

Oracle® Enterprise Manager Ops Center

Create and Manage Network Domains

12c Release 3 (12.3.0.0.0)

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This guide provides an end-to-end example for how to use Oracle Enterprise Manager Ops Center.

Introduction

A network domain is a container for managed networks and handles the relationship between the physical fabrics that support the networks and the virtualization hosts or server pools that use the networks. The fabrics provide network resources such as links and IP subnets to the network domain. Within the network domain, networks that have been discovered or specified are available for assignment. These are called public networks. Their network resources have been defined. Another type of network is dynamic, that is, the network is created when it is needed, using an IP address space available to the network domain. Because they exist only for a specific purpose and only within a specific network domain, they are called private networks.

A fabric can be a member of more than one network domain. A network domain must be supported by at least one fabric. The type of fabric defines the capabilities of networks in the network domain. To use virtual datacenters, the network domain provides private networks to the server pool. For dynamic private networks, include a fully-managed fabric or a host-managed fabric in the network domain. To use existing public networks for a virtual datacenter, you must add each network to the network domain, making it a static private network. These networks are for the exclusive use of that network domain. Because existing public networks already have an IP subnet addresses and VLAN IDs or partition keys, they are static and cannot be assigned or attached to any other object.

The Oracle Enterprise Manager Ops Center software always has a Default Network Domain and all public networks are members of it. If you have upgraded your product software, the existing managed networks are now in the Default Network Domain. A new public network becomes a member of the default network domain. If you direct the new network to a user-defined network domain, the network is also a member of that network domain. Like the default network domain, a user-defined network domain provides network resources to a server pool or virtualization host.

In this document, you create a new network domain that supports virtual datacenters.

See [Related Articles and Resources](#) for links to related information and articles.

What You Will Need

You must have the role of Network Admin to create network domains.

To create a network domain that supports a virtual datacenter, use either a fully-managed fabric or a host-managed fabric to provide its network resources. To see the available fabrics, expand Networks in the Assets pane. Select Fabrics. For each fabric, the Dashboard in the center pane includes a Management Capability field. You can change an unmanaged Ethernet fabric to a host-managed fabric, using the Assign VLAN ID Range action to create VLAN IDs.

Although the network domain is providing the networks to the server pools, this is a logical association using VLAN IDs or partition keys. To use the network resources, each physical server that supports the virtualization hosts in the server pool must have a physical connection to each fabric in the network domain.

Creating a User-Defined Network Domain

- [Create a New Network Domain](#)
- [Associating a Network Domain with a Server Pool](#)

Create a New Network Domain

This task defines the new network domain and includes the fabrics that support its networks.

1. Expand Networks in the Navigation pane.
2. The Standard views shows Networks.

The Default Network Domain is selected.



3. Click **Create Network Domain** in the Actions pane.
4. In the Identify Network Domain pane, enter the name and description of the network domain. You can also add tags.

Identify Network Domain * Indicates Required Field

Specify the name, description, tags, physical fabric, and maximum number of networks for the network domain. Ops Center will automatically assign P-keys/VLAN IDs for the selected physical fabric.

*** Domain Name:**

Description:

Tags: + × Search ▾ × 🔍

Tag Name	Value

- In the Add Fabrics step, choose at least one fully-managed fabric or a host-managed fabric.

Add Fabrics

The network domain is implemented upon a set of fully and unmanaged switched fabrics. The public and private networks will be drawn from this set (and specified in later steps). Including at least one fully managed or host managed fabric here will enable private networks to be created dynamically upon demand. If such a fabric is not included then private networks must be drawn from existing managed networks.

Fabric Name ▾	Management Capability
PHYSICAL INFINIBAND fabric - R	Fully Managed

Networks associated with Fabric

Networks ▾

- NORM-192.168.0.0
- NORM-192.168.1.0
- NORM-192.168.2.0
- NORM-192.168.3.0

- In this step, you set the maximum number of dynamic private networks that can be in use simultaneously. Because it is not possible to decrease the number of networks in a network domain after you create it, enter a low number in the Network Creation Limit field.

A private network uses an IP address from the pool of available IP addresses in the network domain. To exclude IP addresses that your organization is using for other purposes, specify them in the Reserved IP Address Ranges table. These addresses will not be available to dynamic private networks.

Specify Dynamic Private Networks * Indicates Required Field

Specify the resources Ops Center uses to dynamically and autonomously create private networks on this managed network domain. Resources include the fabric that will carry the networks, limit on number of networks that can be created and any IP address spaces that should not be used.

* Fabric Name: ↕

Network Creation Limit:

Reserved IP Address Ranges

+ ×

From IP Address	To IP Address

- In the Associate Networks step, you can add existing networks to the new network domain.

Associate Networks

A network domain consists of fabrics that carry networks and which can be used to create new networks as well as existing networks that are already known to the system. The associate networks step allows the selection of just those existing networks which are required to be part of the domain. The table lists all the existing networks on the fabrics selected in step 2. Use the associate tick box to choose which of these are included in the domain.

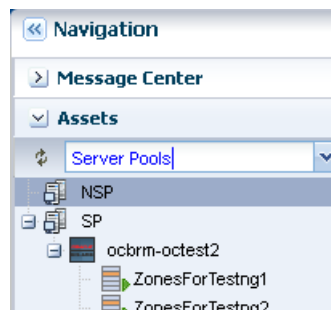
Network Name ▲	Network Address	Associate
[-] Fabric Name: PHYSICAL INFINIBAND fabric - 6 (4 Items)		
NORM-192.168.0.0		<input checked="" type="checkbox"/>
NORM-192.168.1.0	▶	<input type="checkbox"/>
NORM-192.168.2.0	▶	<input type="checkbox"/>
NORM-192.168.3.0		<input checked="" type="checkbox"/>

- Review and click **Finish**.

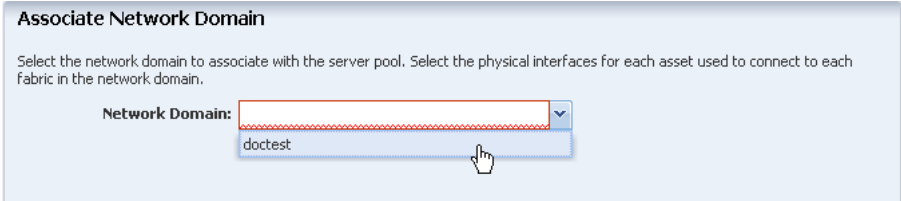
When the job is completed, the new network domain is listed in the Navigation pane.

Associating a Network Domain with a Server Pool

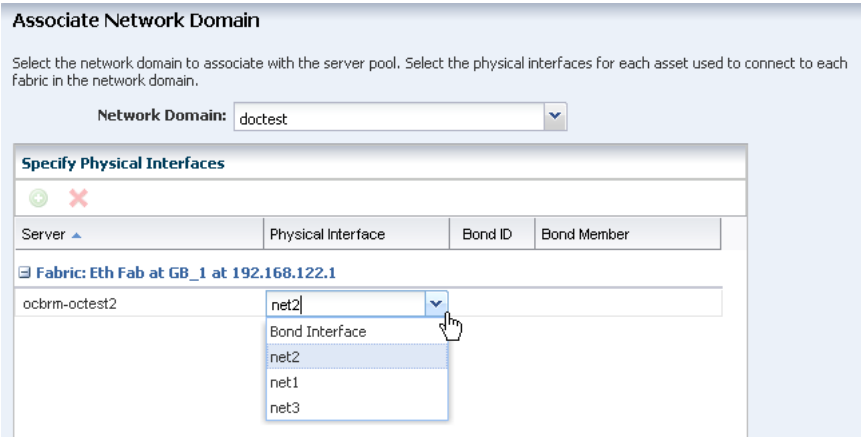
- Expand Assets in the Navigation pane.
- Select the server pool.



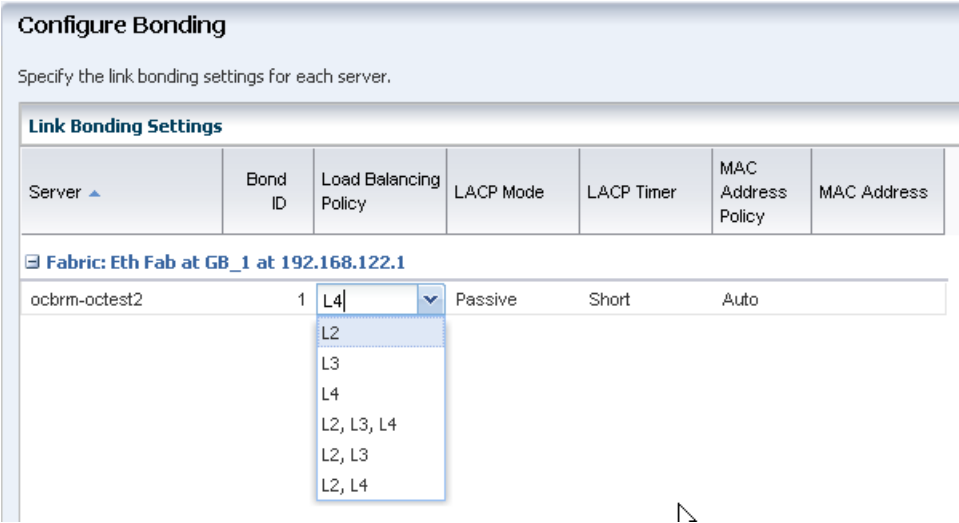
- Click **Associate Network Domain** in the Actions pane.
- Select a network domain from the drop-down list.



5. The Specify Physical Interfaces table shows each server in the server pool. For each one, select its physical connection to the fabric.



6. If the physical interface is an IPMP group or a link aggregation, specify the bond ID and the bond member that the server uses. The Configure Bonding step is displayed, showing the server and the Bond ID.



Specify the characteristics of the IPMP group or link aggregation or accept the default values.

Click **Next**.

7. Review the summary and click **Finish**.

Summary

Click Finish to associate the network domain with the server pool.

Network Domain: doctest

Fabric Interfaces

Fabric	Global Zone	Physical Interface	Bond ID	Bond Member
Eth Fab at GB_1 at 192.168.122.1	ocbrm-occtest2	net2		

When the job is completed, the server pool is associated with the network domain and, through the network domain, its fabrics.

What's Next?

If a virtual datacenter that relies on this network domain is unable to create vnets, you can increase the limit of private networks it can provide simultaneously.

If your organization uses this network domain for a specific purpose, for example, to support the server pool used exclusively by one department, you can edit the attributes of the network domain to identify this purpose.

Related Articles and Resources

See the following for more information:

- [Configure Networks](#) in *Oracle Enterprise Manager Configure Reference*.
- [Networks for Virtualization](#) in *Oracle Enterprise Manager Virtualize Reference* for information about network resources for virtual assets.
- [Server Pools](#) in *Oracle Enterprise Manager Virtualize Reference* for information about managing network and storage resources for virtual assets.

See the [Deploy Networks Workflow](#) in *Deploy How To* library at http://docs.oracle.com/cd/E59957_01/nav/deploy.htm

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