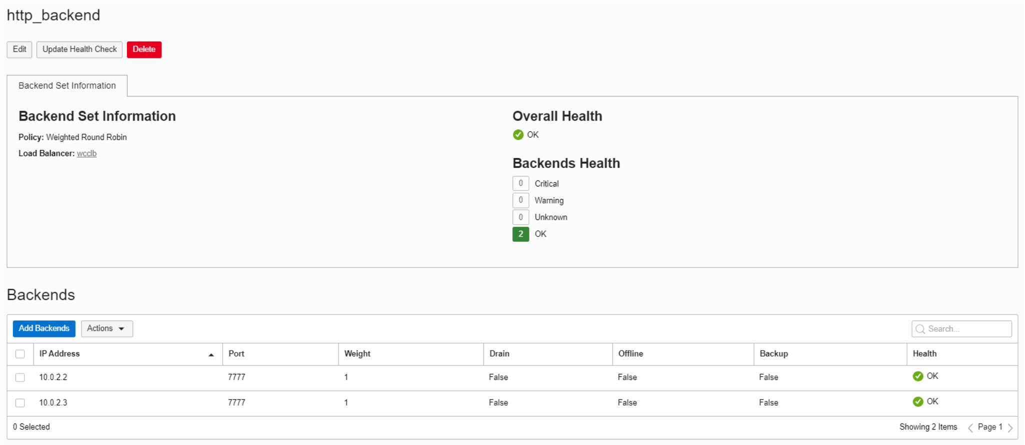
Showing 2 Items ‹ Page 1 ›



Backend Sets

Name	Traffic Distribution Policy	Number of Backends	Health
http_backend	Weighted Round Robin	2	✓ OK
socket_backend	Weighted Round Robin	2	✓ OK

Showing 2 Items ‹ Page 1 ›



http_backend

Backend Set Information

Policy: Weighted Round Robin

Load Balancer: wcclb

Overall Health

✓ OK

Backends Health

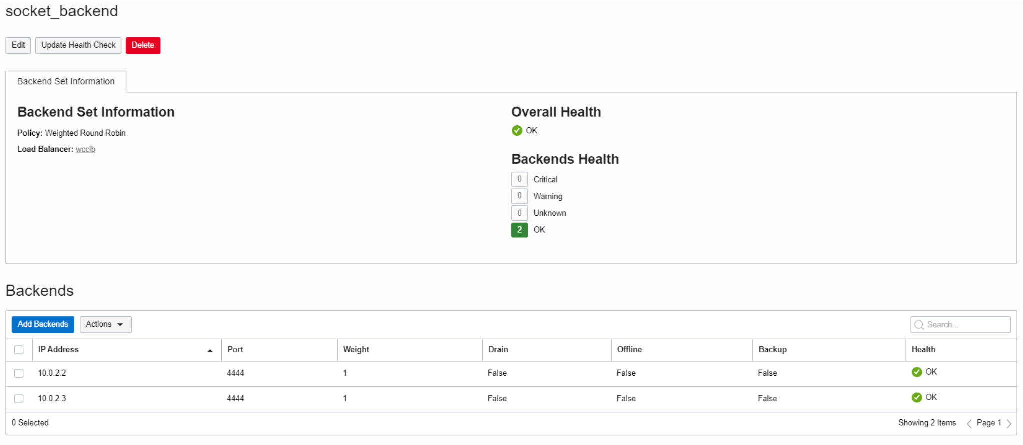
0	Critical
0	Warning
0	Unknown
2	OK

Backends

□	IP Address	Port	Weight	Drain	Offline	Backup	Health
□	10.0.2.2	7777	1	False	False	False	✓ OK
□	10.0.2.3	7777	1	False	False	False	✓ OK

0 Selected

Showing 2 Items ‹ Page 1 ›



socket_backend

Edit | Update Health Check | Delete

Backend Set Information

Backend Set Information

Policy: Weighted Round Robin

Load Balancer: wcclb

Overall Health

✓ OK

Backends Health

0	Critical
0	Warning
0	Unknown
2	OK

Backends

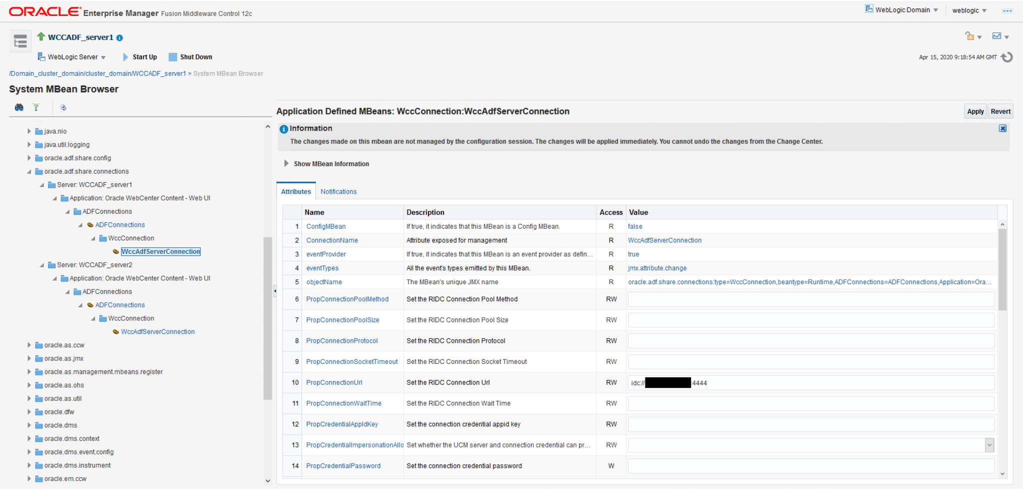
Add Backends | Actions

□	IP Address	Port	Weight	Drain	Offline	Backup	Health
□	10.0.2.2	4444	1	False	False	False	✓ OK
□	10.0.2.3	4444	1	False	False	False	✓ OK

0 Selected

Showing 2 Items Page 1

After the load balancer is configured, we adjust the HttpServerAddress of WebCenter Content to use the public hostname/IP address and the port of the load balancer and then restart WebCenter to pick up the configuration change. We also change the PropConnectionUrl mbean value for the WebCenter Content interface managed servers to contain the hostname/IP address of the load balancer.



ORACLE Enterprise Manager Fusion Middleware Control 12c

WCCADF_server1

WebLogic Server | Start Up | Shut Down

/Domain_cluster_domain/cluster_domain/WCCADF_server1 > System MBean Browser

Apr 15, 2020 9:18:54 AM GMT

System MBean Browser

- java.nio
- java.util.logging
- oracle.adf.share.config
- oracle.adf.share.connections
  - Server: WCCADF_server1
    - Application: Oracle WebCenter Content - Web UI
      - ADFConnections
        - ADFConnections
          - WccConnection
            - WccAdfServerConnection
  - Server: WCCADF_server2
    - Application: Oracle WebCenter Content - Web UI
      - ADFConnections
        - ADFConnections
          - WccConnection
            - WccAdfServerConnection
- oracle.as.ccw
- oracle.as.jmx
- oracle.as.management.mbeans.register
- oracle.as.ohs
- oracle.as.util
- oracle.dfw
- oracle.dms
- oracle.dms.context
- oracle.dms.event.config
- oracle.dms.instrument
- oracle.em.ccw

Application Defined MBeans: WccConnection:WccAdfServerConnection

Apply | Revert

Information

The changes made on this mbean are not managed by the configuration session. The changes will be applied immediately. You cannot undo the changes from the Change Center.

Show MBean Information

Attributes | Notifications

	Name	Description	Access	Value
1	ConfigMBean	If true, it indicates that this MBean is a Config MBean.	R	false
2	ConnectionName	Attribute exposed for management	R	WccAdfServerConnection
3	eventProvider	If true, it indicates that this MBean is an event provider as defin...	R	true
4	eventTypes	All the event's types emitted by this MBean.	R	jmx.attribute.change
5	objectName	The MBean's unique JMX name	R	oracle.adf.share.connections:type=WccConnection,beantype=Runtime,ADFConnections=ADFConnections,Application=Ora...
6	PropConnectionPoolMethod	Set the RIDC Connection Pool Method	RW	
7	PropConnectionPoolSize	Set the RIDC Connection Pool Size	RW	
8	PropConnectionProtocol	Set the RIDC Connection Protocol	RW	
9	PropConnectionSocketTimeout	Set the RIDC Connection Socket Timeout	RW	
10	PropConnectionUrl	Set the RIDC Connection Url	RW	idc://[redacted]4444
11	PropConnectionWaitTime	Set the RIDC Connection Wait Time	RW	
12	PropCredentialAppIdKey	Set the connection credential appid key	RW	
13	PropCredentialImpersonationAllo	Set whether the UCM server and connection credential can pr...	RW	
14	PropCredentialPassword	Set the connection credential password	W	

Once everything is configured, we test our setup to confirm it is working as expected.

Integrate with Identity Cloud Service

If you are using any SSO provider such as Oracle Access Manager, then you can bring that to cloud and deploy in Oracle Cloud Infrastructure. You can use Oracle Identity Cloud Service (IDCS) for SSO if you would like to. You can follow the below document to use IDCS for SSO provider.

At this point, we configure WebCenter Content with the Identity Cloud Service using the information contained in Configuring WebCenter Content for Oracle Identity Cloud Services (IDCS) in *Administering Oracle WebCenter Content*.

Documentation Accessibility

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Oracle® Fusion Middleware Migrating Oracle WebCenter Content to Oracle Cloud Infrastructure, 12c (12.2.1.4.0)
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