

Using Oracle Database Cloud Service

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Creating a Database Deployment

To create a database deployment on Oracle Database Cloud Service, use the Provision New Oracle Database Cloud Service wizard as described in the following procedure.

However, before using the Provision New Oracle Database Cloud Service wizard, you need to make sure that you have all of the necessary information, as described in [Before You Begin](#). Additionally, after your database deployment is created you need to perform a few follow-on tasks to make sure your deployment is accessible and up-to-date, as described in [After Your Database Deployment Is Created](#).

Before You Begin

When you create a database deployment, you provide information used to create the deployment itself and the Oracle database it hosts. In addition, you may need to provide information about other resources:

- An SSH public/private key pair

You must associate an SSH public key with the compute infrastructure supporting the deployment. An SSH public key is used for authentication when you use an SSH client to connect to a compute node associated with the deployment. When you connect, you must provide the private key that matches the public key.

You can have the wizard create a public/private key pair for you, or you can create one beforehand and upload or paste its private key value. If you want to create a key pair beforehand, you can use a standard SSH key generation tool. See [Generating a Secure Shell \(SSH\) Public/Private Key Pair](#) for instructions.

- An Oracle Storage Cloud Service container (Optional)

If you want to back up your new database to the cloud, you must associate an Oracle Storage Cloud Service container with the database deployment. You can create the container beforehand and provide the wizard with information about it, or you can have the wizard create the container for you. If you want to create the container beforehand, see [Creating Containers in Using Oracle Storage Cloud Service](#) for instructions.

This container becomes associated with Oracle Database Backup Cloud Service, which Database Cloud Service uses to perform backups to cloud storage. Once associated with Oracle Database Backup Cloud Service, this container becomes part of your Oracle Database Public Cloud Services subscription (or trial) rather than part of an Oracle IaaS Public Cloud Services subscription (or trial).

Whether you create the container beforehand or have the wizard do it for you, you are prompted for the following information about the container:

- The name of the container
- The user name and password of a user who has read/write access to the container

Note:

Do not use the Oracle Storage Cloud Service container that you are using to back up Database Cloud Service databases for any other purpose. For example, do not also use it to back up Oracle Java Cloud Service instances. Using the container for multiple purposes can result in billing errors.

- A existing cloud backup of a 12.1.0.2.0 multitenant or 11.2.0.4.0 Oracle database created using Oracle Database Backup Cloud Service (Optional)

If you are creating a database deployment hosting a single-instance database, you can have the new database populated, or "instantiated", from the data stored in the Database Backup Cloud Service backup of a 12.1.0.2.0 multitenant or 11.2.0.4.0 Oracle database. You can use this instantiate-from-backup technique if:

- The backed-up database is version 12.1.0.2.0 or version 11.2.0.4.0 with the latest PSU (patch set update) applied.
- If the backed-up database is an Oracle 12c database, it must be multitenant (CDB). Database Cloud Service does not support non-CDB Oracle 12c databases.
- The backed-up database uses File System or ASM as its storage method for data files.

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- The database recovered from the backup will be smaller than 2 TB (1.2 TB if you plan to back up the new deployment to both cloud and local storage).

If you use this instantiate-from-backup technique, you are prompted for the following information:

- The database ID of the backed-up database
- The password used when creating the backup (for backups that use password encryption)
- A zip file containing the source database's TDE wallet directory (for backups that use TDE encryption)
- The name of the Oracle Storage Cloud Service container where the backup is stored
- The user name and password of an Oracle Cloud user who has read access to the container

Note that after using this instantiate-from-backup technique, Oracle Application Express, DBaaS Monitor and ORDS (Oracle REST Data Services) may not be accessible. To restore accessibility, see [Application Express, DBaaS Monitor and ORDS inaccessible after creating a database deployment using a cloud backup](#) in *Known Issues for Oracle Database Cloud Service*.

Procedure

To create a database deployment on Database Cloud Service:

1. Open the Oracle Database Cloud Service console.

For detailed instructions, see [Accessing the Oracle Database Cloud Service Console](#).

2. Click **Create Service**.

The Provision New Oracle Database Cloud Service wizard starts and the Service page is displayed.

3. On the Service page, provide a name and description for the database deployment, and provide information about its high-level characteristics. When you are finished, click **Next** to advance to the Service Details page.

Element	Description
Service Name	The name for the new database deployment. The name: • Must not exceed 50 characters (15 characters for a deployment that uses Oracle RAC). • Must start with a letter. • Must contain only letters, numbers, or hyphens. • Must not contain any other special characters. • Must be unique within the identity domain.
Description	(Optional) A description for the new database deployment.
Subscription Type	The service level for the new deployment: • Oracle Database Cloud Service - Virtual Image—a compute environment with pre-installed virtual machine images that include all software needed to create and run an Oracle Database. You connect to the virtual machine and run the Oracle Database Configuration Assistant (DBCA) to create your database. All subsequent maintenance operations, including backup, patching and upgrades, are performed by you. • Oracle Database Cloud Service—everything in Virtual Image, plus a database created according to specifications you provide in the wizard, plus cloud tooling that provides automatic and on-demand backups, patching and upgrading, and point-in-time recovery for the created database. Note: Oracle Database 12c Release 2 (12.2) is not available at the Oracle Database Cloud Service - Virtual Image service level.
SSH Public Key	The SSH public key to be used for authentication when using an SSH client to connect to a compute node that is associated with your database deployment
Edit	

your database deployment.

Click **Edit** to specify the public key. You can upload a file containing the public key value, paste in the value of a public key, or have the wizard generate a key pair for you.

If you paste in the value, make sure the value does not contain line breaks or end with a line break.

If you have the wizard generate a key pair for you, make sure you download the zip file containing the keys that the wizard generated.

Compute Shape	(Visible only if you have set Subscription Type to Oracle Database Cloud Service - Virtual Image.) The number of Oracle Compute Units (OCPUs) and amount of memory (RAM) for the compute node of the new database deployment. Database Cloud Service offers several OCPU/RAM combinations, as described in Computing Power.
Software Release	The release version of Oracle Database for the new deployment: • Oracle Database 11g Release 2 • Oracle Database 12c Release 1 • Oracle Database 12c Release 2 Note: Oracle Database 12c Release 2 (12.2) is not available at the Oracle Database Cloud Service - Virtual Image service level.
Software Edition	The edition of Oracle Database for the new deployment: • Standard Edition—Oracle Database Standard Edition, which delivers unprecedented ease of use, power, and performance for workgroup, department-level, and Web applications. It includes all the facilities necessary to build business-critical applications. • Enterprise Edition—Oracle Database Enterprise Edition, which provides the performance, availability, scalability, and security required for mission-critical applications such as high-volume online transaction processing (OLTP) applications, query-intensive data warehouses, and demanding Internet applications. • Enterprise Edition - High Performance—provides all the features of Enterprise Edition, plus these options and packs: • Multitenant • Partitioning • Real Application Testing • Advanced Compression • Advanced Security • Label Security • Database Vault • OLAP • Advanced Analytics • Spatial & Graph • Diagnostics Pack • Tuning Pack • Database Lifecycle Management Pack • Data Masking and Subsetting Pack • Cloud Management Pack for Oracle Database • Enterprise Edition - Extreme Performance—provides all the features of Enterprise Edition - High Performance, plus these options and packs: • Active Data Guard

- Oracle Real Application Clusters (Oracle RAC)
- In-Memory Database

Note: If you choose Enterprise Edition or Enterprise Edition - High Performance, all available database enterprise management packs and Enterprise Edition options are included. The packs and options that are not part of the software edition you chose are available to you for use on a trial basis.

Billing Frequency	The billing frequency for the new deployment: • Hourly—Pay only for the number of hours used during your billing period. You cannot switch a deployment from hourly to monthly billing frequency after it is created. • Monthly—Pay one price for the full month irrespective of the number of hours used. For deployments that are started in the middle of a month, the price is pro-rated; you pay only for the partial month from the start date. You cannot switch a deployment from monthly to hourly billing frequency after it is created.
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4. On the Service Details page, complete the **Service Configuration** section, selecting the compute shape and timezone of your database deployment.

Element	Description
Compute Shape	The number of Oracle Compute Units (OCPUs) and amount of memory (RAM) for each compute node of the new database deployment. Database Cloud Service offers several OCPU/RAM combinations, as described in Computing Power .
Timezone	The time zone for the new database deployment. The default is Coordinated Universal Time (UTC).

5. On the Service Details page, complete the **Backup and Recovery Configuration** section, choosing a backup option for the database deployment and, depending on your choice, providing information about the Oracle Storage Cloud Service container where cloud backups are to be stored.

Element	Description
Backup Destination	Controls how backups for the deployment are to be configured: • Both Cloud Storage and Local Storage—backups are configured to be created automatically and stored both on local storage and on an Oracle Storage Cloud Service container. If this choice is selected, the Cloud Storage Container, User Name and Password fields are displayed. • Cloud Storage Only — backups are configured to be created automatically and stored on an Oracle Storage Cloud Service container. If this choice is selected, the Cloud Storage Container, User Name and Password fields are displayed. • None—Backups are not configured for the deployment. For more information about backups and backup configurations, see About Backing Up Database Deployments on Database Cloud Service.
Cloud Storage Container	The name of an existing Oracle Storage Cloud Service container or a new one to be created in the format: <code>instance-id_domain/container</code> where <i>instance</i> is the name of the Oracle Storage Cloud Service instance, <i>id_domain</i> is the id of the identity domain, and <i>container</i> is the name of the container. Note: Do not use the Oracle Storage Cloud container that you

NOTE: Do not use the Oracle Storage Cloud container that you are using to back up Database Cloud Service deployments to cloud storage for any other purpose. For example, do not also use it to back up Oracle Java Cloud Service instances to cloud storage. Using the container for multiple purposes can result in billing errors.

Cloud Storage User Name	The user name of a user who has read/write access to the specified Oracle Storage Cloud Service container.
Cloud Storage Password	The password of the user specified in Cloud Storage User Name .
Create Cloud Storage Container	Create a new Oracle Storage Cloud Service container as part of the database deployment creation. Specify the container name and the Cloud Storage user name and password in the preceding fields. Note: If you select this option, the new storage container is created as soon as you click Next on the Service Details page, and the storage container remains even if you cancel out of the wizard without creating a new database deployment. If this occurs, you can use the storage container for a future database deployment or you can manually delete the container. If you want to delete the container, see Deleting Containers in Using Oracle Storage Cloud Service for instructions.
Total Estimated Monthly Storage	Storage for data files and backups.

6. On the Service Details page, complete the **Database Configuration** section by providing information about the Oracle Database you want to create.

Element	Description
Usable Database Storage (GB)	The amount of storage in GB for actual database data.
Total Data File Storage (GB)	The computed amount of storage in GB that will be allocated to the deployment, including space for operating system and product binaries, supporting files, database data and configuration files, and so on.
Administration Password Confirm Password	The password for the following administrative users: • Oracle Database administrative users • Oracle Application Express admin user • DBaaS monitor access The password: • Must be 8 to 30 characters in length. • Must contain at least one lowercase letter • Must contain at least one uppercase letter • Must contain at least one number • Must contain at least one of these symbols: _ (underscore), # (hash sign), or \$ (dollar sign).
DB Name (SID)	The name for the database instance. The name: • Must not exceed 8 characters. • Must start with a letter. • Must contain only letters, numbers, or these symbols: _ (underscore), # (hash sign), or \$ (dollar sign). Note: If you are using the "Create Instance from Existing Backup" option and the SID you are providing is the same as the SID of the database from which the existing backup was made, you must make sure the SID you provide matches exactly, including the case of letters. For example, if the existing backup's database SID is <code>Orcl</code>, you must use <code>Orcl</code>, not <code>orcl</code> or <code>ORCL</code>.
PDB Name	(Available only for Oracle Database 12c.)

The name for the default pluggable database (PDB). The name:

- Must not exceed 8 characters.
- Must start with a letter.
- Must contain only letters, numbers, or these symbols: _ (underscore), # (hash sign), or \$ (dollar sign).

DB Listener Port	The port number for the Oracle Net Listener. The port number must be between 1521 and 5499 (inclusive).
Create Instance from Existing Backup	Create a database deployment whose database is taken from a cloud backup created using Oracle Database Backup Cloud Service.
Character Set	The database character set for the database. The database character set is used for: • Data stored in SQL <code>CHAR</code> data types (<code>CHAR</code> , <code>VARCHAR2</code> , <code>CLOB</code> , and <code>LONG</code>) • Identifiers such as table names, column names, and PL/SQL variables • Entering and storing SQL and PL/SQL source code This option is not available if Create Instance from Existing Backup is set to Yes.
National Character Set	The national character set for the database. The national character set is used for data stored in SQL <code>NCHAR</code> data types (<code>NCHAR</code> , <code>NCLOB</code> , and <code>NVARCHAR2</code>). This option is not available if Create Instance from Existing Backup is set to Yes.
Database Clustering with RAC	Controls whether a two-node Oracle Real Application Clusters (RAC) database is created. This option is available only if: • You choose Extreme Performance as the software edition • You choose a shape with two or more OCPUs See Using Oracle Real Application Clusters (RAC) in Database Cloud Service for more information. This option is not available if Create Instance from Existing Backup is set to Yes.
Enable Oracle GoldenGate	Configures the database for use as the replication database of an Oracle GoldenGate Cloud Service instance. See Using Oracle GoldenGate Cloud Service with Database Cloud Service for more information. This option is not available if Create Instance from Existing Backup is set to Yes.
Include "Demos" PDB	(Available only for Oracle Database 12c.) Controls whether the "Demos" PDB is to be included in the database. This PDB contains demos for many new features of Oracle Database 12c such as in-memory and multitenant. Usable Data File Storage must be at least 25 GB to include this PDB. This option is not available if Create Instance from Existing Backup is set to Yes.
Database ID	The database id of the database from which the existing backup was created. You can get this value by using the <code>SELECT dbid FROM v\$database;</code> command in SQL*Plus. This option is not available if Create Instance from Existing Backup is set to No.
Decryption Method Edit	Click Edit to provide the information necessary to decrypt the existing backup: • For a backup that uses TDE encryption, select Upload Wallet File and then browse to and choose a zip file containing the source database's TDE wallet directory. (If

containing the source database's TDE wallet directory. (If the source database is from another Database Cloud Service database deployment, its TDE wallet directory is `/u01/app/oracle/admin/dbname/tde_wallet.:`)

- For a backup that uses password encryption, select **Paste RMAN Key Value** and paste the password (key value) used to encrypt the backup.

Note: creating a database deployment using Oracle Database 12.2 from an existing backup is only supported for backups that use TDE encryption.

This option is not available if Create Instance from Existing Backup is set to No.

Cloud Storage Container

The name of the Oracle Storage Cloud Service container where the existing backup is stored; use this format:

```
instance-id_domain/container
```

where *instance* is the name of the Oracle Storage Cloud Service instance, *id_domain* is the id of the identity domain, and *container* is the name of the container.

This option is not available if Create Instance from Existing Backup is set to No.

Cloud Storage User Name

The user name of an Oracle Cloud user who has read access to the container specified in **Cloud Storage Container**.

This option is not available if Create Instance from Existing Backup is set to No.

Cloud Storage Password

The password of the user specified in **Cloud Storage User Name**.

This option is not available if Create Instance from Existing Backup is set to No.

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7. On the Service Details page, complete the **Standby Database Configuration** section. When you are finished, click **Next** to advance to the Confirmation page.

Note that this section is not displayed if you chose Standard Edition as the Software Edition for the deployment or if you chose Database Clustering with RAC.

Element	Description
Standby Database with Data Guard	Controls whether an Oracle Data Guard configuration comprising a primary database and a standby database is created. When you select Standby Database with Data Guard, these choices are displayed: • High Availability—The primary and standby database are automatically placed in different availability domains to provide isolation at the infrastructure level. • Disaster Recovery—The primary and standby database are automatically placed in different data centers to provide isolation at the infrastructure level and geographical separation to provide availability in the event of catastrophic events. See Using Oracle Data Guard in Database Cloud Service for more information. This option is disabled if Create Instance from Existing Backup is set to Yes. If you choose this option, the following other options are disabled: • Create Instance from Existing Backup • Database Clustering with RAC • Enable Oracle GoldenGate

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8. On the Confirmation page, review the information listed. If you are satisfied with the information, click **Create**.

If you need to change the information, use the navigation bar or **Back** button at the top of the

If you need to change the information, use the navigation bar on each screen at the top of the wizard to step back through the pages in the wizard. Click **Cancel** to cancel out of the wizard without creating a new database deployment.

After Your Database Deployment Is Created

After your database deployment is created, you should perform the following actions:

- **Enable network access to the deployment.**

By default, network access to the deployment is restricted to SSH connections on port 22. To open access to applications and management tools, you need to enable predefined network security rules or create and enable your own network security rules. For more information, see [Enabling Access to a Compute Node Port](#).

- **Update cloud tooling.**

While the base images used to create Database Cloud Service database deployments are updated regularly, it is possible that even more recent updates to the cloud tooling resident on a deployment's compute nodes are available. Therefore, you should check for and apply any updates to the cloud tooling on the deployment's compute nodes. For more information, see [Updating the Cloud Tooling on Database Cloud Service](#).

- **Apply database patches.**

While the base images used to create Database Cloud Service database deployments are updated regularly, it is possible that a quarterly PSU (Patch Set Update) or BP (Bundle Patch) is available. Therefore, you should check for and apply any database patches that are available. For more information, see [Applying a Patch](#).

