

11

Managing Security for a Multitenant Environment in Enterprise Manager

You can manage common and local users and roles by using Oracle Enterprise Manager.

- [About Managing Security for a Multitenant Environment in Enterprise Manager](#)
You can use Oracle Enterprise Manager Cloud Control to create, manage, and monitor common users and roles for both the root and the associated pluggable databases (PDBs).
- [Logging into a Multitenant Environment in Enterprise Manager](#)
You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.
- [Managing Common and Local Users in Enterprise Manager](#)
Oracle Enterprise Manager enables you to create, edit, and drop common and local users.
- [Managing Common and Local Roles and Privileges in Enterprise Manager](#)
You can use Oracle Enterprise Manager to create, edit, drop, and revoke common and local roles.

11.1 About Managing Security for a Multitenant Environment in Enterprise Manager

You can use Oracle Enterprise Manager Cloud Control to create, manage, and monitor common users and roles for both the root and the associated pluggable databases (PDBs).

Enterprise Manager enables you to switch easily between the root and a designated PDB.

11.2 Logging into a Multitenant Environment in Enterprise Manager

You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.

- [Logging into a CDB or a PDB](#)
Different variations of the Enterprise Manager Database login page appear automatically based on the feature that you requested while logging in.
- [Switching to a Different PDB or to the Root](#)
From Oracle Enterprise Manager, you can switch from one PDB to a different PDB, or to the root.

11.2.1 Logging into a CDB or a PDB

Different variations of the Enterprise Manager Database login page appear automatically based on the feature that you requested while logging in.

To log in as a CDB administrator (an Enterprise Manager user who has the `CONNECT` privilege on the CDB target) to use a CDB-scoped feature:

1. Log into Oracle Enterprise Manager Cloud Control as either user `SYSTEM` or `SYSMAN`.

The URL is as follows:

```
https://host:port/em
```

2. Navigate to the Databases page.
3. Select the database that you want to access.

The database home page appears.

4. Select the menu item for the action that you want to perform, such as selecting **Administration**, then **Security**, and then **Users** to authenticate a user.

The Database Login page appears. The following example shows the Database Login page for the CDB (because the database name is shown as CDB\$ROOT). Because of this name, this page is colloquially referred to as the database login page for the `root` of the multitenant environment. The **Database** field refers to the current database; had you selected a PDB, then the name of the PDB would appear in this field.

The screenshot shows the Oracle Enterprise Manager Cloud Control 12c interface. The breadcrumb navigation indicates the path: database / CDB\$ROOT. Below this, there are tabs for Oracle Database, Performance, Availability, Schema, and Administration. The 'Database Login' section contains the following fields and controls:

- * Database:** A text field containing 'CDB\$ROOT' with a search icon to its right.
- * Username:** An empty text field.
- * Password:** An empty text field.
- Role:** A dropdown menu currently set to 'NORMAL'.
- Save As:** An unchecked checkbox.
- Login:** A button to submit the login information.
- Cancel:** A button to cancel the login process.

5. Log in using the appropriate credentials.

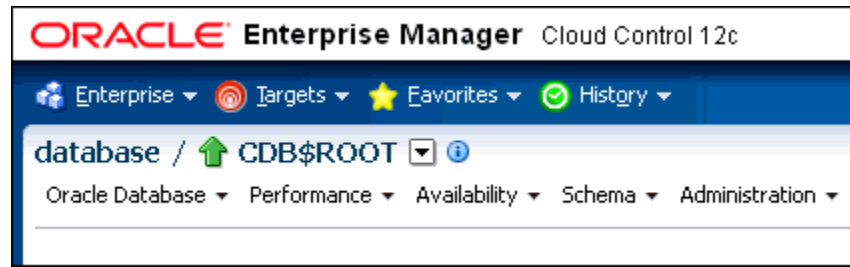
Remember that only common users can log into the root, and that the names of common users begin with `C##` or `c##`. Both common and local users can log into a PDB, depending on their privileges.

11.2.2 Switching to a Different PDB or to the Root

From Oracle Enterprise Manager, you can switch from one PDB to a different PDB, or to the root.

1. At the top left side of the page, find the **database** link.

In the **database** link, the current container name appears. The following example shows that the current database is the CDB itself (CDB\$ROOT), colloquially known as the root.



2. Select the menu icon to the right of the container, and from this menu, select the database that you want to access.
If the menu item does not appear, then navigate to a page where it does appear, such as the Database home page.
3. When you decide which activity you want to perform (such as creating users), log in with the appropriate privileges.
If you attempt to perform an activity without first having authenticated with the appropriate privileges, then you will be prompted to log in with the appropriate privilege.

11.3 Managing Common and Local Users in Enterprise Manager

Oracle Enterprise Manager enables you to create, edit, and drop common and local users.

- [Creating a Common User Account in Enterprise Manager](#)
A common user is a user that exists in the root and can access PDBs in the CDB.
- [Editing a Common User Account in Enterprise Manager](#)
You can edit a common user account from the root.
- [Dropping a Common User Account in Enterprise Manager](#)
You can drop a common user from the CDB root.
- [Creating a Local User Account in Enterprise Manager](#)
A local user is a user that exists only in a specific PDB and does not have access to any other PDBs.
- [Editing a Local User Account in Enterprise Manager](#)
You can edit a local user from the PDB in which the local user resides.
- [Dropping a Local User Account in Enterprise Manager](#)
You can drop a local user from the PDB in which the local user resides.

11.3.1 Creating a Common User Account in Enterprise Manager

A common user is a user that exists in the root and can access PDBs in the CDB.

1. From the Enterprise Manager database home page, log in to the root as a common user who has the common `CREATE USER` and `SET CONTAINER` privileges.
2. From the **Administration** menu, select **Security**, then **Users**.
If prompted, enter your login information. Afterward, the Users page appears.
3. Click **Create**.
The Create User page appears.

Users > Create User
Create User

Logged in as SYS

Execute On Multiple Databases Show SQL Cancel OK

General Roles System Privileges Object Privileges Quotas Consumer Group Privileges Proxy Users Container Data Access

* Name
Common user name must begin with "C##".

Profile

Authentication

* Enter Password

* Confirm Password

For Password choice, the user is authorized via password.

☐ Expire Password now

Default Tablespace

Temporary Tablespace

Status ☐ Locked ☒ Unlocked

Note: Created user will be a common user since you are in CDB\$ROOT container.

Execute On Multiple Databases Show SQL Cancel OK

4. Select the options to create a common user and grant this user privileges.
Ensure that you preface the user name with C## or c##.
5. Click **OK** or **Apply**.
The common user is created in the root and will appear in the Users page for any associated PDBs.

Related Topics

- [Logging into a Multitenant Environment in Enterprise Manager](#)
You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.

11.3.2 Editing a Common User Account in Enterprise Manager

You can edit a common user account from the root.

1. From the Enterprise Manager database home page, log in to the root as a common user who has the common `CREATE USER` and `SET CONTAINER` privileges.
 - If you are logging into the root, then ensure that you are a common user who has the common `CREATE USER` and `SET CONTAINER` privileges.
 - If you are logging into a PDB, ensure that you have the `CREATE USER` privilege for that PDB.
2. From the **Administration** menu, select **Security**, then **Users**.
If prompted, enter your login information. Afterward, the Users page appears. In the root, only common users are listed. In the PDB, both common and local users are listed.
3. Select the common user to be edited and then click **Edit**.

The Edit User page appears. For a common user in the root, you can modify all settings for the common user. For a common user in a PDB, you cannot change the user password, default tablespace, and temporary tablespace. The settings that you make apply only to the current PDB. The following screen shows how a common user Edit User page appears in a PDB.

4. Modify the common user as necessary.
5. Click **Apply**.

Related Topics

- [Logging into a Multitenant Environment in Enterprise Manager](#)
You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.
- [Methods of Altering Common or Local User Accounts](#)
You can use the `ALTER USER` statement or the `PASSWORD` command to alter both common and local user accounts.

11.3.3 Dropping a Common User Account in Enterprise Manager

You can drop a common user from the CDB root.

1. From the Enterprise Manager database home page, log in to the root as a common user who has the common `CREATE USER` and `SET CONTAINER` privileges.

You cannot drop common users from PDBs.

2. From the **Administration** menu, select **Security**, then **Users**.

If prompted, enter your login information. Afterward, the Users page appears, listing only common users.

3. Select the common user that you want to drop and then click **Delete**.
4. Confirm that you want to delete the common user.

Related Topics

- [Logging into a Multitenant Environment in Enterprise Manager](#)
You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.

11.3.4 Creating a Local User Account in Enterprise Manager

A local user is a user that exists only in a specific PDB and does not have access to any other PDBs.

1. From the Enterprise Manager database home page, log in to the root as a local or common user who has the local `CREATE USER` privilege.

2. From the **Administration** menu, select **Security**, then **Users**.

If prompted, enter your login information. Afterward, the Users page appears, showing only local users for the current PDB.

3. Click **Create**.
The Create User page appears.
4. Select the options that create a local user and grant this user privileges.
Ensure that you do not preface the user name with `C##` or `c##`.
5. Click **OK**.
The local user is created in the current PDB.

Related Topics

- [Logging into a Multitenant Environment in Enterprise Manager](#)
You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.
- [About Creating Local User Accounts](#)
Be aware of local user account restrictions such as where they can be created, naming conventions, and objects stored in their schemas.

11.3.5 Editing a Local User Account in Enterprise Manager

You can edit a local user from the PDB in which the local user resides.

1. From the Enterprise Manager database home page, log in to the PDB as a local or common user who has the local `CREATE USER` privilege.
2. From the **Administration** menu, select **Security**, then **Users**.
If prompted, enter your login information. Afterward, the Users page appears, showing only local users for the current PDB and common users.
3. Select the local user to be edited and then click **Edit**.
The Edit User page appears.
4. Modify the local user as necessary.
5. Click **Apply**.

Related Topics

- [Logging into a Multitenant Environment in Enterprise Manager](#)
You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.
- [Methods of Altering Common or Local User Accounts](#)
You can use the `ALTER USER` statement or the `PASSWORD` command to alter both common and local user accounts.

11.3.6 Dropping a Local User Account in Enterprise Manager

You can drop a local user from the PDB in which the local user resides.

1. From the Enterprise Manager database home page, log in to the PDB as a local or common user who has the local `CREATE USER` privilege.
2. From the **Administration** menu, select **Security**, then **Users**.
If prompted, enter your login information. Afterward, the Users page appears, showing only local users for the current PDB and common users. (You cannot drop common users from a PDB.)
3. Select the local user you want to drop and then click **Delete**.
Enterprise Manager prompts you to confirm deletion of the user.

4. Confirm that you want to delete the local user.

Related Topics

- [Logging into a Multitenant Environment in Enterprise Manager](#)
You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.

11.4 Managing Common and Local Roles and Privileges in Enterprise Manager

You can use Oracle Enterprise Manager to create, edit, drop, and revoke common and local roles.

- [Creating a Common Role in Enterprise Manager](#)
Common roles can be used to assign common privileges to common users.
- [Editing a Common Role in Enterprise Manager](#)
You can edit a common role from the root.
- [Dropping a Common Role in Enterprise Manager](#)
You can drop a common role from the root.
- [Revoking Common Privilege Grants in Enterprise Manager](#)
You can revoke common privilege grants from the root.
- [Creating a Local Role in Enterprise Manager](#)
A common role can be used to assign a local set of privileges to local users later.
- [Editing a Local Role in Enterprise Manager](#)
You can edit a local role in the PDB in which the local role resides.
- [Dropping a Local Role in Enterprise Manager](#)
You can drop local role from the PDB in which the local role resides.
- [Revoking Local Privilege Grants in Enterprise Manager](#)
You can revoke local privileges in the PDB in which the privileges are used.

11.4.1 Creating a Common Role in Enterprise Manager

Common roles can be used to assign common privileges to common users.

These roles are valid across all containers.

1. From the Enterprise Manager database home page, log in to the root as a common user who has the common `CREATE ROLE` and `SET CONTAINER` privileges.
2. From the **Administration** menu, select **Security**, then **Roles**.
If prompted, enter your login information. Afterward, the Create Role page appears.
3. Click **Create**.
The Create Role page appears.

4. Select the options that create a common role and grant this role privileges.

Ensure that you preface the role name with `C##` or `c##`.

5. Click **OK**.

The common role is created in the root.

Related Topics

- [Logging into a Multitenant Environment in Enterprise Manager](#)
You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.
- [Rules for Creating Common Roles](#)
When you create a common role, you must follow special rules.
- [Granting or Revoking Privileges to Access a PDB](#)
You can grant and revoke privileges for PDB access.

11.4.2 Editing a Common Role in Enterprise Manager

You can edit a common role from the root.

1. From the Enterprise Manager database home page, log in to the root or the PDB. If you are logging into the root, then ensure that you are a common user who has the common `CREATE ROLE` and `SET CONTAINER` privileges. If you are logging into a PDB, ensure that you have the `CREATE ROLE` privilege for that PDB.

2. From the **Administration** menu, select **Security**, then **Roles**.

If prompted, enter your login information. Afterward, the Roles page appears. In the root, only common roles are shown. In the PDB, both common and local roles are shown.

3. Select the common role to be edited and then click **Edit**.

The Edit Role page appears. For a common user in the root, you can modify all settings for the common user.

For a common role in a PDB, you can only change the role's authentication and grant this user different roles, system privileges, object privileges, and consumer group privileges. These settings apply only to the current PDB.

4. Modify the common user as necessary.
5. Click **Apply**.

Related Topics

- [Logging into a Multitenant Environment in Enterprise Manager](#)
You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.

11.4.3 Dropping a Common Role in Enterprise Manager

You can drop a common role from the root.

1. From the Enterprise Manager database home page, log in to the root as a common user who has the common `CREATE ROLE` and `SET CONTAINER` privileges.

You cannot drop common roles from PDBs.

2. From the **Administration** menu, select **Security**, then **Roles**.

If prompted, enter your login information. Afterward, the Roles page appears, showing only common roles.

3. Select the common role that you want to drop and then click **Delete**.
4. Confirm that you want to delete the common role.

Related Topics

- [Logging into a Multitenant Environment in Enterprise Manager](#)
You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.

11.4.4 Revoking Common Privilege Grants in Enterprise Manager

You can revoke common privilege grants from the root.

1. From the Enterprise Manager database home page, log in to the root as a common user who has the common `CREATE USER`, `CREATE ROLE`, and `SET CONTAINER` privileges.

2. From the **Administration** menu, select **Security**, then **Users**.

The Users page lists the common users.

3. Select the user whose privileges you want to revoke and then click **Edit**.

The Edit User page appears.

4. Select **Roles** or the appropriate **Privileges** tab.

Enterprise Manager displays a list of roles and privileges assigned to this user.

5. Select **Edit List** and then remove the roles or privileges as necessary.
6. Click the **OK** button.

Related Topics

- [Logging into a Multitenant Environment in Enterprise Manager](#)
You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.
- [Granting or Revoking Privileges to Access a PDB](#)
You can grant and revoke privileges for PDB access.

11.4.5 Creating a Local Role in Enterprise Manager

A common role can be used to assign a local set of privileges to local users later.

These roles will be valid across PDB containers for whom they are defined.

1. From the Enterprise Manager database home page, log in to the PDB as a user who has the local `CREATE ROLE` privilege.
2. From the **Administration** menu, select **Security**, then **Roles**.

The Roles page appears.

3. Click **Create**.

If prompted, enter your login information. Afterward, the Create Role page appears.

4. Select the options that create a local role and grant this role privileges.

Ensure that you do not preface the role name with `C##` or `c##`.

5. Click **OK**.

The local role is created in the current PDB.

Related Topics

- [Logging into a Multitenant Environment in Enterprise Manager](#)
You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.
- [Granting or Revoking Privileges to Access a PDB](#)
You can grant and revoke privileges for PDB access.

11.4.6 Editing a Local Role in Enterprise Manager

You can edit a local role in the PDB in which the local role resides.

1. From the Enterprise Manager database home page, log in to the PDB as a user who has the local `CREATE ROLE` privilege.

2. From the **Administration** menu, select **Security**, then **Roles**.

If prompted, enter your login information. Afterward, the Roles page appears, showing only local roles for the current PDB and common roles.

3. Select the local role to be edited and then click **Edit**.

The Edit User page appears.

4. Modify the local user as necessary.

5. Click **Apply**.

Related Topics

- [Logging into a Multitenant Environment in Enterprise Manager](#)
You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.

11.4.7 Dropping a Local Role in Enterprise Manager

You can drop local role from the PDB in which the local role resides.

1. From the Enterprise Manager database home page, log in to the PDB as a user who has the local `CREATE ROLE` privilege.

2. From the **Administration** menu, select **Security**, then **Role**.

If prompted, enter your login information. Afterward, the Roles page appears, showing only local roles for the current PDB and common roles. (You cannot drop common roles from a PDB.)

3. Select the local role you want to drop and then click **Delete**.

Enterprise Manager prompts you to confirm deletion of the role.

4. Confirm that you want to delete the local role.

Related Topics

- [Logging into a Multitenant Environment in Enterprise Manager](#)
You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.

11.4.8 Revoking Local Privilege Grants in Enterprise Manager

You can revoke local privileges in the PDB in which the privileges are used.

1. From the Enterprise Manager database home page, log in to the PDB as a common or local user who has the `CREATE USER` and `CREATE ROLE` privileges.
2. From the **Administration** menu, select **Security**, then **Users**.
If prompted, enter your login information. Afterward, the Users page appears. In a PDB, both common and local users are listed.
3. Select the user whose privileges you want to revoke and then click **Edit**.
The Edit User page appears.
4. Select **Roles** or the appropriate **Privileges** tab.
Enterprise Manager displays a list of roles and privileges assigned to this user.
5. Select **Edit List** and then remove the privileges as necessary.
6. Click the **OK** button.

Related Topics

- [Logging into a Multitenant Environment in Enterprise Manager](#)
You can log in to a CDB or a PDB, and switch from a PDB to a different PDB or to the root.
- [Granting or Revoking Privileges to Access a PDB](#)
You can grant and revoke privileges for PDB access.