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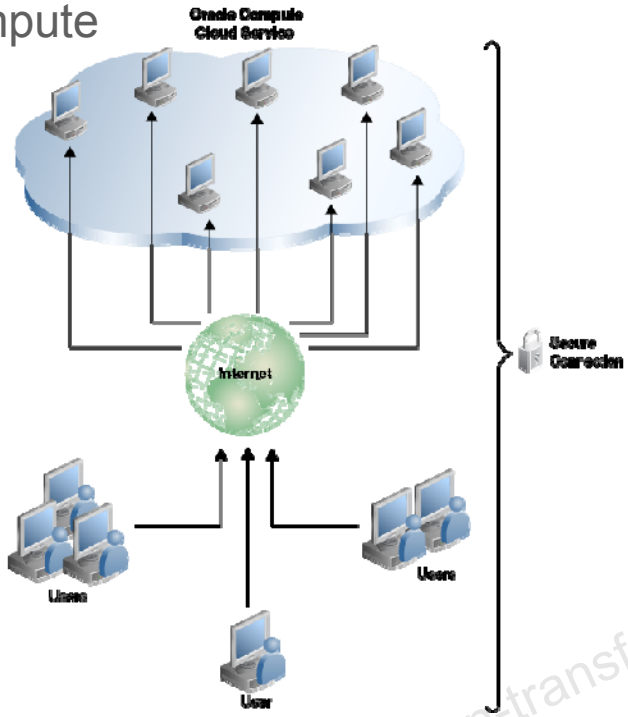
Introduction to Oracle Compute Cloud Service

Objectives

After completing this lesson, you should be able to:

- Provide an overview of Oracle Compute Cloud Service
- Explain the features of Oracle Compute Cloud Service
- Describe the uses and applications of Oracle Compute Cloud Service
- Discuss using apps from Oracle Cloud Marketplace

What Is Oracle Compute Cloud Service?



Oracle Compute Cloud Service is a secure, reliable, low-cost, and standards-based infrastructure service.

You can use Oracle Compute Cloud Service to:

- Rapidly provision virtual machines on Oracle Cloud with all the necessary storage and networking resources
- Manage and scale your virtual machine topology in the cloud easily
- Migrate Oracle and third-party applications to Oracle Cloud

Features of Oracle Compute Cloud Service

FEATURES

1. Create virtual machines using Oracle-provided or custom machine images.
2. Assign processor and memory resources from a range of resource profiles.
3. Use persistent boot disks to start your instance.
4. Attach high-capacity block storage to your instance.
5. Practice fine-grained control over network traffic.
6. Reserve a persistent public IP address and assign it to your instance.
7. Ensure secure access to your instance.
8. Monitor and manage your resources using a web console.
9. Automate provisioning and management workflows using orchestrations.
10. Migrate on-premise workloads and applications to the cloud.

This slide provides an overview of the features of Oracle Compute Cloud Service. Let's look at each of these features in more detail.

Create Instances

FEATURES

1 2 3 4 5 6 7 8 9 10

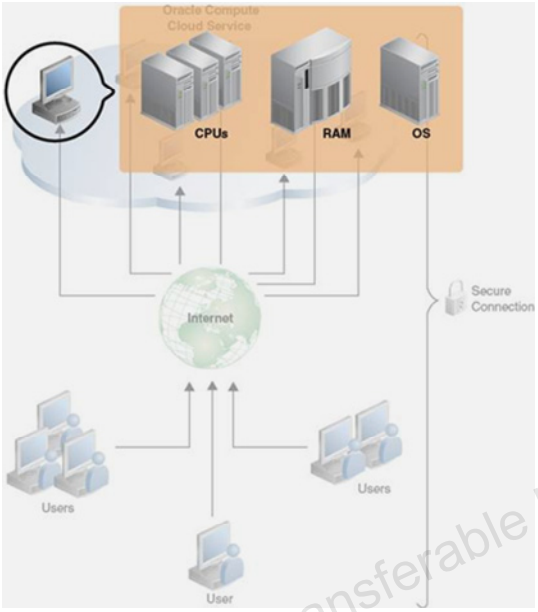
You can create virtual machine instances by using:

- An Oracle-provided machine image*

Or

- A custom machine image that you upload to Oracle Compute Cloud Service

*Machine Image is the template of a virtual hard disk with installed OS and applications.



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You can use one of several Oracle-provided machine images to quickly provision robust Oracle Linux virtual machines. Alternatively, you can build custom machine images based on the operating system and disk size of your choice and use those images to create virtual machines.

The operating system and software that you use to build machine images must have the required licenses. You are responsible for purchasing the required licenses and ensuring support for any third-party operating systems and software that you run on Oracle Compute Cloud Service instances.

Assign Processor and Memory Resources

FEATURES

1 2 3 4 5 6 7 8 9 10

Oracle Compute Cloud Service enables you to select from a range of predefined shapes that determine the number of CPUs available in an instance and the amount of RAM available in an instance.

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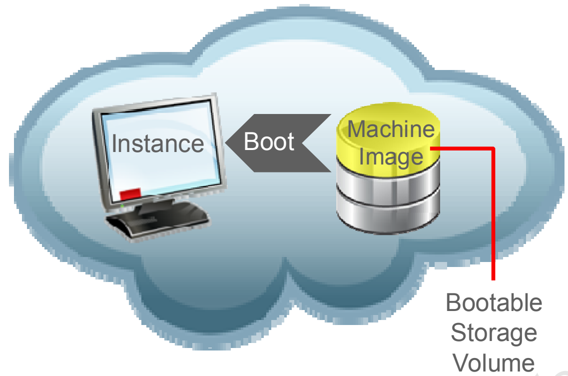
While creating Oracle Compute Cloud Service instances, you can assign CPU and memory resources by selecting from a wide range of resource profiles (called shapes), each of which is a carefully designed combination of processor and memory limits.

Use a Persistent Boot Disk

Nonpersistent boot disk
- Data is not persistent.
- Changes are lost when the instance is deleted.

Persistent boot disk
- Data is preserved even when the instance is deleted.
- Changes made at operating system-level can be saved and used again later on.



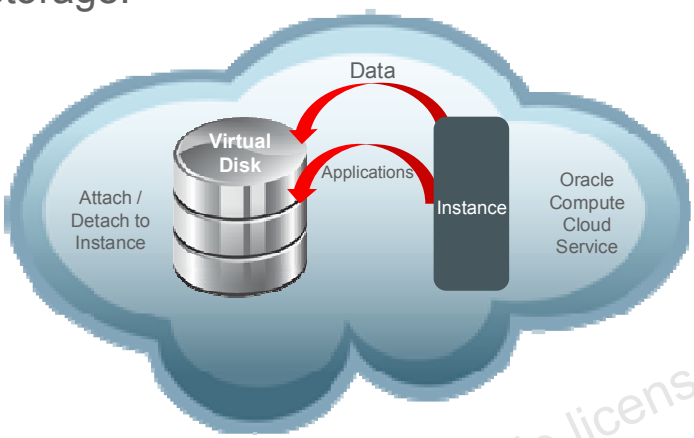
By default, Oracle Compute Cloud Service instances boot from an persistent boot disk. Using a persistent boot disk allows your data to be preserved even when you delete your instance. Any changes that you make at the operating system-level persist, and you can use this boot disk when you re-create the instance or create another instance later on.

If required, you can also boot from a nonpersistent boot disk. If you delete such an instance, the data on the boot disk also gets deleted. If you had made any changes on the boot disk, those changes are lost. Using a nonpersistent boot disk is required when you want to create a snapshot of an instance.

Attach High-Capacity Block Storage to Instances

FEATURES 1 2 3 4 5 6 7 8 9 10

- Attach persistent block storage:
  - Varying sizes
  - Up to 20 TB
- Store data:
- Store applications:
- Delete instance:
  - Data still intact



You can attach up to 20 TB of block storage to each of your instances for storing data and applications, by creating multiple persistent storage volumes and attaching them to the instances. Even after you delete instances, the data stored in the storage volumes remains intact until you delete the volumes.

Practice Fine-Grained Control over Network Traffic

FEATURES 1 2 3 4 5 6 7 8 9 10

Control traffic between:

- Instance x > Instance y
- Group a of instances > Group b of instances
- Group of instances > external hosts

Also control traffic over:

- Protocols
- Ports

You can control network traffic among individual instances and also between specific groups of instances and external hosts. You can also control traffic to and from instances over specific protocols and ports that you can define.

Reserve and Assign a Persistent Public IP Address

FEATURES 1 2 3 4 5 6 7 8 9 10

Does your instance need access to/from the Internet?

- Use an auto-generated public IP address.
  - IP address might change if the instance restarts or is deleted and created again.
- Reserve and use a persistent public IP address.
  - Public IP address remains fixed, even if instance restarts or is deleted and created again.

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For an instance that requires access to the Internet, you can reserve and use a static public IP address. Each instance can have only one public IP address. When you create an instance, you can select a predefined persistent public IP address, or you can use an auto-generated public IP address. Auto-generated public IP addresses are selected from a pool of public IP addresses and might change if your instance restarts or is deleted and created again. If you need the public IP address of your instance to be static, you can use an IP reservation to specify a fixed public IP address that is used with your instance.

Ensure Secure Access to Instances

FEATURES

1 2 3 4 5 6 7 8 9 10

To ensure secure access to your instances:

- Isolate your instance to prevent unauthorized access
- Specify IP addresses of remote hosts that can be allowed to access instances
- Use an SSH key pair to authenticate access

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If you use an Oracle-provided Oracle Linux machine image to create your instance, then you can configure your instance to be accessed securely from remote hosts by using a secure protocol, such as SSH. You can also enable access from only a specific set of external hosts.

Monitor and Manage Your Resources

FEATURES 1 2 3 4 5 6 7 8 9 10

Oracle Compute Cloud Service web console provides:

- An easy-to-use web-based graphical interface
- A list of resources and their status
  - Instances
  - Storage volumes
  - Machine images
  - SSH public keys
  - Network settings

- Details of each object
- The ability to create, update, or delete objects

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You can access, administer, and use Oracle Compute Cloud Service through an easy-to-use graphical web console. The console provides a single interface that you can use to monitor and manage all your Oracle Compute Cloud Service resources.

Automate Provisioning and Management Workflows

FEATURES 1 2 3 4 5 6 7 8 9 10

Using orchestrations, you can:

- Create multiple instances with varied attributes
- Create multiple other objects, such as storage volumes and network settings
- Remove multiple instances or other objects
- Re-create multiple instances or other objects
- Enable high-availability for instances
- Specify dependencies between objects
- Schedule the creation or deletion of a set of objects

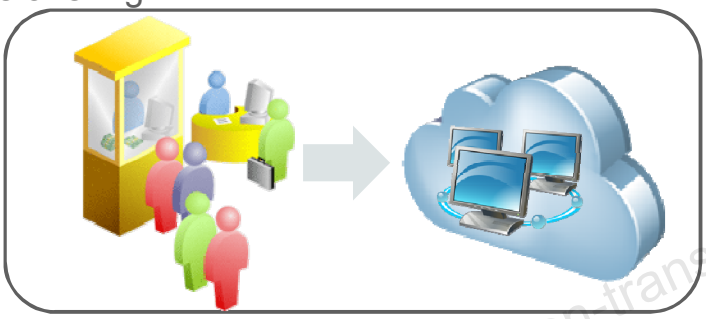
You can define all the attributes for multiple, high availability (HA)–enabled virtual machines of varying shapes and machine images in an orchestration. Using the web console, you can then easily create, remove, and reprovision all of the virtual machines and associated resources as required through the orchestration.

Migrate Applications to the Cloud

FEATURES 1 2 3 4 5 6 7 8 9 10

Oracle Compute Cloud Service:

- Provides high-performance x86 servers
- Enables enterprises to migrate their on-premises applications to virtual machines
- Provides elastic compute, storage, and network capabilities
- Provides predictable performance in the cloud with the Dedicated Compute offering



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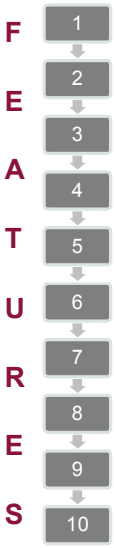
When enterprises subscribe to Oracle Compute Cloud Service, they can opt for a dedicated environment (called a site) that consists of a large number of high-performance x86 servers reserved for their use. Depending on the configuration subscribed, they get compute power equivalent to 500, 1000, 1500, or 2000 physical cores of a modern Intel Xeon processor with hyperthreading enabled. In a dedicated environment, because they are the only tenant on the site, enterprises can count on predictable performance in the cloud.

Enterprises that have smaller compute requirements can opt for fewer resources, on a site that is shared with other tenants.

In either case, enterprises can migrate their on-premises applications to the virtual machines that they create on the cloud, and take advantage of the elastic compute, storage, and network capabilities that Oracle Compute Cloud Service provides.

Summary of Oracle Compute Cloud Service Features



- Create virtual machines (instances) using Oracle-provided or custom machine images.
- Assign processor and memory resources from a range of resource profiles.
- Use persistent boot disks to start your instance.
- Attach high-capacity block storage to your instance.
- Practice fine-grained control over network traffic.
- Reserve a persistent public IP address and assign it to your instance.
- Ensure secure access to your instance.
- Monitor and manage your resources using a web console.
- Automate provisioning and management workflows using orchestrations.
- Migrate on-premise workloads and applications to the cloud.

What Else Can I Do with Compute?

Choose from myriad applications with a variety of Operating Systems.

- Visit Oracle Cloud Marketplace and check out the available apps.
- Browse through the large collection of trusted and innovative apps in many business categories available for free.

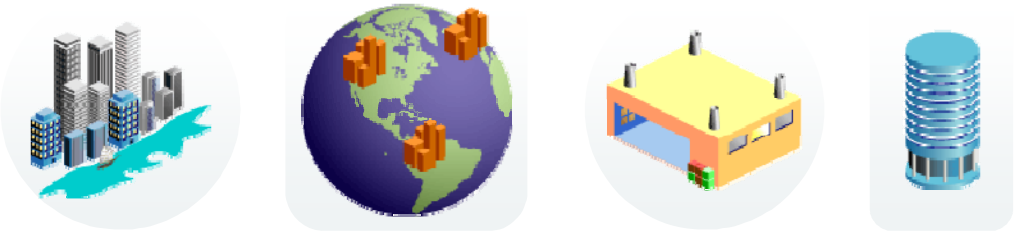
Oracle Cloud Marketplace is an online store—a one-stop shop—selling hundreds of business apps and professional services that complement your existing Oracle Cloud implementation.

All apps and services on the marketplace are offered by approved, registered, and expert partners and developers. Plus, Oracle has vetted, reviewed, and approved each product.

Oracle Cloud Marketplace offers a large collection of trusted and innovative apps in many business categories, including marketing, sales, customer service, social, and talent management. These apps provide enhanced functions and customizations that enable you to set up your Oracle Compute Cloud Service instances and become productive quickly and easily.

Who Uses Oracle Compute Cloud Service?

- Large enterprises that require instant provisioning
- Large enterprises with variable compute requirements
- Small and medium enterprises that want to avoid infrastructure overhead



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Examples

- **Online shopping portals:** The shopping portals cater to changing market demands and respond to changing seasons. That establishes the need to plan infrastructure that's elastic and maintains profitability despite ever-changing compute requirements, such as CPUs and storage capacity.
- **Call centers:** These environments typically have high HR churn rates and require instant provisioning and removal of work spaces. Access to elastic compute facility ensures that.
- **Startups:** Startup businesses operate on thin financial resources but can largely benefit from modern infrastructure that offers convenience and edge. Migrating their applications to the cloud provided ease of access and use, and flexible compute environment.
- **Companies on an expansion spree:** Oracle Compute Cloud Service gives the advantage of setting up and tearing down preplanned compute solutions (with the orchestrations) to cater to growing business needs.

Quiz

Which of the following statements are true?

a. Oracle Compute Cloud Service is a vital component of Oracle's IaaS offerings.
b. Oracle Compute Cloud Service can be used to migrate third-party applications to Oracle Cloud.
c. Oracle Compute Cloud Service is for large enterprises and is not for startups.

Quiz

Which of the following can you do while creating an Oracle Compute Cloud Service instance?

a. Attach a persistent boot disk.
b. Select from a large portfolio of CPU and memory resource combinations for the instance.
c. Select an OS.
d. Configure network settings to ensure secure access to the instance even before it is up and running.
e. All the above.

Summary

In this lesson, you should have learned how to:

- Provide an overview of Oracle Compute Cloud Service
- Explain the features of Oracle Compute Cloud Service
- Describe the uses and applications of Oracle Compute Cloud Service
- Discuss using apps at Oracle Cloud Marketplace

Resource: Links

For more information about Oracle Compute Cloud Service, see
http://docs.oracle.com/cloud/latest/stcomputecs/index.html