An Environment to Build, Deploy, and Manage Java Enterprise Applications

Introduction

Oracle Java Cloud Service is a complete platform and infrastructure cloud solution for building, deploying, and managing Java EE applications. Use Oracle Java Cloud Service to rapidly provision an application environment with Oracle WebLogic Server as the application container, Oracle Coherence as a caching and data grid tier, and Oracle Traffic Director as the software load balancer—all on top of infrastructure provided by Oracle Compute Cloud Service.

Enterprise Class: You get the industry's best application server running on top of enterprise-grade cloud infrastructure.

The platform is powered by Oracle WebLogic Server, the #1 application server across conventional and cloud environments. And, you have the option of adding an Oracle Coherence caching and data grid tier to your deployment.

Your environment is preinstalled and preconfigured using Oracle best practices for application deployment that maximize performance, scalability, and reliability.

The infrastructure has the same secure and reliable core capabilities offered by Oracle Cloud Infrastructure as a Service. With capabilities like elastic compute and storage, you can run any workload in Oracle Java Cloud Service, and easily grow your environment when your application needs grow.

Quick and Easy: You create a complete application environment in the cloud with just a few clicks of the mouse.

Use a simple four-step wizard to select the feature set and capacity you need for your cloud environment, including application server (WebLogic), caching and data grid (Coherence), and load balancer (Traffic Director). You don't have to worry about setting up any infrastructure or platform details yourself.

When you complete the wizard, your environment—fully integrated with your Oracle Database Cloud Service and Oracle Storage Cloud Service—is provisioned in minutes. All nodes in your WebLogic Server domain and cluster are started automatically, and you can begin to deploy applications to your service instance. You can quickly go from zero to HelloWorld!

ORACLE®

Self-Service and Choice

You use a self-service portal to provision your service environment and manage your service life cycle using advanced automated tooling.

When provisioning, you can:

- Choose the Oracle WebLogic Server software edition and version.

- Choose the size of your clustered environment (number of Managed Servers).

- Choose the CPU and memory capacity.

- Optionally enable Oracle Coherence within Oracle Java Cloud Service to use Coherence caching and data grid functionality.

- Optionally enable a load balancer to forward requests it receives to your cluster.

- Decide if you want the service by the hour or by the month.

As you manage your service life cycle, you can:

- Use customizable, one-click operations in the self-service portal to perform life cycle administrative operations such as back up, restore, and patch.

- Stop and start your service when needed.

- Scale your environment on demand to meet your needs.
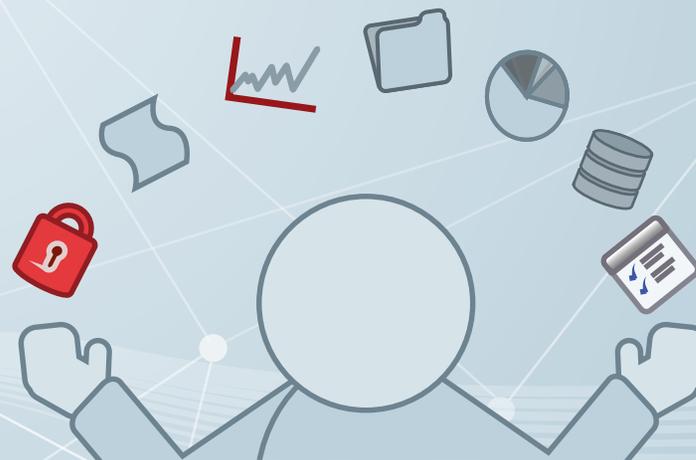
ORACLE®

Portable and Secure

You get a standards-based platform for easy deployment of new or existing Java EE applications.

Already have an application deployed in an on-premises environment? Not a problem. You can easily move your application to Oracle Java Cloud Service.

With full administrative control of your cloud environment, you use familiar tools to deploy applications. For instance, you can use the WebLogic Server Administration Console or Oracle Enterprise Manager Fusion Middleware Control, which are easily accessible through the Oracle Java Cloud Service cloud portal. You can also use an integrated development environment (IDE) or WebLogic Scripting Tool (WLST) commands to deploy applications.

Using third-party applications or frameworks like log4J, Hibernate, or Spring? Not an issue. Bring any Java third-party applications or frameworks to your environment. You have complete control of your service instance, including access to the virtual machines running your service.

You secure all applications deployed to an Oracle Java Cloud Service instance the same way you secure an application environment and administer security for Oracle WebLogic Server in an on-premises instance.

You use the WebLogic Server Administration Console to define users, groups, and security roles for a security realm, and create security policies to protect the WebLogic resources in the domain.

ORACLE®

Provisioning

Your Oracle Java Cloud Service instances are provisioned in an identity domain that corresponds to your Oracle Public Cloud Services account. An identity domain controls authentication and authorization to your instances, so you don't have to worry about other users gaining access to your environment in the cloud.

Using the automatic provisioning capabilities in Oracle Java Cloud Service, you can provision a complete Oracle WebLogic Server software and virtual machine (VM) environment in minutes, and immediately start deploying your applications. You can provision Oracle WebLogic Server 12c or 11g, and one of the editions—Enterprise Edition, Enterprise Edition with Coherence, or Standard Edition. For Oracle Coherence applications, you can enable Coherence for your environment when you provision Oracle WebLogic Server 12c and Enterprise Edition with Coherence.

The virtual machines in your environment are based on the Oracle Linux 6 (OEL6) 60 GB disk image, and they're highly available. The underlying infrastructure contains built-in capabilities to migrate an unhealthy VM in minutes to a separate hardware cluster.

All the underlying infrastructure work is done for you. Using information that you provide during provisioning, your service instance is preconfigured to your:

- Oracle Database Cloud Service instance, which contains the Oracle Fusion Middleware component schemas.
- Oracle Storage Cloud Service instance, which is used to archive your backups that are older than seven days.

Oracle Coherence Enterprise Edition software is installed and configured for you when you enable Coherence for an Oracle Java Cloud Service instance.

You can also enable a load balancer during provisioning to provide a single access point for your entire multi-node cluster. If you enable a load balancer, Oracle Traffic Director software is installed and configured for you.

ORACLE®

Topology

Each service instance you create is configured with one WebLogic Server domain that's provisioned with one WebLogic Administration Server and a single cluster containing your choice of WebLogic Managed Server nodes. If Oracle Coherence is enabled for a service instance, there's a second WebLogic Server cluster containing a number of Managed Coherence Servers to manage your Coherence data tier. Both clusters automatically participate in a single Coherence cluster within the domain.

Depending on your selection, your instance can contain one or more highly available virtual machines, which are automatically deployed with compute resources such as CPU cores, memory, storage, and networking settings.
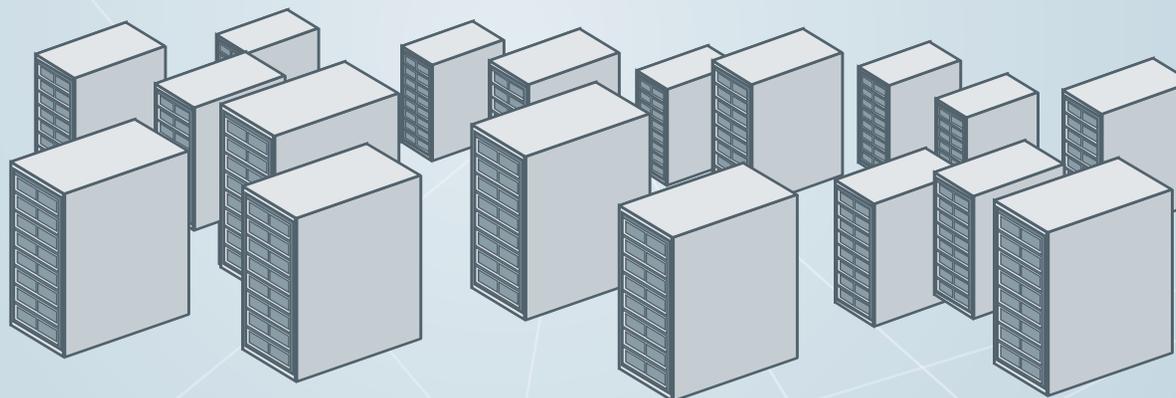
The first virtual machine (VM) contains the WebLogic Administration Server along with the first Managed Server. Each remaining Managed Server is on its own VM.

If you enable a load balancer, the load balancer is instantiated on its own highly available VM. If you enable Oracle Coherence, a VM in the storage-enabled WebLogic Server cluster can have one or more Managed Servers. You can access the services and resources provided by a VM by using a secure shell client to log in to the machine.

ORACLE®

Develop and Deploy

Continue to develop your Java EE applications as you have with your on-premises applications or leverage the capabilities of Oracle Developer Cloud Service. Easily and securely deploy new applications or migrate your on-premises Java EE applications to a WebLogic Server instance in Oracle Java Cloud Service using any deployment option that you're already familiar with.

Integrated Development Environment (IDE)

Deploy and interact with your cloud instance from popular IDEs such as Oracle JDeveloper, Oracle Enterprise Pack for Eclipse, and NetBeans. Through a secure shell (SSH) tunnel, use the IDE on your local machine to establish a secure remote connection to your virtual machine (VM) that contains the WebLogic Administration Server. Once connected, set the instance cluster as a target in your IDE, and then deploy your application to your instance in the cloud.

Oracle Developer Cloud Service

Need a Platform as a Service software development environment? Use Oracle Developer Cloud Service to organize and track key information about all your development teams and their projects and deploy completed applications to Oracle Java Cloud Service.

WebLogic Server Administration Console

Through a handy menu on the Oracle Java Cloud Service cloud portal, you access the WebLogic Server Administration Console for your cloud instance to perform administrative operations. These include installing and starting your application, configuring additional databases, adding additional security, and tuning your Java Message Service (JMS) server.

Oracle Enterprise Manager Fusion Middleware Control for WebLogic Server

Use the same convenient menu to access the Fusion Middleware Control for your instance. Deploying an application to your cloud instance using the Fusion Middleware Control is the same as deploying to an on-premises instance.

WebLogic Scripting Tool (WLST)

Prefer to use WLST commands? Use an SSH client to create a session or a tunnel to the service instance VM where the WebLogic Administration Server resides. Then run the WLST command locally or remotely from a different host.

ORACLE®

Development and Operations

Oracle Developer Cloud Service smoothly and invisibly integrates your software development environment with Oracle Java Cloud Service, Oracle Database Cloud Service, and other Oracle Cloud services. Leverage the continuous integration capability offered by Oracle Developer Cloud Service, which is included at no additional cost when you subscribe to Oracle Java Cloud Service.
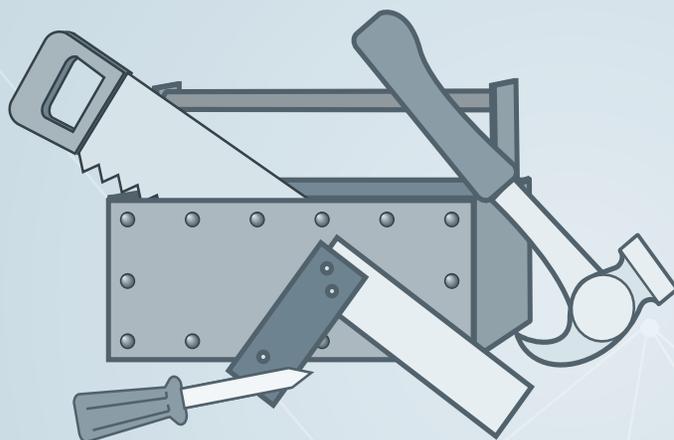
Oracle Developer Cloud Service is a turnkey solution that provides a development sandbox in the cloud with a Git-based repository and Application Lifecycle Management (ALM) capabilities such as bug tracking, wikis, and team development.

Use Oracle Developer Cloud Service for:

- Project configuration and user management
- Source control management
- Issue tracking
- Continuous build integration through Hudson
- Document collaboration through wiki

"Oracle Developer Cloud Service is included at no additional cost when you subscribe to Oracle Java Cloud Service."

ORACLE®

Administer and Monitor

Your entire environment, including the WebLogic domain and cluster and the virtual machine (VM) storage volumes and network settings, is visible and customizable. Service lifecycle operations for backup and restoration, patching and rollback, and scaling are easy to use, fully managed, and automated. You maximize productivity when you use the one-click operations in the self-service portal to maintain your service instance, which remains fully functional during the maintenance operations.

You have complete control of your cloud environment using familiar tools and a user-friendly cloud portal:

- Glance at the number of provisioned instances you have. See the total amount of compute resources and memory consumed across all instances, as well as the amount consumed by each instance.

- Manage your instances by applying patches, adding capacity, configuring a backup schedule, or restoring an instance to a point-in-time or particular state.

- Monitor health data and other statistics of your running instance. Determine the overall health of your service instance or the health of an individual VM and Managed Server within your instance.

- Stop a service instance or individual server virtual machines to stop metering for these resources. Restart the Administration Server or individual server virtual machines if a reboot is needed.

- Use familiar tools for full administrative control and access to the environment. WebLogic Server Administration Console and WebLogic Scripting Tool (WLST) commands are among your tool choices.

- Use the Fusion Middleware Control to manage your application environment, and perform end-to-end debugging.

- Access the underlying VM infrastructure by using a secure shell (SSH) client and supplying the private key corresponding to the public key used at the time of provisioning.

ORACLE®

Scale Nodes and Clusters

Scale a service instance by scaling a node or a cluster on demand.

Scale a Node

You can scale up or scale down the compute shape of a node in response to heavier or lighter workloads. Scale up to use a larger shape. Scale down to use a smaller shape. You can also add block storage to a node that is running out of storage.

Scale a Cluster

You can scale out or scale in a cluster in response to load changes. Scale out to add a new Managed Server in a new virtual machine. Scale in to remove a Managed Server and the virtual machine on which it was running. A graceful shutdown of the Managed Server is performed before your service is scaled in.

Scale the Coherence Data Tier

When Oracle Coherence is enabled for a service instance, scaling out the Coherence data tier adds the required number of Managed Coherence Servers to support your desired additional capacity. Scaling in removes a predefined number of Managed Coherence Servers and the virtual machines on which they were running to recede the overall capacity of the data tier. The high availability status of the data tier is verified before scaling in.

ORACLE®

Back Up and Patch

Back Up and Restore

Weekly full backups and daily incremental backups are already scheduled for you when your service instance is provisioned. A full backup is automatically initiated 12 hours after your instance is created. You can change the day of the week and the time of day when you want full backups to be initiated, and the time of day when you want incremental backups to be performed. You can also initiate a backup on demand.

Oracle Java Cloud Service stores all backups in the Oracle Storage Cloud Service container configured on the service instance. To speed up restorations from recent backups, Oracle Java Cloud Service keeps a local copy of backups up to seven days old. You can change the default storage container at any time. You can retain your backup archive as long as you want.

You can restore an instance from a full or incremental backup to return the instance to a particular state. When restoring from an incremental backup, you don't need to restore the full backup to which the incremental backup is linked.

Patch and Roll Back

Apply quarterly Patch Set Update (PSU), Java Development Kit (JDK), and load balancer patches on your own schedule when the patches are made available to you in the self-service portal.

By default the patching process prechecks for conditions such as disk space shortage and connectivity issues before applying a patch. However you can initiate the precheck operations yourself to identify and remedy issues first before you apply a patch.

A full backup is performed before your service instance is patched. Your service remains fully functional during the patching process. The operation shuts down one server at a time, applies the patch to that server, and restarts the server before moving on to the next one.

If a patch is incompatible with applications deployed on your service, you can roll back a patch while leaving the domain and user data intact.

ORACLE®

Service Integration

Built on top of Oracle's enterprise-grade cloud infrastructure, Oracle Java Cloud Service is seamlessly integrated with other services offered in Oracle Cloud.

Oracle Database Cloud Service: Access the preintegrated Oracle Database Cloud Service instance from your Java application. Although the preconfigured database instance is used to host all the required Fusion Middleware schemas in Oracle Java Cloud Service, you can also use it to host your application schemas.

Oracle Developer Cloud Service: Automatically deploy applications built by Oracle Developer Cloud Service, a turnkey solution for your software development process. Oracle Developer Cloud Service comes free with your Oracle Java Cloud Service.

Oracle Messaging Cloud Service: Use Oracle Messaging Cloud Service to communicate asynchronously between other cloud or on-premises applications and Java applications running in Oracle Cloud.

Oracle Storage Cloud Service: Access the preintegrated Oracle Storage Cloud Service instance directly from your Java application. Although the preconfigured storage instance is used to archive your Oracle Java Cloud Service instance backups, you can also use it to back up content to an off-site location, programmatically store content, and share content with peers.

ORACLE®

Get Started

Subscribe

Set up an Oracle Public Cloud Services account for Oracle Java Cloud Service. You can register for a free 30-day trial or create a purchase order from the Oracle Cloud website (cloud.oracle.com) or the Oracle Store (shop.oracle.com) using your Oracle.com account. Also, an Oracle sales representative can create a purchase order. For more information, see Trial and Paid Subscriptions for Oracle Cloud Services.

Note: To use Oracle Java Cloud Service, you must also have active Oracle Public

Cloud Services accounts for Oracle Database Cloud Service and Oracle Storage Cloud Service. For information, see Before You Begin with Oracle Java Cloud Service.

Watch Videos

- Oracle Java Cloud Service Product Tour
- Creating an Oracle Java Cloud Service Instance
- Deploying an Application to an Oracle Java Cloud Service Instance
- Scaling an Oracle Java Cloud Service Instance
- Backing Up and Restoring an Oracle Java Cloud Service Instance

Attend Oracle Cloud Events

See events.oracle.com and blogs.oracle.com/cloud for information about Oracle Cloud events.

Join the Community

- Oracle Cloud Community: cloud.oracle.com
- Oracle Java Cloud Service
- Oracle WebLogic Server
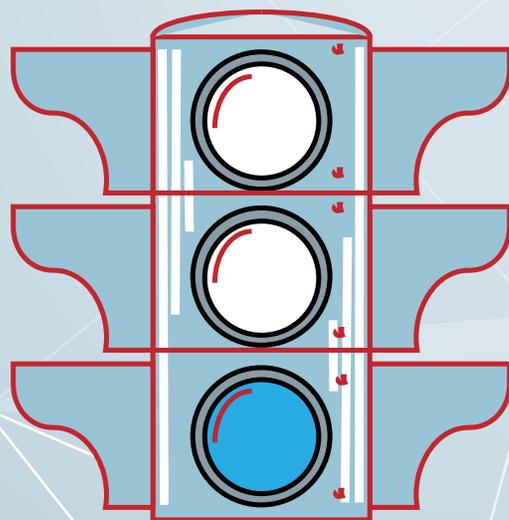
ORACLE®

Safe Harbor

The preceding is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

ORACLE®

Follow us at:

f **Oracle Cloud on Facebook**   **Oracle Cloud on Twitter**   **Oracle Cloud on YouTube**

<u>Oracle Java Cloud Service Website</u>

v. October 30, 2015