erwin Data Modeler

Workgroup Edition Implementation and Administration Guide

Release 12.5

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erwin Product References

This document references the following products:

- erwin Data Modeler Workgroup Edition (erwin DM WE)
- erwin Data Modeler Standard Edition (erwin DM)
- erwin Data Modeler Navigator Edition (erwin DM NE)

Modeling in the Multiuser Environment

erwin Data Modeler Workgroup Edition coordinates the development and management of data models created with erwin Data Modeler.

This section contains the following topics

erwin Data Modeler Workgroup Edition

Model Life Cycle Frameworks

erwin Data Modeler Workgroup Edition

erwin Data Modeler Workgroup Edition provides a multiuser modeling environment that makes coordinated, large-scale modeling possible. It enables collaboration among project managers, data modeling team members, and standards administrators by providing workgroup modeling services, including conflict resolution, versioning, security, and standards management. You can coordinate the efforts of model teams to document existing systems, create new eBusiness systems, and drive data standardization. Model sharing encourages teamwork, so modelers can work together more efficiently to optimize model-based development. Your modelers get more work done in less time with better results.

Workgroup modeling operates in a three-tier architecture, where erwin Data Modeler connects to Mart Portal through a web server. The models are held in a database or Mart; you can use Microsoft SQL Server, Oracle, or PostgreSQL as the host database.

Workgroup modeling features are provided to help control updates to models when you are opening, closing, and saving models. The administrator installs the program and initializes the database on the DBMS server. The administrator also has the responsibility of setting up the library structure in which models are organized, and assigning security profiles to users. After a model is saved to the database, control of who can work on the model and how changes are saved to the model is handled by profiles, making it possible for workgroups to work on large models without confusion. erwin Data Modeler Workgroup Edition supports many security and administrative features related to its multiuser capabilities. For this reason, routine management is usually performed by a dedicated administrator. Administrators can find detailed information regarding their tasks and responsibilities in the *Administration Guide*.

You can also use erwin Data Modeler Navigator Edition with erwin Data Modeler Workgroup Edition. Read-only access is permitted to data models, so your workgroup can use this to share information with others without the risk that unauthorized changes might be saved to Mart.

Model Life Cycle Frameworks

Use one of the following model life cycle frameworks in your organization:

Model-Driven Development

> Changes to the schema are made to the model first and then forward-engineered.

System-Driven Models

> Changes are made directly to the schema and the schema is reverse-engineered into the model to reflect the changes.

Informational Models

> Contains logical-only models, enterprise-wide models, or standards and sample models.

Each type of framework has different considerations that you must think about when configuring your database and developing its supporting policies. You are not required to choose a particular framework, however, it helps to know your development process before building a library structure.

Model-Driven Development Framework

In the model-driven framework, the model is always the source of all changes. You create a new database schema by forward engineering the model. The life cycle of a model in the model-driven Development framework can follow a path like this:

- Create the library structure (for example, Development, Test, and Production) and populate them with erwin Data Modeler templates.
- Create the logical model in a development library.
- Promote the model to the test library when it is ready.
- Generate the schema from the test library.
- Modify the test model as required and synchronize it to the schema.
- Promote the model to the production library when it is ready.
- Publish the refreshed production model.
- Update the enterprise-wide model, if necessary.
- Incorporate changes into the development model for further changes, and repeat the process.

System-Driven Model Framework

In the system-driven framework, there is an established information system from which you can reverse engineer database tables. The life cycle of a model in the system-driven Development framework can follow a path as described below:

- Create the library structure (for example, Reverse Eng, Test, Production). You do not require erwin Data Modeler templates because you do not create models from scratch.
- Reverse engineer the model from the information system into the designated library.
- Enhance the model with logical information and input from analysts.
- Update the model to reflect changes in the physical schema.
- Create a version of the model.
- Synchronize the schema and the model using Complete Compare.
- Publish the model.
- Repeat the last three steps as the system is modified.

Informational Model Framework

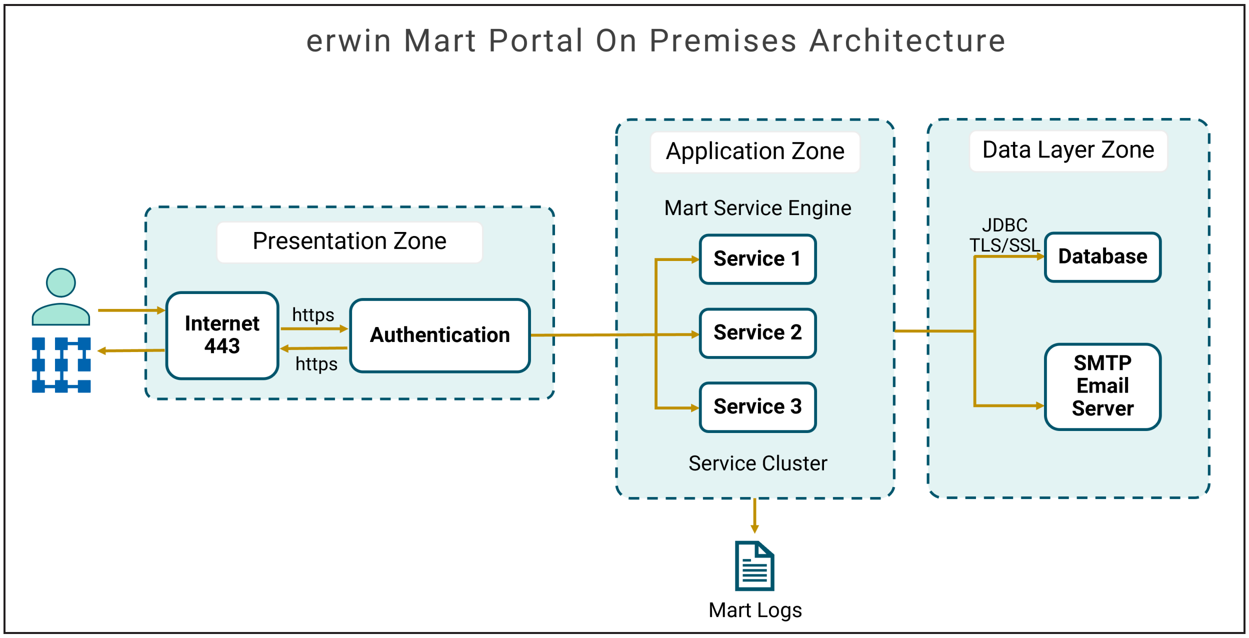
In the Informational Model framework, erwin Data Modeler Workgroup Edition contains logical-only models, enterprise-wide models, or standards and sample models. There is no forward engineering with the intent of using the schema. The life cycle of a model in the Informational Model framework can follow a path as described below:

- Create the library structure and populate them with templates.
- Develop the initial model. Use reverse engineering and model new components as required.
- Publish the initial model to the appropriate parties for modification and refinement.
- Get approval, and then version the model.
- Publish the approved model.
- Update and publish models as the enterprise model evolves.

erwin Mart Portal Architecture

erwin Mart Portal architecture follows a JAR-based, multi-product structure.

The following diagram explains erwin Mart Portal architecture:


erwin Mart Portal On Premises Architecture
Presentation Zone
Internet 443
https
https
Authentication
Application Zone
Mart Service Engine
Service 1
Service 2
Service 3
Service Cluster
Data Layer Zone
JDBC TLS/SSL
Database
SMTP Email Server
Mart Logs

The mart comprises the following components:

Database

Stores the user data for the Workgroup Edition.

Database	Versions	Additional Details
Oracle	12c r2, 18c, 19c, or 21c	If you are using Oracle 12c, you can use a pluggable database.
PostgreSQL	15.3, 14.8, 13.11, 12.15 and 11.20	You can also use PostgreSQL certified version 11.18 for Amazon Aurora.
SQL Server	Microsoft SQL Server 2014 SP3, 2016 SP2, 2019, 2022 or certified	You can also use Microsoft SQL Azure 12 and Amazon RDS SQL Server

Database	Versions	Additional Details
	versions 2017 and 2019	2019.

Applications

Includes the following web-based components, erwin Mart Portal and erwin ER360 that helps you manage the Mart and manage, review, and govern data models through a web console respectively.

Web server

Hosts erwin Mart Portal and erwin ER360. By default, erwin Mart Portal installation process installs Apache Webserver.

Setting up erwin Mart Portal

When you access the Mart database througherwin Mart Portal for the first time, you must choose the database. You can choose the database using a database authenticated user or a Windows-authenticated user.

> Before you proceed, verify that you have installed a DBMS, created the mart database, and configured Mart Portal. If the Mart is already initialized, the Login page appears.

Upon selecting the database, it is necessary to ensure that the database requirements are met. Next, proceed with the installation and initialization of the erwin Mart Portal and erwin ER360.

To install and configure erwin Mart Portal and erwin ER360, follow these steps:

1. Review prerequisites
2. Configure database
3. Install erwin Mart Portal and erwin ER360
4. Configure erwin Mart Portal
5. Initialize erwin Mart Portal and erwin ER360
6. Log in to erwin Mart Portal and configure settings
7. Log in to erwin Mart Portal and configure settings

Reviewing Prerequisites

Before you install the Mart and ER360 components, ensure that the minimum system requirements that are outlined in this topic are met.

You can use any of the following combinations to install erwin Data Modeler, the Mart database, and the Mart Portal application:

- Install erwin Data Modeler, the Mart database, and the Mart Portal application on the same computer.
- Install erwin Data Modeler, the Mart database, and the Mart Portal application on different computers.
- Install erwin Data Modeler and the Mart database on one computer, and install the Mart Portal application on a different computer.
- Install erwin Data Modeler on one computer, and install the Mart database and the Mart Portal application on a different computer.

> Ensure that you always install the Mart Portal application on Windows operating system.

Hardware requirements (based on physical hardware performance, not a virtual environment):

- 16 GB RAM
- 100 GB of disk space or more as required to support your specific mart

Operating system:

- Microsoft Windows Server 2016
- Microsoft Windows Server 2019
- Microsoft Windows Server 2022
- Microsoft .NET Framework 4.0 and above
- All current Microsoft Windows critical updates are applied

Database:

The following table lists each database with its Prerequisites:

Database	Versions	Prerequisites

Oracle	12c r2, 18c, 19c, or 21c	▪ The Mart Portal can use a standalone or can share an existing database server for an Oracle database. You can also use a pluggable database.
		▪ To create the Mart, you must be the database schema owner user and you must have the DBA role in the target database on the Oracle server. The DBA role is required for the user who is specified in the Configure Mart Portal dialog. If the DBA privilege of this user is revoked, then erwin DM users will not be able to save model changes to the Mart.
		▪ (Optional) You have modified the following parameters in the initialization file (InitSID.ora):
		`Remote_OS_Authent=T`
		`OS_Authent_Prefix=TRUE`
		▪ (Optional) To use the Korean language with the Mart database, use KO16MSWIN949 or AL32UTF8 character set depending on your operating system language pack. For more information, see the Oracle documentation.
		▪ If the Mart database is an Oracle database, the default tablespaces that were used for initializing any earlier release of r9 series Mart are available for the latest release.

PostgreSQL	Certified versions such as 15.3, 14.8, 13.11, 12.15 and 11.20 --OR-- PostgreSQL certified version 11.18 for	▪ The Mart Portal can use a standalone or can share an existing database server for PostgreSQL. ▪ The database user account that is used to configure the Mart must have super user permissions.

Database	Versions	Prerequisites
	Amazon Aurora	
SQL Server	Microsoft SQL Server 2014 SP3, 2016 SP2, 2019, 2022 or certified versions 2017 and 2019 --OR-- Microsoft SQL Azure 12, and Amazon RDS SQL Server 2019.	▪ The Mart Portal can use a standalone or can share an existing database server for a Microsoft SQL Server. ▪ The SQL Server 2014 SP1, 2016, 2017, and 2019 TRUSTWORTHY database property is no longer required for the mart. After you install this product, you can optionally reset this property to OFF. ▪ The database user account that is used to configure the Mart must have the dba_owner role assigned. ▪ (Optional) To use the Korean language, use the Korean_wansung_CI_AS character set. Select the character set while creating the Mart database (in the Collation field). For more information, see the SQL Server documentation.

erwin Mart Portal web client:

Supported browsers:

- Microsoft Edge v107 or newer
- Mozilla Firefox v107 or newer
- Google Chrome v107 or newer
- Apple Safari 16.1 or newer

Ensure that your screen resolution is 1024 x 768 or higher. If your screen resolution is less than the minimum supported, some portions of the screen will not be visible.

Other requirements

Help ensure that the following additional requirements are met:

- The DBMS is installed and prepared for creating the Mart Database.

- The Mart database is created. At least one user with administrator privileges is present. You have run the initial queries on the Oracle database. For more information about the initial queries, see the Implementation Guide.
- If you want to add Windows Group users as Mart users, you have the Active Directory Server details.

> You can add Windows Group users as normal Mart users, but not as Mart administrators. A Mart administrator must be a server or Windows user.

Important disclaimer notice on all requirements

1. The requirements that are mentioned previously define the minimum requirements which permit the application to run with reasonable performance based on a small business use case scenario. The actual requirements for an enterprise-wide use case based on larger models and configurations require significantly greater resources to obtain acceptable performance.
2. These requirements are based on actual physical hardware (no virtual environment) and the following assumptions:
    - Minimal to no network overhead (both the database and application servers are locally installed)
    - Vendor's default install of the current version of their software (with all current service or fix packs)
    - No other applications sharing the defined hardware configuration (for example, a clean machine)

    Any other hardware/software configurations are acceptable as long as they provide the same (or better) performance characteristics identified.

Install a Mart or Upgrade a Mart?

Use the following guidelines to determine if you must install or upgrade Mart Portal:

- If you are new to erwin Data Modeler and have purchased the current version of Workgroup Edition, then install the current version of the Mart. Use the How to Install and Configure a Mart procedure that is appropriate for your Mart database.
- If you have any earlier release of r9 series Mart, then upgrade the Mart to the current version. Use the How to Upgrade any r9 Series Mart to the Current Version procedure to upgrade your Mart. The models that are created in any earlier release of r9 series are upgraded when a user connects to the current version Mart and opens the models.
- If you have an existing Mart and the version is r7.3 through r8.2.9, install the current version Mart. Use the How to Install and Configure a Mart procedure that is appropriate for your Mart database. After installing the Mart, use the Upgrade Mart utility to upgrade the Mart models from r7.3 through r8.2.9 to the current version.

Character Limitations

There is a limitation on the number of characters you can use for certain Mart Portal parameters. The following table gives information about such parameters:

Parameter/Field	Character Limitations
Username	450 (Server User, Windows User, and Group) Also, refer to the special character limitations below. For international OS (I18N), if the character set being used is Double byte Character Set (DBCS) then the character limit is 225.
Password	130
Email Address	130 Also, refer to the special character limitations below.
Profile Name	130
Profile Description	2000
Catalog Name	255
Catalog Description	4000

Apart from the above character limits, for username and email address, following are the permitted special characters:

<table>
<tr><th>Parameter/Field</th><th colspan="2">Permitted Special Characters</th></tr>
<tr><td>Username</td><td>Server User for Mart Portal: . (dot), _ (underscore), - (hyphen), ~ (tilde), ^ (carat), # (hash), ! (exclamation mark), `(back tick)<br><b>Windows User for Mart Portal</b>: \ (backslash), . (dot), _ (underscore), - (hyphen), ~ (tilde), ^ (carat), #</td><td><b>Server User for ER360</b>: . (dot), _ (underscore), - (hyphen), ~ (tilde), ^ (carat), # (hash), ! (exclamation mark), `(back tick), |(pipe), {} (flower brackets)
Windows User for ER360: \ (backslash), . (dot), _ (under-</td></tr>
</table>

Character Limitations

Parameter/Field	Permitted Special Characters	
	(hash), ! (exclamation mark), ` (back tick), |(pipe), {}(flower brackets) **Group User**: . (dot), _ (underscore), - (hyphen), ~ (tilde), ^ (carat), # (hash), ! (exclamation mark), + (plus), % (percent)	score), - (hyphen), ~ (tilde), ^ (carat), # (hash), ! (exclamation mark), `(back tick), |(pipe), {} (flower brackets)
Email Address	**Server User for Mart Portal**: @ (at sign), - (hyphen), % (percent), _ (underscore), + (plus), . (dot), ~ (tilde), ^ (carat), # (hash), ! (exclamation mark) **Windows User for Mart Portal**: @ (at sign), % (percent), + (plus), . (dot), _ (underscore), - (hyphen), ~ (tilde), ^ (carat), # (hash), ! (exclamation mark) **Group User for Mart Portal**: . (dot), - (hyphen), %(percentage), _ (underscore), +(plus), @(at the rate)	**Server User for ER360**: @ (at sign), - (hyphen), % (percent), _ (underscore), + (plus), . (dot), ~ (tilde), ^ (carat), # (hash), ! (exclamation mark) **Windows User for ER360**: @ (at sign), % (percent), + (plus), . (dot), _ (underscore), - (hyphen), ~ (tilde), ^ (carat), # (hash), ! (exclamation mark) **Group User for ER360**: . (dot), - (hyphen), %(percentage), _(underscore), +(plus), @(at the rate)

Mart Portal Version Validation

From erwin Data Modeler (DM) and erwin Mart Portal (MS) 2019R1 onward, while connecting to the erwin MS from erwin DM, version validation has been implemented as follows:

1. Connecting from erwin DM 2019R1 to erwin MS lower than 2019R1 is not allowed.
2. Connecting from erwin DM lower than 2019R1 to erwin MS 2019R1 is not allowed.

Configuring Database

Configure your DBMS environment before you can install and use erwin Mart Portal and erwin ER360.

- Oracle
- PostgreSQL
- SQL Server

Creating Oracle Database

Perform the following setup tasks in your DBMS environment before you can install and use the software:

1. Install the DBMS on the server where you plan to store the Mart.

   Ensure that you can create tables, indexes, stored procedures, and public synonyms. For more information about memory and disk space requirements, see the system requirements for each DBMS (Microsoft SQL Server, PostgreSQL, and Oracle).

2. Create a database that you want to use as the Mart. To use a pluggable database, see the Use a Pluggable Database topic.

   Use the DBMS features to create or identify the required storage objects and the mart. The specific requirements vary depending on your DBMS type.

> To create, update, or delete a Mart in erwin Data Modeler Workgroup Edition, you must be the database schema owner and you must have the DBA role.

Additional Tasks

The DBA and the system administrator responsible for installing the software on an Oracle database management system performs these tasks.

Use graphical tools or SQL *Plus (all versions), SQL*DBA, or the Oracle Enterprise Management Console to perform these tasks. Some SQL commands are included where appropriate. The Data file paths, data file sizes, role names, and user names are included as examples only.

1. Check the SYSTEM tablespace.

   The installation creates several stored procedures. All triggers, stored procedures, and packages are kept in the Oracle SYSTEM tablespace. The standard size of the SYSTEM tablespace assumes that you are not using procedural options, so the SYSTEM tablespace must be often expanded. If other Oracle applications are not using procedural code, then expand the SYSTEM tablespace to 32 MB. If other Oracle applications also use procedural code, expand the SYSTEM tablespace to at least 32 MB.

2. Check the Rollback Segment tablespace.

   If your instance uses UNDO tablespace, do not create rollback segments.

   Significant rollback space is required for installing and use. The rollback segments must be in their own separate tablespace and each have at least 16 MB of available space. There must be one rollback segment for every four concurrent users, with a maximum of 50 rollback segments. The available space must scale upward with increasing numbers of rollback segments. Finally, the rollback segment optimal parameter must be set to control rollback segment growth and space consumption.

   > For Steps 3, 4, and 5, use the Dictionary-managed tablespaces.

3. Create a data tablespace of at least 32 MB.

   For example:

   ```
   CREATE TABLESPACE MyMart

   DATAFILE '/db01/oracle/rdbms9i/data/mymart.ora' SIZE 100M;

   Or For Locally Managed extents:

   CREATE TABLESPACE Mymart

   DATAFILE '/db01/oracle/rdbms9i/data/mymart.ora' SIZE 100M

   EXTENT MANAGEMENT LOCAL SEGMENT SPACE MANAGEMENT AUTO;
   ```

4. Create an index tablespace of at least 32 MB.

   For example:

   ```
   CREATE TABLESPACE MMARTINDEX

   DATAFILE '/db02/oracle/rdbms9i/data/mmartindex.ora' SIZE 75M;

   Or For Locally Managed extents:

   CREATE TABLESPACE MMARTINDEX

   DATAFILE '/db02/oracle/rdbms9i/data/mmartindex.ora' SIZE 75M

   EXTENT MANAGEMENT LOCAL SEGMENT SPACE MANAGEMENT AUTO;
   ```

5. Create a temporary tablespace.

   For example:

   ```
   CREATE TEMPORARY TABLESPACE MMTEMP TEMPFILE '/db03/oracle/rdbms9i/data/mmarttemp.ora' SIZE 50M;
   ```

   ```
   Or For Locally Managed extents:
   ```

   ```
   CREATE TEMPORARY TABLESPACE MMTEMP TEMPFILE '/db03/oracle/rdbms9i/data/mmarttemp.ora' SIZE 50M

   EXTENT MANAGEMENT LOCAL UNIFORM SIZE 1M;
   ```

   > For more details about syntax and options regarding tablespace creation, see the appropriate Oracle documentation.

6. Create an Oracle user with DBA privileges for use by the erwin Data Modeler Workgroup Edition Installer or designated schema owner.

   Assign the data tablespace to this user as the default tablespace, and the temporary tablespace as the temporary tablespace to the user.

   For example:

   ```
   CREATE USER STEVE IDENTIFIED BY STEVE

   DEFAULT TABLESPACE MyMart

   TEMPORARY TABLESPACE MMTEMP

   QUOTA UNLIMITED ON MyMart

   QUOTA UNLIMITED ON MMARTINDEX;

   GRANT DBA TO STEVE;
   ```

7. Create the erwin Data Modeler Workgroup Edition Installer role.

   The following example is the role that the Oracle user requires to install erwin Data Modeler Workgroup Edition.

   ```
   CREATE ROLE MMINSTALL;
   ```

8. Grant the Oracle privileges to the Installer role.

   The following example shows the Oracle privileges that the erwin Data Modeler Workgroup Edition Installer must install on Oracle. For the last command, log in as sys with the sysdba role in the user-name or the command will fail.

   ```
   grant create sequence to MMINSTALL;

   grant create table to MMINSTALL;

   grant create view to MMINSTALL;

   grant create materialized view to MMINSTALL;

   grant drop public synonym to MMINSTALL;

   grant create public synonym to MMINSTALL;

   grant create procedure to MMINSTALL;

   grant select on dba_data_files to MMINSTALL;

   grant create session to MMINSTALL;
   ```

   > To use the database, an Oracle user needs only the create session privilege.

9. Select the erwin Data Modeler Workgroup Edition tablespaces and Installer role.

When prompted for tablespace and role information, select the Workgroup Edition data tablespace, the Workgroup Edition index tablespace, and the Workgroup Edition Installer role.

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Creating PostgreSQL Database

If you are a DBA or a system administrator responsible for installing the software on a PostgreSQL database management system, perform the following tasks:

Use a graphical user interface (GUI) tool, such as pgAdmin or a similar tool, to create the erwin Data Modeler Workgroup Edition database. If a GUI tool is not available, you can use SQL Shell to type in the appropriate commands manually.

Configure PostgreSQL:

You can configure PostgreSQL database to accept any IP address.

Follow these steps:

1. Set the IP address to 0.0.0.0/0
2. Select the server.
3. Click Tools, Server Configuration, pg_hba.conf. Alternately, you can find the file at C:\Program Files\PostgreSQL\<version>\data.
4. Double-click the last empty column.
5. Complete the following fields:

   Type

      host

   Database

      all

   User

      all

   Ip_Address

      0.0.0.0/0

   Method

      md5

6. Select Enable and click Ok.
7. Click Save.
8. Click Reload Server.

The PostgreSQL database configuration is complete.

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Creating SQL Server Database

If you are a DBA or a system administrator responsible for installing the software on a Microsoft SQL Server database management system, perform the following tasks:

1. Use a graphical user interface (GUI) tool, ISQL (all versions), SQL Administrator, or Enterprise Manager to create the Mart database. If a GUI tool is not available, you can use ISQL to type in the appropriate commands manually.

   Your database should meet the following criteria:

   - The initial size of the database file should be set to 60 MB.
   - The initial size of the transaction log file should be set to 50 MB.
   - Set the maximum file size to unrestricted file growth for both files (recommended, but not required).
   - Increase the Set Auto grow file by 10 percent (recommended, but not required).

   The new database is *owned* by the user who created it.

   Set the Truncate Log on Checkpoint option and have the server generate checkpoints frequently. By selecting this option, the log is emptied periodically and should not fill up and cause rollbacks.

   > For best performance ensure that separate devices are used to store the data and the transaction log.

2. Verify tempdb size.

   Significant temporary space is required for installation and use. The temporary segments need at least 16 MB of available space. You should also increase available space as the number of concurrent users increase.

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Specify Use of Foreign Characters With Microsoft SQL Server

For Microsoft SQL Server modify your registry settings to have certain foreign language characters in your models recognized.

Follow these steps:

1. Click Run on the Start menu.
2. Enter *regedit*.

   The Registry Editor opens.
3. Verify or add the following registry entry:

   ```
   [HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\DB-Lib]
   "AutoAnsiToOem"="ON"
   "UseIntlSettings"="ON"
   ```
4. Click File, Exit.

   Your configuration is set to recognize foreign language characters in your models.

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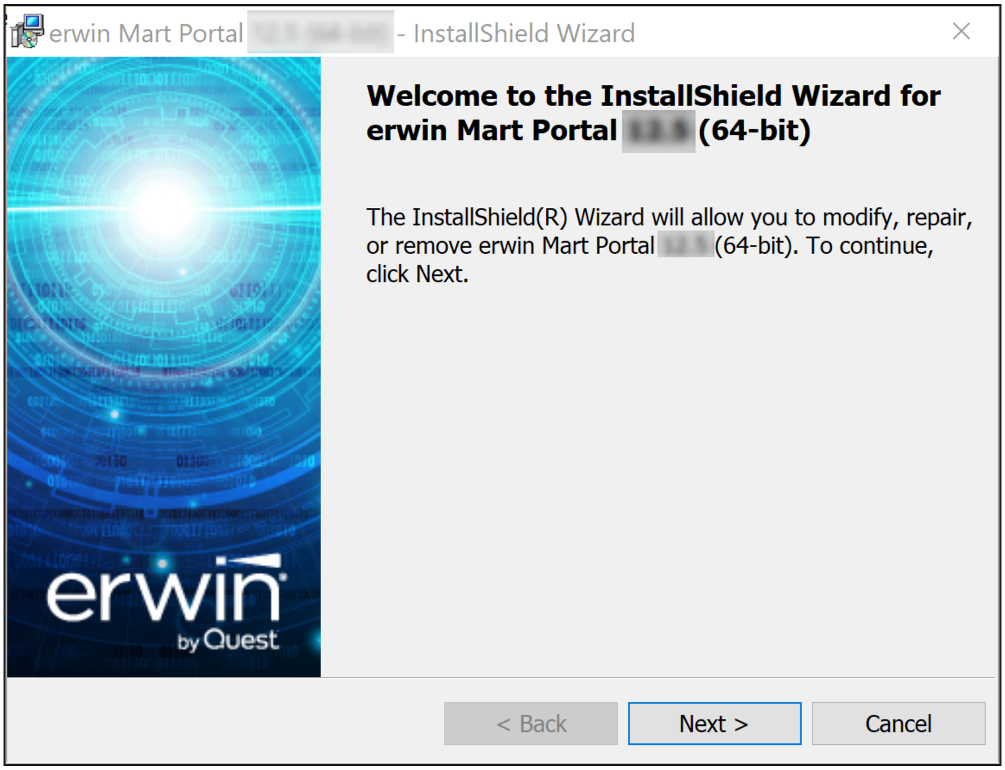
Installing erwin Mart Portal and erwin ER360

The erwin Mart Portal installer contains and installs three microservice JAR files, vault-service.jar, MartPortal.jar, and ER360.jar. Along with mart, it also installs erwin ER360 by default. You can either use an existing web server or use the default web server through the installation wizard.

> You must install and configure erwin Mart Portal regardless of whether you use Mart Portal as a server or a Windows service.

To install erwin Mart Portaland erwin ER360, follow these steps:

1. Download the erwin Mart Portal installer file from the product page.
2. Start the installer.
   The erwin Mart Portal Installation Wizard appears.



erwin Mart Portal [redacted] - InstallShield Wizard

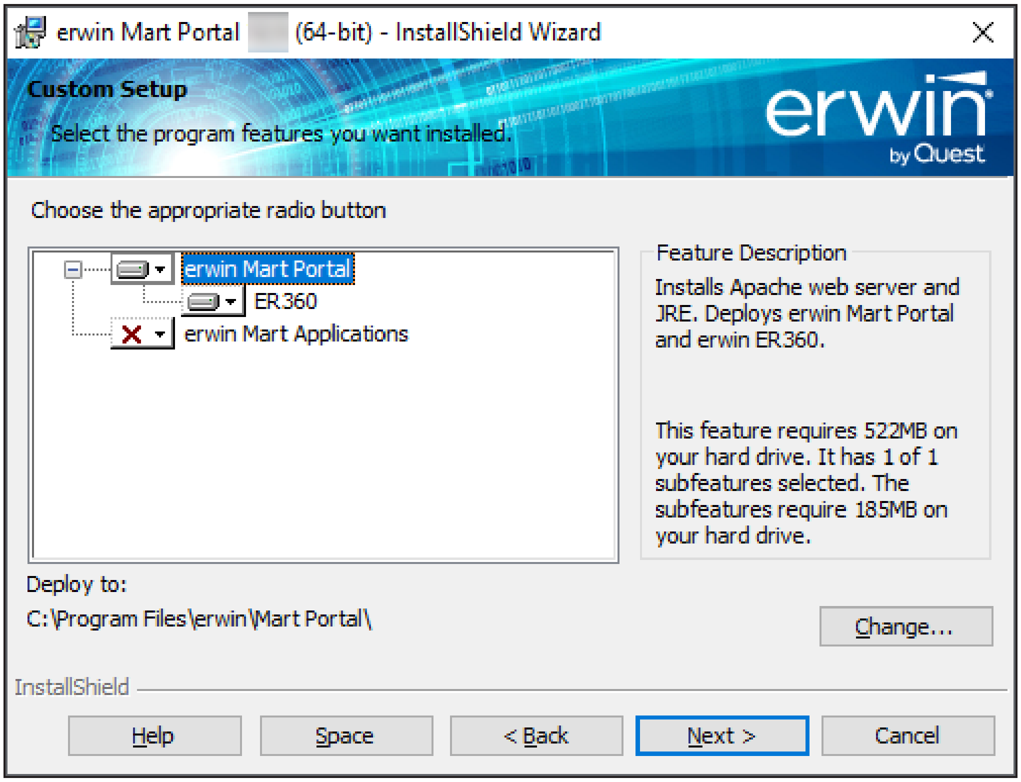
Welcome to the InstallShield Wizard for erwin Mart Portal [redacted] (64-bit)

The InstallShield(R) Wizard will allow you to modify, repair, or remove erwin Mart Portal [redacted] (64-bit). To continue, click Next.

3. Click **Next** and accept the Software Transaction Agreement.
4. Click **Next** and enter your name and organization.
5. Click **Next**.

   The applications and components list appears. Observe that under erwin Mart Portal, ER360 is available by default as a component.

   Although erwin ER360 is installed by default, you need a license to use it. Contact your license administrator for a license.


erwin Mart Portal [redacted] (64-bit) - InstallShield Wizard

Custom Setup

Select the program features you want installed.

Choose the appropriate radio button

Feature Description

Installs Apache web server and JRE. Deploys erwin Mart Portal and erwin ER360.

This feature requires 522MB on your hard drive. It has 1 of 1 subfeatures selected. The subfeatures require 185MB on your hard drive.

Deploy to:

C:\Program Files\erwin\Mart Portal\

6. Click **Next** and then click **Install**.

   The installation process starts.

7. On process completion, click **Finish** to complete the installation process.

   Depending on the options you select, erwin Mart Portal and/or erwin ER360 are installed.

> If you want to connect to an SSL enabled Mart through API, you must first install the security certificate on the corresponding computer. Install the certificate through erwin DM. Without the security certificate, the API cannot connect to the SSL enabled Mart.

Create a Pluggable Database

You can use the pluggable database concept in Oracle 12c and create multiple Marts of the same Mart release.

Follow these steps:

1. Create a pluggable database in Oracle 12c.

   For example, provide the Global Database Name as erwin and the Pluggable Database Name as erwin_test.

   > For more information on how to create a pluggable database, see the Oracle documentation.

2. Run the following script on the computer where Oracle 12c is installed:

```
DROP TABLESPACE MMDATA INCLUDING CONTENTS AND DATAFILES
CASCADE CONSTRAINTS;

DROP TABLESPACE MMINDEX INCLUDING CONTENTS AND DATAFILES
CASCADE CONSTRAINTS;

DROP TABLESPACE marttemp INCLUDING CONTENTS AND DATAFILES
CASCADE CONSTRAINTS;

ALTER SESSION SET CONTAINER=erwin_test;

CREATE TABLESPACE MMDATA datafile 'c:\r9mart2\MMDATA.dbf'
size 300m autoextend on;

CREATE TABLESPACE MMINDEX datafile 'c:\r9mart2\MMINDEX.dbf'
size 300m autoextend on;

CREATE TEMPORARY TABLESPACE marttemp tempfile 'c:\r9-
mart2\tempdata.dbf' size 300m autoextend on;

DROP USER MMADMIN CASCADE;

CREATE USER MMADMIN IDENTIFIED BY MMADMIN DEFAULT TABLESPACE
MMDATA TEMPORARY TABLESPACE MARTTEMP QUOTA UNLIMITED ON
MMDATA QUOTA UNLIMITED ON MMINDEX;
```

```
DROP ROLE MMINSTALL;

CREATE ROLE MMINSTALL;

GRANT CREATE SEQUENCE TO MMINSTALL;

GRANT CREATE TABLE TO MMINSTALL;

GRANT CREATE VIEW TO MMINSTALL;

GRANT CREATE MATERIALIZED VIEW TO MMINSTALL;

GRANT DROP PUBLIC SYNONYM TO MMINSTALL;

GRANT CREATE PUBLIC SYNONYM TO MMINSTALL;

GRANT CREATE PROCEDURE TO MMINSTALL;

GRANT CREATE SESSION TO MMINSTALL;


GRANT MMINSTALL TO MMADMIN;

GRANT DBA TO MMADMIN;
```

Install erwin Mart Portal with a Pluggable Database

The procedure to install erwin Mart Portal for a pluggable database is same as the procedure for a normal database. This topic describes only those fields that need different values for a pluggable database. For more information on how to configure the erwin Mart Portal, see the Install erwin Mart Portal topic.

The following fields on the Configure the erwin Mart Portal dialog need different values:

Server Name

Specifies the name of the database server where you have installed the Mart database. Enter the name of the computer where Oracle 12c is installed and the pluggable database erwin_test is created.

Database Name

Specifies the name of the pluggable Mart database. For example, erwin_test.

User Name

Specifies the user name to connect to the Mart database. Enter mmadmin or any other user account that you have created when you ran the script.

Password

Specifies the password to connect to the Mart database. Enter mmadmin or any other password that you have created when you ran the script.

Configuring erwin Mart Portal

The next step after installing erwin Mart Portal is to configure using either of the two ways:

- via erwin Mart Portal configuration
- via command line interface (CLI)

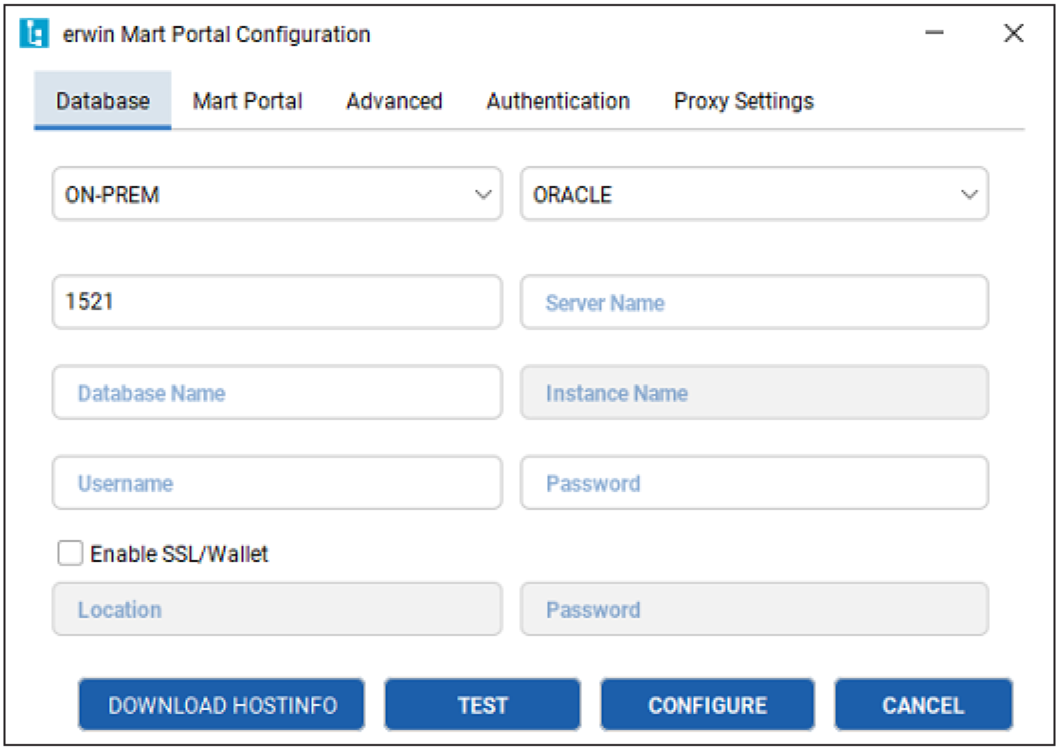
  Configuration via CLI is available erwin Mart Portal 12.5.2 onwards.

> To use the same database that you have used for the r9.0.0 Mart (or any earlier release of r9 series Mart), upgrade your mart. Refer to the Upgrading Mart topic before proceeding.

Configuring via erwin Configuration

To configure erwin Mart Portal, follow these steps:

1. On the Windows Start menu, click **erwin** > **Configure Mart Portal**.


erwin Mart Portal Configuration
Database
Mart Portal
Advanced
Authentication
Proxy Settings
ON-PREM
ORACLE
1521
Server Name
Database Name
Instance Name
Username
Password
☐ Enable SSL/Wallet
Location
Password
DOWNLOAD HOSTINFO
TEST
CONFIGURE
CANCEL

2. Configure database settings.

3. Configure mart portal settings.
4. Configure advanced settings.
5. Configure authentication settings.
6. Configure proxy settings (only applicable to erwin ER360).
7. Click Test to validate the configuration.
8. On successful validation, click **Configure**.

Configuring Database Settings

On the Database tab, configure the following settings:

Field	Description	Additional Information
Database Connection Method	Specifies whether the mart connects to an on-premise database or to a database via a JDBC connection string.	
JDBC Connection String	Specifies the JDBC connection string to connect to a database	This option is available only when the Database Connection Type is set to Custom JDBC URL.
Database	Specifies the mart database provider	Available options are: • Oracle • PostgreSQL • SQL Server
Port No	Specifies the port number of the database server	
Server Name	Specifies the name of the database server where you have installed the Mart database. For example, suppose that you are using SQL Server as the Mart database. Enter the name of the computer where SQL Server is installed.	
Database	Specifies the database to which the	If you are installing the Mart for the first

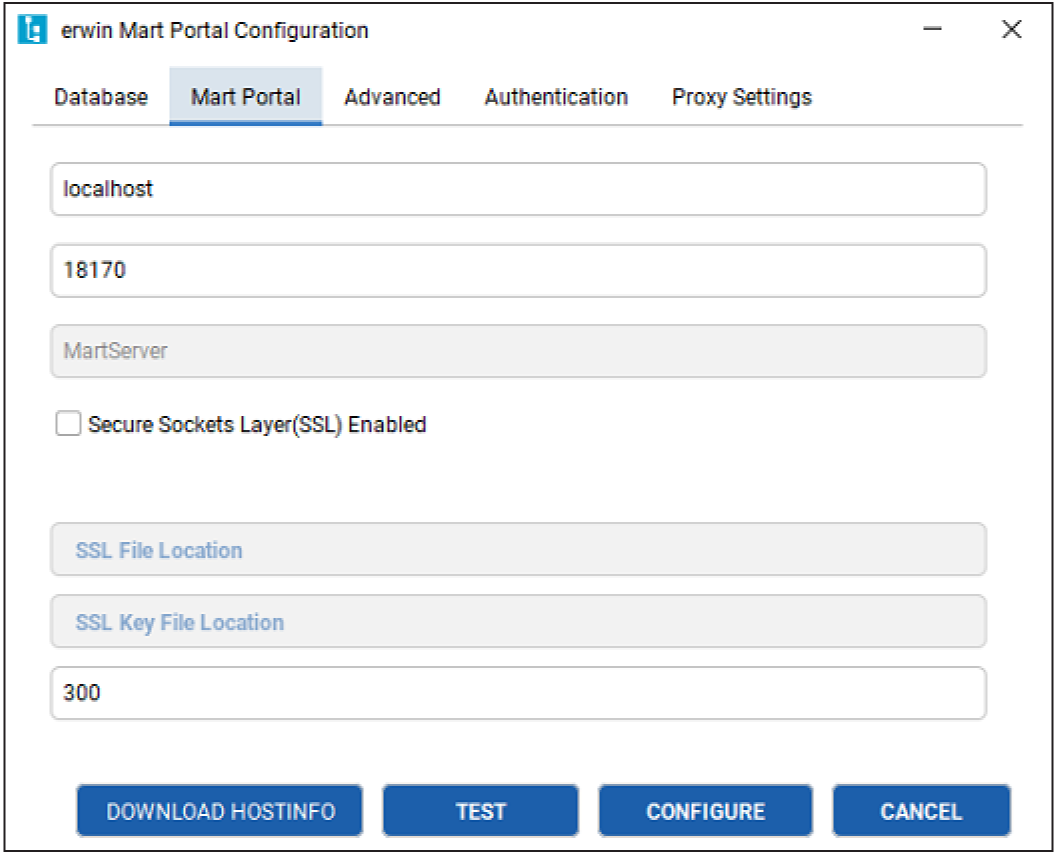
Field	Description	Additional Information
Name	mart must connect	time, use a new database. Do not use an existing database. If you are upgrading the Mart from any earlier release of r9 series to the latest release, use the corresponding Mart database. For an Oracle mart, ensure that appropriate permissions for a materialized view are assigned to the installer role (GRANT CREATE MATERIALIZED VIEW TO MMINSTALL;). For more information, refer to the Creating Oracle Database topic.
Instance Name	Specifies the name of the database instance	This option is enabled only when the Database is set to SQLServer.
Username	Specifies the user name to connect to the Mart database	This username must be is authenticated by the Mart database. Windows authentication (User Name field) is not supported for connecting to the Mart database from the Configure Mart Portal window. Ensure that the user is server authenticated.
Password	Specifies the password to connect to the Mart database	
Enable SSL/Wallet	Specifies whether SSL or Wallet (in case of Oracle database) is enabled	
Location	Specifies the location of the wallet file	This option is enabled only when you select the Enable SSL/Wallet check box.
Password (For SSL/Wallet)	Specifies the password that you set for the wallet	This option is enabled only when you select the Enable SSL/Wallet check box.
Download Hostinfo	Downloads the host machine's information for erwin ER360 offline license.	This feature downloads the following information in the JSON format.

Field	Description	Additional Information
		- OS Name - OS Version - Time Zone - System Locale - IP - System Type - NIC - Host Name - MAC - Input Locale The erwin licensing team uses this information to configure an offline license for erwin ER360. For more information on offline licenses, contact license support.

Configuring erwin Mart Portal Settings

The Mart Portal tab specifies application settings.

Configure the Mart Portal



erwin Mart Portal Configuration
Database
Mart Portal
Advanced
Authentication
Proxy Settings
DOWNLOAD HOSTINFO
TEST
CONFIGURE
CANCEL

localhost

18170

MartServer

☐ Secure Sockets Layer(SSL) Enabled

SSL File Location

SSL Key File Location

300

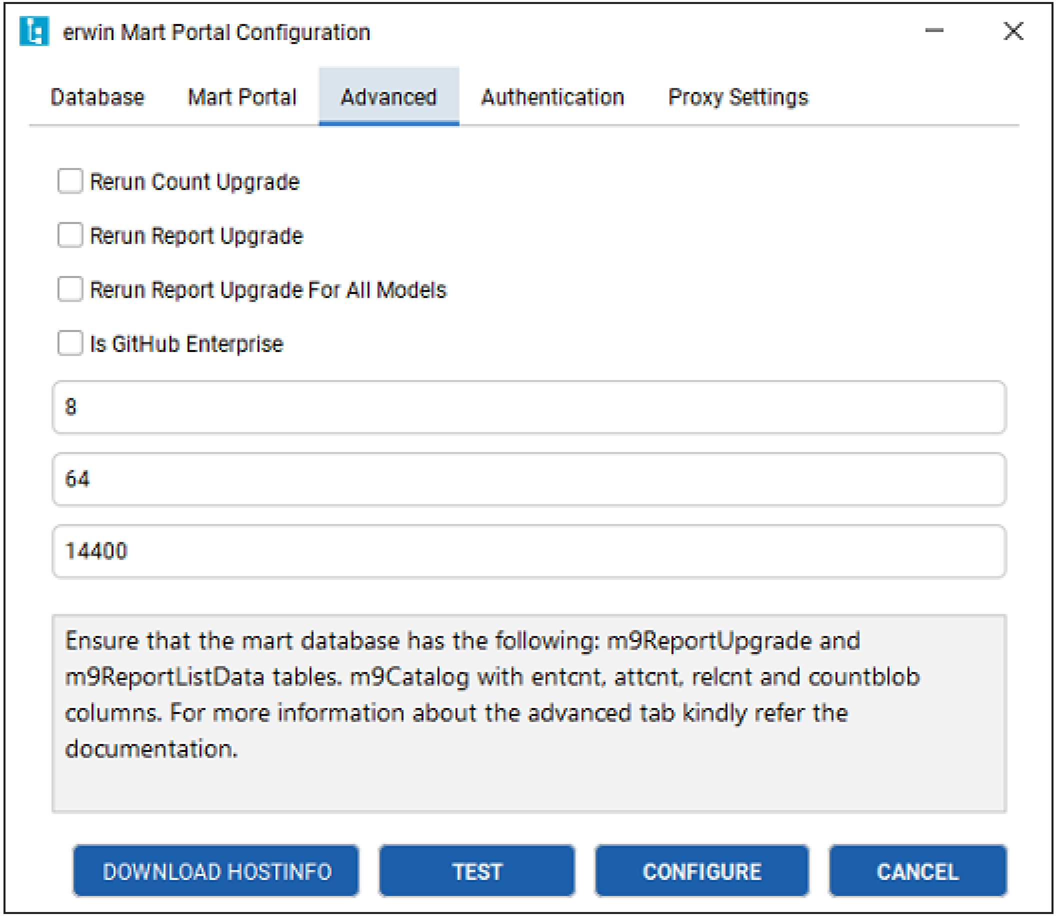
On the Mart Portal tab, configure the following settings:

Field	Description	Additional Information
Server Name	Specifies the name of the computer where the Web Server is present. For example, if you are using Tomcat, enter the name of the computer where Tomcat is installed. **Default:** localhost	
Port Number	Specifies the port number on which the Web Server is running.	You can now configure erwin Mart Portal on any port except 18172, 18174, and 18176 (These ports are used as proxy ports.). If you use SSO, ensure that you con-

Field	Description	Additional Information
		figure the correct port number here according to your SSO configuration.
Secure Sockets Layer (SSL) Enabled	Specifies whether you want to connect to the Mart through a secured connection (SSL)	Using a self-signed SSL certificate may result in an error about certificate authority while connecting to erwin Mart. In that case, click OK to continue connecting to erwin Mart
SSL Certificate	Specifies the location of SSL certificate file	This option is enabled only when the Secure Sockets Layer (SSL) Enabled option is selected. The certificate is available at C:\Program Files\erwin\Mart Portal\Apache\my-erwin.mart.crt.
SSL Key	Specifies the location of the SSL Key file	This option is enabled only when the Secure Sockets Layer (SSL) Enabled option is selected. The key is available at C:\Program Files\erwin\Mart Portal\Apache\my-erwin.mart.key.
Account Lockout Duration (in seconds)	Specifies the duration (in seconds) for which an account should be locked whenever an incorrect password is entered five consecutive times	By default, it is set to five minutes (300 seconds). At the most, you can set it to 30 days (2592000 seconds).

Configuring Advanced Settings

The Advanced tab specifies mart upgrade settings.


erwin Mart Portal Configuration
Database
Mart Portal
Advanced
Authentication
Proxy Settings
DOWNLOAD HOSTINFO
TEST
CONFIGURE
CANCEL

☐ Rerun Count Upgrade

☐ Rerun Report Upgrade

☐ Rerun Report Upgrade For All Models

☐ Is GitHub Enterprise

8

64

14400

Ensure that the mart database has the following: m9ReportUpgrade and m9ReportListData tables. m9Catalog with entcnt, attcnt, relcnt and countblob columns. For more information about the advanced tab kindly refer the documentation.

In case of failures in upgrade, before you rerun the upgrade, on the Advanced tab, configure the following settings:

Field	Description	Additional Information
Rerun Count Upgrade	Specifies that the model count upgrade should run while running the Mart database upgrade	
Rerun Report Upgrade	Specifies that the report upgrade should run while running the Mart database upgrade.	
Rerun Report Upgrade For All Models	Specifies that the report upgrade should run for all models while running the Mart database upgrade	

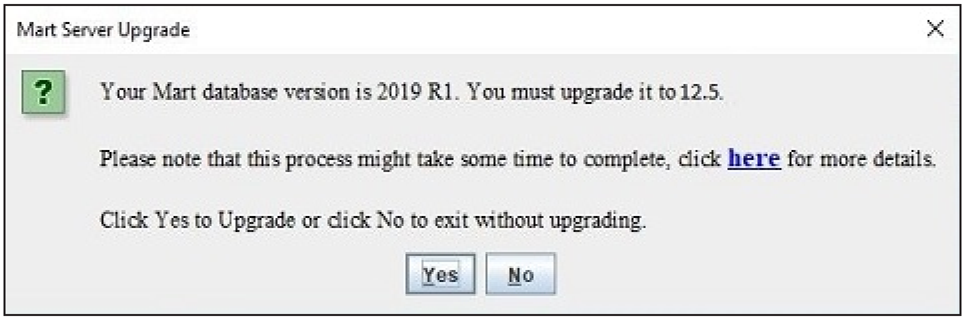
Field	Description	Additional Information
Is GitHub Enterprise	Specifies whether your GitHUb account is an enterprise account	
Database Initial Size	Specifies the initial mart database size in MB By default, this is set to 8 MB	
Database Max Size	Specifies the maximum size the mart database can take in MB By default, this is set to 64 MB	
Rest API Token Life-time(in seconds)	Specifies the duration (in seconds) for which your REST API token will be valid By default, this is set to 14400 seconds (four hours)	

> Ensure that the Mart database has the following:
>
> - m9reportUpgrade and m9ReportListData tables
> - m9Catalog table with entcnt, attcnt, relcnt, and countblob columns

To upgrade, follow these steps:

Click Configure.

The Mart Portal Upgrade dialog box appears.



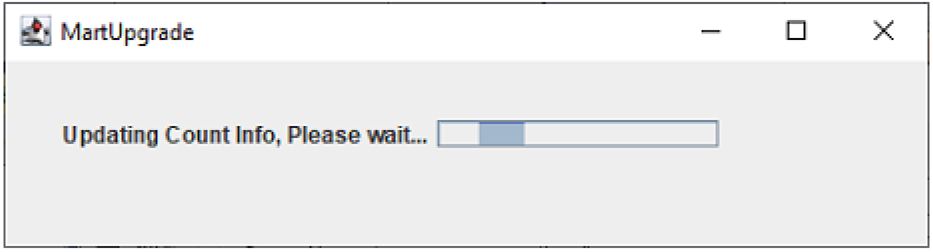
Your Mart database version is 2019 R1. You must upgrade it to 12.5.

Please note that this process might take some time to complete, click here for more details.

Click Yes to Upgrade or click No to exit without upgrading.

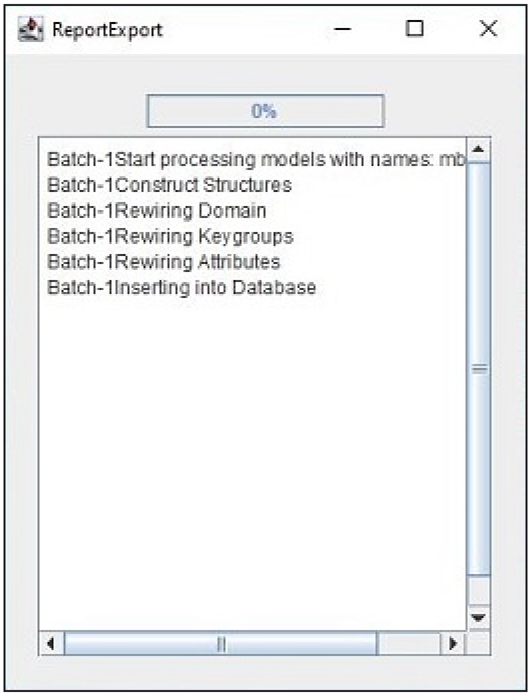
Click **Yes**.

The MartUpgrade screen for count upgrade appears.



Updating Count Info, Please wait...

Once the count upgrade process is complete, the ReportExport screen appears.



Batch-1Start processing models with names: mb
Batch-1Construct Structures
Batch-1Rewiring Domain
Batch-1Rewiring Keygroups
Batch-1Rewiring Attributes
Batch-1Inserting into Database

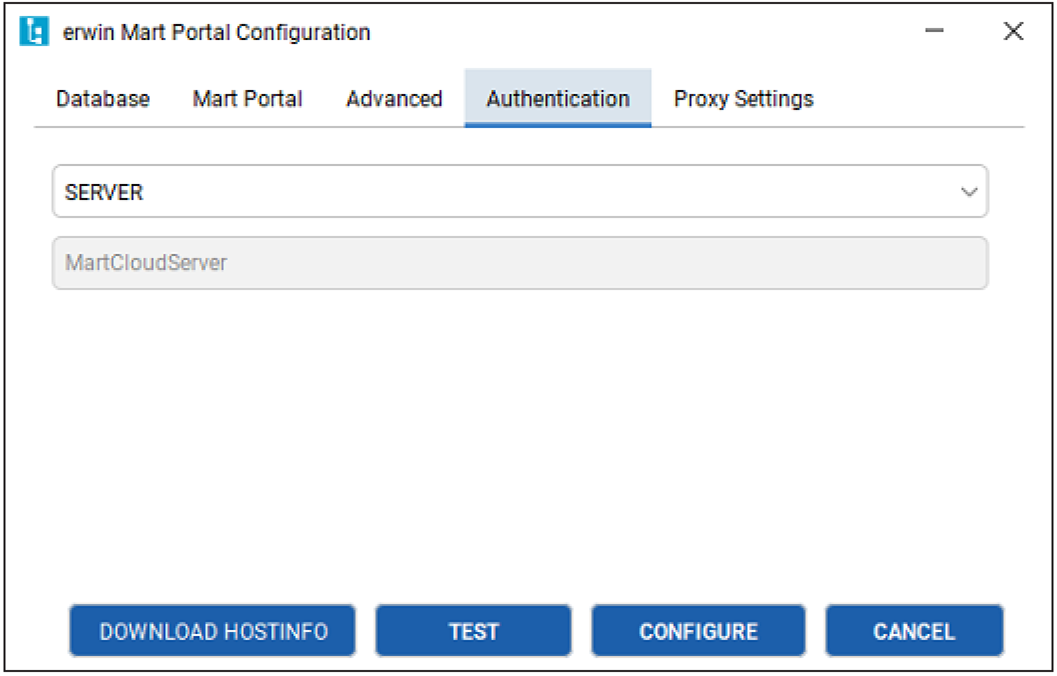
> This screen does not appear when you upgrade from 2020 R1 Mart to higher versions.

On completion of report export process, the upgrade process is complete.

Configuring Authentication Settings

The Authentication tab specifies user account authentication settings. The available settings differ based on the selected authentication method.

> The authentication methods and settings that you configure here are applicable to erwin ER360 as well.


erwin Mart Portal Configuration
Database
Mart Portal
Advanced
Authentication
Proxy Settings
DOWNLOAD HOSTINFO
TEST
CONFIGURE
CANCEL

SERVER

MartCloudServer

On the Authentication tab, configure the following settings:

Authentication Method	Field	Description	Additional Information
Server		Specifies that authentication is server-based	
Active Directory Details	Domain Controller Name	Specifies the fully qualified name of the Active Directory Server (Domain Controller). Enter the name in the following format: `LDAP://server/distinguished-name` **`Example:`** `ldap://mktgna:3268/dc=abc, dc=com`	Here, *mktgna* is the server name. You can provide either the name of the server or the IP address. 3268 is the port number to which the server listens.

Authentication Method	Field	Description	Additional Information
			dc=abc, dc=com is the distinguished-name. The distinguished name is the full path of the object. If you do not know the Domain Controller Name, use the *Nltest* command or contact your System Administrator.
	Domain\Username	Specifies the domain name and user name in the <domain name>/<user name> format	
	Domain Password	Specifies the password of the domain user	

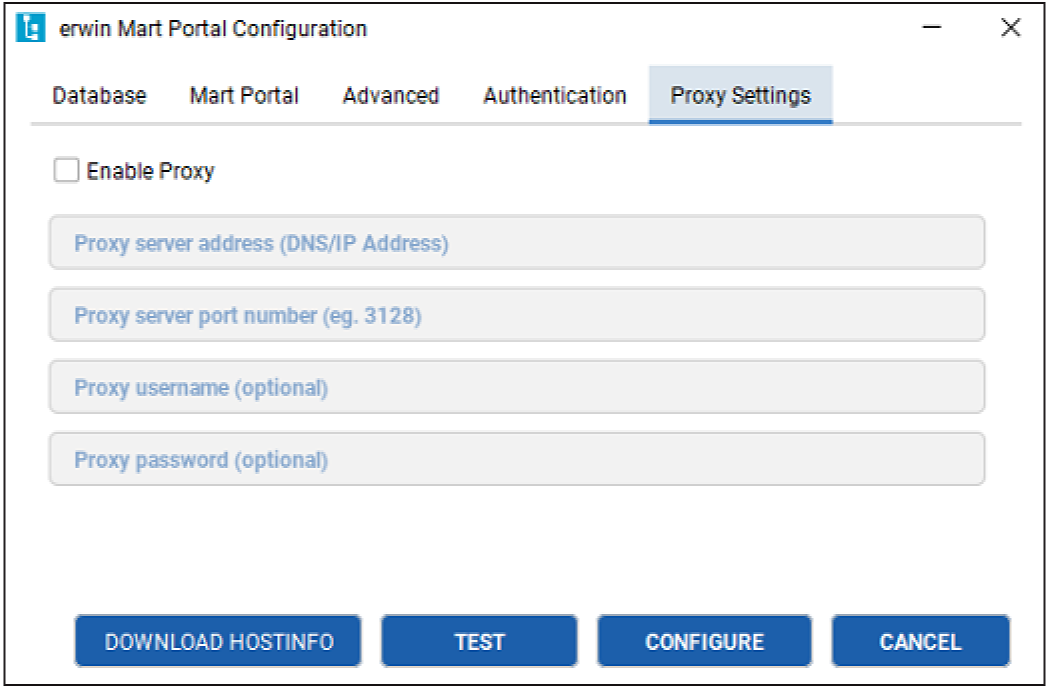
Authentication Method	Field	Description	Additional Information
Azure AD (OAuth2)	Tenant Id	Specifies your Azure AD environment properties for connection	Configure these settings based on your provider and the protocol. For more information on configuring AzureAD OAuth on Microsoft , refer to the AzureAD OAuth topic.
	Graph Scope		
	Client Id		
	Client Uri		
	Client Secret		
SAML (SAML 2.0)	Metadata XML method	Specifies your SAML environment properties for connection	erwin Mart Portal is certified for SAML with: • AzureAD • PingIdentity • Okta • WSO2 You can also use any other SAML supported identity provider. To use any of these identity providers, ensure that

Authentication Method	Field	Description	Additional Information
			you do the following: - On the Mart Portal tab, set up Secure Sockets Layer (SSL), SSL Certificate, and SSL Key. - On the Authentication tab, click **Download SP Metadata** and upload the metadata XML file to your provider's portal. Then, configure these settings based on your provider and the protocol.
	MetaData XML		
	Group Attribute Name		
	User Email Attribute Name		
	Download SP Metadata	Downloads the service provider metadata file that is required for your SSO setup	

Based on your configuration here, the available options to add users in erwin Mart Portal change.

Configuring Proxy Settings

The Proxy Settings tab is applicable only to erwin ER360 and specifies proxy server settings.


erwin Mart Portal Configuration
Database
Mart Portal
Advanced
Authentication
Proxy Settings
☐ Enable Proxy
Proxy server address (DNS/IP Address)
Proxy server port number (eg. 3128)
Proxy username (optional)
Proxy password (optional)
DOWNLOAD HOSTINFO
TEST
CONFIGURE
CANCEL

On the Proxy Settings tab, configure the following settings:

Field	Description	Additional Information
Enable Proxy	Specifies that a proxy server should be used for erwin ER360configuration	
Proxy server address (DNS/IP Address)	Specifies the proxy server's address, either DNS or an IP address	
Proxy server port number	Specifies the port number on the proxy server that you want to use	
Proxy username	Specifies the proxy server credentials	
Port password		

Configuring via CLI

To configure erwin Mart Portal via CLI, open command line interface and run following commands, for example, for PostgreSQL:

```
>cd C:\Program Files\erwin\Mart Portal\MartUpgrade

>SET PATH = %JRE_HOME%\bin

>java -jar ./MartConfiguration.jar configure

--conntype=ON-PREM

--dbname=test

--dbport=5432

--dbpwd=postgres

--dbserver=localhost

--dbssl=false

--dbtype=POSTGRESQL

--dbuser=postgres

--dbschemaname=public

--walletlocation=

--walletpwd=

--adminport=8081

--iisport=80

--locktime=300

--martappname=MartServer

--martserverhost=localhost

--martuseiis=false

--martusessl=true
```

```
--sslfilelocation="C:\Program Files\erwin\Mart Portal\Apache\my-
erwin.mart.crt"
```

```
--sslkeyfilelocation="C:\Program Files\erwin\Mart
Portal\Apache\myerwin.mart.key"
```

```
--authorizationType=LDAP
```

```
--dcname="ldap://10.250.28.4:389/DC=quest,DC=com"
```

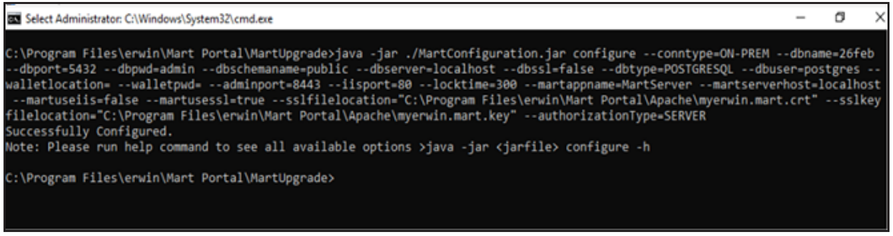
```
--domainuser=quest\sysadm
```

```
--domainpwd=Erwin12345
```

For example, to configure erwin Mart Portal with PostgreSQL database, follow these steps:

1. Open command line interface and navigate to C:\Program Files\erwin\Mart Portal\MartUpgrade.
2. Run the following command:

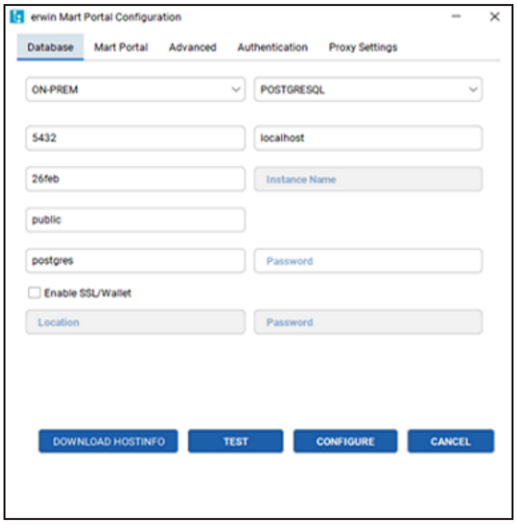
   ```
   java -jar ./MartConfiguration.jar configure --conntype=ON-
   PREM --dbname=26feb --dbport=5432
   --dbpwd=admin --dbschemaname=public --dbserver=localhost --
   dbssl=false
   --dbtype=POSTGRESQL --dbuser=postgres --walletlocation= --wal-
   letpwd=
   --adminport=8443 --iisport=80 --locktime=300 --martapp-
   name=MartServer
   --martserverhost=localhost --martuseiis=false --martusessl-
   l=true
   --sslfilelocation="C:\Program Files\erwin\Mart
   Portal\Apache\myerwin.mart.crt"
   --sslkeyfilelocation="C:\Program Files\erwin\Mart
   Portal\Apache\myerwin.mart.key"
   --authorizationType=SERVER
   ```


Select Administrator: C:\Windows\System32\cmd.exe

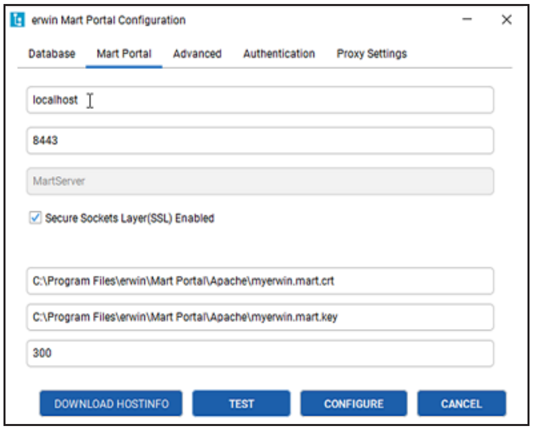
```
C:\Program Files\erwin\Mart Portal\MartUpgrade>java -jar ./MartConfiguration.jar configure --conntype=ON-PREM --dbname=26feb
--dbport=5432 --dbpwd=admin --dbschemaname=public --dbserver=localhost --dbssl=false --dbtype=POSTGRESQL --dbuser=postgres --
walletlocation= --walletpwd= --adminport=8443 --iisport=80 --locktime=300 --martappname=MartServer --martserverhost=localhost
 --martuseiis=false --martusessl=true --sslfilelocation="C:\Program Files\erwin\Mart Portal\Apache\myerwin.mart.crt" --sslkey
filelocation="C:\Program Files\erwin\Mart Portal\Apache\myerwin.mart.key" --authorizationType=SERVER
Successfully Configured.
Note: Please run help command to see all available options >java -jar <jarfile> configure -h

C:\Program Files\erwin\Mart Portal\MartUpgrade>
```

Once done, this configuration in updated in configuration file, MartConfiguration.properties, located at C:\ProgramData\erwin\Mart Portal. It is also available on the erwin Mart Portal Configuration screen.


erwin Mart Portal Configuration
Database
Mart Portal
Advanced
Authentication
Proxy Settings
Instance Name
Password
Location
Password
DOWNLOAD HOSTINFO
TEST
CONFIGURE
CANCEL

ON-PREM
POSTGRESQL
5432
localhost
26feb
public
postgres
☐ Enable SSL/Wallet


erwin Mart Portal Configuration
Database
Mart Portal
Advanced
Authentication
Proxy Settings
DOWNLOAD HOSTINFO
TEST
CONFIGURE
CANCEL

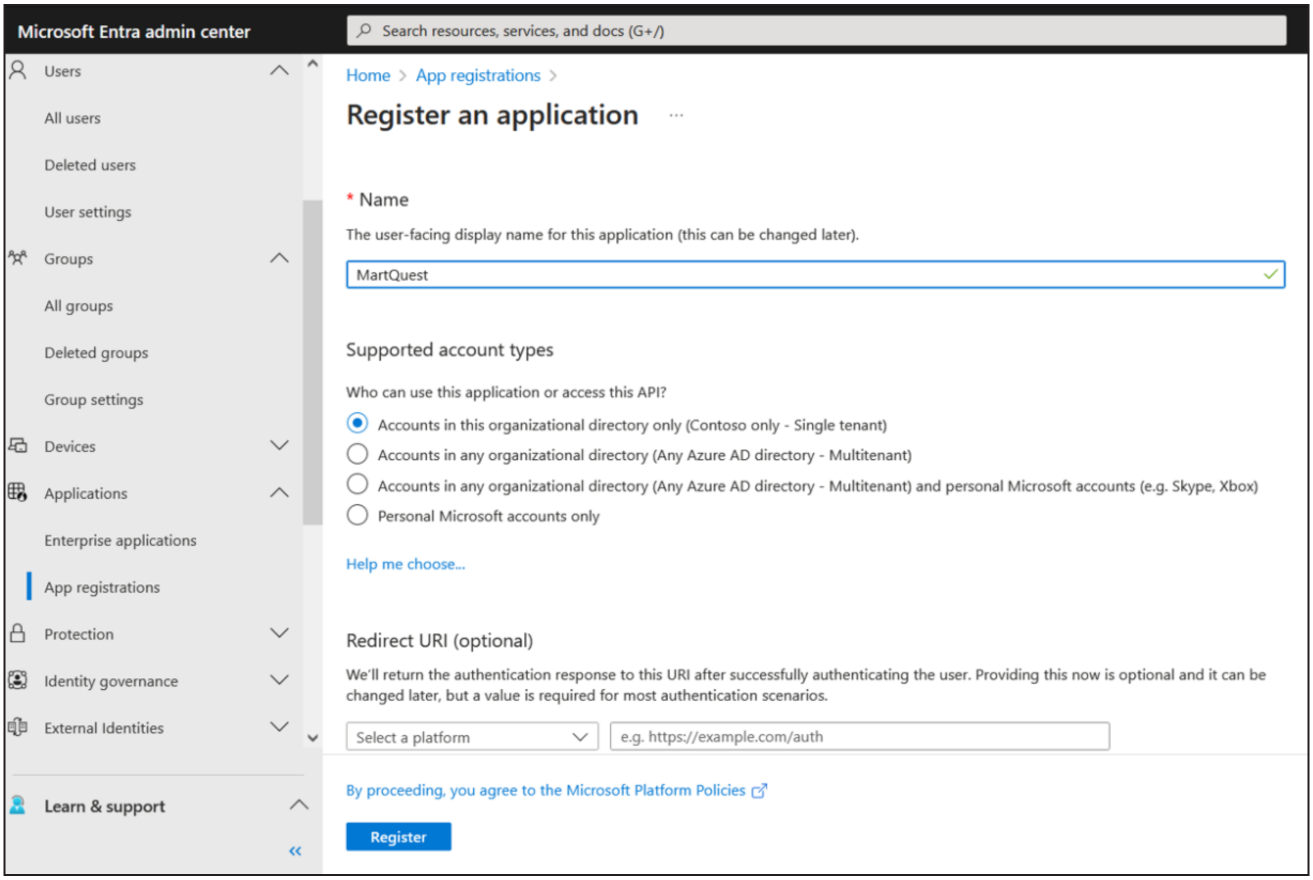
localhost
8443
MartServer
☑ Secure Sockets Layer(SSL) Enabled
C:\Program Files\erwin\Mart Portal\Apache\myerwin.mart.crt
C:\Program Files\erwin\Mart Portal\Apache\myerwin.mart.key
300

For the full list of commands, refer to the erwin Mart Portal Configuration- CLI Commands topic.

AzureAD OAuth2

To configure AzureAD OAuth2 for erwin Mart Portal authentication, follow these steps:

1. Log in to Microsoft Entra admin center.
2. Click App registrations and enter the necessary information as shown in the following image.


Microsoft Entra admin center
Search resources, services, and docs (G+/)
Users
All users
Deleted users
User settings
Groups
All groups
Deleted groups
Group settings
Devices
Applications
Enterprise applications
App registrations
Protection
Identity governance
External Identities
Learn & support
Home > App registrations >
...
Select a platform
e.g. https://example.com/auth
By proceeding, you agree to the Microsoft Platform Policies
Register

Register an application

* Name

The user-facing display name for this application (this can be changed later).

MartQuest

Supported account types

Who can use this application or access this API?

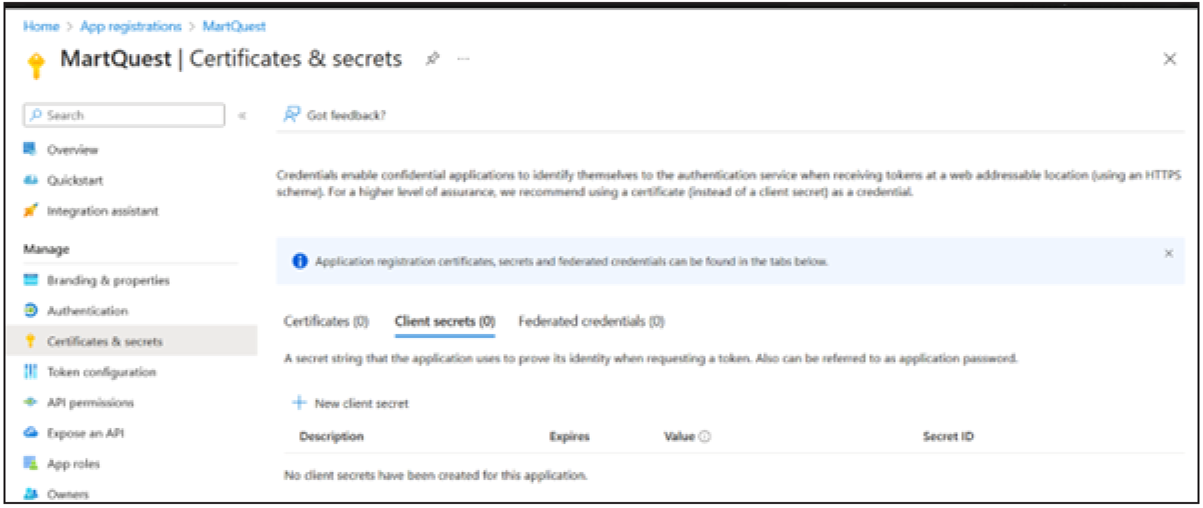
● Accounts in this organizational directory only (Contoso only - Single tenant)
○ Accounts in any organizational directory (Any Azure AD directory - Multitenant)
○ Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)
○ Personal Microsoft accounts only

Help me choose...

Redirect URI (optional)

We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

3. Click **Register**.
4. Go to **Certificates & secrets**.


Home > App registrations > MartQuest
MartQuest | Certificates & secrets
Search
Got feedback?
Overview
Quickstart
Integration assistant
Manage
Branding & properties
Authentication
Certificates & secrets
Token configuration
API permissions
Expose an API
App roles
Owners
Certificates (0)
Client secrets (0)
Federated credentials (0)
New client secret
Description
Expires
Value
Secret ID

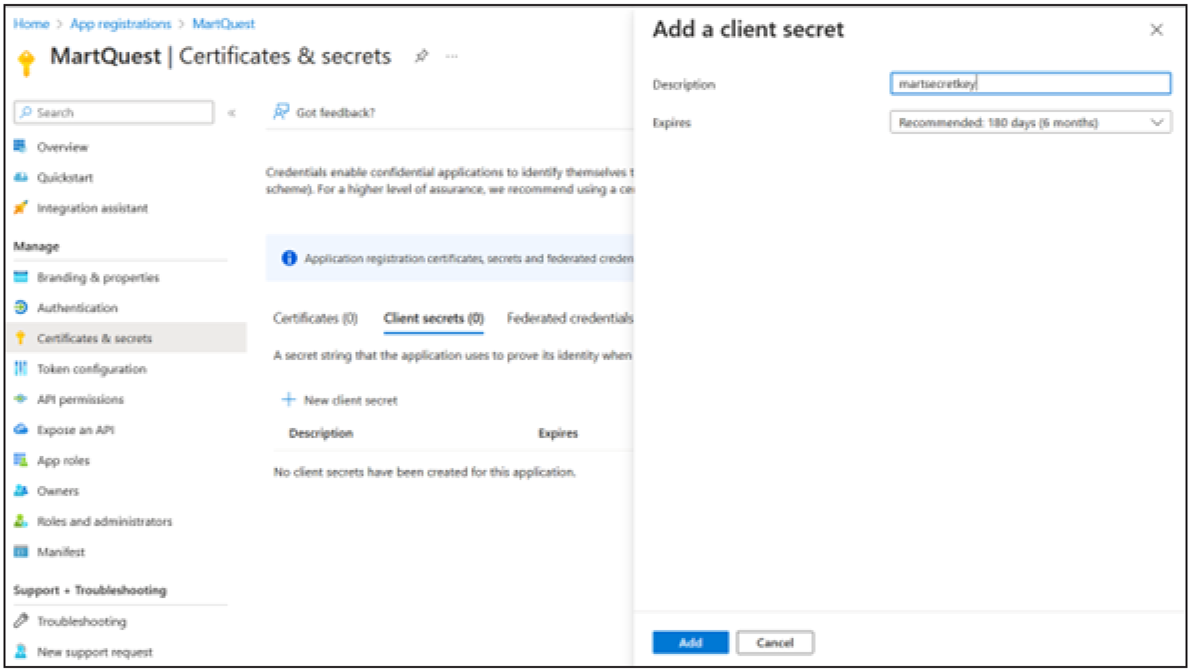
Credentials enable confidential applications to identify themselves to the authentication service when receiving tokens at a web addressable location (using an HTTPS scheme). For a higher level of assurance, we recommend using a certificate (instead of a client secret) as a credential.

Application registration certificates, secrets and federated credentials can be found in the tabs below.

A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.

No client secrets have been created for this application.

5. Click **New client secret** and add Description. Then, click **Add**.


Home > App registrations > MartQuest
MartQuest | Certificates & secrets
Search
Got feedback?
Overview
Quickstart
Integration assistant
Manage
Branding & properties
Authentication
Certificates & secrets
Token configuration
API permissions
Expose an API
App roles
Owners
Roles and administrators
Manifest
Support + Troubleshooting
Troubleshooting
New support request
Certificates (0)
Client secrets (0)
Federated credentials
New client secret
Description
Expires
Add a client secret
Add
Cancel

Credentials enable confidential applications to identify themselves t
scheme). For a higher level of assurance, we recommend using a ce

Application registration certificates, secrets and federated creden

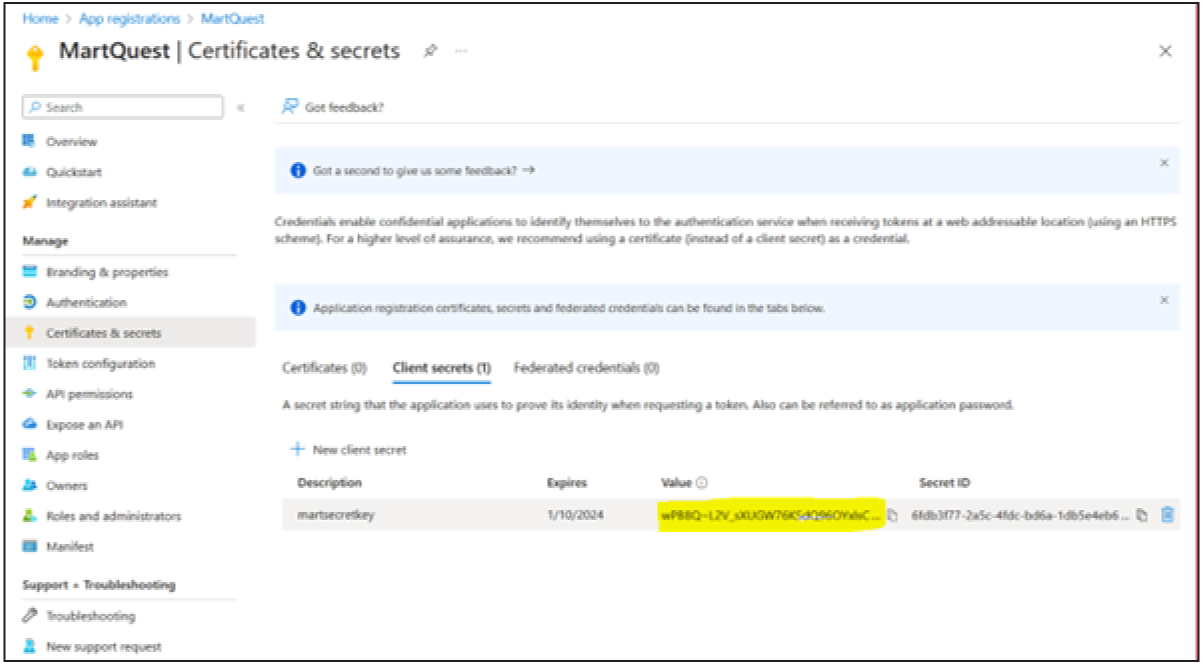
A secret string that the application uses to prove its identity when

No client secrets have been created for this application.

Description: martsecretkey

Expires: Recommended: 180 days (6 months)

6. Copy the auto-generated value highlighted in the following image.


Home > App registrations > MartQuest
MartQuest | Certificates & secrets
Search
Overview
Quickstart
Integration assistant
Manage
Branding & properties
Authentication
Certificates & secrets
Token configuration
API permissions
Expose an API
App roles
Owners
Roles and administrators
Manifest
Support + Troubleshooting
Troubleshooting
New support request
Got feedback?
Certificates (0)
Client secrets (1)
Federated credentials (0)
New client secret

Got a second to give us some feedback? →

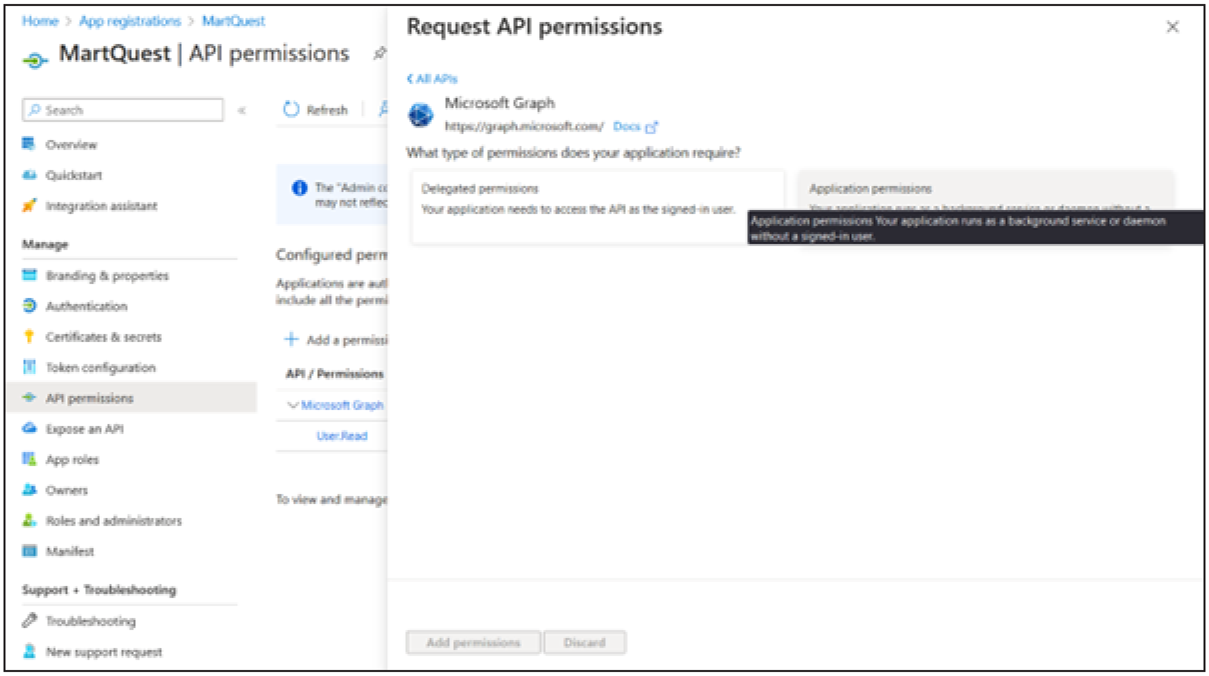
Credentials enable confidential applications to identify themselves to the authentication service when receiving tokens at a web addressable location (using an HTTPS scheme). For a higher level of assurance, we recommend using a certificate (instead of a client secret) as a credential.

Application registration certificates, secrets and federated credentials can be found in the tabs below.

A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.

Description	Expires	Value	Secret ID
martsecretkey	1/10/2024	wP88Q~L2V_sXUGW76K5dQ96OYxlsC ...	6fdb3f77-2a5c-4fdc-bd6a-1db5e4eb6 ...

7. Click **API Permissions** > **Application Permissions**.


Home > App registrations > MartQuest
MartQuest | API permissions
Search
Overview
Quickstart
Integration assistant
Manage
Branding & properties
Authentication
Certificates & secrets
Token configuration
API permissions
Expose an API
App roles
Owners
Roles and administrators
Manifest
Support + Troubleshooting
Troubleshooting
New support request
Refresh
Configured perm
Add a permissi
API / Permissions
Microsoft Graph
User.Read
Request API permissions
All APIs
Microsoft Graph
https://graph.microsoft.com/
Docs
Add permissions
Discard

What type of permissions does your application require?

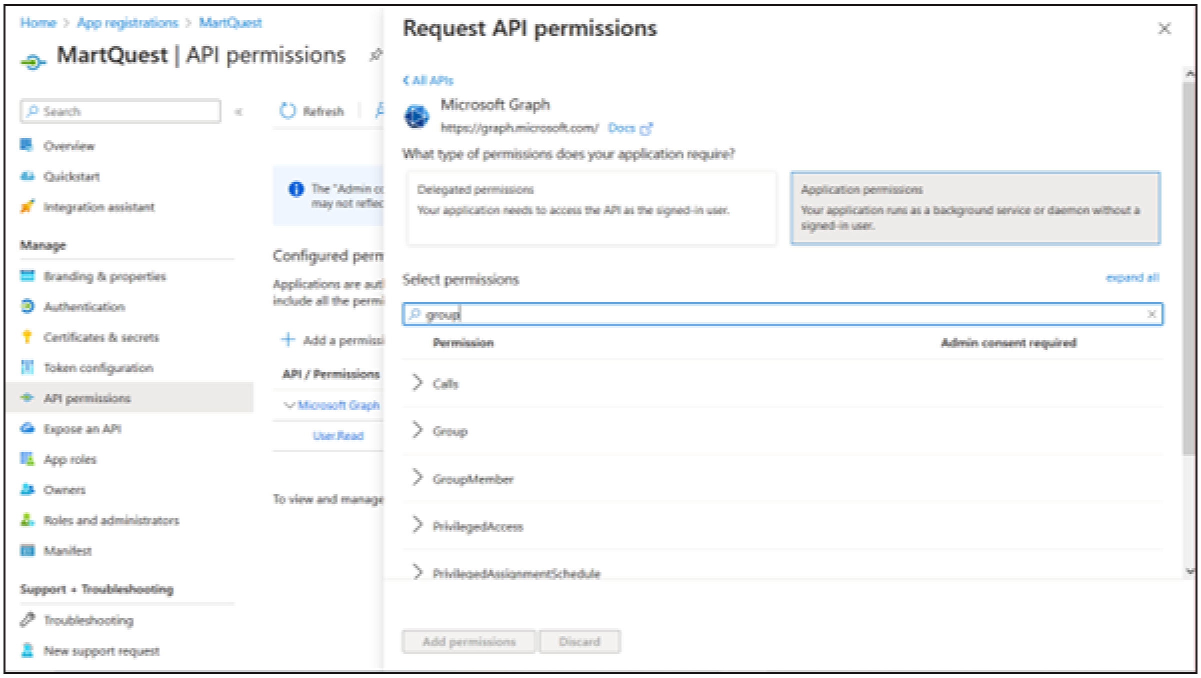
Delegated permissions

Your application needs to access the API as the signed-in user.

Application permissions

Application permissions Your application runs as a background service or daemon without a signed-in user.

8. Search and expand Group and select **Group.Read.All** permission. Then, click **Add permissions**.


Home > App registrations > MartQuest
MartQuest | API permissions
Search
Refresh
Overview
Quickstart
Integration assistant
Manage
Branding & properties
Authentication
Certificates & secrets
Token configuration
API permissions
Expose an API
App roles
Owners
Roles and administrators
Manifest
Support + Troubleshooting
Troubleshooting
New support request
Configured perm
+ Add a permissi
API / Permissions
Microsoft Graph
User.Read
Request API permissions
All APIs
Microsoft Graph
https://graph.microsoft.com/ Docs
Select permissions
expand all
Permission
Admin consent required
Calls
Group
GroupMember
PrivilegedAccess
PrivilegedAssignmentSchedule
Add permissions
Discard

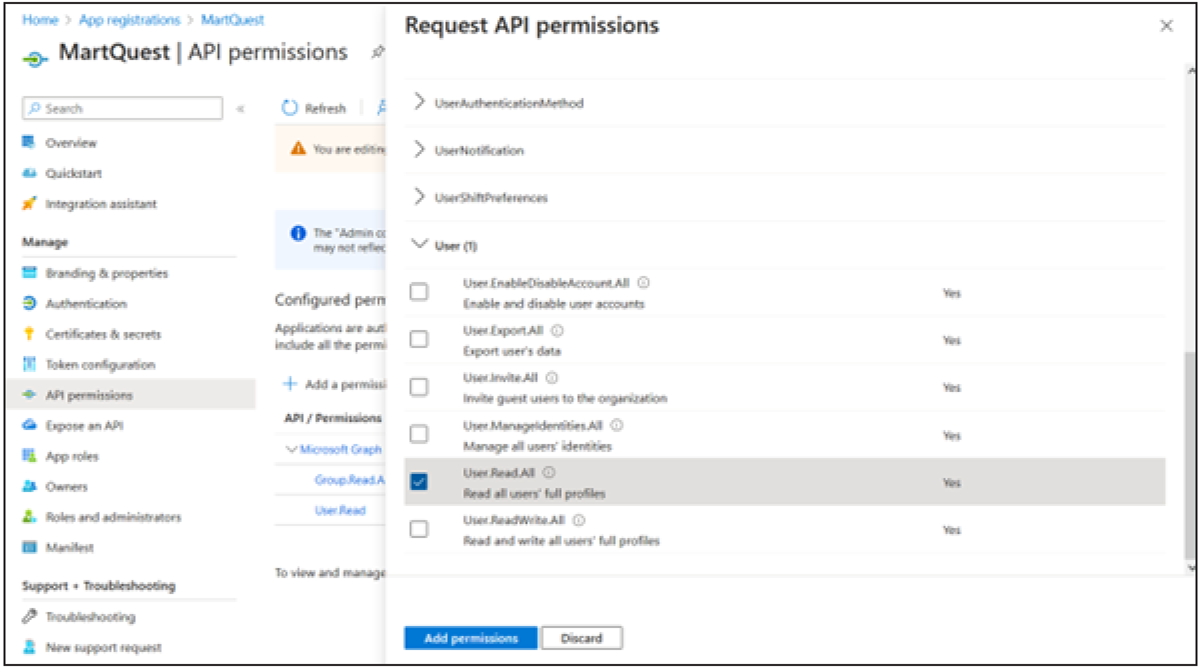
What type of permissions does your application require?

Delegated permissions
Your application needs to access the API as the signed-in user.

Application permissions
Your application runs as a background service or daemon without a signed-in user.

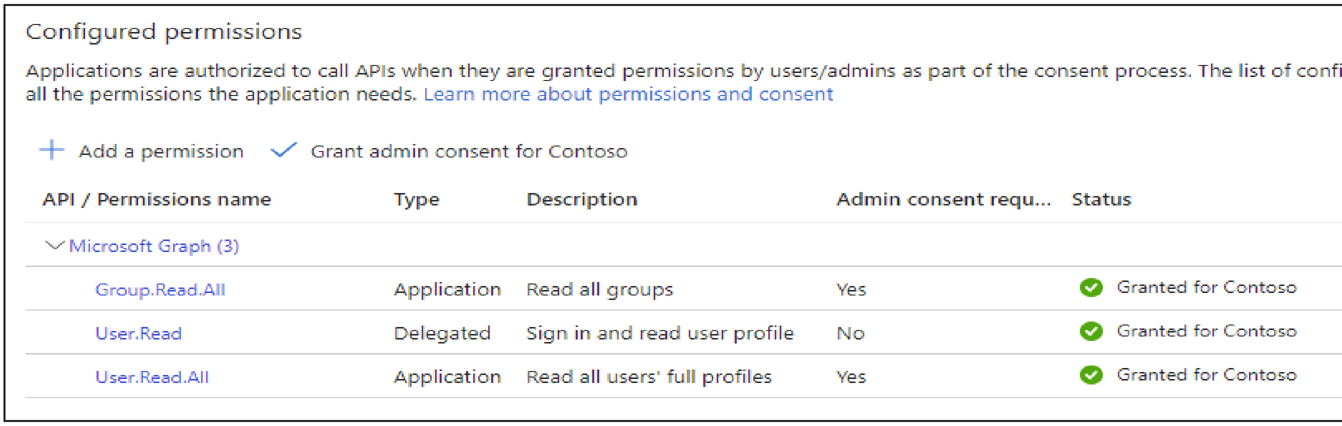
group

9. Search and expand User and select **User.Read.All** permission. Then click **Add permissions**.


Home > App registrations > MartQuest
MartQuest | API permissions
Search
Overview
Quickstart
Integration assistant
Manage
Branding & properties
Authentication
Certificates & secrets
Token configuration
API permissions
Expose an API
App roles
Owners
Roles and administrators
Manifest
Support + Troubleshooting
Troubleshooting
New support request
Refresh
You are editin
The "Admin co
may not reflec
Configured perm
Applications are aut
include all the permi
Add a permissi
API / Permissions
Microsoft Graph
Group.Read.A
User.Read
To view and manage
Request API permissions
UserAuthenticationMethod
UserNotification
UserShiftPreferences
User (1)
Add permissions
Discard

	Permission	Admin consent required
☐	User.EnableDisableAccount.All Enable and disable user accounts	Yes
☐	User.Export.All Export user's data	Yes
☐	User.Invite.All Invite guest users to the organization	Yes
☐	User.ManageIdentities.All Manage all users' identities	Yes
☑	User.Read.All Read all users' full profiles	Yes
☐	User.ReadWrite.All Read and write all users' full profiles	Yes

10. Click **Grant admin consent for Contoso**.

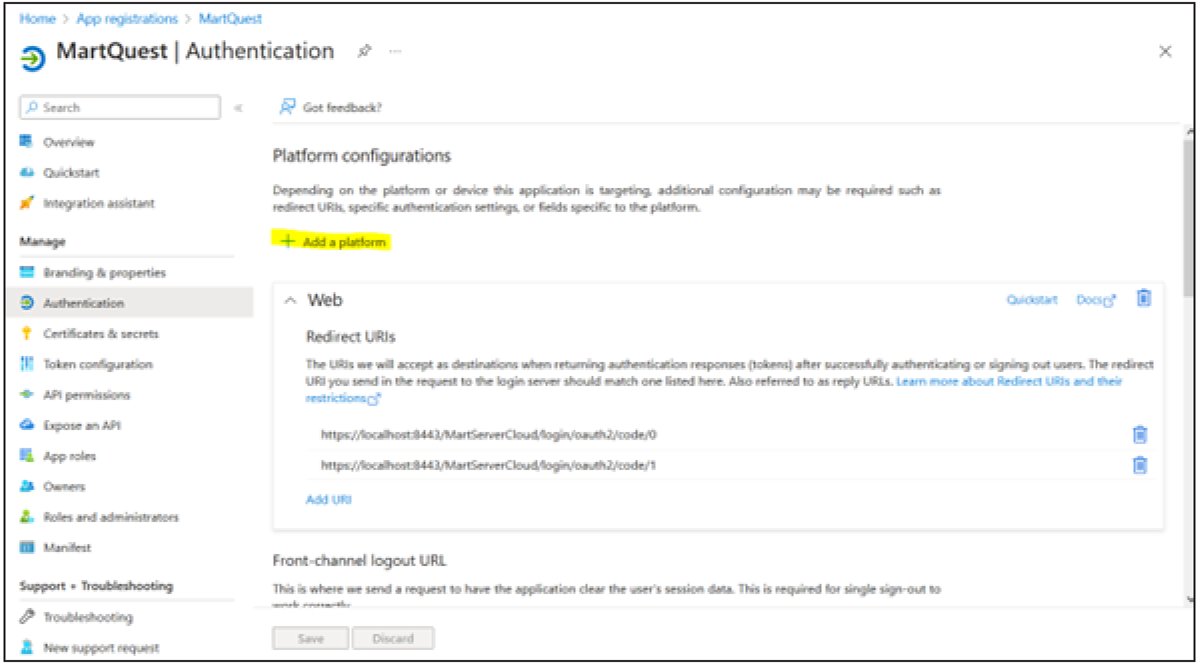

+ Add a permission
✓ Grant admin consent for Contoso

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of confi
all the permissions the application needs. Learn more about permissions and consent

API / Permissions name	Type	Description	Admin consent requ...	Status
Microsoft Graph (3)				
Group.Read.All	Application	Read all groups	Yes	✓ Granted for Contoso
User.Read	Delegated	Sign in and read user profile	No	✓ Granted for Contoso
User.Read.All	Application	Read all users' full profiles	Yes	✓ Granted for Contoso

11. Go to Authentication and click **Add a platform**.


Home > App registrations > MartQuest
MartQuest | Authentication
Search
Overview
Quickstart
Integration assistant
Manage
Branding & properties
Authentication
Certificates & secrets
Token configuration
API permissions
Expose an API
App roles
Owners
Roles and administrators
Manifest
Support + Troubleshooting
Troubleshooting
New support request
Got feedback?
Platform configurations
+ Add a platform
Web
Quickstart
Docs
Redirect URIs
Add URI
Front-channel logout URL
Save
Discard

Depending on the platform or device this application is targeting, additional configuration may be required such as redirect URIs, specific authentication settings, or fields specific to the platform.

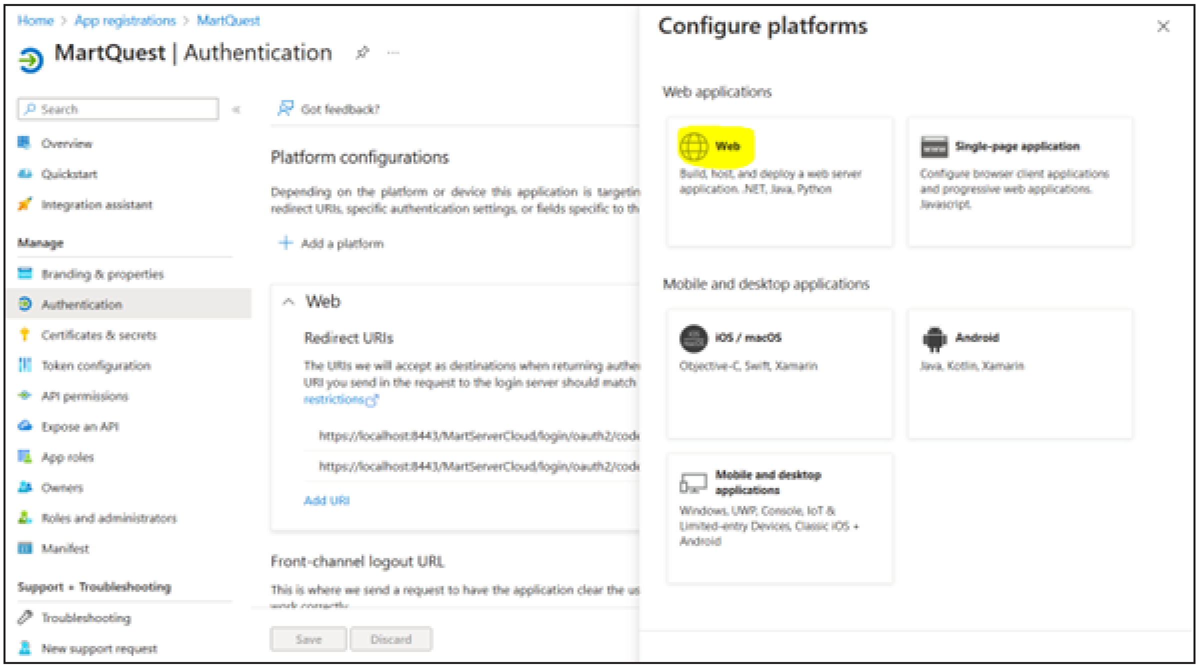
The URIs we will accept as destinations when returning authentication responses (tokens) after successfully authenticating or signing out users. The redirect URI you send in the request to the login server should match one listed here. Also referred to as reply URLs. Learn more about Redirect URIs and their restrictions

https://localhost:8443/MartServerCloud/login/oauth2/code/0

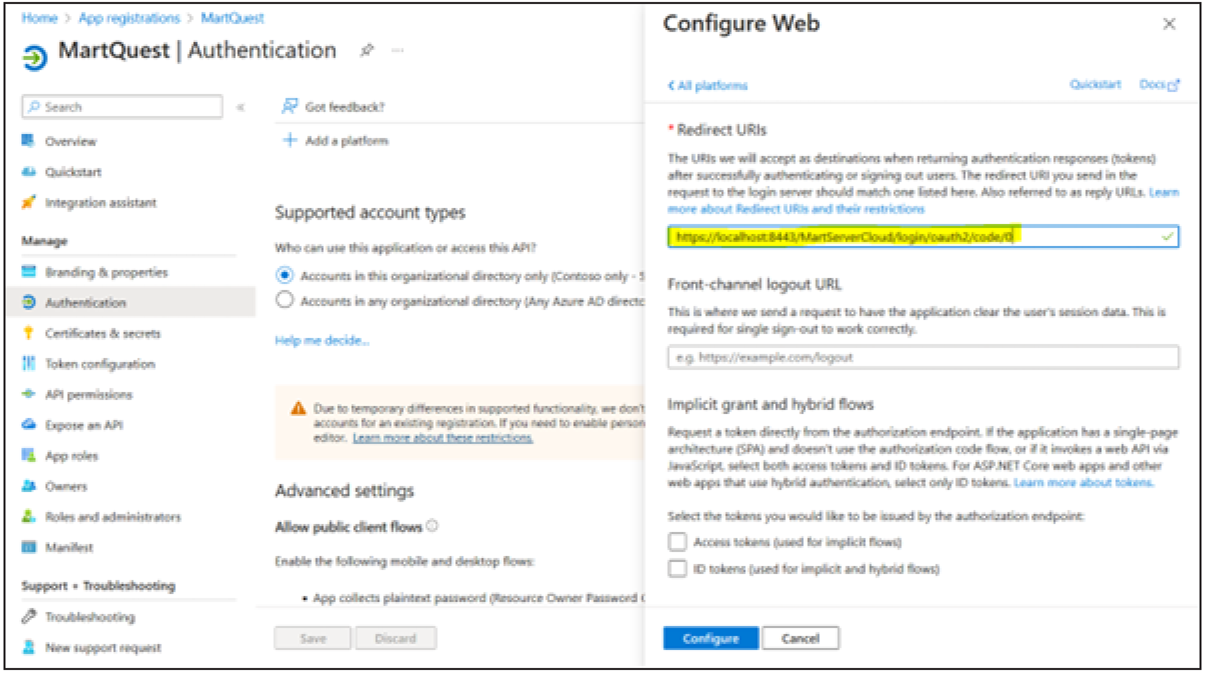
https://localhost:8443/MartServerCloud/login/oauth2/code/1

This is where we send a request to have the application clear the user's session data. This is required for single sign-out to work correctly.

12. Click **Web**.


Home > App registrations > MartQuest
MartQuest | Authentication
Search
Overview
Quickstart
Integration assistant
Manage
Branding & properties
Authentication
Certificates & secrets
Token configuration
API permissions
Expose an API
App roles
Owners
Roles and administrators
Manifest
Support + Troubleshooting
Troubleshooting
New support request
Got feedback?
Platform configurations
+ Add a platform
Web
Redirect URIs
Add URI
Front-channel logout URL
Save
Discard
Configure platforms
Web applications
Web
Build, host, and deploy a web server application. .NET, Java, Python
Single-page application
Configure browser client applications and progressive web applications. Javascript.
Mobile and desktop applications
iOS / macOS
Objective-C, Swift, Xamarin
Android
Java, Kotlin, Xamarin
Mobile and desktop applications
Windows, UWP, Console, IoT & Limited-entry Devices, Classic iOS + Android

13. Add **Redirect URIs** and click **Configure**.


Home > App registrations > MartQuest
MartQuest | Authentication
Search
Overview
Quickstart
Integration assistant
Manage
Branding & properties
Authentication
Certificates & secrets
Token configuration
API permissions
Expose an API
App roles
Owners
Roles and administrators
Manifest
Support + Troubleshooting
Troubleshooting
New support request
Got feedback?
Add a platform
Supported account types
Help me decide...
Advanced settings
Allow public client flows
Save
Discard
Configure Web
All platforms
Quickstart
Docs
Configure
Cancel

Who can use this application or access this API?

● Accounts in this organizational directory only (Contoso only - S

○ Accounts in any organizational directory (Any Azure AD directo

Due to temporary differences in supported functionality, we don't accounts for an existing registration. If you need to enable person editor. Learn more about these restrictions.

Enable the following mobile and desktop flows:

- App collects plaintext password (Resource Owner Password C

* Redirect URIs

The URIs we will accept as destinations when returning authentication responses (tokens) after successfully authenticating or signing out users. The redirect URI you send in the request to the login server should match one listed here. Also referred to as reply URLs. Learn more about Redirect URIs and their restrictions

https://localhost:8443/MartServerCloud/login/oauth2/code/0

Front-channel logout URL

This is where we send a request to have the application clear the user's session data. This is required for single sign-out to work correctly.

e.g. https://example.com/logout

Implicit grant and hybrid flows

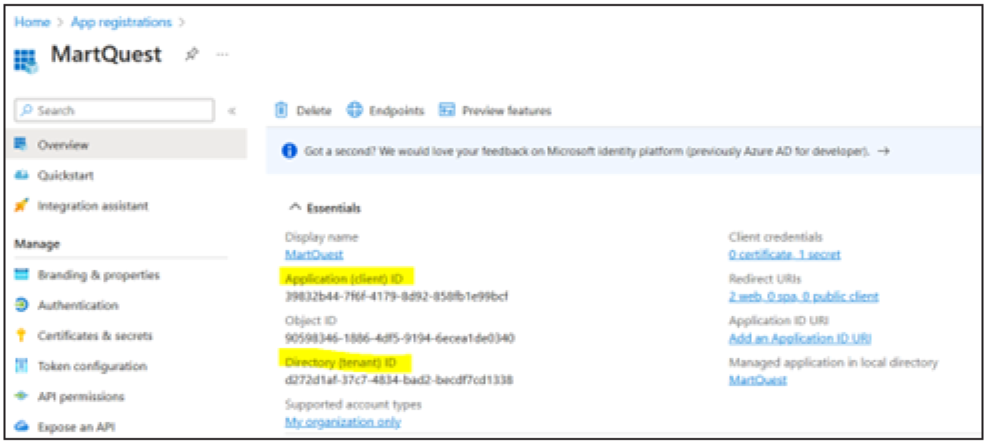
Request a token directly from the authorization endpoint. If the application has a single-page architecture (SPA) and doesn't use the authorization code flow, or if it invokes a web API via JavaScript, select both access tokens and ID tokens. For ASP.NET Core web apps and other web apps that use hybrid authentication, select only ID tokens. Learn more about tokens.

Select the tokens you would like to be issued by the authorization endpoint:

☐ Access tokens (used for implicit flows)

☐ ID tokens (used for implicit and hybrid flows)

14. Go to Overview and note the Application (client) ID and Directory (tenant) ID. Graph scope and Client Uri are default.


Home > App registrations >
MartQuest
Search
Overview
Quickstart
Integration assistant
Manage
Branding & properties
Authentication
Certificates & secrets
Token configuration
API permissions
Expose an API
Delete
Endpoints
Preview features
Essentials

Got a second? We would love your feedback on Microsoft identity platform (previously Azure AD for developer). →

Display name: MartQuest

Application (client) ID: 39832b44-7f6f-4179-8d92-858fb1e99bcf

Object ID: 90598346-1886-4df5-9194-6ecea1de0340

Directory (tenant) ID: d272d1af-37c7-4834-bad2-becdf7cd1338

Supported account types: My organization only

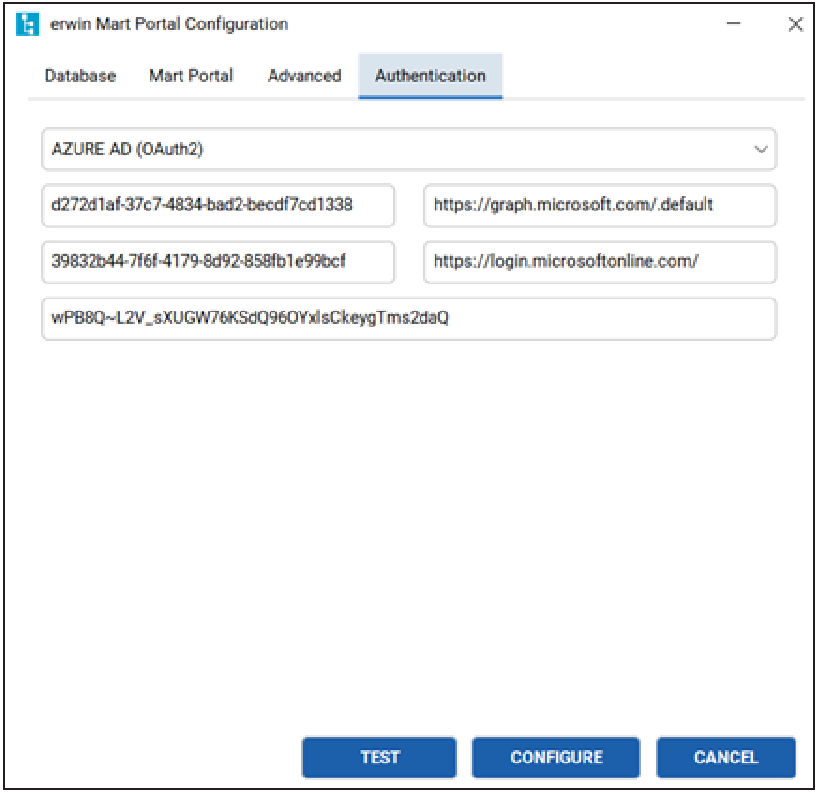
Client credentials: 0 certificate, 1 secret

Redirect URIs: 2 web, 0 spa, 0 public client

Application ID URI: Add an Application ID URI

Managed application in local directory: MartQuest

You can now use these parameters on the Authentication tab while configuring erwin Mart Portal for SSO as shown in the following example image.


erwin Mart Portal Configuration
Database
Mart Portal
Advanced
Authentication
TEST
CONFIGURE
CANCEL

AZURE AD (OAuth2)

d272d1af-37c7-4834-bad2-becdf7cd1338

https://graph.microsoft.com/.default

39832b44-7f6f-4179-8d92-858fb1e99bcf

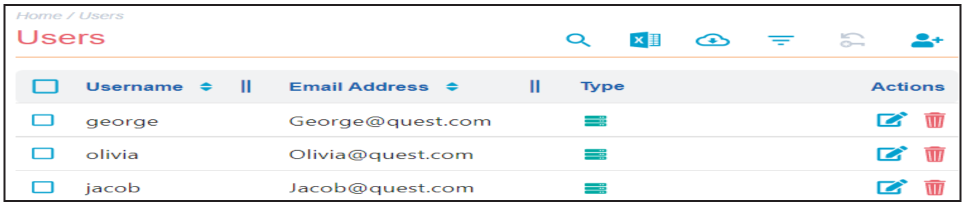
https://login.microsoftonline.com/

wPB8Q~L2V_sXUGW76KSdQ96OYxlsCkeygTms2daQ

Adding Groups in erwin Mart Portal

To add your AzureAD groups to erwin Mart Portal, follow these steps:

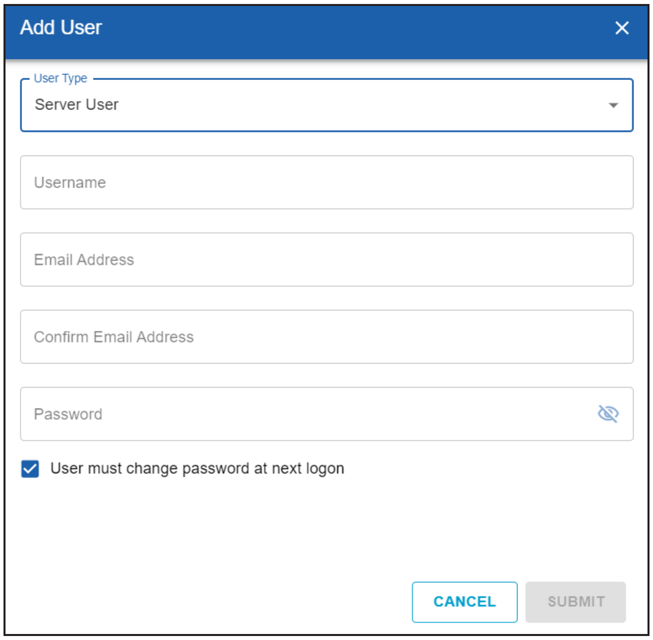
1. In the Microsoft Entra admin center, click **Groups** > **All groups** > **Download groups**.
   A CSV file with all your groups is downloaded.
2. Log in to erwin Mart Portalas administrator.
3. Go to **Application Menu** > **Users**.
   The Users page appears.


Home / Users
Users

☐	Username	Email Address	Type	Actions
☐	george	George@quest.com	≡	
☐	olivia	Olivia@quest.com	≡	
☐	jacob	Jacob@quest.com	≡	

4. Click 👤+.

   The Add User page appears.

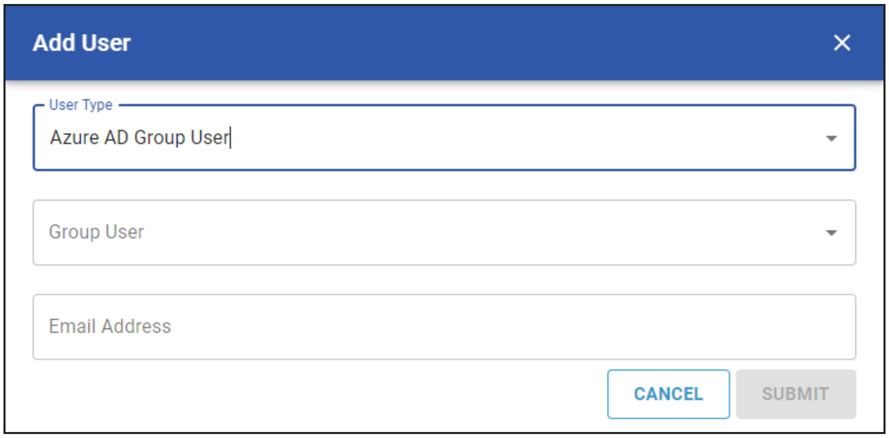


Add User
×
Username
Email Address
Confirm Email Address
Password
CANCEL
SUBMIT

User Type: Server User

☑ User must change password at next logon

5. Under User Type, select **Azure AD Group User**.



Add User
×
Group User
Email Address
CANCEL
SUBMIT

User Type: Azure AD Group User

6. Under Group User, select the group that you want to add.

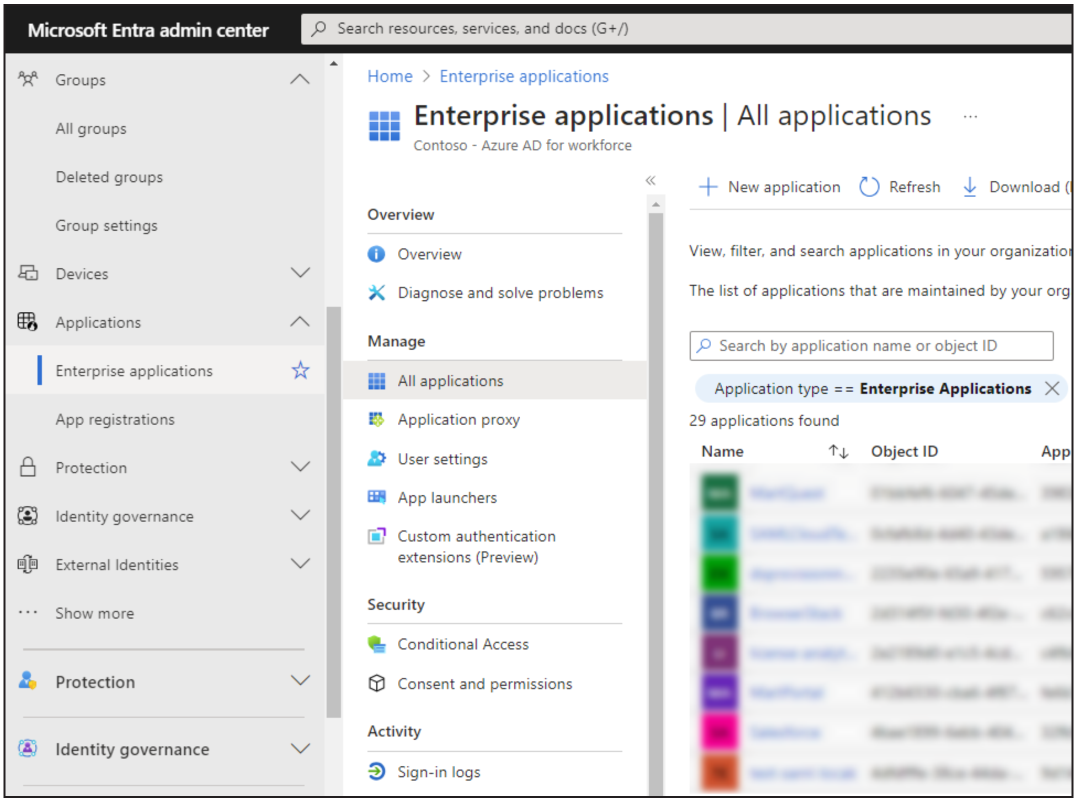
7. Click **Submit**.

SAML with AzureAD

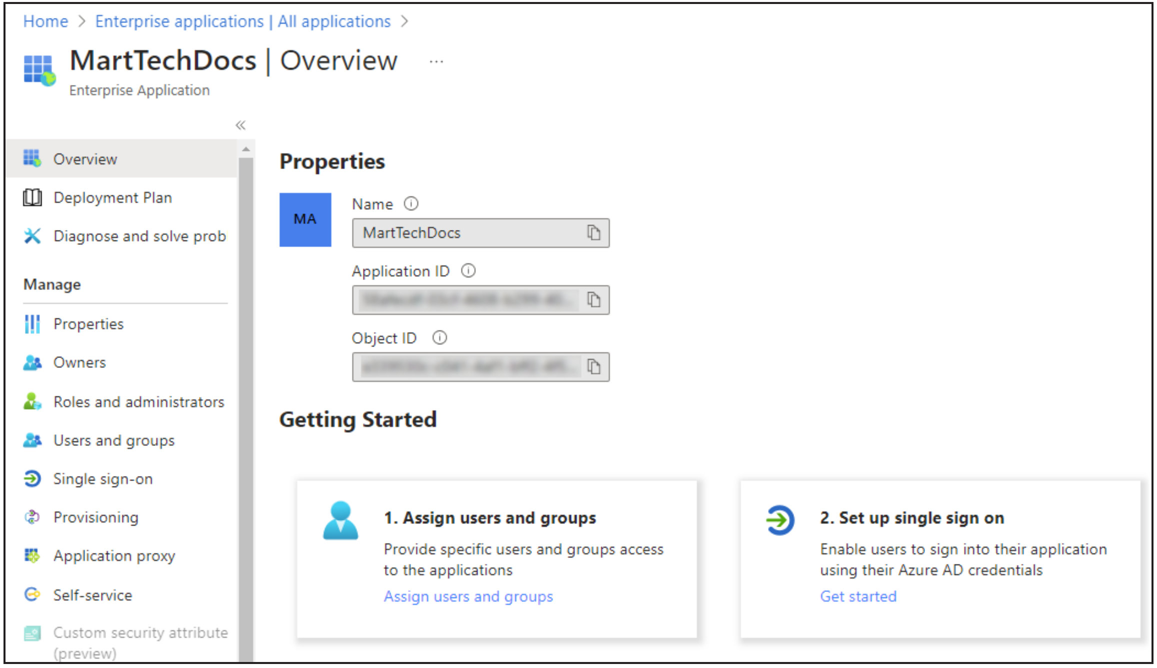
To configure AzureAD SAML for erwin Mart Portal authentication, follow these steps:

Configure the Mart Portal

1. Log in to Microsoft Entra admin center.
2. Click **Applications** > **Enterprise Applications**.


Microsoft Entra admin center
Search resources, services, and docs (G+/)
Groups
All groups
Deleted groups
Group settings
Devices
Applications
Enterprise applications
App registrations
Protection
Identity governance
External Identities
Show more
Protection
Identity governance
Home > Enterprise applications
Enterprise applications | All applications
Contoso - Azure AD for workforce
Overview
Overview
Diagnose and solve problems
Manage
All applications
Application proxy
User settings
App launchers
Custom authentication extensions (Preview)
Security
Conditional Access
Consent and permissions
Activity
Sign-in logs
New application
Refresh
Download (
View, filter, and search applications in your organizatio
The list of applications that are maintained by your org
Search by application name or object ID
Application type == Enterprise Applications
29 applications found
Name
Object ID
App

3. Click **New application** and create your non-gallery application with an appropriate name.
4. Open your newly created application.


Home > Enterprise applications | All applications >
MartTechDocs | Overview ...
Enterprise Application
Overview
Deployment Plan
Diagnose and solve prob
Manage
Properties
Owners
Roles and administrators
Users and groups
Single sign-on
Provisioning
Application proxy
Self-service
Custom security attribute (preview)
Properties
MA
Getting Started
Assign users and groups
Get started

Name: MartTechDocs

Application ID: [redacted]

Object ID: [redacted]

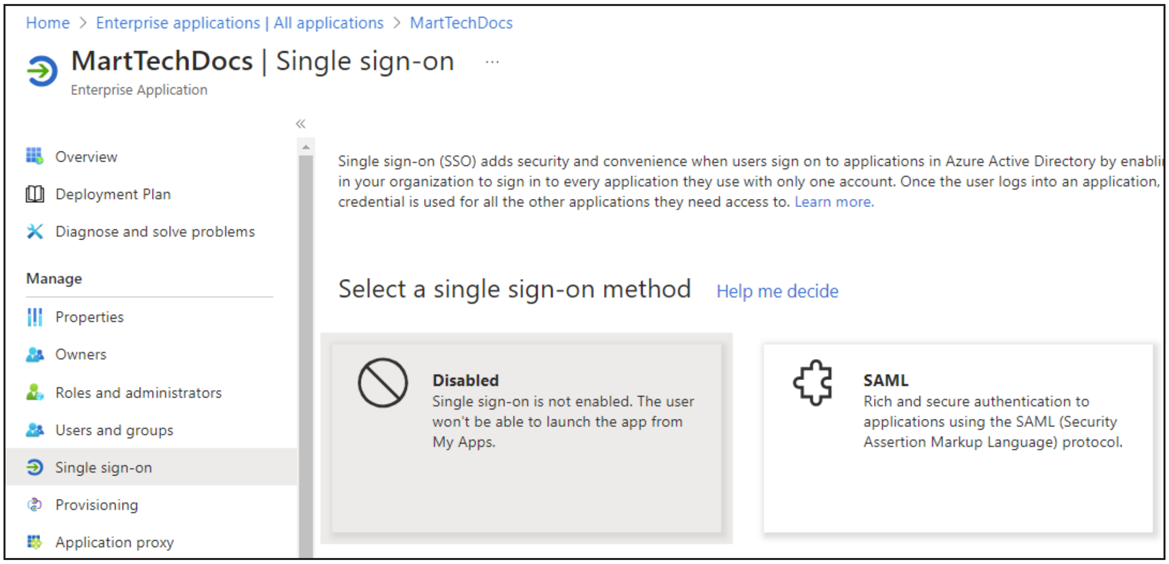
1. Assign users and groups

Provide specific users and groups access to the applications

2. Set up single sign on

Enable users to sign into their application using their Azure AD credentials

5. Click **Set up single sign on**.


Home > Enterprise applications | All applications > MartTechDocs
MartTechDocs | Single sign-on ...
Enterprise Application
Overview
Deployment Plan
Diagnose and solve problems
Manage
Properties
Owners
Roles and administrators
Users and groups
Single sign-on
Provisioning
Application proxy
Learn more.
Select a single sign-on method
Help me decide

Single sign-on (SSO) adds security and convenience when users sign on to applications in Azure Active Directory by enabli in your organization to sign in to every application they use with only one account. Once the user logs into an application, credential is used for all the other applications they need access to. Learn more.

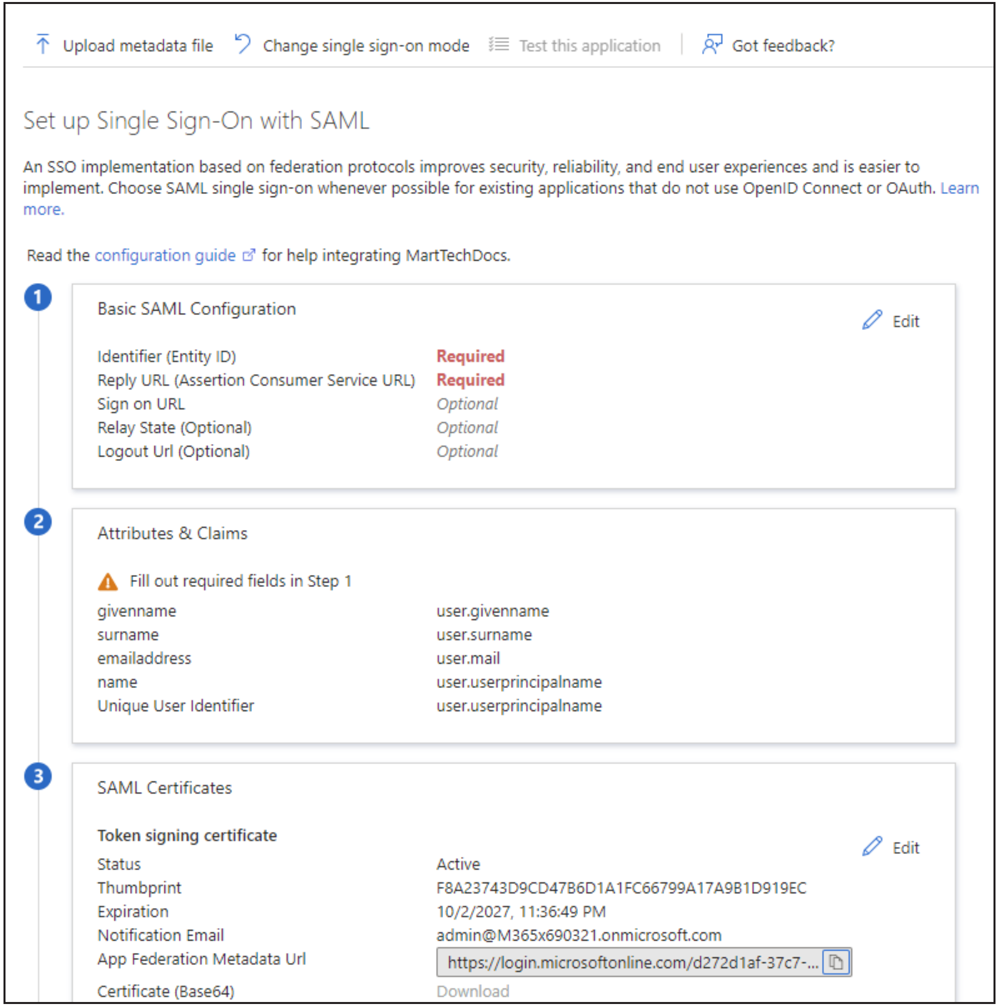
Disabled

Single sign-on is not enabled. The user won't be able to launch the app from My Apps.

SAML

Rich and secure authentication to applications using the SAML (Security Assertion Markup Language) protocol.

6. Under single sign-on method, click **SAML**.



Set up Single Sign-On with SAML

An SSO implementation based on federation protocols improves security, reliability, and end user experiences and is easier to implement. Choose SAML single sign-on whenever possible for existing applications that do not use OpenID Connect or OAuth. Learn more.

Read the configuration guide for help integrating MartTechDocs.

Basic SAML Configuration

Identifier (Entity ID)	**Required**
Reply URL (Assertion Consumer Service URL)	**Required**
Sign on URL	*Optional*
Relay State (Optional)	*Optional*
Logout Url (Optional)	*Optional*

Attributes & Claims

⚠ Fill out required fields in Step 1

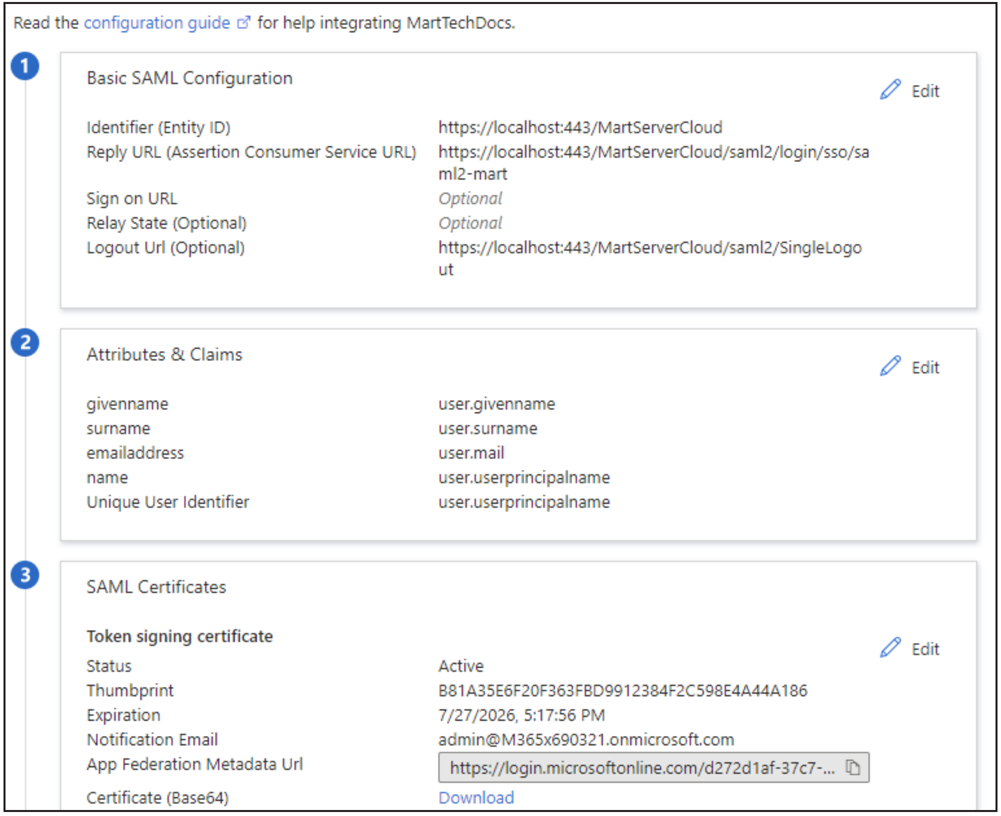
givenname	user.givenname
surname	user.surname
emailaddress	user.mail
name	user.userprincipalname
Unique User Identifier	user.userprincipalname

SAML Certificates

Token signing certificate

Status	Active
Thumbprint	F8A23743D9CD47B6D1A1FC66799A17A9B1D919EC
Expiration	10/2/2027, 11:36:49 PM
Notification Email	admin@M365x690321.onmicrosoft.com
App Federation Metadata Url	https://login.microsoftonline.com/d272d1af-37c7-...
Certificate (Base64)	Download

7. Click **Upload metadata file** and select the file that you downloaded (**erwin Mart Portal Configuration** > **Authentication** tab > **Download SP Metadata**) during erwin Mart Portal configuration.
   Doing this retrieves and adds the necessary information for you.



Read the configuration guide for help integrating MartTechDocs.

Basic SAML Configuration

Identifier (Entity ID)	https://localhost:443/MartServerCloud
Reply URL (Assertion Consumer Service URL)	https://localhost:443/MartServerCloud/saml2/login/sso/saml2-mart
Sign on URL	*Optional*
Relay State (Optional)	*Optional*
Logout Url (Optional)	https://localhost:443/MartServerCloud/saml2/SingleLogout

Attributes & Claims

givenname	user.givenname
surname	user.surname
emailaddress	user.mail
name	user.userprincipalname
Unique User Identifier	user.userprincipalname

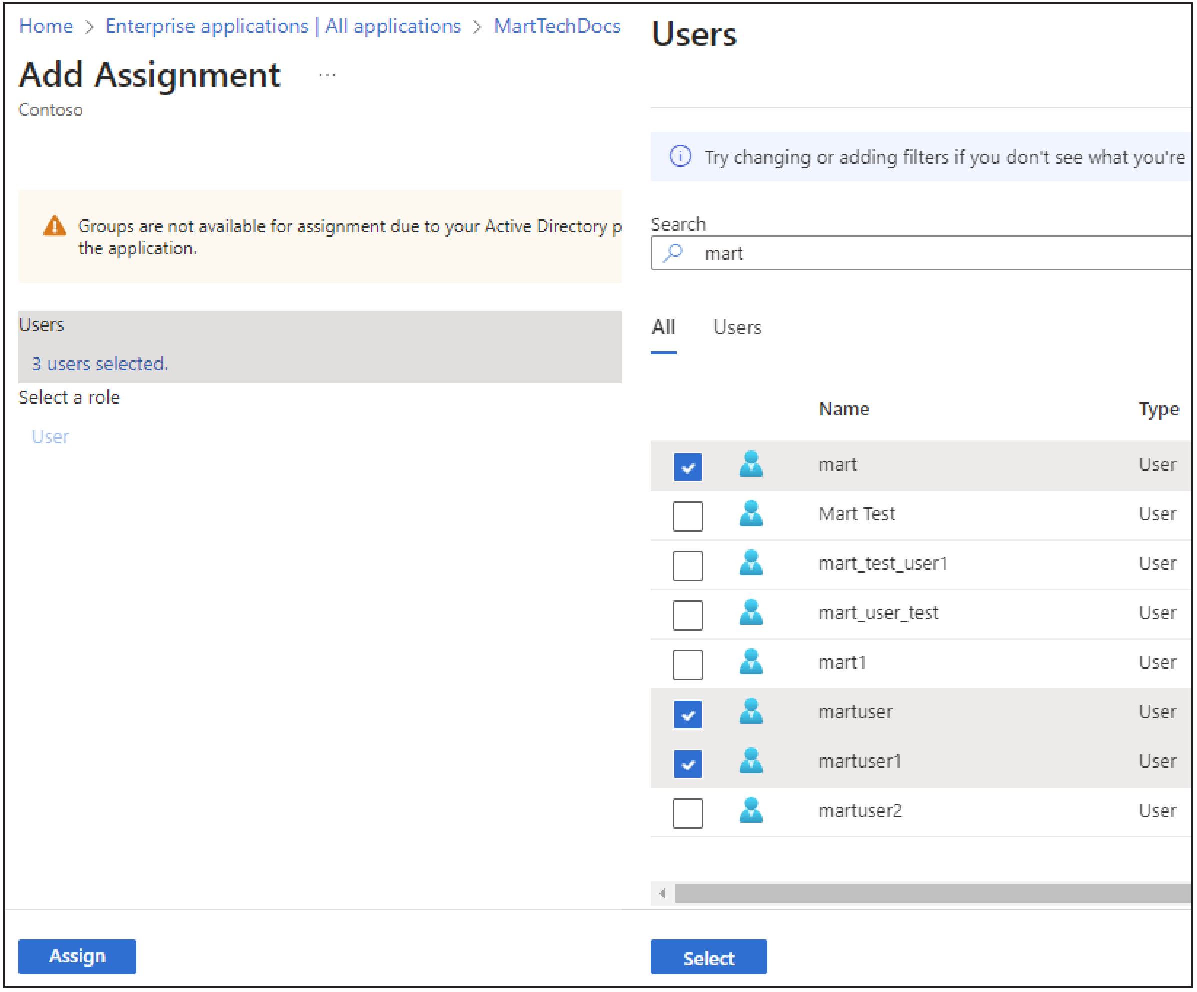
SAML Certificates

Token signing certificate

Status	Active
Thumbprint	B81A35E6F20F363FBD9912384F2C598E4A44A186
Expiration	7/27/2026, 5:17:56 PM
Notification Email	admin@M365x690321.onmicrosoft.com
App Federation Metadata Url	https://login.microsoftonline.com/d272d1af-37c7-...
Certificate (Base64)	Download

8. Copy the App Federation Metadata Url.

9. Click **Users and groups** > **Add user/group** and select required users or groups.



Home > Enterprise applications | All applications > MartTechDocs

Add Assignment ...

Contoso

Groups are not available for assignment due to your Active Directory p
the application.

Users

3 users selected.

Select a role

User

Users

Try changing or adding filters if you don't see what you're

Search

mart

	Name	Type
☑	mart	User
☐	Mart Test	User
☐	mart_test_user1	User
☐	mart_user_test	User
☐	mart1	User
☑	martuser	User
☑	martuser1	User
☐	martuser2	User

10. Click **Select**. Then, click **Assign**.

    Your SAML SSO set up for the required users is complete. Next, during erwin Mart Portal configuration, you can configure SAML

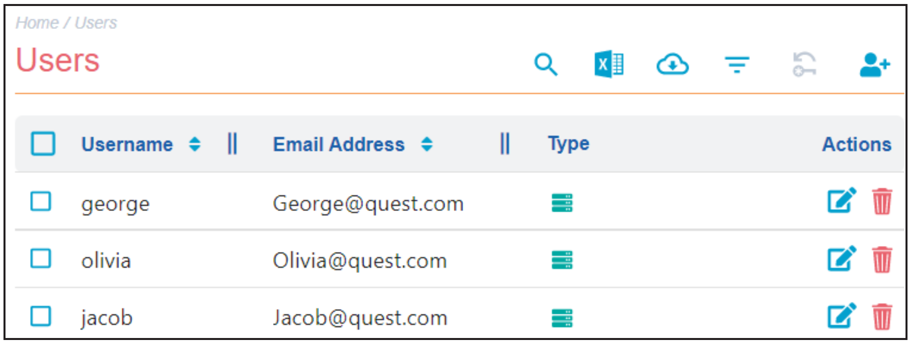
During erwin Mart Portal configuration, on the Authentication tab, for SAML, follow these steps:

1. Select URL and paste the URL copied in step 8 above in the **MetaData XML** field.
2. In the Group Attribute Name and User Email Attribute Name, enter appropriate attribute names that are configured for Azure AD SAML SSO.

Adding Groups in erwin Mart Portal

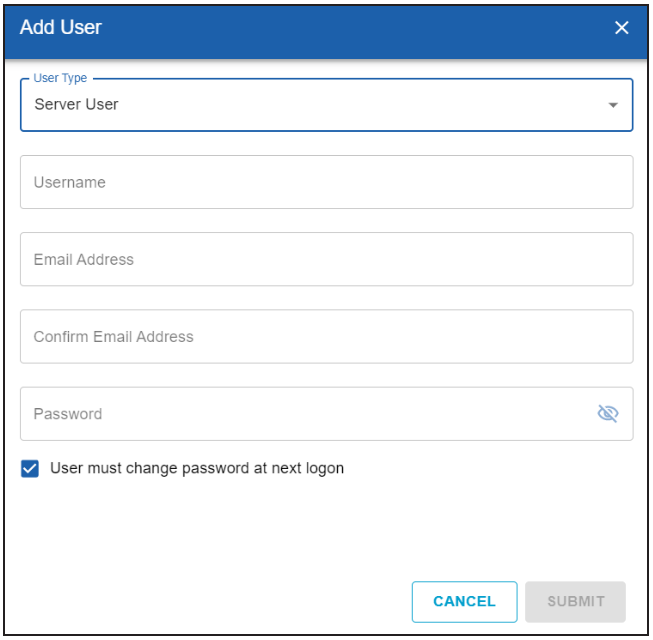
To add your AzureAD SAML groups to erwin Mart Portal, follow these steps:

1. In the Microsoft Entra admin center, click **Groups** > **All groups** > **Download groups**.
   A CSV file with all your groups is downloaded.
2. Log in to erwin Mart Portalas administrator.
3. Go to **Application Menu** > **Users**.
   The Users page appears.


Home / Users
Users

☐	Username	Email Address	Type	Actions
☐	george	George@quest.com	☰	✎ 🗑
☐	olivia	Olivia@quest.com	☰	✎ 🗑
☐	jacob	Jacob@quest.com	☰	✎ 🗑

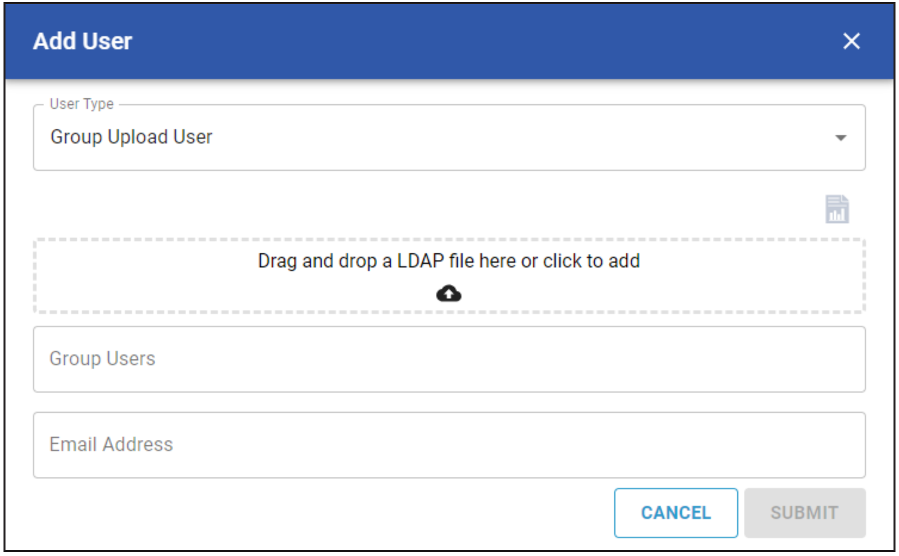
4. Click 👤+.
   The Add User page appears.


Add User
×
Username
Email Address
Confirm Email Address
Password
CANCEL
SUBMIT

User Type: Server User

☑ User must change password at next logon

5. Under User Type, select **Group Upload User**.

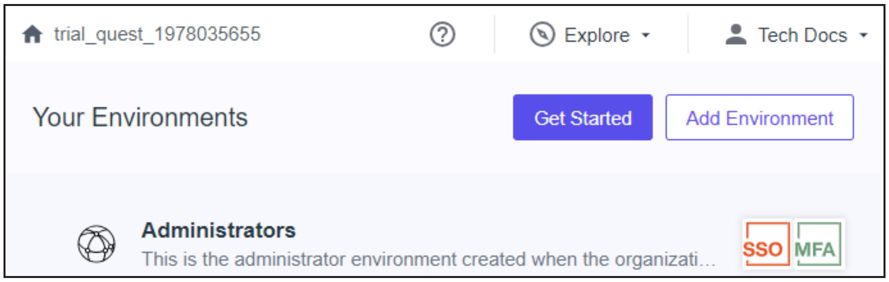

Add User
User Type
Group Upload User
Drag and drop a LDAP file here or click to add
Group Users
Email Address
CANCEL
SUBMIT

6. Drag and drop the CSV file that you downloaded in step 1.
7. Under Group Users, select the required groups.
8. Click **Submit**.

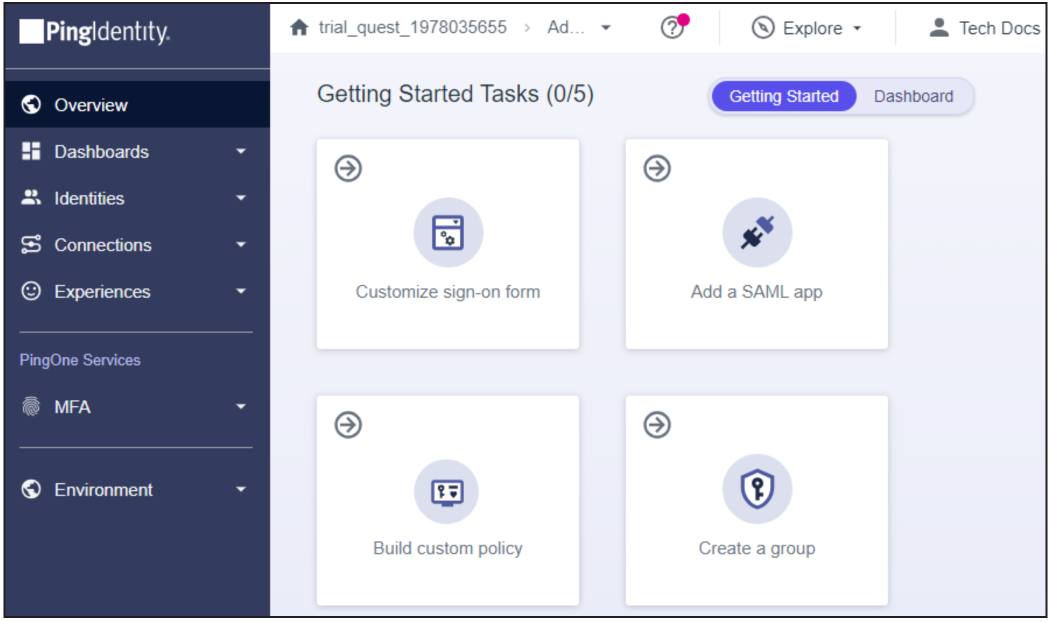
SAML with PingIdentity

To configure AzureAD SAML for erwin Mart Portal authentication, follow these steps:

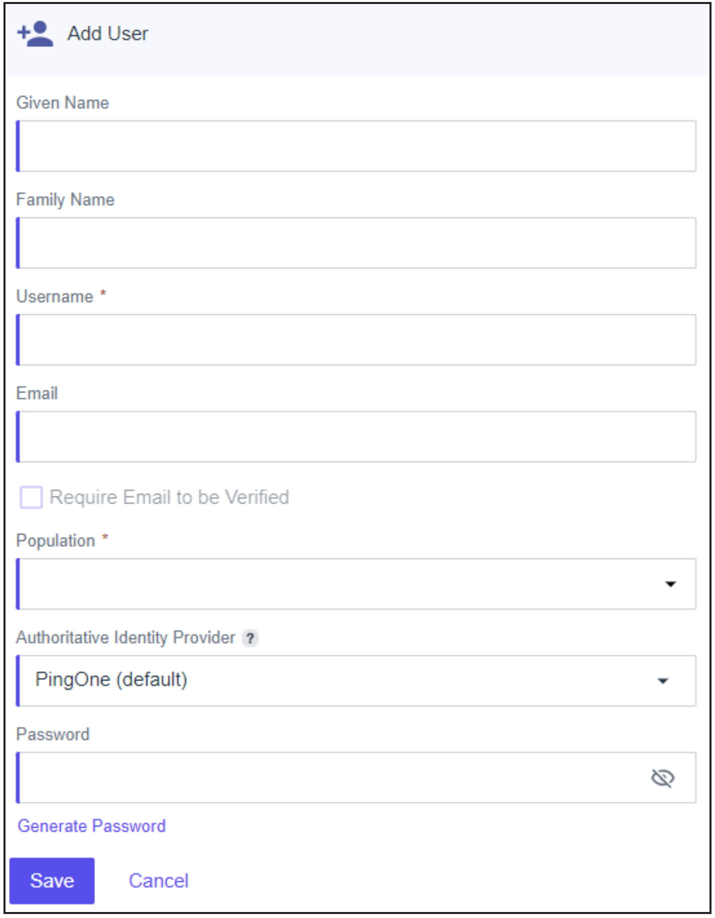
1. Log in to PingIdentity Console.


trial_quest_1978035655
Explore
Tech Docs
Your Environments
Get Started
Add Environment
Administrators
This is the administrator environment created when the organizati…
SSO
MFA

2. Click Administrators to set up your environment.


PingIdentity.
trial_quest_1978035655 › Ad...
Explore
Tech Docs
Overview
Dashboards
Identities
Connections
Experiences
PingOne Services
MFA
Environment
Getting Started Tasks (0/5)
Getting Started
Dashboard
Customize sign-on form
Add a SAML app
Build custom policy
Create a group

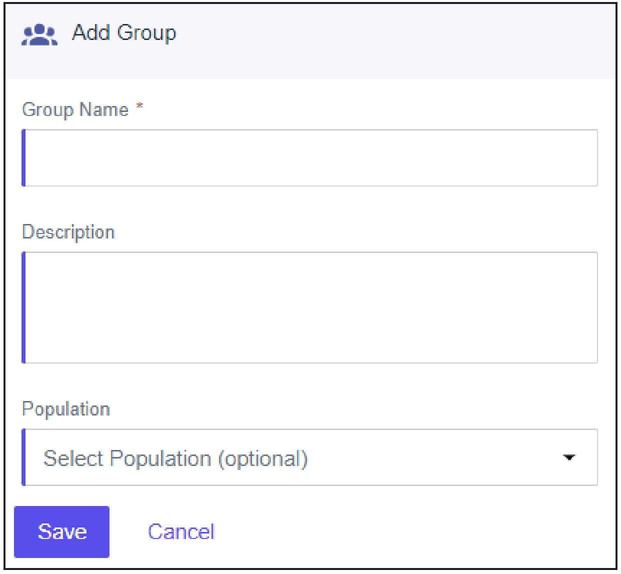
3. Click **Identities** > **Users** > ⊕.


Add User
Given Name
Family Name
Username *
Email
☐ Require Email to be Verified
Population *
Password
Generate Password
Save
Cancel

Authoritative Identity Provider: PingOne (default)

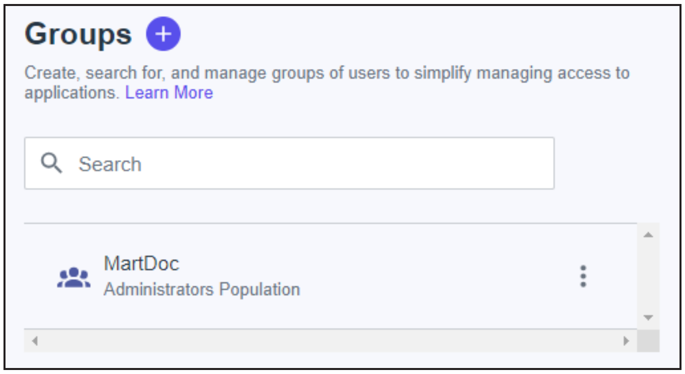
4. Enter user's information and click **Save**.

5. Click **Identities** > **Groups** > ⊕.


Add Group
Group Name *
Description
Population
Select Population (optional)
Save
Cancel

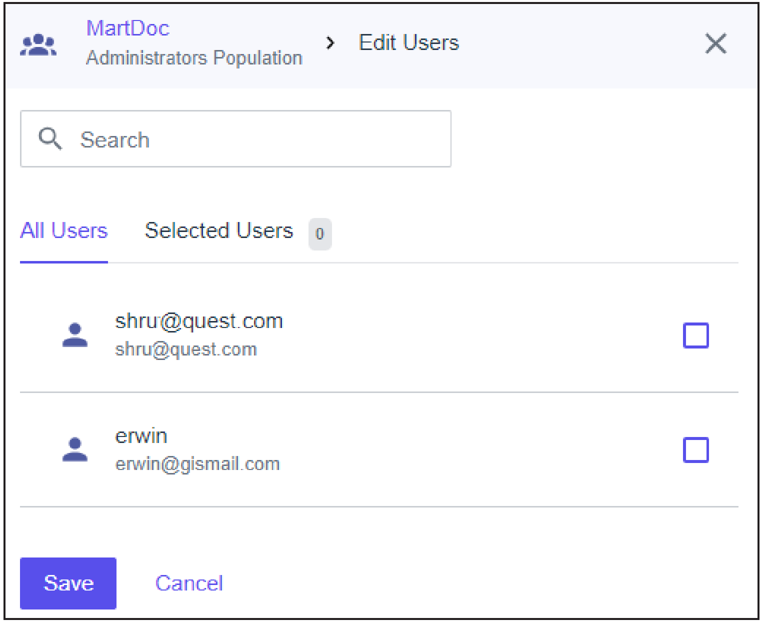
6. Enter **Group Name** and select **Population**.

7. Click **Save**.


Groups
Search
MartDoc
Administrators Population

Create, search for, and manage groups of users to simplify managing access to applications. Learn More

8. Click ⋮. Then, click **Add/Remove Users**.



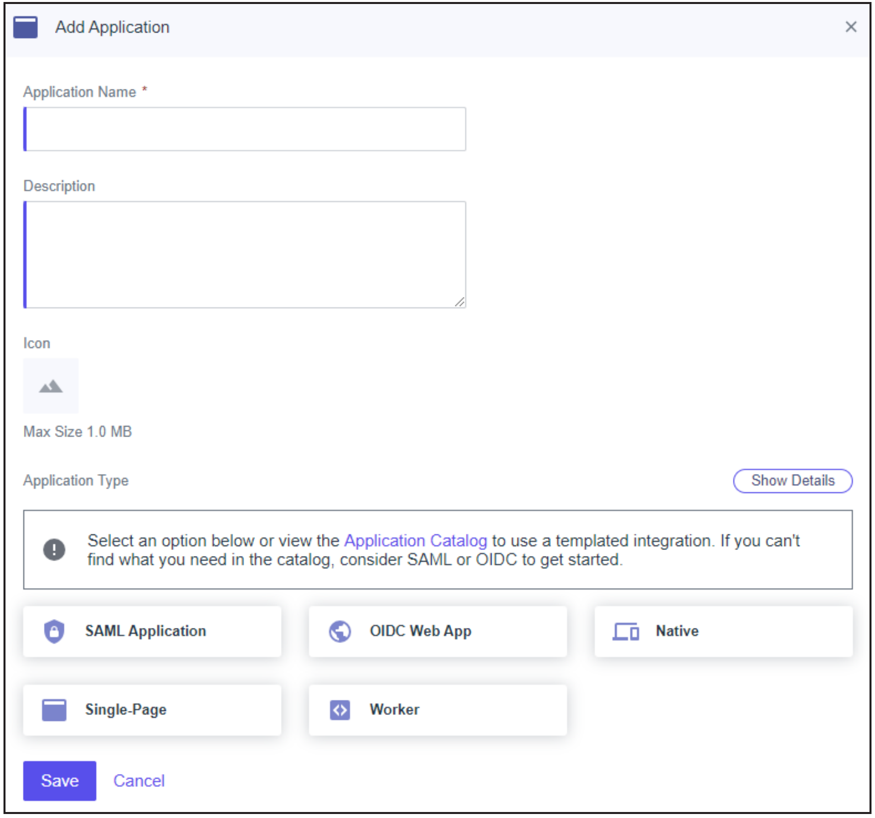
MartDoc
Administrators Population
Edit Users
Search
All Users
Selected Users 0
Save
Cancel

shru@quest.com
shru@quest.com

erwin
erwin@gismail.com

9. Select the users that you want to add to your group and click **Save**.

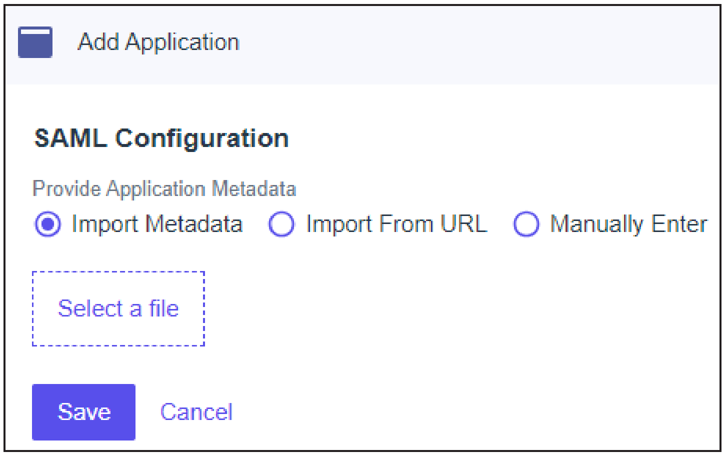
10. Click **Connections** > **Applications** > ⊕.


Add Application
×
Application Name *
Description
Icon
Max Size 1.0 MB
Application Type
Show Details
SAML Application
OIDC Web App
Native
Single-Page
Worker
Save
Cancel

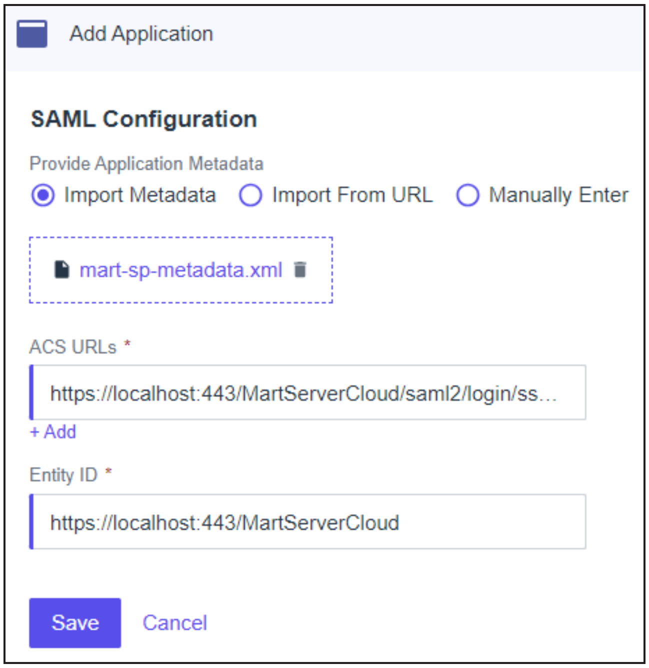
Select an option below or view the Application Catalog to use a templated integration. If you can't find what you need in the catalog, consider SAML or OIDC to get started.

11. Enter an **Application Name**.

12. Click **SAML Application** and click **Save**.


Add Application
SAML Configuration
Provide Application Metadata
● Import Metadata
○ Import From URL
○ Manually Enter
Select a file
Save
Cancel

13. Click **Import Metadata** and select the file that you downloaded (**erwin Mart Portal Configuration** > **Authentication** tab > **Download SP Metadata**) during erwin Mart Portal configuration.



SAML Configuration

Provide Application Metadata

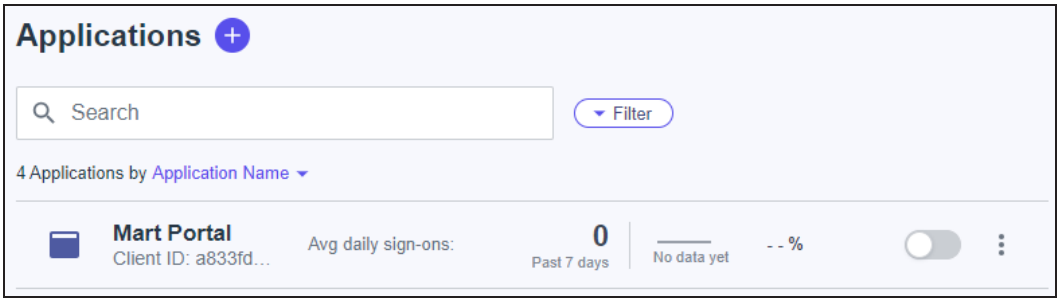
● Import Metadata ○ Import From URL ○ Manually Enter

mart-sp-metadata.xml

ACS URLs *: https://localhost:443/MartServerCloud/saml2/login/ss…

Entity ID *: https://localhost:443/MartServerCloud

14. Click **Save**.

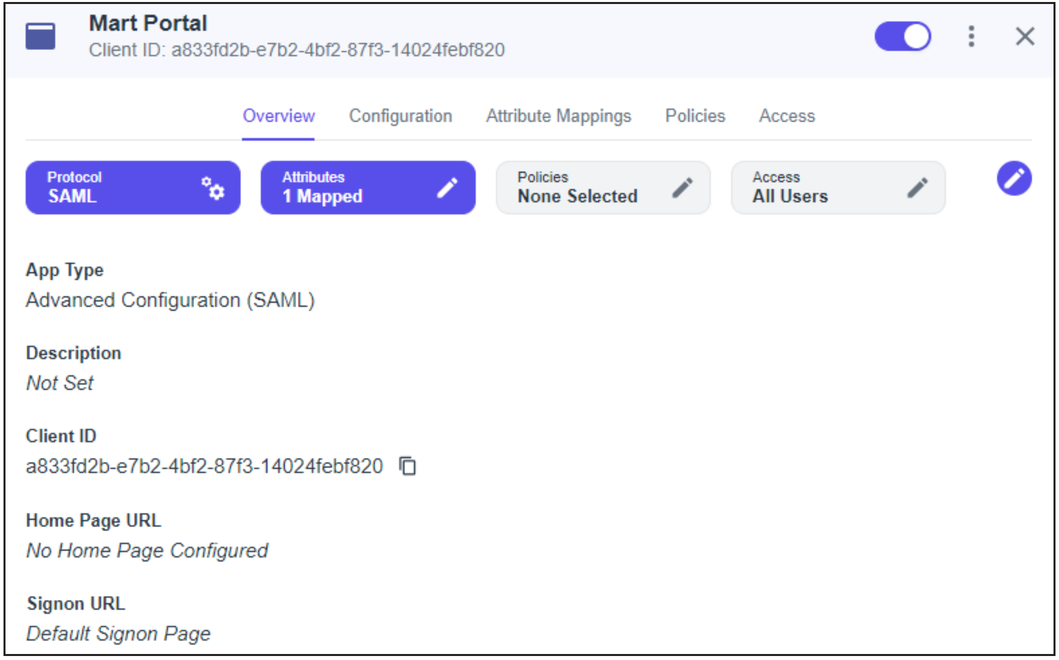


4 Applications by Application Name

Mart Portal Client ID: a833fd…	Avg daily sign-ons:	0 Past 7 days	No data yet	- - %	○

15. Click ○ against your application name to enable user access to your application.

16. In the list of applications, click your application name.


Mart Portal
Client ID: a833fd2b-e7b2-4bf2-87f3-14024febf820
Overview
Configuration
Attribute Mappings
Policies
Access
Protocol SAML
Attributes 1 Mapped
Policies None Selected
Access All Users

App Type
Advanced Configuration (SAML)

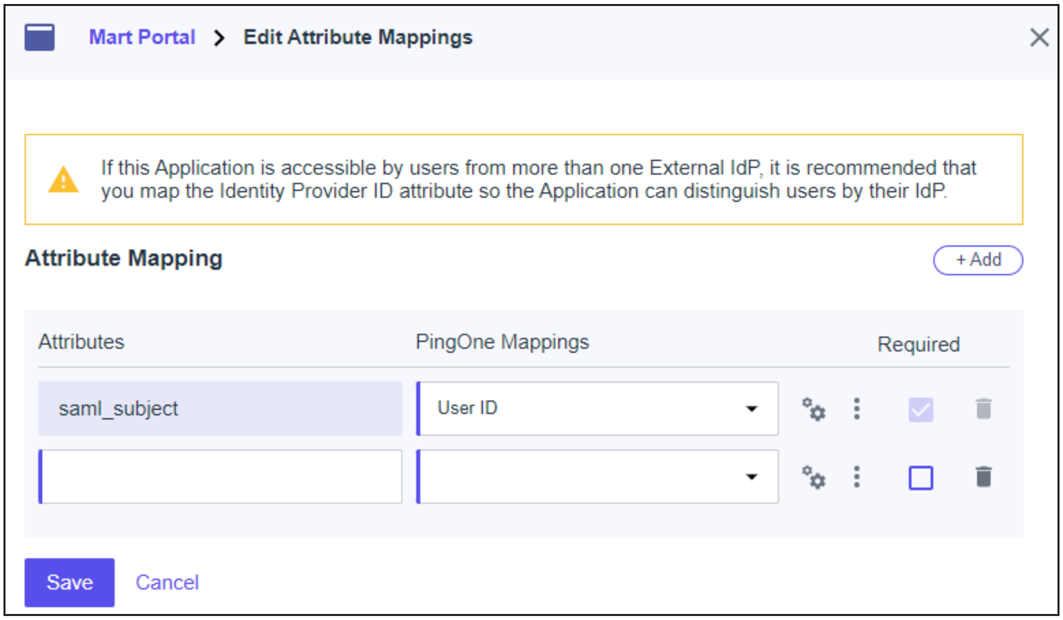
Description
Not Set

Client ID
a833fd2b-e7b2-4bf2-87f3-14024febf820

Home Page URL
No Home Page Configured

Signon URL
Default Signon Page

17. Click **Attribute Mappings** > ✎ > **Add**.

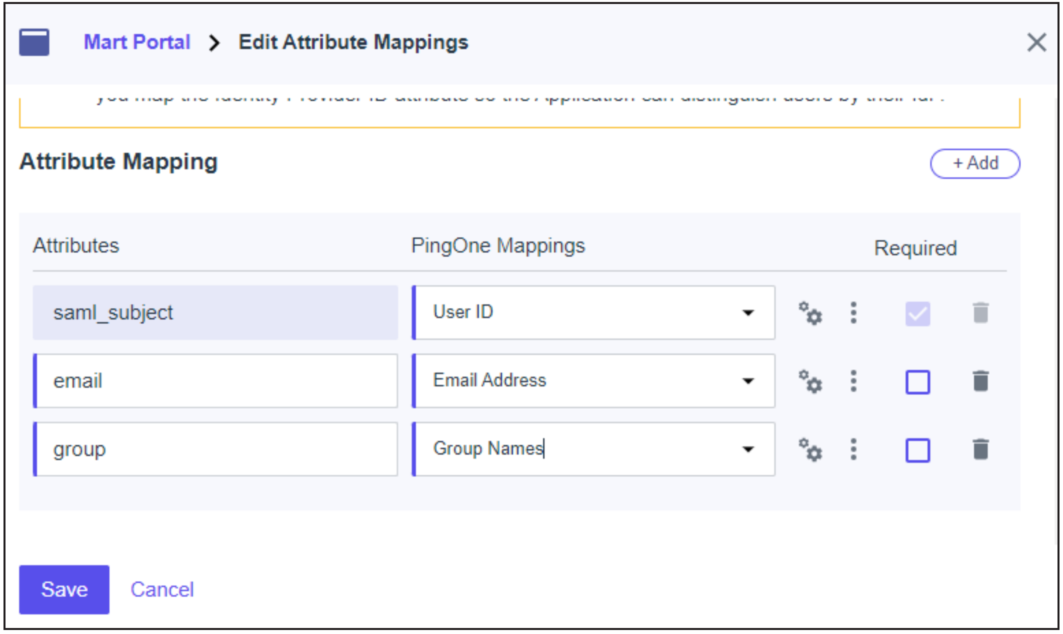

Mart Portal > Edit Attribute Mappings
+ Add
Save
Cancel

If this Application is accessible by users from more than one External IdP, it is recommended that you map the Identity Provider ID attribute so the Application can distinguish users by their IdP.

Attribute Mapping

Attributes	PingOne Mappings	Required
saml_subject	User ID	☑
		☐

18. Add another attribute and map as shown in the following image.



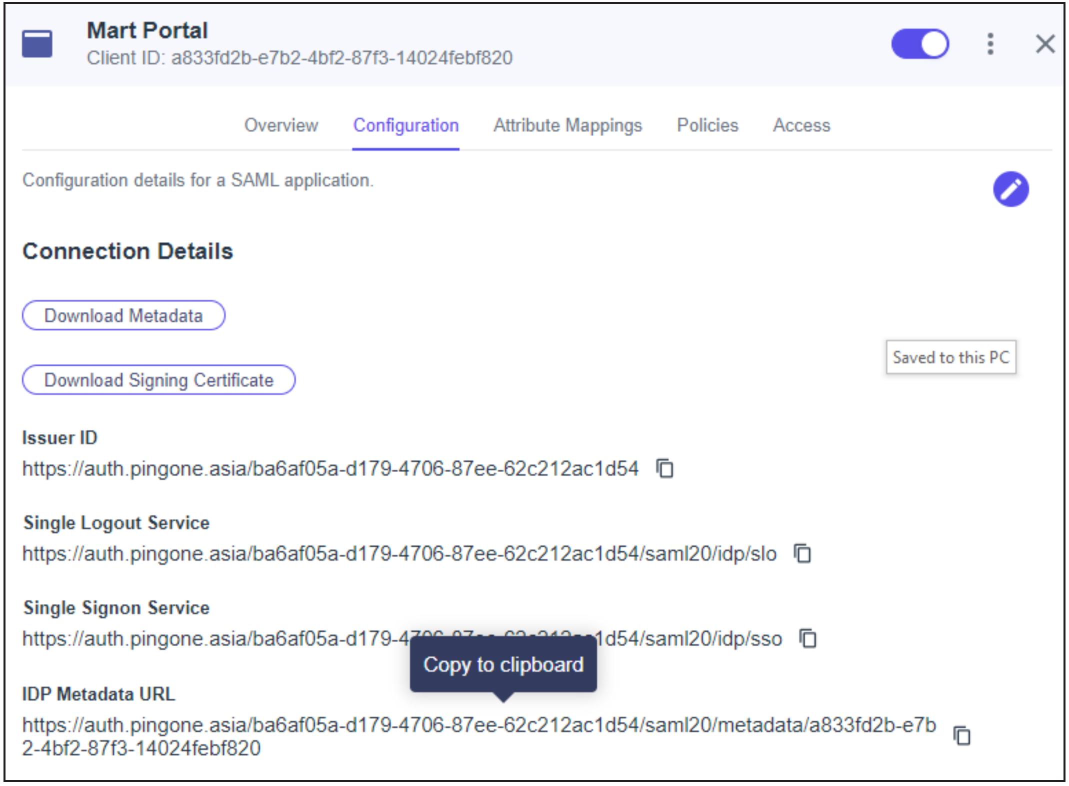
Mart Portal > Edit Attribute Mappings
+ Add
Save
Cancel

Attribute Mapping

Attributes	PingOne Mappings	Required
saml_subject	User ID	☑
email	Email Address	☐
group	Group Names	☐

19. Click **Save**.
    These attributes will be used on the erwin Mart Portal Configuration screen.

20. Click **Configuration**.


Overview
Configuration
Attribute Mappings
Policies
Access
Download Metadata
Download Signing Certificate
Saved to this PC
Copy to clipboard

Mart Portal
Client ID: a833fd2b-e7b2-4bf2-87f3-14024febf820

Configuration details for a SAML application.

Connection Details

Issuer ID
https://auth.pingone.asia/ba6af05a-d179-4706-87ee-62c212ac1d54

Single Logout Service
https://auth.pingone.asia/ba6af05a-d179-4706-87ee-62c212ac1d54/saml20/idp/slo

Single Signon Service
https://auth.pingone.asia/ba6af05a-d179-4706-87ee-62c212ac1d54/saml20/idp/sso

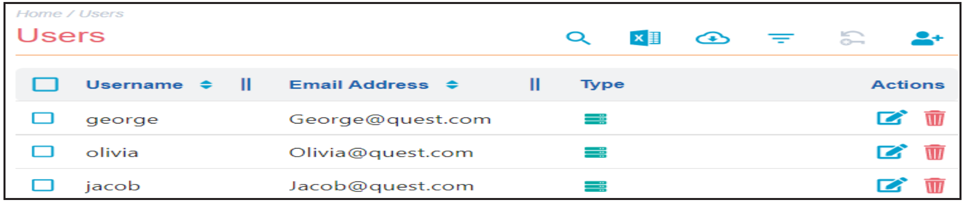
IDP Metadata URL
https://auth.pingone.asia/ba6af05a-d179-4706-87ee-62c212ac1d54/saml20/metadata/a833fd2b-e7b2-4bf2-87f3-14024febf820

21. Copy and note the **IDP Metadata URL**.
22. During erwin Mart Portal configuration, on the Authentication tab, for SAML, follow these steps:
    1. Select URL and paste the URL copied in step 22 in the **MetaData XML** field.
    2. In the Group Attribute Name and User Email Attribute Name, enter appropriate attribute created in step 18.

Adding Groups in erwin Mart Portal

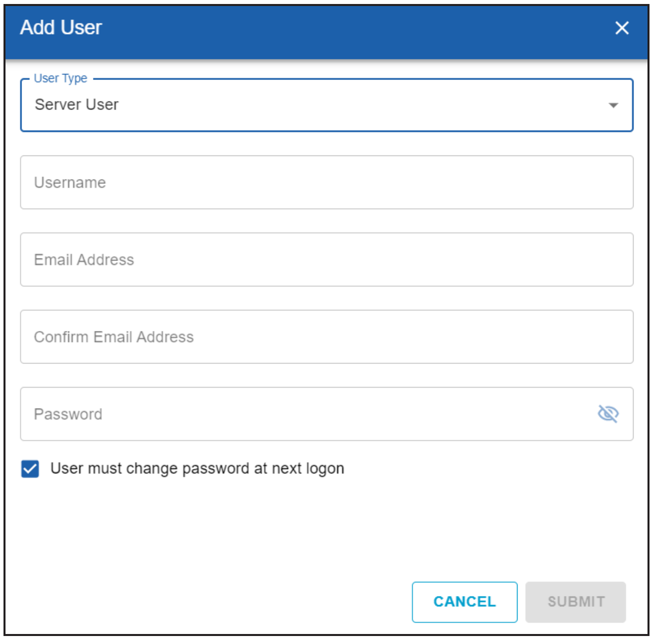
To add your PingIdentity SAML groups to erwin Mart Portal, follow these steps:

1. Create a CSV file with all your groups.
2. Log in to erwin Mart Portalas administrator.
3. Go to **Application Menu** > **Users**.
   The Users page appears.


Home / Users
Users

☐	Username	Email Address	Type	Actions
☐	george	George@quest.com		
☐	olivia	Olivia@quest.com		
☐	jacob	Jacob@quest.com		

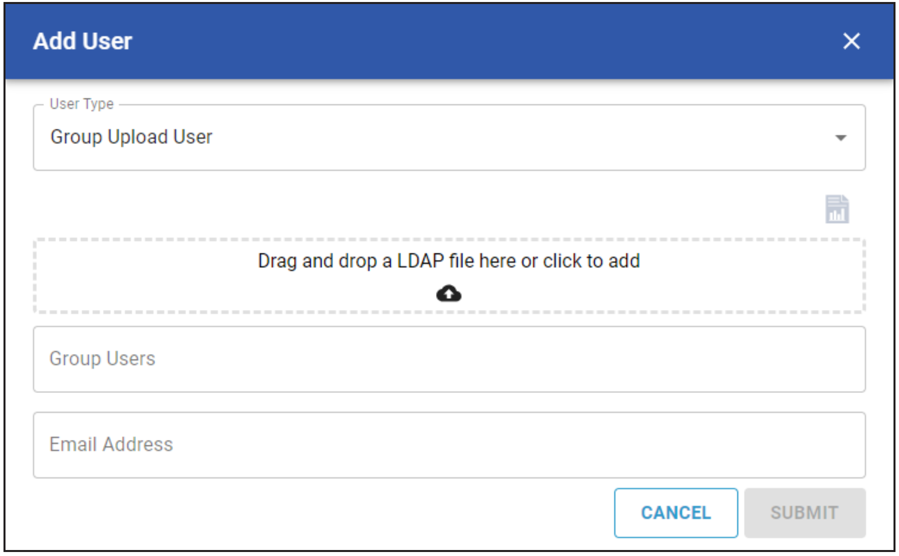
4. Click 👤+.
   The Add User page appears.


Add User
Username
Email Address
Confirm Email Address
Password
CANCEL
SUBMIT

User Type: Server User

☑ User must change password at next logon

5. Under User Type, select **Group Upload User**.

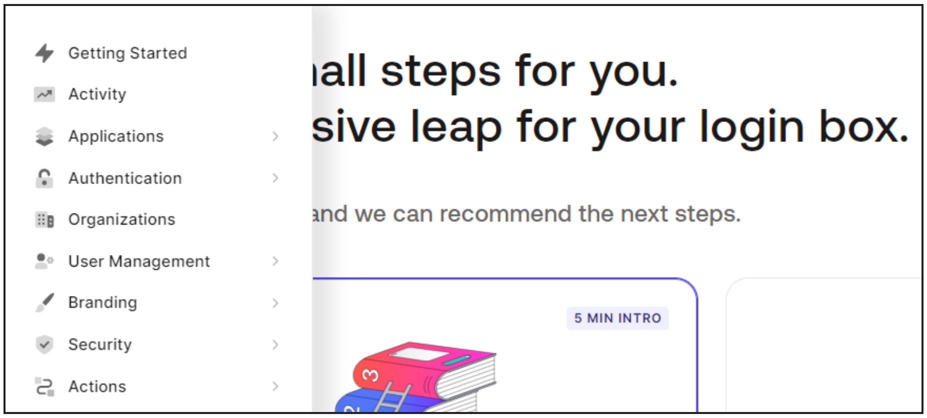

Add User
User Type
Group Upload User
Drag and drop a LDAP file here or click to add
Group Users
Email Address
CANCEL
SUBMIT

6. Drag and drop the CSV file that you created in step 1.
7. Under Group Users, select the required groups.
8. Click **Submit**.

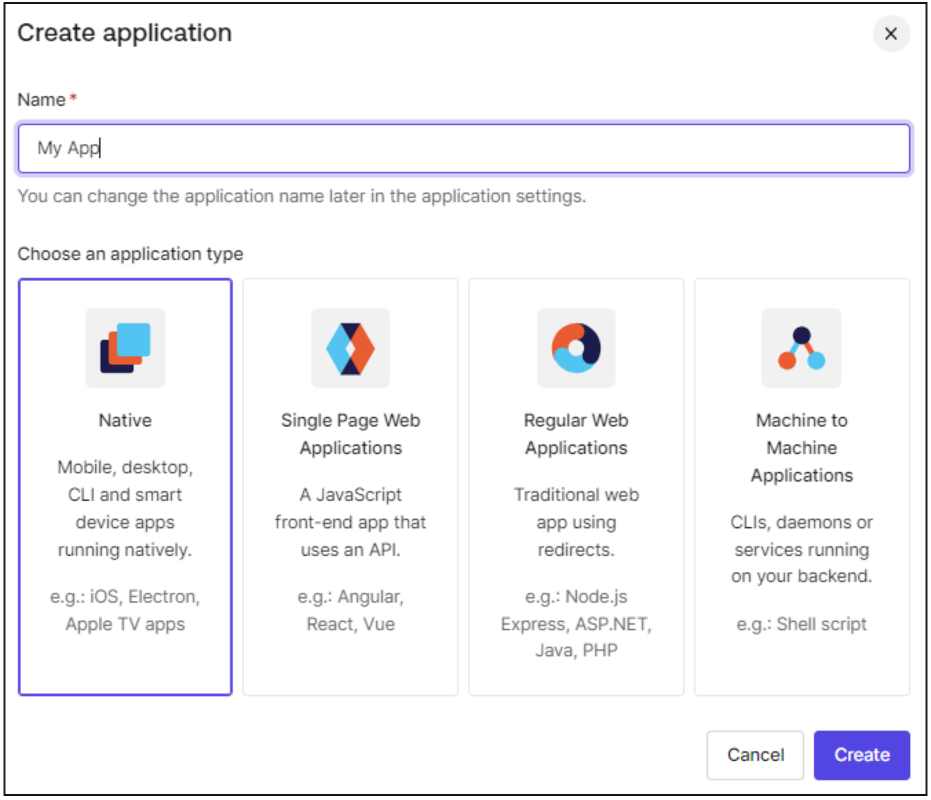
SAML with Okta

To configure SAML with Okta for erwin Mart Portal authentication, follow these steps:

1. Log in to Okta environment.


Getting Started
Activity
Applications
Authentication
Organizations
User Management
Branding
Security
Actions
ıall steps for you.
sive leap for your login box.
ınd we can recommend the next steps.
5 MIN INTRO

2. Click **Applications** > **Applications** > **Create Application**.



Create application

Name *

My App

You can change the application name later in the application settings.

Choose an application type

Native

Mobile, desktop, CLI and smart device apps running natively.

e.g.: iOS, Electron, Apple TV apps

Single Page Web Applications

A JavaScript front-end app that uses an API.

e.g.: Angular, React, Vue

Regular Web Applications

Traditional web app using redirects.

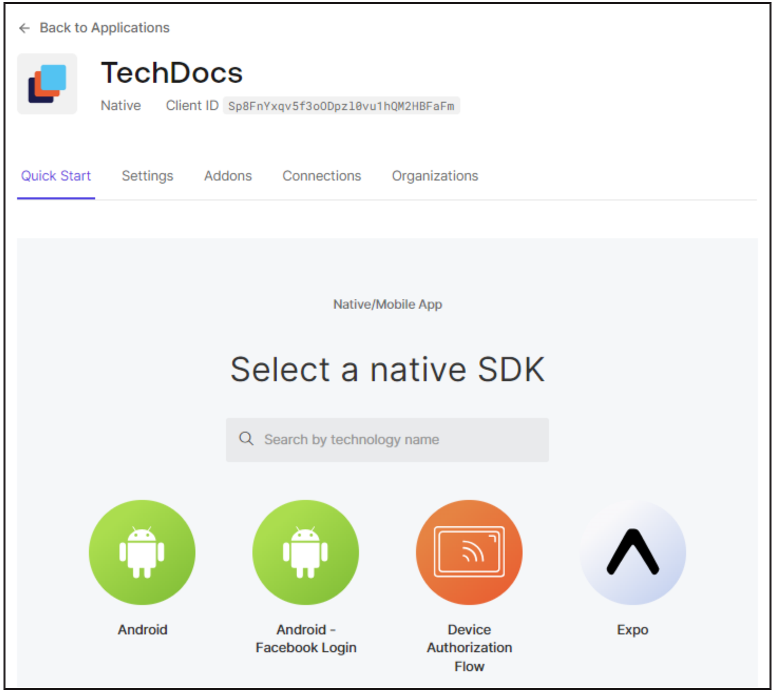
e.g.: Node.js Express, ASP.NET, Java, PHP

Machine to Machine Applications

CLIs, daemons or services running on your backend.

e.g.: Shell script

3. Enter **Name** for your application.
4. Under application type, select **Regular Web Applications**.
5. Click **Create**.

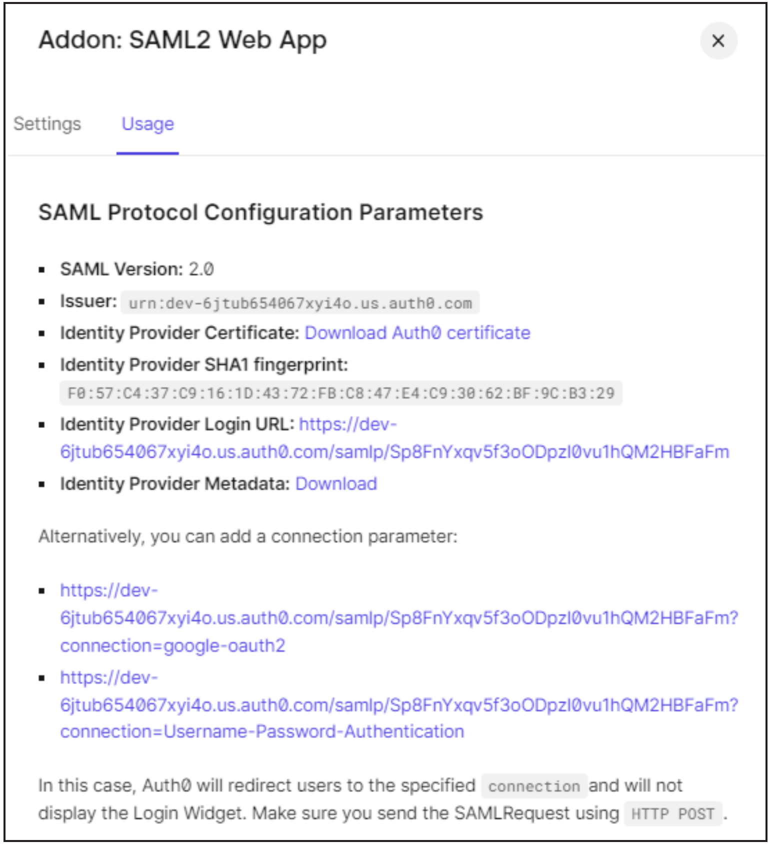


TechDocs

Native Client ID Sp8FnYxqv5f3oODpzl0vu1hQM2HBFaFm

← Back to Applications
Quick Start
Settings
Addons
Connections
Organizations
Native/Mobile App
Select a native SDK
Search by technology name
Android
Android - Facebook Login
Device Authorization Flow
Expo

6. Click **Addons** > **SAML2 Web App**.



SAML Protocol Configuration Parameters

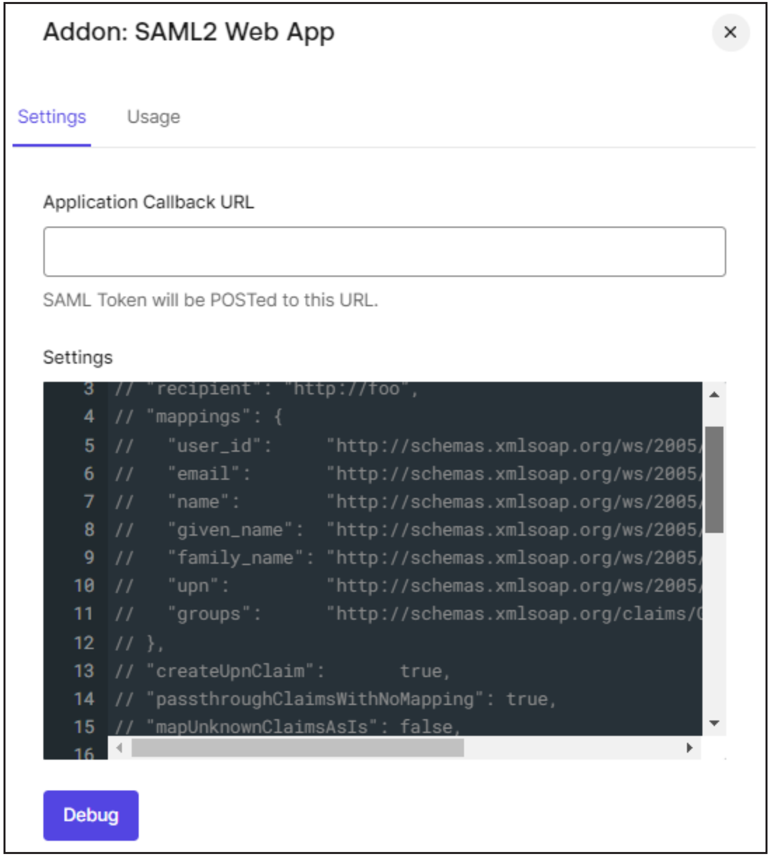
- **SAML Version:** 2.0
- **Issuer:** `urn:dev-6jtub654067xyi4o.us.auth0.com`
- **Identity Provider Certificate:** Download Auth0 certificate
- **Identity Provider SHA1 fingerprint:** `F0:57:C4:37:C9:16:1D:43:72:FB:C8:47:E4:C9:30:62:BF:9C:B3:29`
- **Identity Provider Login URL:** https://dev-6jtub654067xyi4o.us.auth0.com/samlp/Sp8FnYxqv5f3oODpzI0vu1hQM2HBFaFm
- **Identity Provider Metadata:** Download

Alternatively, you can add a connection parameter:

- https://dev-6jtub654067xyi4o.us.auth0.com/samlp/Sp8FnYxqv5f3oODpzI0vu1hQM2HBFaFm?connection=google-oauth2
- https://dev-6jtub654067xyi4o.us.auth0.com/samlp/Sp8FnYxqv5f3oODpzI0vu1hQM2HBFaFm?connection=Username-Password-Authentication

In this case, Auth0 will redirect users to the specified `connection` and will not display the Login Widget. Make sure you send the SAMLRequest using `HTTP POST`.

7. Click **Settings**.

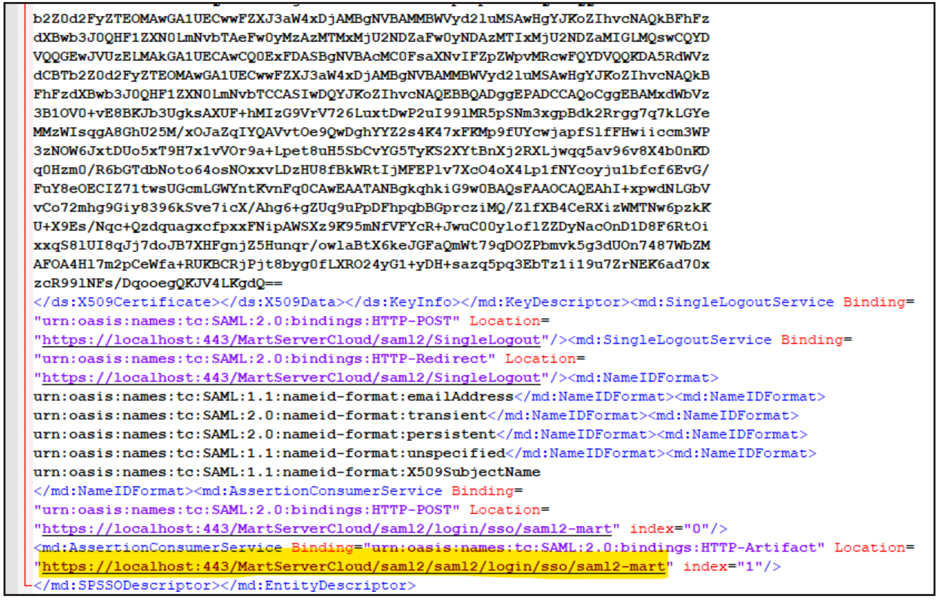


SAML Token will be POSTed to this URL.

```
 3 // "recipient": "http://foo",
 4 // "mappings": {
 5 //   "user_id":     "http://schemas.xmlsoap.org/ws/2005/
 6 //   "email":       "http://schemas.xmlsoap.org/ws/2005/
 7 //   "name":        "http://schemas.xmlsoap.org/ws/2005/
 8 //   "given_name":  "http://schemas.xmlsoap.org/ws/2005/
 9 //   "family_name": "http://schemas.xmlsoap.org/ws/2005/
10 //   "upn":         "http://schemas.xmlsoap.org/ws/2005/
11 //   "groups":      "http://schemas.xmlsoap.org/claims/
12 // },
13 // "createUpnClaim":       true,
14 // "passthroughClaimsWithNoMapping": true,
15 // "mapUnknownClaimsAsIs": false,
16
```

8. Uncomment line number 4, 6, 11, and 12.

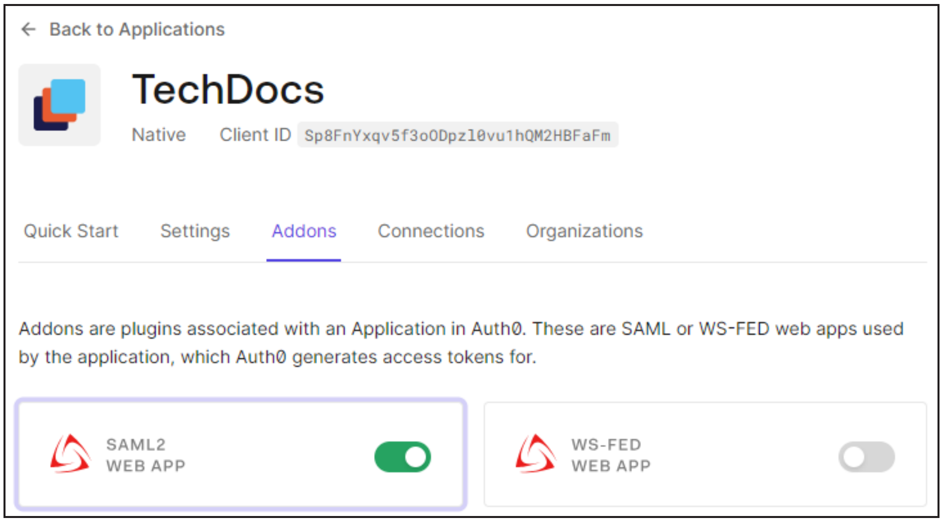
9. Download the SP Metadata file (**erwin Mart Portal) Configuration** > **Authentication** > **Download SP Metadata** and open it in any text editor and copy the URL in the last line as highlighted in the following image.



```
b2Z0d2FyZTEOMAwGA1UECwwFZXJ3aW4xDjAMBgNVBAMMBWVyd2luMSAwHgYJKoZIhvcNAQkBFhFz
dXBwb3J0QHF1ZXN0LmNvbTAeFw0yMzAzMTMxMjU2NDZaFw0yNDAzMTIxMjU2NDZaMIGLMQswCQYD
VQQGEwJVUzELMAkGA1UECAwCQ0ExFDASBgNVBAcMC0FsaXNvIFZpZWpvMRcwFQYDVQQKDA5RdWVz
dCBTb2Z0d2FyZTEOMAwGA1UECwwFZXJ3aW4xDjAMBgNVBAMMBWVyd2luMSAwHgYJKoZIhvcNAQkB
FhFzdXBwb3J0QHF1ZXN0LmNvbTCCASIwDQYJKoZIhvcNAQEBBQADggEPADCCAQoCggEBAMxdWbVz
3B1OV0+vE8BKJb3UgksAXUF+hMIzG9VrV726LuxtDwP2uI991MR5pSNm3xgpBdk2Rrgg7q7kLGYe
MMzWIsqgA8GhU25M/xOJaZqIYQAVvtOe9QwDghYYZ2s4K47xFKMp9fUYcwjapfSlfFHwiiccm3WP
3zNOW6JxtDUo5xT9H7x1vVOr9a+Lpet8uH5SbCvYG5TyKS2XYtBnXj2RXLjwqq5av96v8X4b0nKD
q0Hzm0/R6bGTdbNoto64osNOxxvLDzHU8fBkWRtIjMFEPlv7XcO4oX4Lp1fNYcoyju1bfcf6EvG/
FuY8eOECIZ71twsUGcmLGWYntKvnFq0CAwEAATANBgkqhkiG9w0BAQsFAAOCAQEAhI+xpwdNLGbV
vCo72mhg9Giy8396kSve7icX/Ahg6+gZUq9uPpDFhpqbBGprcziMQ/ZlfXB4CeRXizWMTNw6pzkK
U+X9Es/Nqc+QzdquagxcfpxxFNipAWSXz9K95mNfVFYcR+JwuC00ylof1ZZDyNacOnD1D8F6RtOi
xxqS81UI8qJj7doJB7XHFgnjZ5Hunqr/owlaBtX6keJGFaQmWt79qDOZPbmvk5g3dUOn7487WbZM
AFOA4H17m2pCeWfa+RUKBCRjPjt8byg0fLXRO24yG1+yDH+sazq5pq3EbTz1i19u7ZrNEK6ad70x
zcR991NFs/DqooegQKJV4LKgdQ==
</ds:X509Certificate></ds:X509Data></ds:KeyInfo></md:KeyDescriptor><md:SingleLogoutService Binding=
"urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST" Location=
"https://localhost:443/MartServerCloud/saml2/SingleLogout"/><md:SingleLogoutService Binding=
"urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect" Location=
"https://localhost:443/MartServerCloud/saml2/SingleLogout"/><md:NameIDFormat>
urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress</md:NameIDFormat><md:NameIDFormat>
urn:oasis:names:tc:SAML:2.0:nameid-format:transient</md:NameIDFormat><md:NameIDFormat>
urn:oasis:names:tc:SAML:2.0:nameid-format:persistent</md:NameIDFormat><md:NameIDFormat>
urn:oasis:names:tc:SAML:1.1:nameid-format:unspecified</md:NameIDFormat><md:NameIDFormat>
urn:oasis:names:tc:SAML:1.1:nameid-format:X509SubjectName
</md:NameIDFormat><md:AssertionConsumerService Binding=
"urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST" Location=
"https://localhost:443/MartServerCloud/saml2/login/sso/saml2-mart" index="0"/>
<md:AssertionConsumerService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Artifact" Location=
"https://localhost:443/MartServerCloud/saml2/saml2/login/sso/saml2-mart" index="1"/>
</md:SPSSODescriptor></md:EntityDescriptor>
```

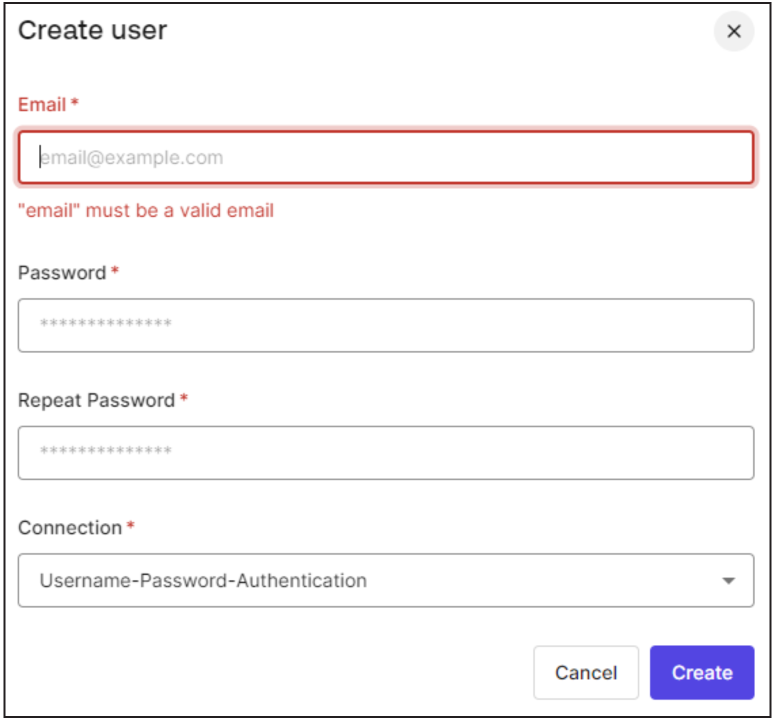
10. On the Addon: SAML2 Web App screen, paste the copied URL in the **Application Callback URL** field.

11. Scroll down and click **Enable**. Then, click **Save**.



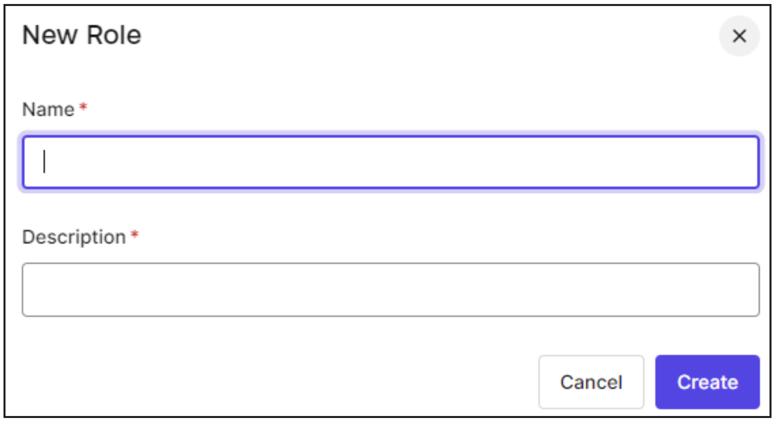
Addons are plugins associated with an Application in Auth0. These are SAML or WS-FED web apps used by the application, which Auth0 generates access tokens for.

12. On the menu, click **User Management** > **Users** > **Create Users**.


Create user
×
Email *
email@example.com
"email" must be a valid email
Password *
****
Repeat Password *
****
Connection *
Username-Password-Authentication
Cancel
Create

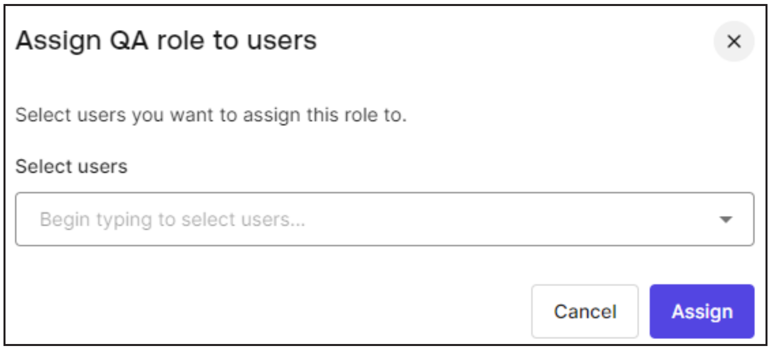
13. Enter appropriate values to the required fields and click **Create**.

14. On the menu, click **User Management** > **Users** > **Roles** > **Create Roles**.


New Role
×
Name *
Description *
Cancel
Create

15. Enter appropriate values to the required fields and click **Create**. Then, click **Save**.

16. On the Roles page, click ⋯. Then, click **Assign To Users**.



Assign QA role to users

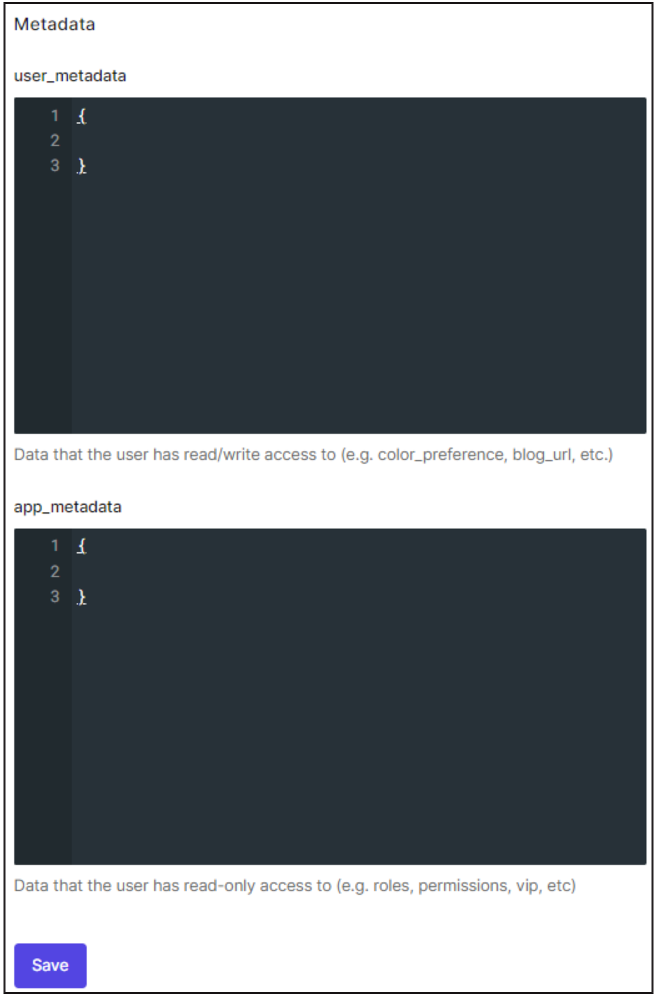
Select users you want to assign this role to.

Select users
Begin typing to select users...
Cancel
Assign

17. Under Select Users, select the required user and click **Assign**.

18. On the Users page, click a user.

19. On the Details tab, scroll to the Metadata section.



Metadata

user_metadata

```
{

}
```

Data that the user has read/write access to (e.g. color_preference, blog_url, etc.)

app_metadata

```
{

}
```

Data that the user has read-only access to (e.g. roles, permissions, vip, etc)

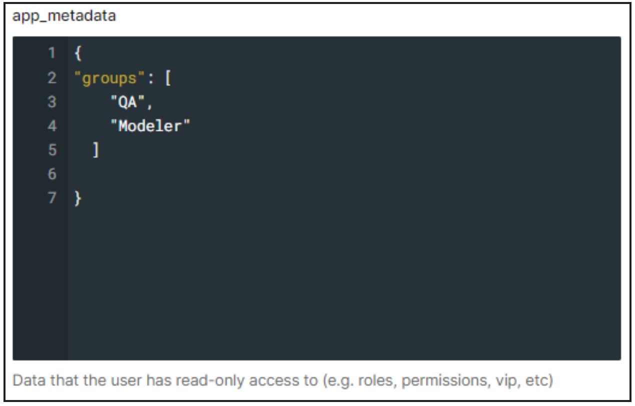
20. Under app_metadata, add the following and click **Save**.

    "groups": [

    "QA",

    "Modeler"

    ]



app_metadata

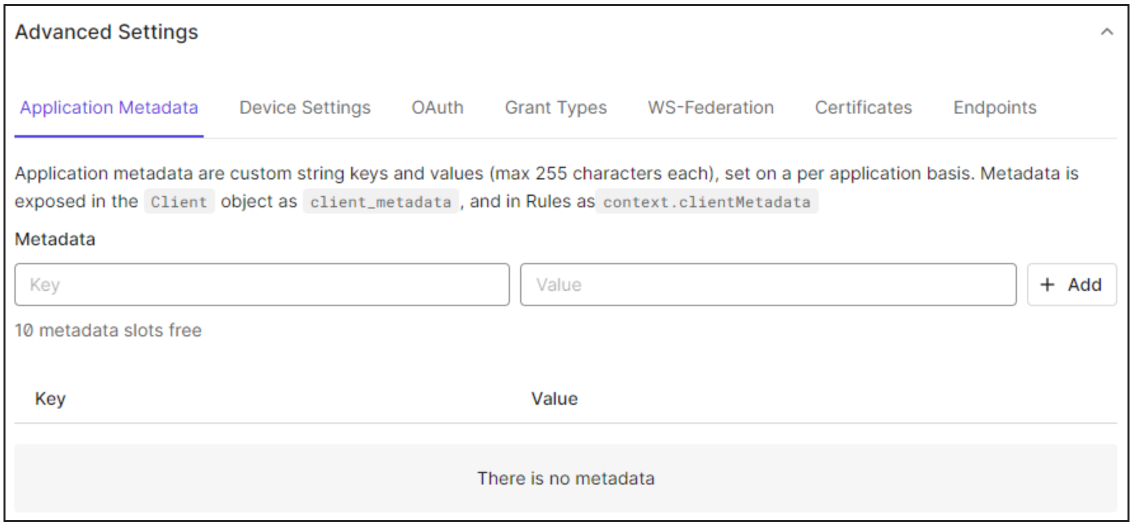
```
{
"groups": [
    "QA",
    "Modeler"
  ]

}
```

Data that the user has read-only access to (e.g. roles, permissions, vip, etc)

21. On the menu, click **Applications** > **Applications** and open your application.

22. Scroll down to the Advanced Settings section.



Advanced Settings
Application Metadata
Device Settings
OAuth
Grant Types
WS-Federation
Certificates
Endpoints

Application metadata are custom string keys and values (max 255 characters each), set on a per application basis. Metadata is exposed in the `Client` object as `client_metadata`, and in Rules as `context.clientMetadata`

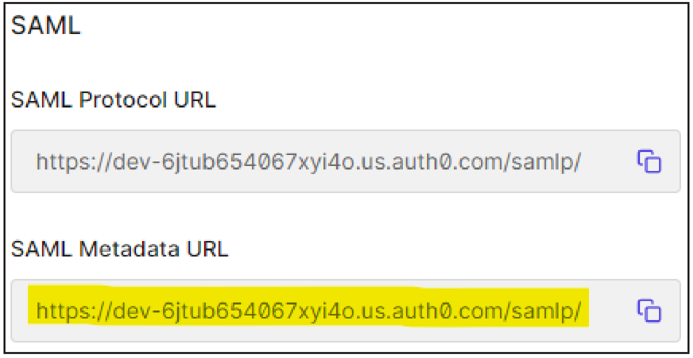
Metadata

Key
Value
+ Add

10 metadata slots free

Key	Value
There is no metadata	

23. Click **Endpoints** and scroll to the **SAML** section.



SAML

SAML Protocol URL

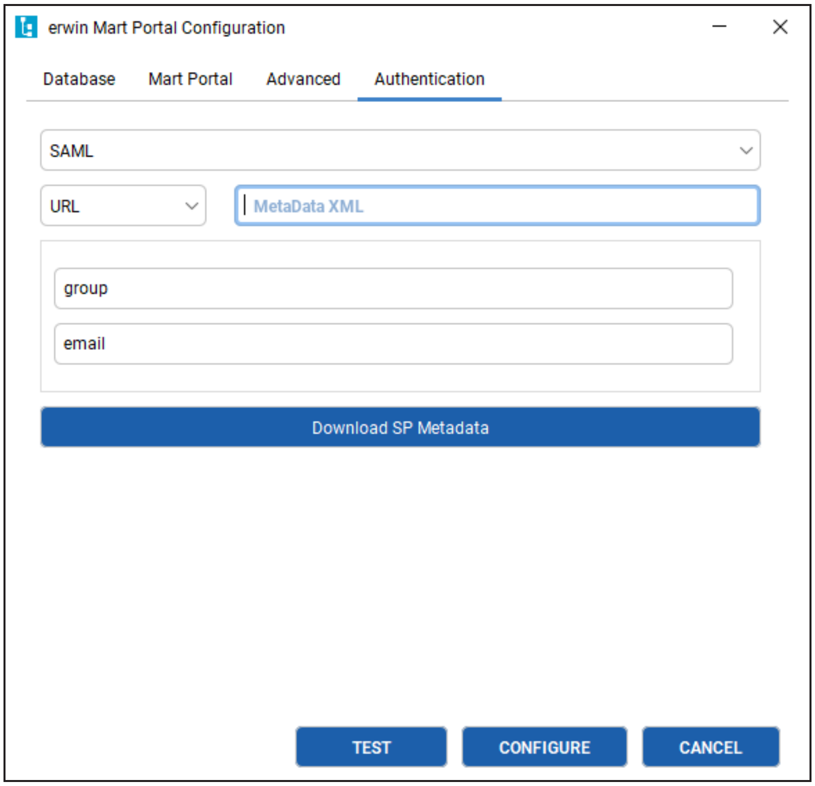
https://dev-6jtub654067xyi4o.us.auth0.com/samlp/

SAML Metadata URL

https://dev-6jtub654067xyi4o.us.auth0.com/samlp/

24. Copy the **SAML Metadata URL**.

25. On the **erwin Mart Portal Configuration** screen, click the **Authentication** tab.



erwin Mart Portal Configuration

Database
Mart Portal
Advanced
Authentication

SAML

URL

MetaData XML

group

email

Download SP Metadata
TEST
CONFIGURE
CANCEL

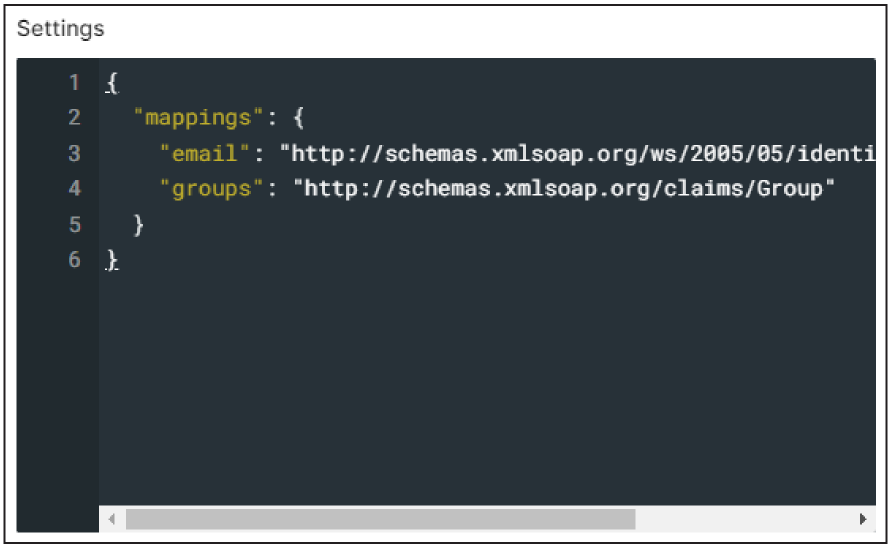
26. Enter values as follows:

a. In the MetaData XML field, paste the copied SAML Metadata URL.

b. In your Okta Auth0 environment, open your application and and click **Addons**.

c. Click **SAML2 Web App** > **Settings**.

d. Copy the email and groups values.



```
{
  "mappings": {
    "email": "http://schemas.xmlsoap.org/ws/2005/05/identi
    "groups": "http://schemas.xmlsoap.org/claims/Group"
  }
}
```

e. Paste the copied values in the email and group fields of erwin Mart Portal Configuration screen respectively.

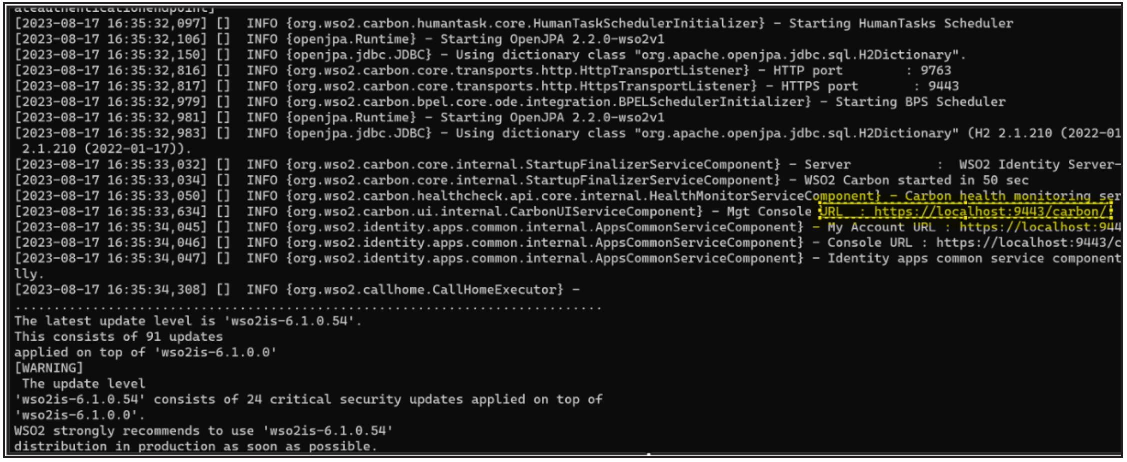
SAML with WSO2

To configure WSO2 SAML for erwin Mart Portal authentication, follow these steps:

1. Download WSO2 Identity Server here.
2. Extract the installer and open the extracted folder.
3. Run command prompt and run the `wso2server.bat` command.

> Ensure that the JAVA_HOME environment variable is path is configured.

4. Copy the Mgt Console URL, highlighted in the following image.

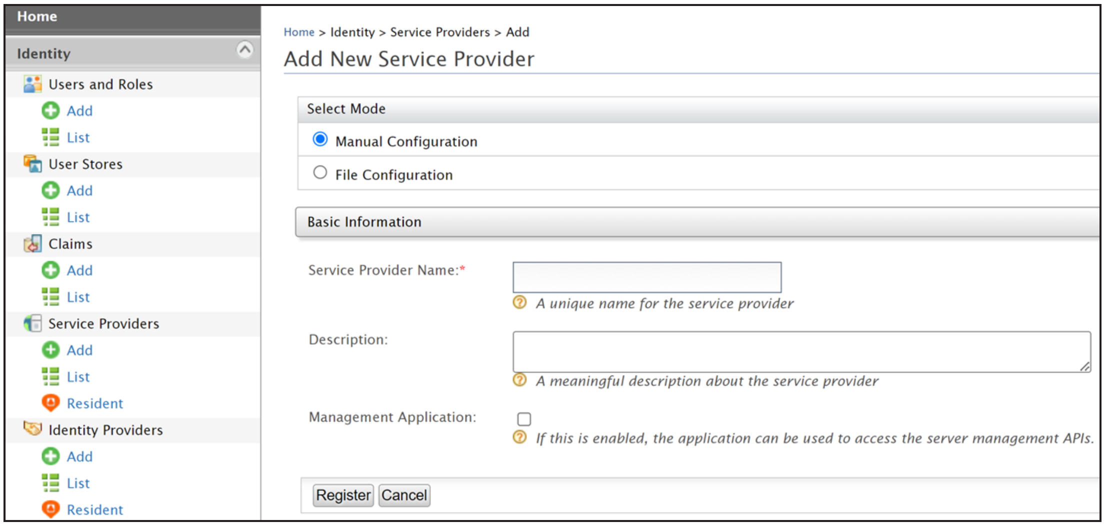


```
[2023-08-17 16:35:32,097] []  INFO {org.wso2.carbon.humantask.core.HumanTaskSchedulerInitializer} - Starting HumanTasks Scheduler
[2023-08-17 16:35:32,106] []  INFO {openjpa.Runtime} - Starting OpenJPA 2.2.0-wso2v1
[2023-08-17 16:35:32,150] []  INFO {openjpa.jdbc.JDBC} - Using dictionary class "org.apache.openjpa.jdbc.sql.H2Dictionary".
[2023-08-17 16:35:32,816] []  INFO {org.wso2.carbon.core.transports.http.HttpTransportListener} - HTTP port        : 9763
[2023-08-17 16:35:32,817] []  INFO {org.wso2.carbon.core.transports.http.HttpsTransportListener} - HTTPS port       : 9443
[2023-08-17 16:35:32,979] []  INFO {org.wso2.carbon.bpel.core.ode.integration.BPELSchedulerInitializer} - Starting BPS Scheduler
[2023-08-17 16:35:32,981] []  INFO {openjpa.Runtime} - Starting OpenJPA 2.2.0-wso2v1
[2023-08-17 16:35:32,983] []  INFO {openjpa.jdbc.JDBC} - Using dictionary class "org.apache.openjpa.jdbc.sql.H2Dictionary" (H2 2.1.210 (2022-01
 2.1.210 (2022-01-17)).
[2023-08-17 16:35:33,032] []  INFO {org.wso2.carbon.core.internal.StartupFinalizerServiceComponent} - Server           :  WSO2 Identity Server-
[2023-08-17 16:35:33,034] []  INFO {org.wso2.carbon.core.internal.StartupFinalizerServiceComponent} - WSO2 Carbon started in 50 sec
[2023-08-17 16:35:33,050] []  INFO {org.wso2.carbon.healthcheck.api.core.internal.HealthMonitorServiceComponent} - Carbon health monitoring ser
[2023-08-17 16:35:33,634] []  INFO {org.wso2.carbon.ui.internal.CarbonUIServiceComponent} - Mgt Console URL  : https://localhost:9443/carbon/
[2023-08-17 16:35:34,045] []  INFO {org.wso2.identity.apps.common.internal.AppsCommonServiceComponent} - My Account URL : https://localhost:944
[2023-08-17 16:35:34,046] []  INFO {org.wso2.identity.apps.common.internal.AppsCommonServiceComponent} - Console URL : https://localhost:9443/c
[2023-08-17 16:35:34,047] []  INFO {org.wso2.identity.apps.common.internal.AppsCommonServiceComponent} - Identity apps common service component
lly.
[2023-08-17 16:35:34,308] []  INFO {org.wso2.callhome.CallHomeExecutor} -
.............................................................................
The latest update level is 'wso2is-6.1.0.54'.
This consists of 91 updates
applied on top of 'wso2is-6.1.0.0'
[WARNING]
 The update level
'wso2is-6.1.0.54' consists of 24 critical security updates applied on top of
'wso2is-6.1.0.0'.
WSO2 strongly recommends to use 'wso2is-6.1.0.54'
distribution in production as soon as possible.
```

5. Open the URL in a web browser and log in using the following credentials:

   - **username**: admin
   - **password**: admin

6. Under Service Providers, click **Add**.



Add New Service Provider

Select Mode

● Manual Configuration

○ File Configuration

Basic Information

Service Provider Name:*

A unique name for the service provider

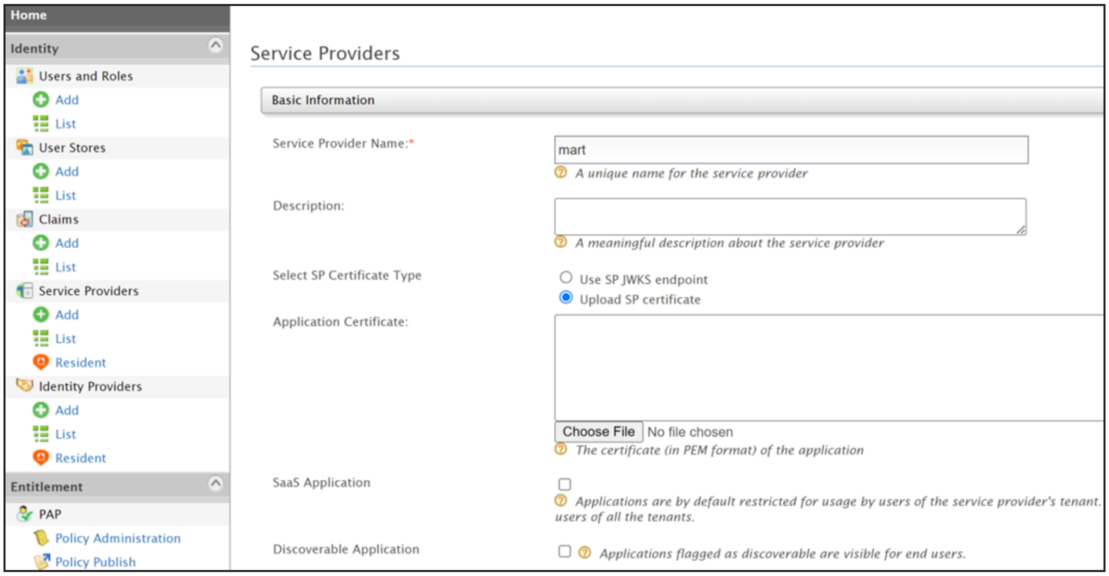
Description:

A meaningful description about the service provider

Management Application: ☐

If this is enabled, the application can be used to access the server management APIs.

7. Enter an appropriate Service Provider Name and click **Register**.


Home
Identity
Users and Roles
Add
List
User Stores
Add
List
Claims
Add
List
Service Providers
Add
List
Resident
Identity Providers
Add
List
Resident
Entitlement
PAP
Policy Administration
Policy Publish
Service Providers
Basic Information
Choose File

Service Provider Name:* mart

A unique name for the service provider

Description:

A meaningful description about the service provider

Select SP Certificate Type

○ Use SP JWKS endpoint

● Upload SP certificate

Application Certificate:

No file chosen

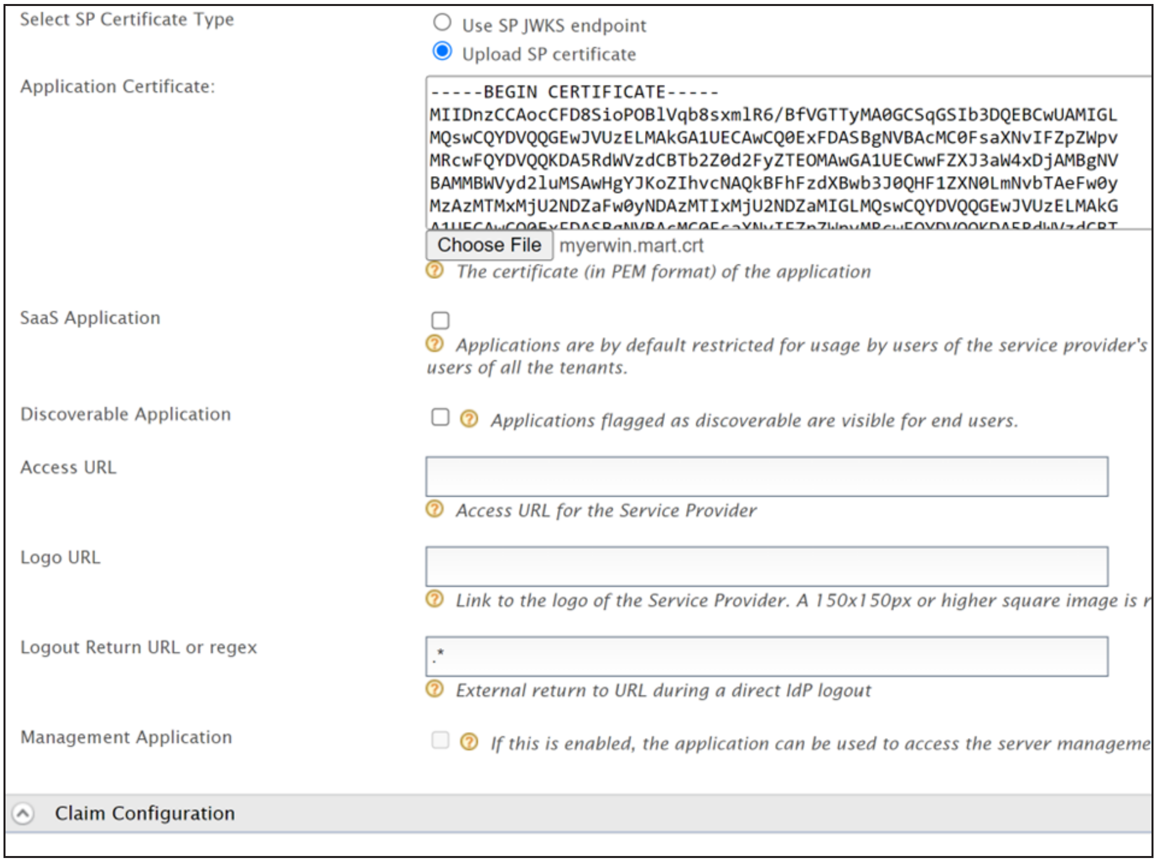
The certificate (in PEM format) of the application

SaaS Application ☐

Applications are by default restricted for usage by users of the service provider's tenant. users of all the tenants.

Discoverable Application ☐ Applications flagged as discoverable are visible for end users.

8. Click Upload SP certificate and upload the myerwin.mart.crt file available at C:\Program Files\erwin\Mart Portal\Apache\.



Select SP Certificate Type
○ Use SP JWKS endpoint
● Upload SP certificate

Application Certificate:

```
-----BEGIN CERTIFICATE-----
MIIDnzCCAocCFD8SioPOBlVqb8sxmlR6/BfVGTTyMA0GCSqGSIb3DQEBCwUAMIGL
MQswCQYDVQQGEwJVUzELMAkGA1UECAwCQ0ExFDASBgNVBAcMC0FsaXNvIFZpZWpv
MRcwFQYDVQQKDA5RdWVzdCBTb2Z0d2FyZTEOMAwGA1UECwwFZXJ3aW4xDjAMBgNV
BAMMBWVyd2luMSAwHgYJKoZIhvcNAQkBFhFzdXBwb3J0QHF1ZXN0LmNvbTAeFw0y
MzAzMTMxMjU2NDZaFw0yNDAzMTIxMjU2NDZaMIGLMQswCQYDVQQGEwJVUzELMAkG
```

Choose File myerwin.mart.crt
The certificate (in PEM format) of the application

SaaS Application ☐
Applications are by default restricted for usage by users of the service provider's users of all the tenants.

Discoverable Application ☐ *Applications flagged as discoverable are visible for end users.*

Access URL
Access URL for the Service Provider

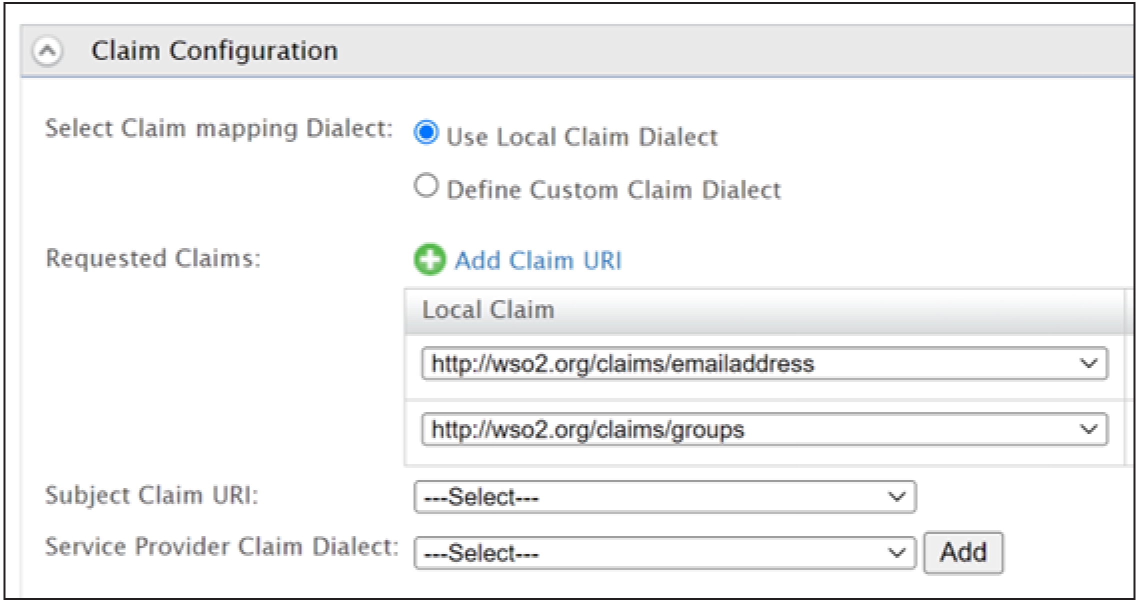
Logo URL
Link to the logo of the Service Provider. A 150x150px or higher square image is r

Logout Return URL or regex: .*
External return to URL during a direct IdP logout

Management Application ☐ *If this is enabled, the application can be used to access the server manageme*

9. Expand Claim Configuration and click **Use Local Claim Dialect**.

10. Click **Add Claim** and add email address and groups.



Claim Configuration

Select Claim mapping Dialect: ● Use Local Claim Dialect ○ Define Custom Claim Dialect

Requested Claims:

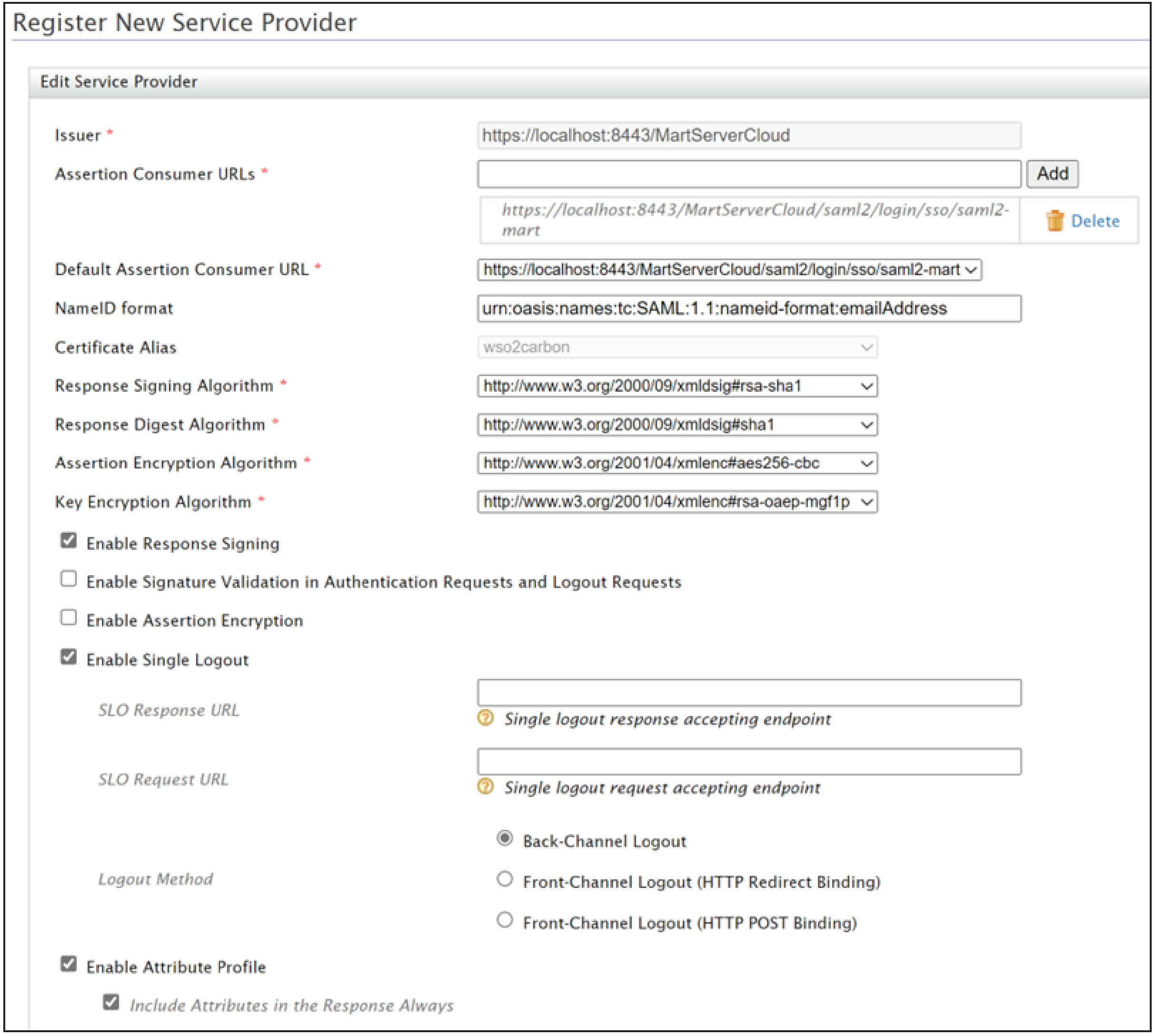
Local Claim
http://wso2.org/claims/emailaddress
http://wso2.org/claims/groups

Subject Claim URI: ---Select---

Service Provider Claim Dialect: ---Select---

11. Under Inbound Authentication Configuration, click **SAML2 Web SSO COnfiguration** > **Configure**.

12. Configure properties as shown in the following image.



Register New Service Provider

Edit Service Provider

Issuer *: https://localhost:8443/MartServerCloud

Assertion Consumer URLs *: https://localhost:8443/MartServerCloud/saml2/login/sso/saml2-mart

Default Assertion Consumer URL *: https://localhost:8443/MartServerCloud/saml2/login/sso/saml2-mart

NameID format: urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress

Certificate Alias: wso2carbon

Response Signing Algorithm *: http://www.w3.org/2000/09/xmldsig#rsa-sha1

Response Digest Algorithm *: http://www.w3.org/2000/09/xmldsig#sha1

Assertion Encryption Algorithm *: http://www.w3.org/2001/04/xmlenc#aes256-cbc

Key Encryption Algorithm *: http://www.w3.org/2001/04/xmlenc#rsa-oaep-mgf1p

☑ Enable Response Signing

☐ Enable Signature Validation in Authentication Requests and Logout Requests

☐ Enable Assertion Encryption

☑ Enable Single Logout

SLO Response URL: *Single logout response accepting endpoint*

SLO Request URL: *Single logout request accepting endpoint*

Logout Method:
● Back-Channel Logout
○ Front-Channel Logout (HTTP Redirect Binding)
○ Front-Channel Logout (HTTP POST Binding)

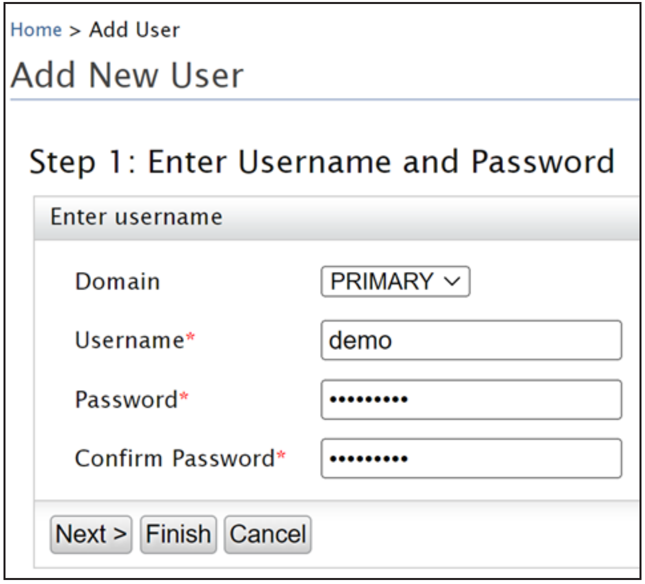
☑ Enable Attribute Profile

☑ *Include Attributes in the Response Always*

13. Click **Download IDP Metadata**.

14. Click **Register**.

15. Under Users and Roles, click **Add** > **Add New User**. Then, enter the necessary information.


Home > Add User

Add New User

Step 1: Enter Username and Password

Enter username

Domain: PRIMARY

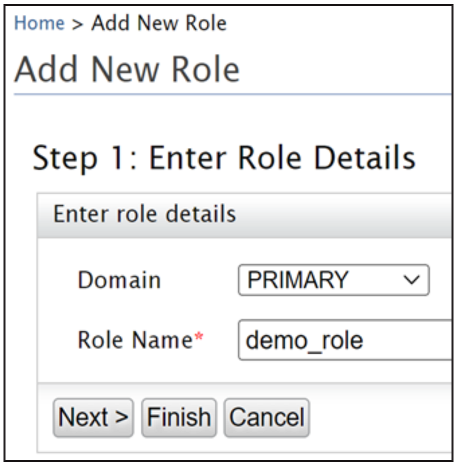
Username*: demo

Password*: •••••••••

Confirm Password*: •••••••••

Next >
Finish
Cancel

16. Under Users and Roles, click **Add** > **Add New Role**. Then, enter the necessary information.


Home > Add New Role

Add New Role

Step 1: Enter Role Details

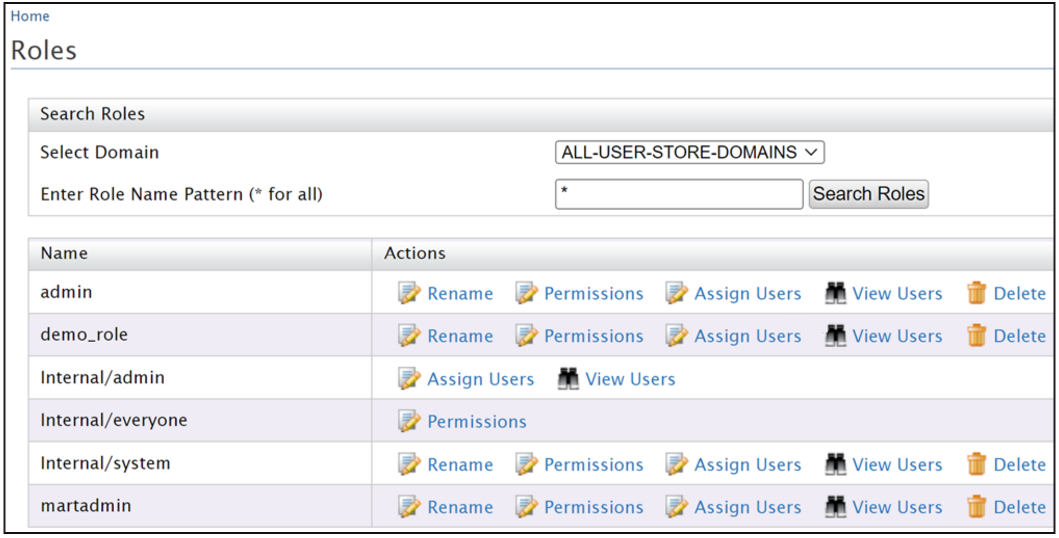
Enter role details

Domain: PRIMARY

Role Name*: demo_role

Next >
Finish
Cancel

17. Click **Finish**.



Home

Roles

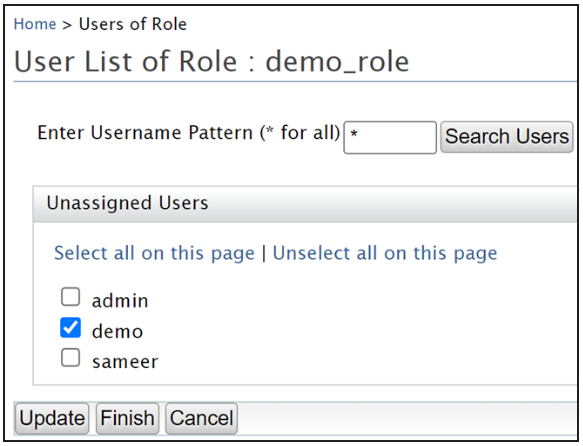
Search Roles

Select Domain: ALL-USER-STORE-DOMAINS

Enter Role Name Pattern (* for all): *

Name	Actions
admin	Rename, Permissions, Assign Users, View Users, Delete
demo_role	Rename, Permissions, Assign Users, View Users, Delete
Internal/admin	Assign Users, View Users
Internal/everyone	Permissions
Internal/system	Rename, Permissions, Assign Users, View Users, Delete
martadmin	Rename, Permissions, Assign Users, View Users, Delete

18. For the required role, click **Assign Users**.



Home > Users of Role

User List of Role : demo_role

Enter Username Pattern (* for all): *

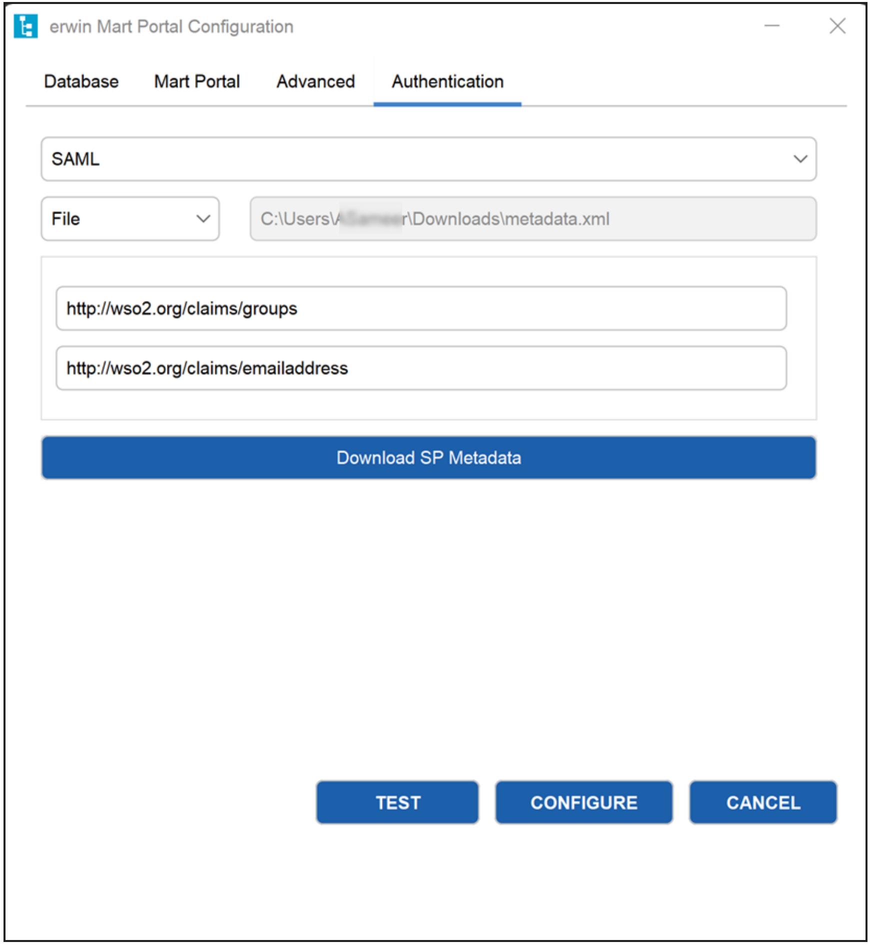
Unassigned Users

Select all on this page | Unselect all on this page

☐ admin
☑ demo
☐ sameer

19. Click **Finish**.

20. You can now use these parameters and the IDP metadata file downloaded in step 13 on the Authentication tab while configuring erwin Mart Portal for SSO as shown in the following example image.


erwin Mart Portal Configuration
Database
Mart Portal
Advanced
Authentication
Download SP Metadata
TEST
CONFIGURE
CANCEL

SAML

File

C:\Users\[redacted]\Downloads\metadata.xml

http://wso2.org/claims/groups

http://wso2.org/claims/emailaddress

Initializing erwin Mart Portal and erwin ER360

To start using erwin Mart Portal and erwin ER360, you first need to initialize the database. You can initialize the database using a database authenticated user.

> Before you proceed, verify that you have installed a DBMS, created the database, and configured Mart Portal. If the application is already initialized, the Login page appears.

erwin Mart Portal

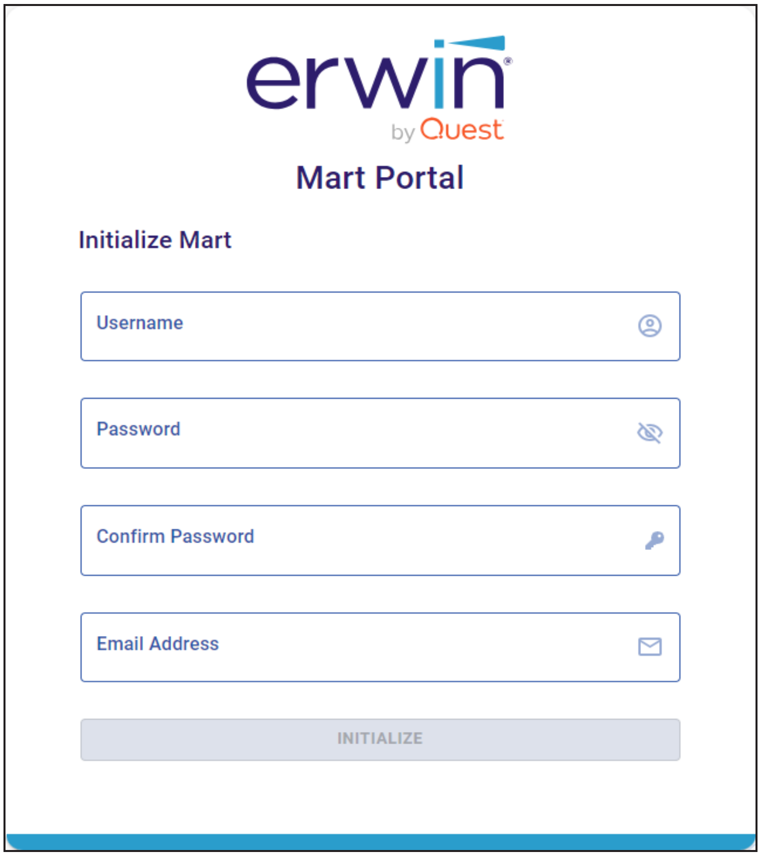
When you open erwin Mart Portal for the first time, the Initialize Mart page appears.

> If you are using Mart Portal as a Windows service, ensure that the service is started. If not, from the Windows Start menu, click **erwin** > **Start as Service** to start the Mart Portal. A Windows command prompt window appears and indicates when the server starts.

To initialize mart, follow these steps:

1. On the Windows Start Menu, click **erwin** > **erwin Mart Portal**.

   erwin Mart Portal opens in your default browser.


erwin
by Quest
Mart Portal
Initialize Mart
Username
Password
Confirm Password
Email Address
INITIALIZE

2. Complete the following fields:

   Username

   Specifies the user name with which you want to access the Mart. If you are using a Windows-authenticated user, enter the name in the <domain name>/<user name> format.

   Password

   Specifies the password for the user name.

> A password should fulfill the following criteria:
>
> - Contains at least 1 lowercase character
> - Contains at least 1 uppercase character
> - Contains at least 1 number
> - Is minimum 6 characters in length
> - Is maximum 130 characters in length
>
> Apart from the above criteria, special characters are optional.

Confirm Password

Confirms the password that you entered in the previous field.

Email Address

Specifies the email address for the user account that you are creating.

3. Click **Initialize**.

   The user name is added as an administrator of Mart, Mart is initialized, and the Login web page appears. Initializing is a one-time task. After initialization, the user who initialized must log in first. Later, any other user who wants to use erwin Mart Portal can log in.

> The user name that is entered here is an application level user and not a database user. Remember the password that you have entered here, because without the password you cannot log in to erwin Mart Portal for the first time.

In the previous releases, only a server user was allowed to initialize a Mart. From release r9.6, a Windows-authenticated user can also initialize a Mart. Further, a Windows-authenticated user can log in to a Mart as a Windows user.

erwin ER360

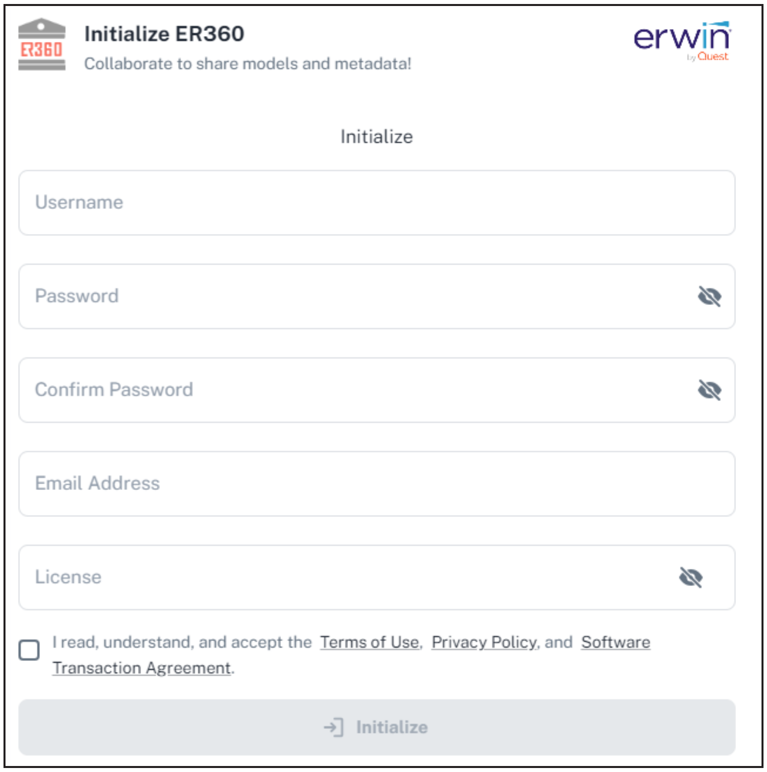
When you open erwin ER360 for the first time, the Initialize ER360 page appears.

To initialize erwin ER360, follow these steps:

Initializing Mart

1. On the Windows Start Menu, click **erwin** > **erwin ER360**.

   erwin ER360 opens in your default browser.



Initialize ER360

Collaborate to share models and metadata!

☐ I read, understand, and accept the Terms of Use, Privacy Policy, and Software Transaction Agreement.

ER360
erwin by Quest
Initialize
Username
Password
Confirm Password
Email Address
License
Initialize

2. Complete the following fields:

   Username

   Specifies the user name with which you want to access the application. If you are using a Windows-authenticated user, enter the name in the <domain name>/<user name> format.

   Password

   Specifies the password for the user name.

> A password should fulfill the following criteria:
>
> - Contains at least 1 lowercase character
> - Contains at least 1 uppercase character
> - Contains at least 1 number
> - Is minimum 6 characters in length
> - Is maximum 130 characters in length
>
> Apart from the above criteria, special characters are optional.

Confirm Password

Confirms the password that you entered in the previous field.

Email Address

Specifies the email address for the user account that you are creating.

License

Specifies your erwin ER360 license code.
If you need help with the license code, contact your license administrator.

You can initialize erwin ER360 with an offline license. For more information on offline licenses, contact license support.

3. Select the terms of use, privacy policy, and software transaction agreement check box.
4. Click **Initialize**.

   The user name is added as an administrator of ER360, ER360 is initialized, and the Login page appears. Initializing is a one-time task. After initialization, the user who initialized must log in first. Later, any other user who wants to use erwin ER360 can log in.

Logging in to erwin Mart Portal and Configuring Settings

After the Mart is initialized, the user who initialized must log in first. When you log in for the first time, configure it according to your requirements. You can configure the following settings:

- Default profile for the model creator
- Default selector for user
- Email notification
- Device tracking

To log in to mart, follow these steps:

1. On the Windows Start Menu, click **erwin** > **erwin Mart Portal**.

   The log in page appears.

2. Enter the credentials with which you initialized the mart and log in.

   > If you enter an incorrect password five consecutive times, your account will be locked for five minutes (300 seconds) by default. To change the default lock out time, refer to the Change Default Account Lockout Duration section.

3. On the application menu, click ⚙.
4. Complete the following fields:

   Default profile for model creator

   Specifies the profile that is assigned to a user on a model. This profile is assigned whenever a user creates a model and saves it to Mart for the first time. The user inherits the permissions of the default profile selected here on the model that is saved. For example, suppose that User1 is assigned with Modeler profile and the System Administrator selects Architect as the default profile for model creator. If User1 creates Model1 and saves it to Mart, for Model1, User1 inherits the permissions of Architect. Now, suppose that the System Administrator selects Viewer as the default profile for model creator, and suppose that User1 creates Model2 and saves it to Mart. For Model2, User1 inherits the permissions of Viewer.

Default Selector for User

Specifies whether the default display selector for users is username, email address, or both. Based on the settings here, users' username and/or email is displayed in the Permissions module.

Use SMTP Settings

Specifies whether SMTP settings are configured for email notification through the application.

SMTP host name

Specifies the name of the SMTP host. Enter the name in the mail.domain.com format. Notification emails are sent from this server.

Port number

Specifies the port number of the SMTP server. The default port number is 25. If your company is using an alternate port number for the mail server, specify that port number.

Authenticate

Specifies whether transactions with the SMTP server are authenticated. Select the check box to authenticate.

Use TLS Connection

Specifies whether transactions with the SMTP server use a Transport layer Security (TLS). If you intend to use a TLS connection, ensure that the User name and Administrator email correspond to each other.

> Select this option only if you want to use a TLS connection.

Username

Specifies the user name to authenticate the SMTP server. Select the Authenticate check box to enable authentication.

Password

Specifies the password to authenticate the SMTP server. Select the Authenticate check box to enable authentication.

Administrator email

Specifies the email ID of the Mart administrator. Notifications to Mart users are sent from this ID.

No-reply email from

Specifies the email ID from which administrative emails such as the password reset email are sent.

Enable Device Tracking

Specifies whether the devices on which you log in to your mart account are tracked and logged.

5. Click **Submit**.

   Mart options are configured.

> If SMTP server is not configured, an Administrator can reset a user's password manually via the Users Page. On the Users page, select a user and click 🔑. Enter a new password and click **Submit**.

To log in as a Windows-authenticated user, follow these steps:

This procedure describes how to enable a Windows-authenticated user log in to a Mart that is already initialized. Use this procedure if the Mart is initialized with either a server user or a Windows-authenticated user.

1. In erwin Mart Portal configuration, on the Authentication tab, ensure that you have provided Active Directory details.
2. While adding users, search and add the required user corresponding to the necessary Windows user.

Now, the Windows-authenticated user can log in to erwin Mart Portal by providing the user name in the <domain name>/<user name> format.

> A local Windows user who does not belong to an Active Directory group cannot log in to the Mart as a Windows user.

Use a Pluggable Database

This information applies to Oracle 12c.

You can use the pluggable database concept of Oracle 12c and create multiple Marts of the same Mart release in a single Oracle instance. For example, you can create two pluggable databases erwin_test and erwin_production in an Oracle global database erwin. You can configure these databases with the Mart Portal one after the other and connect to one of them at a time.

Follow these steps to use multiple pluggable databases:

1. Create multiple pluggable databases, for example, erwin_test and erwin_production.
2. Install erwin Mart Portal for the first pluggable database, for example, erwin_test.
3. Initialize the Mart for the first pluggable database, erwin_test. For more information on how to initialize the Mart, see the Initialize an Oracle Mart topic.
4. Log in to the Mart and create the models that you want to store in the test Mart.
5. To use the second pluggable database, follow these steps:
    a. Stop the Mart Portal or the Mart Portal service.
    b. Repeat Steps 1, 2, and 3 for the second pluggable database, erwin_production.
    c. Start the Mart Portal or the Mart Portal service.
    d. Log in to the Mart and create the models as required.

Logging in to erwin ER360 and Configure Settings

After the erwin ER360 is initialized, the user who initialized must log in first. When you log in for the first time, configure it according to your requirements. You can configure the following settings:

- Default user selector
- Email notification
- Device tracking
- Search permissions
- License

To log in to ER360, follow these steps:

1. On the Windows Start Menu, click **erwin** > erwin ER360.

   The log in page appears.

2. Enter the credentials with which you initialized ER360 and log in.

   > If you enter an incorrect password five consecutive times, your account will be locked for five minutes (300 seconds) by default. To change the default lock out time, refer to the Change Default Account Lockout Duration section.

3. On the application menu, click Settings.
4. Complete the following fields:

   Default User Selector

   Specifies whether the default display selector for users is username, email address, or both. Based on the settings here, users' username and/or email is displayed in the Permissions module.

   Use SMTP Settings

   Specifies whether SMTP settings are configured for email notification through the application.

SMTP host name

Specifies the name of the SMTP host. Enter the name in the mail.domain.com format. Notification emails are sent from this server.

Port number

Specifies the port number of the SMTP server. The default port number is 25. If your company is using an alternate port number for the mail server, specify that port number.

Authenticate

Specifies whether transactions with the SMTP server are authenticated. Select the check box to authenticate.

Use TLS Connection

Specifies whether transactions with the SMTP server use a Transport layer Security (TLS). If you intend to use a TLS connection, ensure that the User name and Administrator email correspond to each other.

> Select this option only if you want to use a TLS connection.

Username

Specifies the user name to authenticate the SMTP server. Select the Authenticate check box to enable authentication.

Password

Specifies the password to authenticate the SMTP server. Select the Authenticate check box to enable authentication.

Administrator email

Specifies the email ID of the Mart administrator. Notifications to Mart users are sent from this ID.

No-reply email from

Specifies the email ID from which administrative emails such as the password reset email are sent.

Enable Device Tracking

Specifies whether the devices on which you log in to your mart account are tracked and logged.

License

Specifies your erwin ER360 license code that you used to initialize the application.
You can change and validate the license code here.

5. Click **Save**.

   erwin ER360 options are configured.

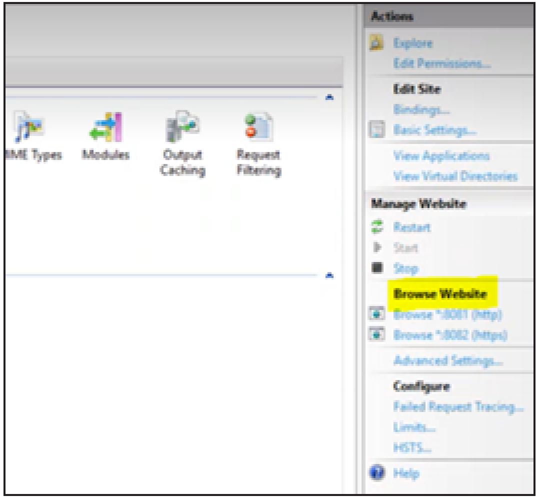
> If SMTP server is not configured, an Administrator can reset a user's password manually via the Users Page. On the Users page, select a user and click 🔑. Enter a new password and click **Submit**.

Enabling IIS

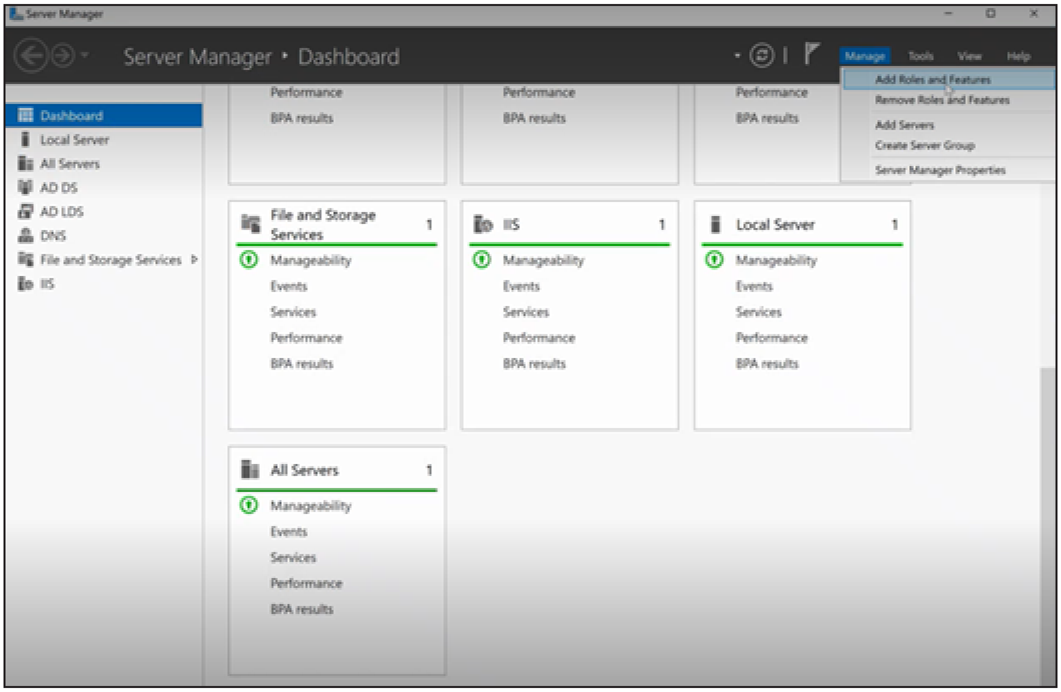
In IIS-enabled environments, erwin Mart Portal and the configuration will work automatically.

For environments where IIS is not enabled, to enable IIS, follow these steps:

1. On the machine where you have installed and configured erwin Mart Portal, open Internet Information Services (IIS) Manager.
2. Under Browse Website, click the appropriate option.

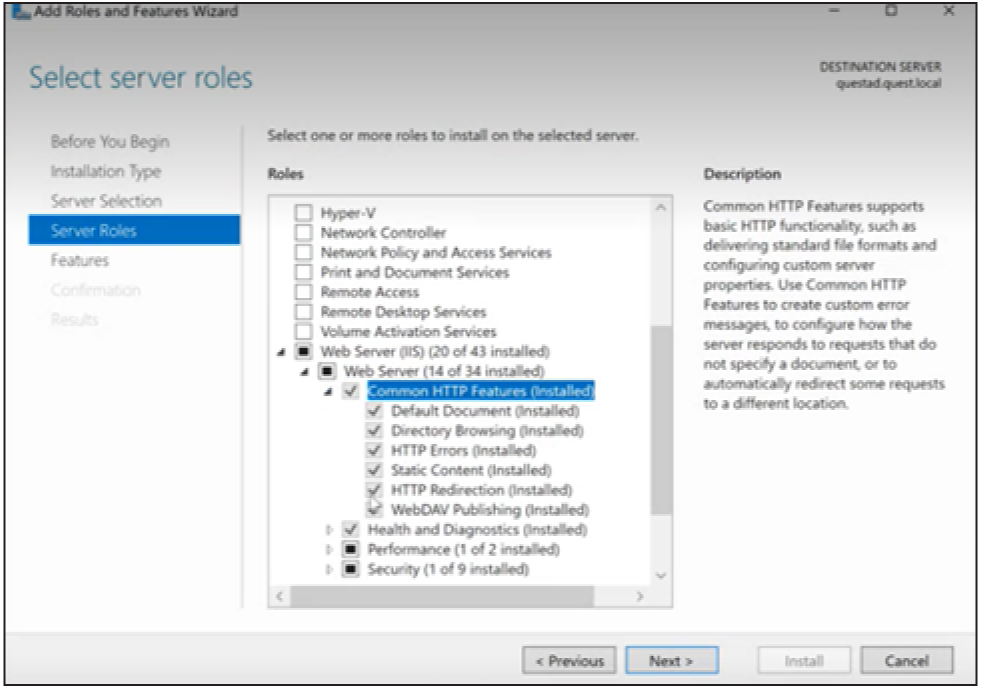

Actions
Explore
Edit Permissions...
Edit Site
Bindings...
Basic Settings...
View Applications
View Virtual Directories
Manage Website
Restart
Start
Stop
Browse Website
Browse *:8081 (http)
Browse *:8082 (https)
Advanced Settings...
Configure
Failed Request Tracing...
Limits...
HSTS...
Help
IME Types
Modules
Output Caching
Request Filtering

3. Open Server Manager and click **Manage**.


Server Manager
Server Manager • Dashboard
Manage
Tools
View
Help
Add Roles and Features
Remove Roles and Features
Add Servers
Create Server Group
Server Manager Properties
Dashboard
Local Server
All Servers
AD DS
AD LDS
DNS
File and Storage Services
IIS
File and Storage Services 1
IIS 1
Local Server 1
All Servers 1
Manageability
Events
Services
Performance
BPA results

4. Click **Add Roles and Features**.

The Add Roles and Features Wizard appears.


Add Roles and Features Wizard
Select server roles
DESTINATION SERVER
questad.quest.local
Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results
Roles
Description
< Previous
Next >
Install
Cancel

Select one or more roles to install on the selected server.

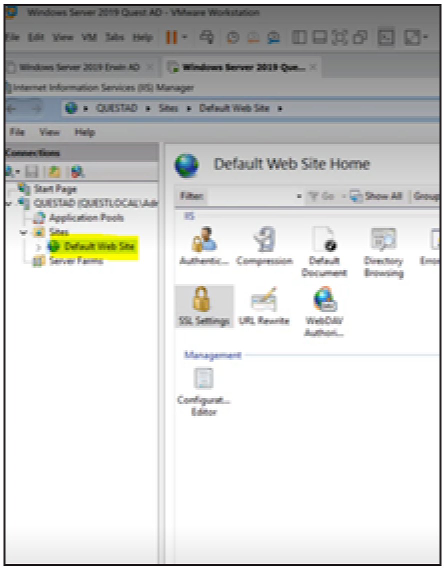
- ☐ Hyper-V
- ☐ Network Controller
- ☐ Network Policy and Access Services
- ☐ Print and Document Services
- ☐ Remote Access
- ☐ Remote Desktop Services
- ☐ Volume Activation Services
- ■ Web Server (IIS) (20 of 43 installed)
  - ■ Web Server (14 of 34 installed)
    - ☑ Common HTTP Features (Installed)
      - ☑ Default Document (Installed)
      - ☑ Directory Browsing (Installed)
      - ☑ HTTP Errors (Installed)
      - ☑ Static Content (Installed)
      - ☑ HTTP Redirection (Installed)
      - ☑ WebDAV Publishing (Installed)
    - ☑ Health and Diagnostics (Installed)
    - ■ Performance (1 of 2 installed)
    - ■ Security (1 of 9 installed)

Common HTTP Features supports basic HTTP functionality, such as delivering standard file formats and configuring custom server properties. Use Common HTTP Features to create custom error messages, to configure how the server responds to requests that do not specify a document, or to automatically redirect some requests to a different location.

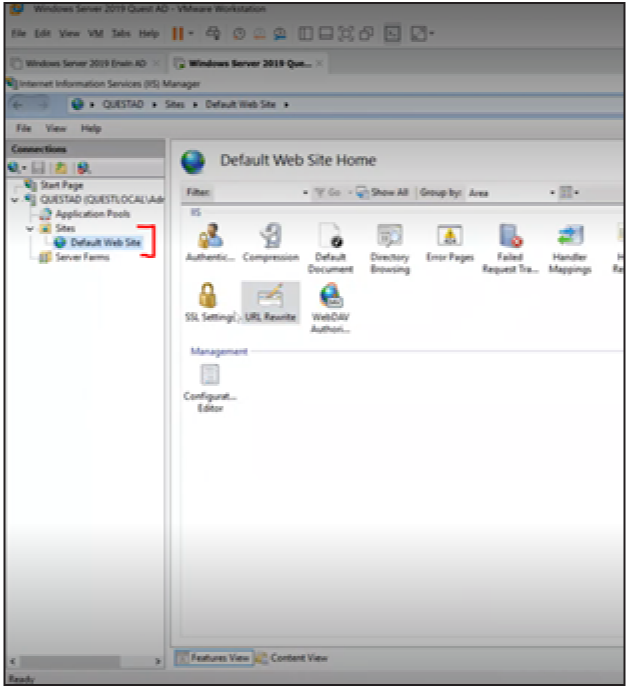
Follow these steps:

1. On the Before you Begin tab, click **Next**.
2. On the Installation Type tab, click **Role-based or Feature-based Installation**.
3. On the Server Selection tab, click **Default**.
4. On the Server Roles tab, select **Web Server (IIS)** > **Common HTTP Features (Installed)**. Also, ensure that **HTTP Redirection** is selected.
5. Click **Install**.

Once done, the Default Web Site option is available.

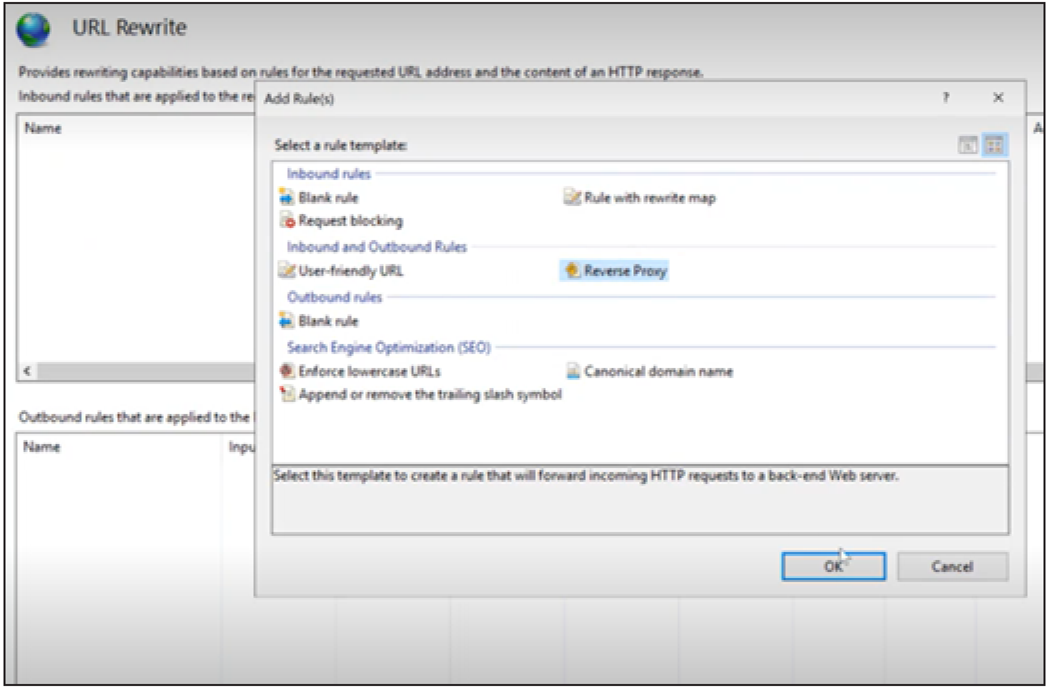

Windows Server 2019 Quest AD - VMware Workstation
File Edit View VM Tabs Help
Windows Server 2019 Erwin AD
Windows Server 2019 Que...
Internet Information Services (IIS) Manager
QUESTAD ▸ Sites ▸ Default Web Site ▸
File View Help
Connections
Start Page
QUESTAD (QUESTLOCAL\Adr
Application Pools
Sites
Default Web Site
Server Farms
Default Web Site Home
Filter:
Go
Show All
Group
IIS
Authentic...
Compression
Default Document
Directory Browsing
SSL Settings
URL Rewrite
WebDAV Authori...
Management
Configurat... Editor

5. Download and install ARR 3.0.
   Ensure that you use the 64-bit installer.
6. Download and install URL Rewrite Module 2.1.
   Ensure that you use the 64-bit installer.
7. In the Internet Information Services (IIS) Manager, click **Default Web Site**.


Windows Server 2019 Quest AD - VMware Workstation
File Edit View VM Tabs Help
Windows Server 2019 Erwin AD
Windows Server 2019 Que...
Internet Information Services (IIS) Manager
QUESTAD ▸ Sites ▸ Default Web Site ▸
File View Help
Connections
Start Page
QUESTAD (QUEST\LOCAL\Adr
Application Pools
Sites
Default Web Site
Server Farms
Default Web Site Home
Filter:
Go
Show All
Group by: Area
IIS
Authentic...
Compression
Default Document
Directory Browsing
Error Pages
Failed Request Tra...
Handler Mappings
SSL Settings
URL Rewrite
WebDAV Authori...
Management
Configurat... Editor
Features View
Content View
Ready

8. Click **URL Rewrite**.

9. Under Actions, click **Add Rules**.


URL Rewrite
Add Rule(s)
Select a rule template:
Inbound rules
Blank rule
Rule with rewrite map
Request blocking
Inbound and Outbound Rules
User-friendly URL
Reverse Proxy
Outbound rules
Blank rule
Search Engine Optimization (SEO)
Enforce lowercase URLs
Canonical domain name
Append or remove the trailing slash symbol
Name
Outbound rules that are applied to the
Name
Inpu
OK
Cancel

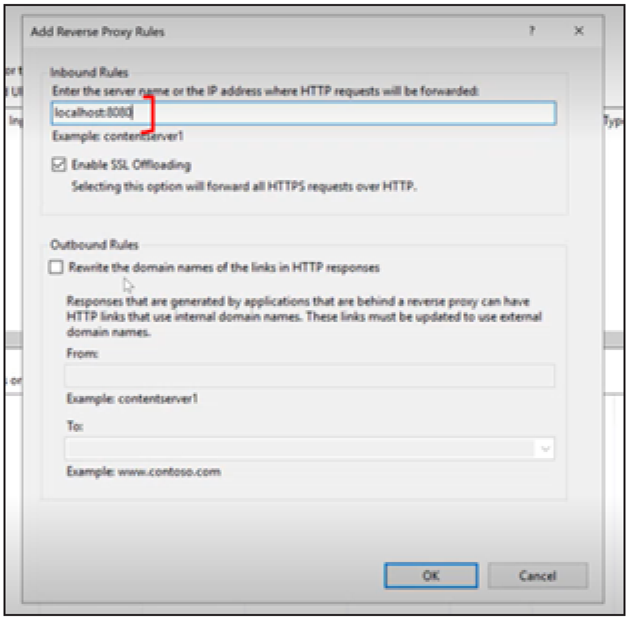
Provides rewriting capabilities based on rules for the requested URL address and the content of an HTTP response.

Inbound rules that are applied to the re

Select this template to create a rule that will forward incoming HTTP requests to a back-end Web server.

10. Click **Reverse Proxy**.

    The Add Reverse Proxy Rules screen appears.


Add Reverse Proxy Rules
Inbound Rules
Outbound Rules
OK
Cancel

Enter the server name or the IP address where HTTP requests will be forwarded:

localhost:8080

Example: contentserver1

☑ Enable SSL Offloading

Selecting this option will forward all HTTPS requests over HTTP.

☐ Rewrite the domain names of the links in HTTP responses

Responses that are generated by applications that are behind a reverse proxy can have HTTP links that use internal domain names. These links must be updated to use external domain names.

From:

Example: contentserver1

To:

Example: www.contoso.com

11. Under Inbound Rules, add the server name or the IP address and port number of the server where you have installed and configured erwin Mart Portal.

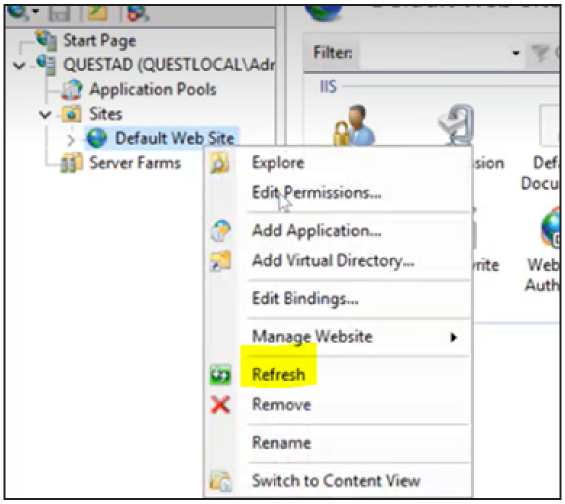
    For example, localhost:8080.

    > It will work with any IP address/port number and not just localhost and 8080. Do not use port that is already in use for another purpose.

12. Under Outbound Rules,
    a. In the **From** field, add the server name or the IP address and port number of the server where you have installed and configured erwin Mart Portal. For example, localhost:8080.
    b. In the **To** field, add the server name or the IP address of the server where you have installed and configured erwin Mart Portal. For example, localhost.

13. Click **OK**.
    This will redirect you to Apache Server console.

14. In the Internet Information Services (IIS) Manager, right-click **Default Web Site** and click **Refresh**.


Start Page
QUESTAD (QUESTLOCAL\Adr
Application Pools
Sites
Default Web Site
Server Farms
Filter:
IIS
sion
Def
Docu
rite
Web
Auth
Explore
Edit Permissions...
Add Application...
Add Virtual Directory...
Edit Bindings...
Manage Website
Refresh
Remove
Rename
Switch to Content View

15. Right-click **Default Web Site** and click **Manage Website** > **Restart**.
    This completes IIS configuration.

Change the Mart Database Server

Sometimes, you may change the server on which the mart database is installed, or you may restore the mart database with a new name. When there is a change the server name or database name, reconfigure the erwin Mart Portal.

To change your mart database server, follow these steps:

1. Back up your mart database.
2. Restore the database on the designated server.
3. If you use the same computer for erwin Mart Portal and restore the database in a different name, include the new database name in the erwin Mart Portal Configuration screen.

   From the Windows Start menu, open the erwin Mart Configuration dialog. On the **Database** tab > **Database Name** field, enter the new name with which the database is restored. Enter the current user name and password to access the database.
4. If you use a different computer for erwin Mart Portal and restore the database in the same name, install the erwin Mart Portal on the new computer.

   Install the erwin Mart Portal. On the **Database** tab > **Server Name** field, enter the name of the new server where the database is restored. Enter the current user name and password to access the database.
5. Stop the erwin Mart Portal service and start it again.
6. On the Windows Start Menu, click **erwin** > **erwin Mart Portal**.

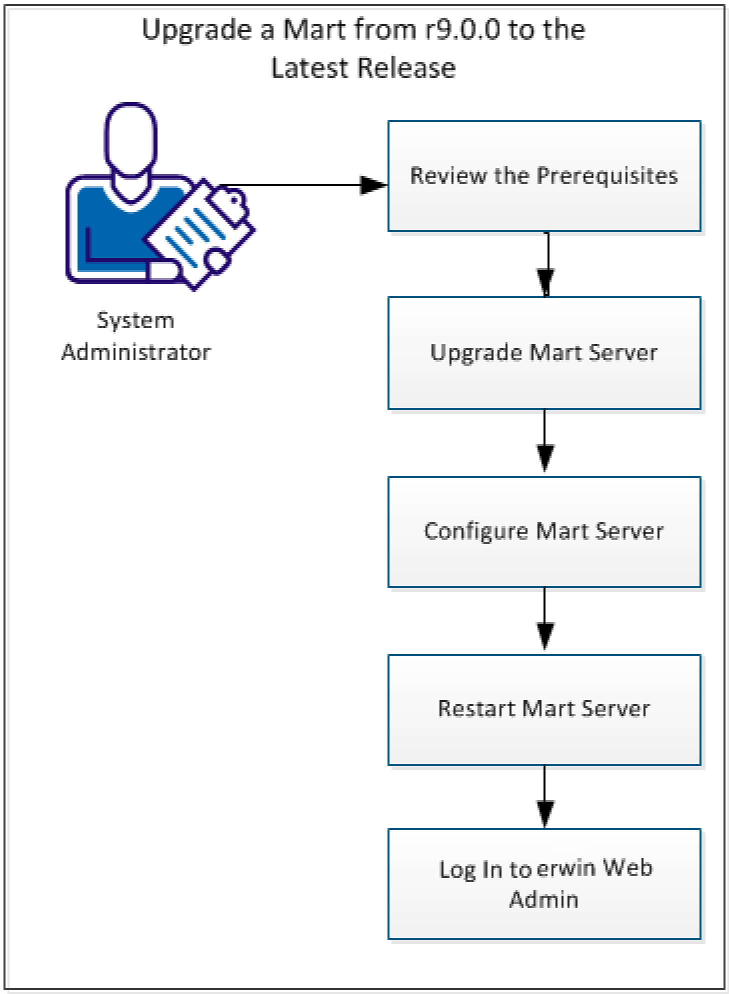
   Enter the credentials and log in.

Upgrading Mart

If you are using any earlier release of r9 series and you want to upgrade it to the latest release, upgrade the Mart Portal application and the Mart database. Once the Mart Portal program is upgraded, you must implement the upgraded software.

Important! The current Mart is designed to work with only the current version of erwin Data Modeler. If you try to connect the current Mart with an older version erwin Data Modeler such as r9.0.0, it may corrupt the Mart and cause unexpected behavior.

The following diagram illustrates how System Administrators can upgrade a Mart from any earlier release of r9 series to the latest release:


Upgrade a Mart from r9.0.0 to the Latest Release
System Administrator
Review the Prerequisites
Upgrade Mart Server
Configure Mart Server
Restart Mart Server
Log In to erwin Web Admin

How to Upgrade any r9 Series Mart to the Current Version

Complete the following tasks to upgrade a Mart of any earlier release of r9 series to the latest release:

1. Review the prerequisites
2. Upgrade erwin Mart Portal
3. Configure erwin Mart Portal
4. Restart the service
5. Log in to erwin Mart Portal

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Upgrade Performance Considerations

Ensure that you consider mart size, model count, and associated versions while upgrading a mart from an earlier version to the latest version. The following table provides sample data of the upgrade process. You can use this information as a guideline.

Mart Database	Machine Configuration	Time Taken (Upgrade from lower version to erwin Mart 2021 R1 and above)
Oracle 12c R2 (1221 Models , 42108498 million rows present M9Object Table)	8 GB RAM 1 CPU	50 minutes
SQL Server 2017 (1277 Models, 44294824 million rows present in M9Object Table)	8 GB RAM 1 CPU	142 minutes
Postgresql 9.6.15 (1020 Models, 33594468 million rows present in M9Object Table)	16 GB RAM 4 CPUs	15 minutes
Oracle 12c R1 (10784 Models, 505178719 million rows present in M9Object Table)	32 GB RAM AWS Machine	15 hours
Oracle 12c R1 (11980 Models, 520732699 million rows present in M9Object Table)	32 GB RAM 4 CPU	20 hours 40 minutes

Following are a few tips to ensure a smooth upgrade:

- Before upgrading, ensure that you double the number of data files in tablespaces for MMDATA and MMINDEX in an Oracle mart.
- Check the Report Upgrade status in the MartServerUpgrade.log file.
- If the M9Object Table has high volume of data and models over 100 MB, run the upgrade on a machine that has 64 GB or more RAM.

- In case of failures in upgrade, before you rerun the upgrade, ensure that you select the following check boxes on the Advanced tab on the erwin Mart Configuration dialog:
    - Rerun Count Upgrade
    - Rerun Report Upgrade
    - Rerun Report Upgrade For All Models

For more information, refer to the Configuring erwin Mart Portal topic.

Upgrading erwin Mart Portal

If you are upgrading a Mart from any earlier release of r9 series to the latest release, upgrade the Mart Portal application.

> Refer to the Install a Mart or Upgrade a Mart topic before proceeding.

Follow these steps:

1. If you are running Mart Portal as a Windows service, stop the service and delete it.

   > If you upgrade erwin Mart Portal without stopping the service, it may not start after you complete the upgrade process.

2. Download and run the installer file from the erwin Support site.

   The erwin Mart PortalInstallation Wizard appears.

3. Follow the wizard.
4. Restart your computer.

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Restarting the erwin Mart Portal Service

When you modify the details of the mart database and Mart Portal application, restart the erwin Mart Portal service.

Follow these steps:

1. On the Windows Start menu, click **erwin** > **Stop as Service**.
2. On the Windows Start menu, click **erwin** > **Start as Service**.

Creating Customized Security Messages

As the administrator, you can add a custom message on the Connect to Mart screen. The message appears whenever one of the client applications (erwin Mart Portal or erwin Mart Portal Navigator Edition) connects to the mart. The message appears after your connection to the desired mart is authenticated and before the connection dialog closes.

Follow these steps:

1. After you install and configure the Mart, locate and open the *privacy.message* file.

   If you are using the default web server Tomcat, the file is available in the following folder:

   ```
   C:\Program Files\erwin\Mart Portal r9\Tomcat64\
   webapps\Mart Portal\WEB-INF\classes
   ```

2. Type the message that you want to display and save the file.

   The message can be up to 2000 characters long, anything beyond 2000 characters is not displayed. Insert line-breaks manually after every 80 characters, for the message to display properly. If there are no manual line-breaks, Windows automatically inserts line-breaks in the security message. These line-breaks are based on the specific version of Windows you use.

3. From the Windows Start menu, click All Programs, erwin, erwin Mart Portal 12.5 , Stop Mart Portal Service to stop the web server.

4. From the Windows Start menu, click All Programs, erwin, erwin Mart Portal 12.5 , Start Mart Portal Service to start the web server again.

   When a user connects to the Mart the next time, the security message is displayed.

To suppress the security message, open the privacy.message file and delete the contents. Do not delete the file.

Viewing Log Files

You can finderwin Mart Portal log files at the following locations:

- **erwin Mart Portal as server**:
  - {user.home}/AppData/Local/erwin/Mart Portal/logs/martportal.log
  - {user.home}/AppData/Local/erwin/Mart Portal/logs/martportalupgrade.log
  - {user.home}/AppData/Local/erwin/Mart Portal/logs/vaultservice.log
- **erwin Mart Portal as Windows service**:
  - C:\Windows\System32\config\systemprofile\AppData\Local\erwin\Mart Portal\logs\martportal.log
  - C:\Windows\System32\config\systemprofile\AppData\Local\erwin\Mart Portal\logs\martportalupgrade.log
  - C:\Windows\System32\config\systemprofile\AppData\Local\erwin\Mart Portal\logs\vaultservice.log

You can configure how the log is generated. For more information about how to configure logging, refer to the erwin Mart Portal user guide.

Use erwin Mart Portal as a Windows Service

There are two ways to start the web server that hosts erwin Mart Portal and erwin ER360:

- Start the web server manually.
- Use a Windows service to start the web server.

For example, if you have used Apache webserver as the server to host Mart Portal, you can start it in two ways:

- Start Apache through the startMartServer.cmd file or through a shortcut to this file.
- Use a Windows service to start Apache.

The benefits of using a Windows service to start a web server are as follows:

- Any user with administrative privileges on a computer can start the Windows service, whereas, only designated users can start a web server manually.
- A Windows service runs regardless of whether a user has logged in. A manually-started web server shuts down when the user who started it logs out.

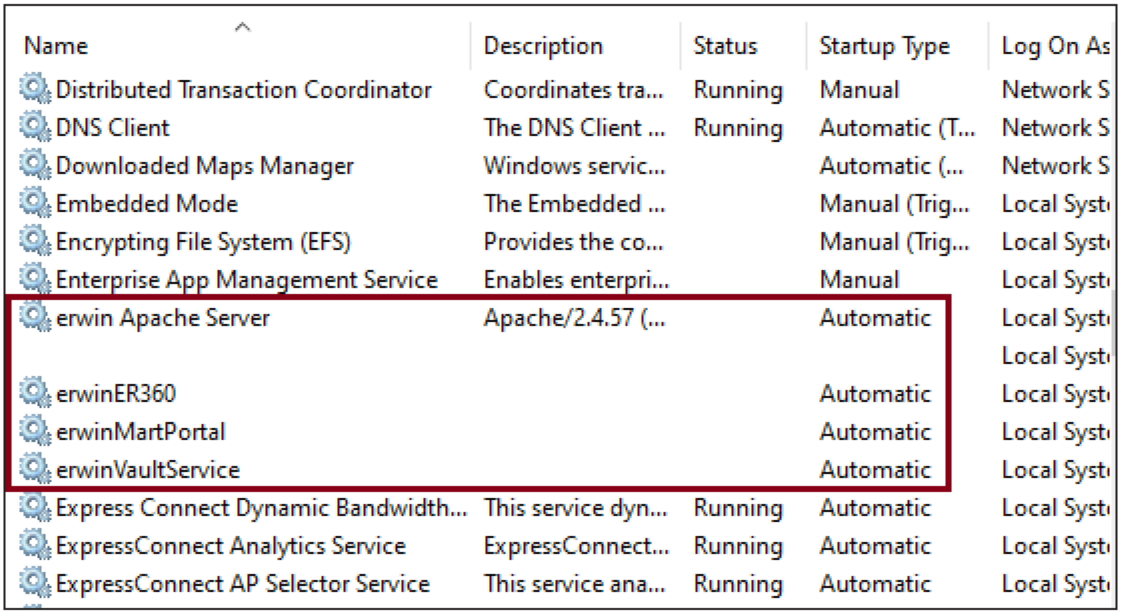
Follow these steps:

1. On the Windows Start Menu, click **erwin** > **Create Mart Services** to create erwin Mart Portal Windows services.

   Creating the service is a one-time task. After the service is created, you only have to start and stop the service.

2. On the Windows Start Menu, click **erwin** > **Start as Service** to start the web server.

   The necessary services are created



Name	Description	Status	Startup Type	Log On As
Distributed Transaction Coordinator	Coordinates tra...	Running	Manual	Network S
DNS Client	The DNS Client ...	Running	Automatic (T...	Network S
Downloaded Maps Manager	Windows servic...		Automatic (...	Network S
Embedded Mode	The Embedded ...		Manual (Trig...	Local Syst
Encrypting File System (EFS)	Provides the co...		Manual (Trig...	Local Syst
Enterprise App Management Service	Enables enterpri...		Manual	Local Syst
erwin Apache Server	Apache/2.4.57 (...		Automatic	Local Syst
				Local Syst
erwinER360			Automatic	Local Syst
erwinMartPortal			Automatic	Local Syst
erwinVaultService			Automatic	Local Syst
Express Connect Dynamic Bandwidth...	This service dyn...	Running	Automatic	Local Syst
ExpressConnect Analytics Service	ExpressConnect...	Running	Automatic	Local Syst
ExpressConnect AP Selector Service	This service ana...	Running	Automatic	Local Syst

You can find the log files, martportal.log, er360.log, and vaultservice.log, at {user account}\AppData\Local\erwin\Mart Portal\logs\.

Enable Logging in Local AppData

To enable logging in a user's AppData while using erwin Mart Portal as a Windows Service, follow these steps:

1. Once the service is created, go to service properties.
2. On the Log On tab, click **This Account**.
3. Enter the credentials.
4. Start the service.

   Logging is now enabled for your instance of erwin Mart Portal as a Windows service. The log files, martportal.log, er360.log, and vaultservice.log will be created at {user account}/AppData/Local/erwin/Mart Portal/logs.

Troubleshooting

This section explains the errors that you can encounter while installing and configuring erwin Mart Portal, and how you can troubleshoot them.

> The Mart Portal log files are available at C:\Program Files\erwin\Mart Portal\MartApp\config.

Unable to Create Mart Portal Service

Symptom:

If Mart Portal is upgraded to the latest version without stopping and deleting the Mart Portal service of the earlier version, creating a new Mart Portal service does not work.

Solution:

Run the *sc Delete Mart Portal* command to delete the Mart Portal Service from command prompt and then try to create a Mart Portal Service in the new version.

Port out of range

Symptom:

Whenever I connect to the web server, I get the following error message:

```
java.lang.IllegalArgumentException: port out of range 80821.
```

Solution:

Type the correct port number in the Configure erwin Mart Portal s Server dialog and then restart your web server.

Call failed on the server

Symptom:

When I try to connect to the Mart Portal, I get the following error:

```
500 The call failed on the server; see server log for details
```

Solution:

The probable reasons for this error could be one of the following reasons:

- The server name is not correct.
- The application name is not correct. By default, the application name is Mart Portal and it is case-sensitive.

Type the correct server name and application name in the erwin Mart Portal's Server dialog and the Configure Mart Portal Details dialog. Restart the web server.

Application Internal Error

Symptom:

When I try to connect to the database, I get the following error:

```
Application Internal Error
```

Solution

You get this error when the Mart Portal application is unable to connect to the required database. The following reasons are probable for this error:

- The database details that are provided in the Configure Mart Portal Details dialog are incorrect.
- The username and the password for the database are incorrect.
- The database is not present.
- The port number for the database is incorrect.
- The network is down.

Ensure that you enter the correct details of your database in the Mart Portal tab of the erwin Mart Configuration dialog.

ORA-12514 TNS listener does not currently know of service requested in connect descriptor

Symptom:

When I try to open the erwin Mart Portal page, I get the Application Internal Error. The Tomcat windows shows the following error message:

```
ORA-12514, TNS:listener does not currently know of service reques-
ted in connect descriptor
```

Solution:

Use a fully qualified instance name when starting the Mart Portal.

Note: This section is applicable only for Oracle and SQL Server.

Use a fully qualified instance name when starting the Mart Portal.

Mart already exists. Specify another database name

Symptom:

When I try to connect to the Mart, I get the following error message:

```
An earlier mart is already present in the database you are trying
to initialize. This process can not be continued. Please specify
another database name to continue.
```

Solution:

You get this error when you connect to an old Mart that you have used for erwin DM Release r7 series, r8 series, or Beta release of any r9 series release.

Create a database and provide its details in the Configure Mart Portal Details dialog.

Initialize page is not loading in Internet Explorer

Symptom:

When I type the URL to initialize my Mart in Internet Explorer, the Initialize Mart page is taking a long time to load.

Solution:

The Initialize Mart page does not load because the Active Scripting option in Internet Explorer is disabled.

To enable Active Scripting, follow these steps:

1. In Internet Explorer, click Tools, Internet Options.
2. In the Security tab, click the Custom Level button.

   The Security Settings Local Intranet Zone window opens.
3. From the list of options, locate Scripting, Active Scripting, and select Enable. Click OK.
4. Restart Internet Explorer and enter the URL to initialize Mart.

   The Mart Initialize page opens.

The Tomcat server is not starting properly. The Configure button is disabled.

Symptom:

My administrator has given me the Administrator rights and when I start the Tomcat server, I get a series of errors. Also, I cannot click the Configure button in the configuration dialog because it is disabled.

Solution:

Right-click Start Server, and click Run as Administrator.

The Tomcat server starts without any error, and the configuration button is enabled.

A connection with the server could not be established

Symptom:

When I try to connect to the web server from erwin Data Modeler, I get the following error message:

```
A connection with the server could not be established
```

Solution:

Verify that you have provided the correct port number and then reconnect to the web server.

The server name or address could not be resolved

Symptom:

When I try to connect to the web server from erwin Data Modeler, I get the following error message:

```
The server name or address could not be resolved
```

Solution:

Verify that the server name where the web server is installed is correct and then reconnect to the server.

> If erwin Data Modeler and the web server are installed on the same computer, you can give the server name as localhost. Suppose that erwin Data Modeler and the web server are installed on different computers. The server name is the name of the computer where the web server is installed.

Invalid user ID or password

Symptom:

When I try to connect to the server, I get the following error message:

```
Invalid user ID or password. Please try again to login.
```

Solution:

Type the correct user name and password.

> The user must be an application level user and not a database user.

Error 12029

Symptom:

When I connect to the web server, I get the following error message:

```
Error 12029
```

Solution:

Restart the web server.

Unable to load the web page from my web browser

Symptom:

When I type the URL in Internet Explorer or Google Chrome to connect to the web server, I get the following error messages:

For Internet Explorer

```
Internet Explorer cannot display the webpage
```

For Google Chrome

```
Oops! Google Chrome could not connect to localhost:18170
```

Solution:

Restart the web server.

Internet Explorer Redirects to a Different Link

Symptom:

Suppose that I install erwin Mart Portal on a fresh machine. If I enable the SSL option and I invoke erwin Mart Portal, Internet Explorer redirects the page to res://ieframe.dll//.

Solution:

Internet Explorer versions 8 through 10 have a security enhancement that blocks the following types of sites:

- Sites that have self-signed certificates
- Sites that have self-signed certificates where the certificate does not match the URL

Follow any of these steps:

- Install the certificate in the Trusted Root Certification Authorities store.
- Add the site to trusted sites.
- Set the Internet Explorer Security level to Medium Low.

Chinese characters are replaced with question marks in Postgre SQL Mart

Symptom:

I type Chinese characters in the Version Description dialog in erwin Mart Portal. If I open erwin Data Modeler and go to the Catalog Manager window, I see that the Chinese characters are replaced with ????.

Solution:

Follow these steps:

1. Select Chinese for the Format, Location, and Locale fields in the computer where you have installed erwin Data Modeler, Mart Portal, and Mart database. (You can access these settings through the Control Panel.)
2. Open the Database Properties dialog for the Mart database and verify the value for the Collation field.
3. If the value is other than SQL_Latin1_General_CP1_CI_AS, create a database and assign this value for Collation. Initialize the Mart again.

I have a very long Windows user name and I cannot log in to the Mart through erwin Data Modeler

Symptom:

I have added a very long Windows user name similar to "Magdalena.Chalamalasetti" using the Mart Portal. When the user tries to log in to the Mart through erwin Data Modeler, the name is truncated to "US\Magdalena.Chalamas" and the user cannot log in.

Solution:

The name is truncated due to a limitation with Windows. The Windows API returns the legacy user name that is limited to 20 characters. If the length of a user name exceeds 20 characters, for example, "US\Magdalena.Chalamalasetti", the name is displayed as "US\Magdalena.Chalamas" in the Connect to Mart dialog.

You can resolve this in one of the following ways:

- Type the first 20 characters of the user name when you add the user as a Windows User, in the Mart Portal. For example, instead of typing "US\Magdalena.Chalamalasetti", type "US\Magdalena.Chalamalas".
- Use a Windows Group instead of the user's domain name. Using your Windows domain controller software, add the user to a Windows Group, and then add the

group as a User Group in the Mart Portal. For more information about how to add a User Group, see erwin Data Modeler r9 Workgroup Edition: Support for Directory Services video.

SSL Certificate Error

Symptom:

When you open Mart Portal from Mart Portal that is configured with an SSL certification, an SSL certificate error appears.

Solution:

1. Replace localhost in the Mart Portal URL with your computer name.

   https://localhost:12345/MartAdmin/

   https://<computer_name>:12345/MartAdmin/

2. Use the updated URL to access the Mart Portal

Unable to save a model to Mart with an existing model name

Symptom:

When you save a model to Mart with an existing model name, a dialog with the following text appears.

Model '<model name>' already exists in library '<mart name>'. Rename the new model name

Solution:

Save the model with a different name.

Administer Mart

This section contains the following topics

Adding a User

Sessions

Delete Mart

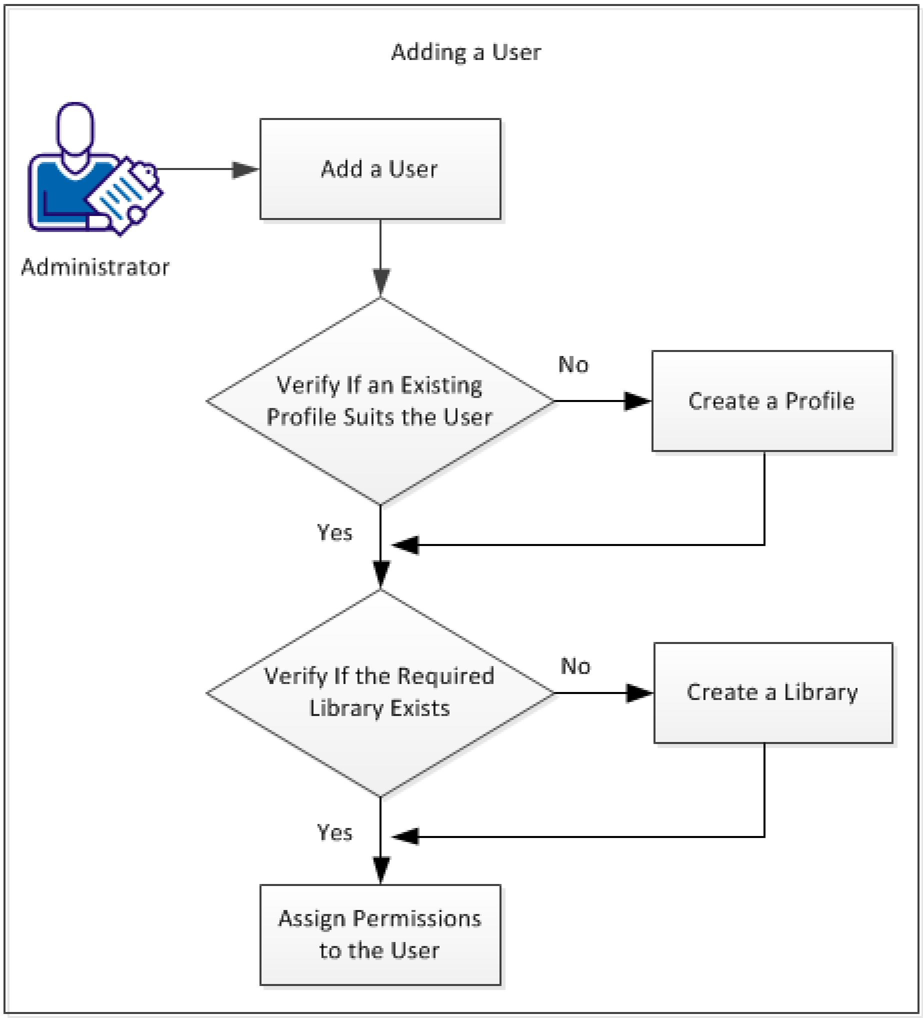
Catalog Management

Adding a User

As a System Administrator, after installing Mart, you add users, create libraries, and give permissions to users on the required libraries. You know which user should be of what type. You have the details of the profiles you want to create, and you know which profile to assign to which user.

This scenario describes how you can add users to Mart.

The following diagram illustrates how to add a user to Mart:


Adding a User
Administrator
Add a User
Verify If an Existing Profile Suits the User
No
Create a Profile
Yes
Verify If the Required Library Exists
No
Create a Library
Yes
Assign Permissions to the User

The following tasks describe how to add a user:

Adding a User

1. Add a user.
2. Verify if an existing profile suits the user.
3. Create a profile.
4. Verify if the required catalog or library exists.
5. Create a catalog or library.
6. Assign permissions to the user.

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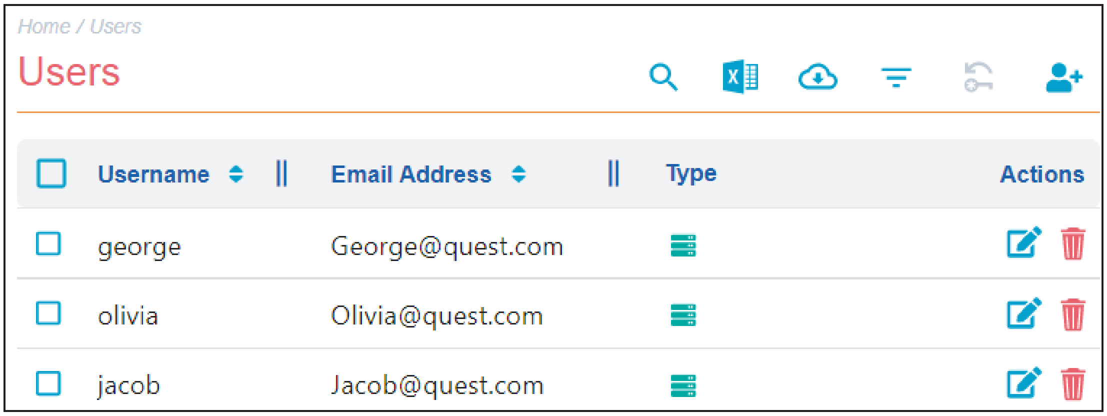
Add a User

As a Mart Portal, you can add users so that they can access Mart. You delete users if they are not required to access the Mart. You know the type of user you want to add--a user that is authenticated by Mart, a user that is authenticated by the Windows network, or a Windows user group.

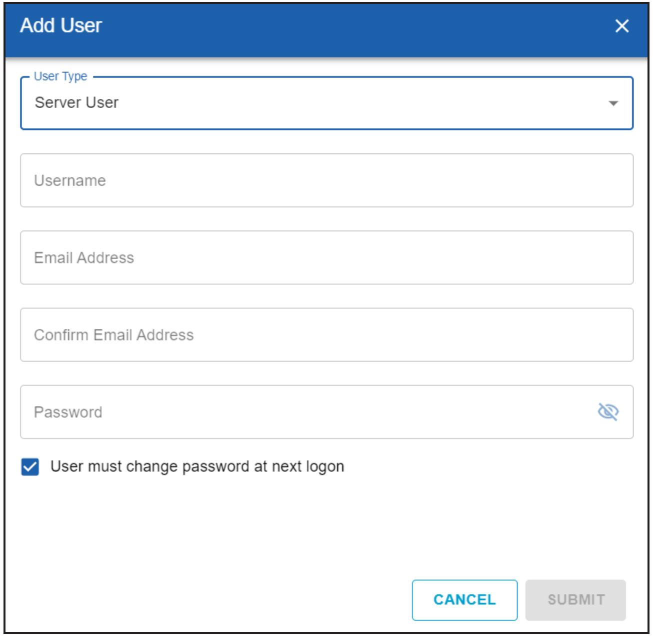
Follow these steps:

1. Go to **Application Menu** > **Users**.
   The Users page appears.



☐	Username	Email Address	Type	Actions
☐	george	George@quest.com		
☐	olivia	Olivia@quest.com		
☐	jacob	Jacob@quest.com		

2. Click .
   The Add User page appears.



Add User

User Type: Server User

Username

Email Address

Confirm Email Address

Password

☑ User must change password at next logon

3. Select one of the user types:

User Type	Description	Additional Information
Server User	Indicates a Mart user that is authenticated by the credentials provided in Mart. This is an application-level user and not a database user.	There are no database-level users in erwin DM Version 9 Mart.
Windows User	Indicates a Mart user that is authenticated by the Windows network	
Group User	Indicates a Windows user group	This means that all users that are part of the selected group can access Mart. To log in as a Group User, use your Group User's email ID.
Azure AD User	Indicates a Mart user that is authenticated by the Azure Active Directory network	

User Type	Description	Additional Information
Azure AD Group User	Indicates a user group that is authenticated by the Azure Active Directory	

4. Based on the user type, enter values to the following fields:

Field	Description	Additional Information
Username	Specifies the name to use to login	This field applies to Server and Windows users.
Password	Specifies the password of the user.	This field applies to Server users. A password must fulfil the following criteria: ▪ Contains at least 1 lowercase character ▪ Contains at least 1 uppercase character ▪ Contains at least 1 number ▪ Is minimum 6 characters in length ▪ Is maximum 130 characters in length Apart from the above criteria, special characters are optional.
Email Address	Specifies the email address associated with the user account	
Confirm Email	Specifies the email address again to confirm	This field applies to Server and Windows users.

Field	Description	Additional Information
Address		
User must change password at next logon	Specifies that the users get a change password screen when they log in next time to Mart Admin	This field applies to Server users. This is an optional field.
Load type option	Specifies whether all or partial groups are loaded in the user groups list	This field applies only to erwin Mart on premises for a Group User ▪ **Partial Load**: Selecting this option loads groups in the Group Name field based on the search keyword. ▪ **Full Load**: Selecting this option loads all available groups in the Group Name field.
Group name	Specifies the group name to which a user belongs	This field applies only to erwin Mart on premises for a Group User
LDAP file upload option	Specifies a list of users (for example, LDAP users) in the CSV format	This field applies only to erwin Mart on Cloud for a Group User.
Group Users	Specifies the identifier of the group that you want to add	This field applies only to Group users.

5. Click **Submit**.

   The user account is added, and an email is sent to the user.

   Note: Ensure that SMTP settings are configured.

To delete users, do one of the following:

- In the users list, for a user that you want to delete click 🗑 under the Actions column.
- Select multiple users and click 🗑 on the actions bar.

When a user is deleted, the models and objects that the user created are retained.

> You cannot delete the user that is currently logged in.

To reset server user's password, select the required users and click 🔑. Enter a new password and click **Submit**.

- If you have configured an SMTP server for emails, new passwords are generated and sent to the registered email address.
- In the absence of an SMTP server for emails, the password is reset to the password that you enter on the Reset Password screen. No email is sent automatically.
- > In the absence of an SMTP server for emails, if users forget their passwords, they cannot use the Forgot Password link on the Login Page. Use this option and reset the passwords manually.

If you enter an incorrect password five consecutive times, your account will be locked for five minutes (300 seconds) by default. You can change the time for which the account stays locked. For more information, refer to the Log In to erwin Mart Portal and Configure Settings topic.

Mart Users

From r9 onwards, you can add individual users and Active Directory user groups to Mart. Individual users are categorized as Server users and Windows users, which are based on the way they are authenticated. There are no database level users in the current Mart.

The descriptions of user types are as follows:

Server User

Specifies the user that is authenticated by the Mart Portal. The server user is an application level user and not a database user. A server user provides the user name and password to log on to Mart. For example, Peter is a Business Analyst and reviews data models. Add Peter as a Server user as he accesses Mart only at the time of reviewing data models. Peter provides his user name and password to connect to Mart.

> Only a Server user can access erwin Mart Portal. There are no database level users in the current Mart.

Windows User

Indicates a user that is authenticated by the Windows network.

If you have configured Azure Active Directory (AD) in erwin Mart Portal configuration, while adding users, you can search and select users associated with the necessary Windows users. Such users can then log in to erwin Mart Portal using their Azure AD log on names. For example, AZUREAD\abd@MyOrg.com or AZUREAD\abc or abc@MyOrg.com.

> To log into erwin Mart Portal using the domain/username, windows users have to be a part of an active directory group that has already been configured in your erwin Mart Portal configuration.

User Group

Specifies a user group that is part of an Active Directory. Use this option to add an entire group that accesses Mart. For example, you have a user group ABC-Domain\XYZDivision_AllModelers@MyOrg.com. Add XYZDivision_AllModelers, so that all users that are part of this group and are authenticated by ABC-Domain, connect to

Mart. Users of this group do not have to provide their user name and password when they connect to Mart.

> A password should fulfill the following criteria:
>
> - Contains at least 1 lowercase character
> - Contains at least 1 uppercase character
> - Contains at least 1 number
> - Is minimum 6 characters in length
> - Is maximum 130 characters in length
>
> Apart from the above criteria, special characters are optional.

Also, if you enter an incorrect password five consecutive times, your account will be locked for five minutes (300 seconds) by default. You can change the time for which the account stays locked as follows:

1. From Windows Start menu, click All Programs, erwin, Mart Portal 12.5, Configure Mart Portal.

   The erwin Mart Configuration dialog appears.

2. On the Mart Portal tab, edit the value of the Account Lockout Duration (Seconds) field to an appropriate value. At the most, you can set it to 30 days (2592000 seconds).

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Best Practices to Add a Group User

The following are the best practices to add a Group User:

- Suppose that you have a parent group that includes subgroups. To give access to all the subgroups under a parent group, add the parent group as a Group User.
- Suppose that you want to give generic permissions to all users of a parent group and specific permissions to a subgroup. Add both, the parent group and the subgroup and give specific permissions to the subgroup. The permissions given to a subgroup take precedence over the permissions given to a parent group.
- Suppose that you want to give generic permissions to a group and specific permissions to a particular user of the group. Add the group and add the particular user as a Windows user. The permissions given to a Windows user take precedence over the permissions given to a group user.

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Verify if an Existing Profile Suits the User

erwin DM Version 9 Mart has four built-in profiles:

- Admin
- Architect
- Modeler
- Viewer

Verify if any of these profiles suit the user you have created. If they do not, create the required profile.

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More information:

How Profiles Work

How Profiles Work

The way profiles work depends on the following factors:

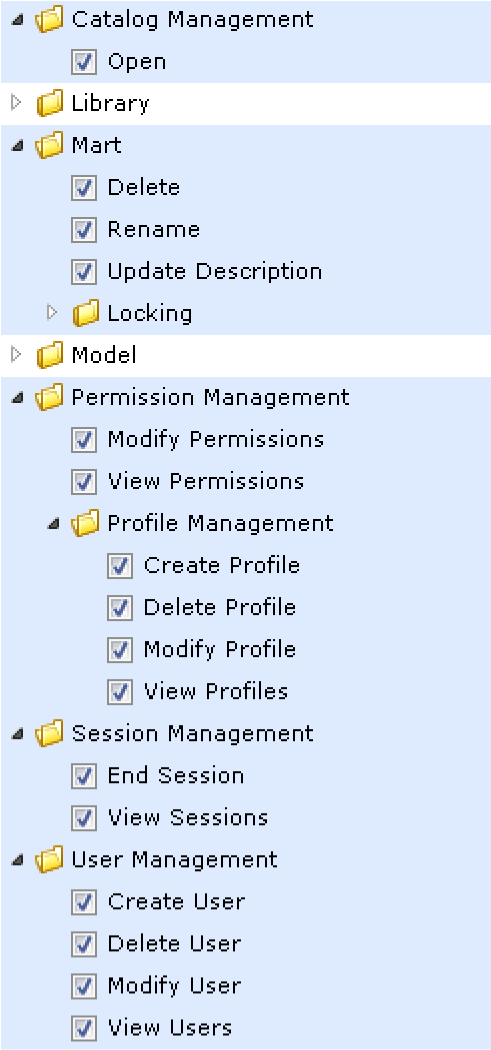
- The type of user that is assigned to the profile.
- The objects that are included in the profile.
- The permissions that are assigned to the objects.

This section describes the permissions available for various types of users. The section also includes common user profiles and describes permissions for those profiles.

Type 1: Mart level

- Includes items under Catalog Management, Mart, Permission Management, Session Management, and User Management.
- Mart level permissions are granted only if a user is assigned to a profile on Mart.
- The Mart level permissions are restricted or allowed at Mart Portal itself. The only

exception is that Catalog Manager, Open is handled by the client.

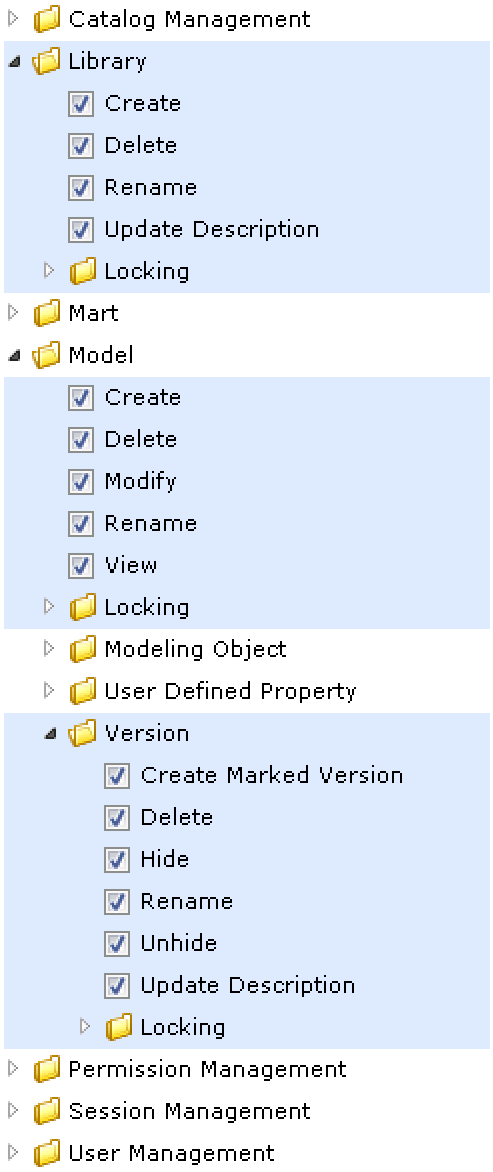


- Catalog Management
  - ☑ Open
- Library
- Mart
  - ☑ Delete
  - ☑ Rename
  - ☑ Update Description
  - Locking
- Model
- Permission Management
  - ☑ Modify Permissions
  - ☑ View Permissions
  - Profile Management
    - ☑ Create Profile
    - ☑ Delete Profile
    - ☑ Modify Profile
    - ☑ View Profiles
- Session Management
  - ☑ End Session
  - ☑ View Sessions
- User Management
  - ☑ Create User
  - ☑ Delete User
  - ☑ Modify User
  - ☑ View Users

Type 2: Catalog Object level

- Includes items under Library, Model, and Version.
- All library privileges, that is, create, delete, and modify are granted when a user is assigned to a profile on the Library or Mart.
- Catalog Object level permissions are restricted or allowed at Mart Portal itself. The only exception is that Model, Modify is also verified in erwin DM as part of live

semantic.

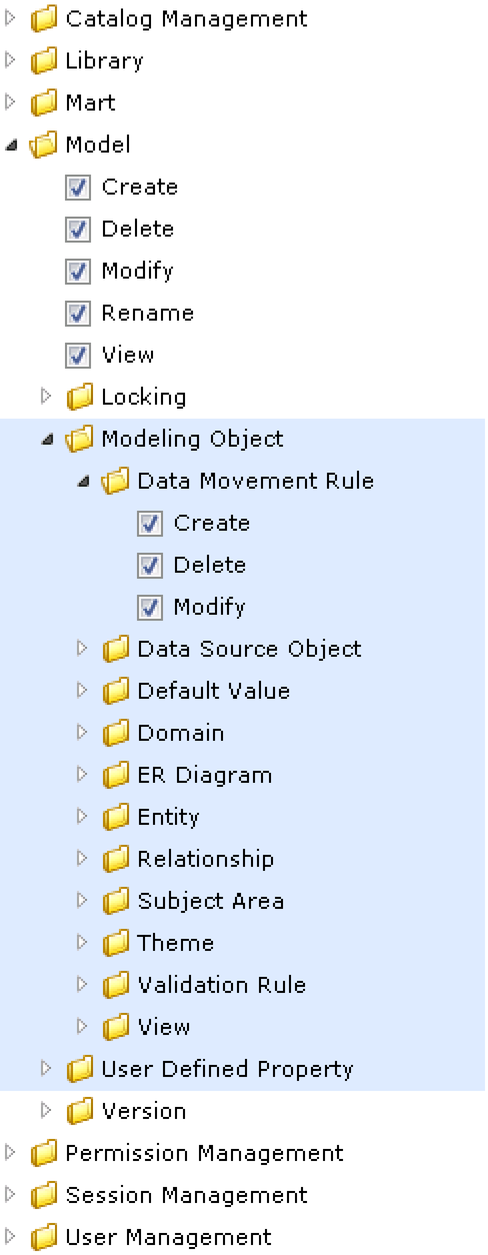


- Catalog Management
- Library
  - ☑ Create
  - ☑ Delete
  - ☑ Rename
  - ☑ Update Description
  - Locking
- Mart
- Model
  - ☑ Create
  - ☑ Delete
  - ☑ Modify
  - ☑ Rename
  - ☑ View
  - Locking
  - Modeling Object
  - User Defined Property
  - Version
    - ☑ Create Marked Version
    - ☑ Delete
    - ☑ Hide
    - ☑ Rename
    - ☑ Unhide
    - ☑ Update Description
    - Locking
- Permission Management
- Session Management
- User Management

Type 3: Modeling Object level

- Includes items under Modeling Object.
- Modeling Object level permissions are used for restricting or allowing create, modify, and delete operations on modeling objects within the Catalog of type Model.

- Modeling Object level permissions are restricted or allowed from live semantic in erwin DM.



- Catalog Management
- Library
- Mart
- Model
  - ☑ Create
  - ☑ Delete
  - ☑ Modify
  - ☑ Rename
  - ☑ View
  - Locking
  - Modeling Object
    - Data Movement Rule
      - ☑ Create
      - ☑ Delete
      - ☑ Modify
    - Data Source Object
    - Default Value
    - Domain
    - ER Diagram
    - Entity
    - Relationship
    - Subject Area
    - Theme
    - Validation Rule
    - View
  - User Defined Property
  - Version
- Permission Management
- Session Management
- User Management

> To be able to add an entity to the Subject Area and ER Diagram, set the Modify permission for Entity, Subject Area, and ER Diagram for the profile.

Permissions

Permission are defined as follows:

- A profile assigned to a user on a catalog.
- A Catalog could be the Mart, a Library, or a Model.

For more information about the types of users, see the Mart Users topic.

Authorization rules for users

The authorization rules for users are explained with examples for profiles and users. This approach helps you relate to a scenario that exists in your work environment and understand the rules better.

The authorization rules are explained based on the following sample catalog structure:

- Mart
  - Library1
    - Model1
    - Model2
  - Library2
    - Model3
    - Model4

Consider the following sample profiles and users:

- Sample profiles P1 and P2
- Sample Server user SU1
- Sample Active Directory (AD) user ADU1
- Sample AD groups ADG1 and ADG2

Authorization Rules for Server User

- Rule 1: P1 assigned to SU1 on Mart
  - SU1 gets the following privileges:
    - Type 1 privileges of P1 on Mart
    - Type 2 privileges of P1 on all libraries and models
    - Type 3 privileges of P1 on all models in Mart
- Rule 2: P1 and P2 assigned to SU1 on Mart
  - SU1 gets the union of P1 and P2 privileges on the entire Mart. Type 1, 2, and 3 privileges are considered. Union here means that if a privilege is restricted in P1 but allowed in P2, it is allowed for SU1.
  - In this case, multiple profile rule does not apply, as the union of privileges is used.
- Rule 3: P1 assigned to SU1 on Library1
  - SU1 gets the privileges assigned for P1 on the entire Library1.
  - Type 1 privileges are not considered.
- Rule 4: P1 assigned to SU1 on Model1
  - SU1 gets the privileges assigned for P1 on Model1.
  - Type 1 privileges and some Type 2 (Library) are not considered.
- Rule 5: P1 assigned to SU1 on Mart and P2 assigned to SU1 on Library1
  - SU1 gets the privileges of P1 on Mart and Library2, but not on Library1.
  - SU1 gets the privileges of P2 on Library1.
- Rule 6: P1 assigned to SU1 on Mart and P2 assigned to SU1 on Model1
  - SU1 gets the privileges of P1 on Mart, Library1, Model2, and the entire Library2, but not on Model1.
  - SU1 gets the privileges of P2 on Model1.

Authorization Rules for Windows User

- Rule 7:
  - If a Windows user is added as a Mart user, the rules of a Server User apply to the Windows user.

Authorization Rules for Group user

- Rule 8: P1 assigned to ADG1 on Mart, ADU1 is part of ADG1, and ADU1 not added as user on Mart
  - ADU1 gets the privileges of P1 on Mart.
- Rule 9: P1 assigned to ADG1 on Mart, P2 assigned to ADG1 on Library1, ADU1 is part of ADG1, and ADU1 is not added as user on Mart
  - ADU1 gets the privileges of P1 on Mart and Library2, but not on Library1.
  - ADU1 gets the privileges of P2 on Library1.
- Rule 10: P1 assigned to ADG1 on Mart, P2 assigned to ADG2 on Mart, ADU1 is part of ADG1 as well as ADG2, and ADU1 is not added as user on Mart
  - ADU1 gets the union of P1 and P2 privileges on Mart.
- Rule 11: P1 assigned to ADG1 on Mart, P2 assigned to ADG2 on Library1, ADU1 is part of ADG1 as well as ADG2, and ADU1 is not added as user on Mart
  - ADU1 gets the privileges of P1 on Mart and Library2.
  - ADU1 gets the union of P1 and P2 privileges on Library1.
- Rule 12: P1 assigned to ADG1 on Mart, ADU1 is part of ADG1, and ADU1 is also added as user on Mart
  - Since ADU1 is also added as a user on Mart, the user is not considered a part of any group. The rules are same as that of a Windows user.
- Rule 13: P1 assigned to ADG1 on Mart, P2 assigned to ADG2 on Mart, ADU1 is part of ADG1 only, ADG1 is subgroup of ADG2, and ADU1 is not added as user on Mart
  - ADU1 gets the privileges of P1 on Mart. This is because ADG1 is explicitly added on Mart and ADU1 is only part of ADG1.
- Rule 14: P1 assigned to ADG1 on Mart, P2 assigned to ADG2 on Mart, ADU1 is part of ADG1 as well as ADG2, ADG1 is subgroup of ADG2, and ADU1 is not added as user on

Mart

  - ADU1 gets the union of P1 and P2 privileges on Mart.

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Create a Profile

Profiles determine who can change the data or models in Mart. As a System Administrator, you can create profiles and can attach them to users for a catalog. When a user creates, modifies, or deletes an object in Mart, the profile determines if the operation is permitted. Each profile grants permissions at the following object levels, in the same hierarchical order:

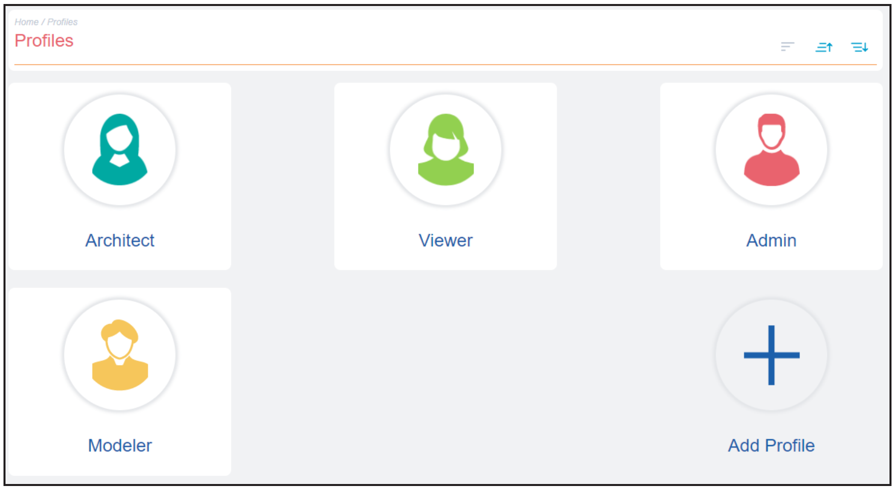
- Catalog Management
- Library
- Mart
- Model
    - Locking
    - Modeling Object
        - Data Movement Rule
        - Data Source Object
        - Default value
        - Domain
        - ER Diagram
        - Entity
        - Relationship
        - Subject Area
        - Theme
        - Validation Rule
        - View
    - User-Defined Property
    - Version
- Permission Management

- Reports
- Session Management
- User Management

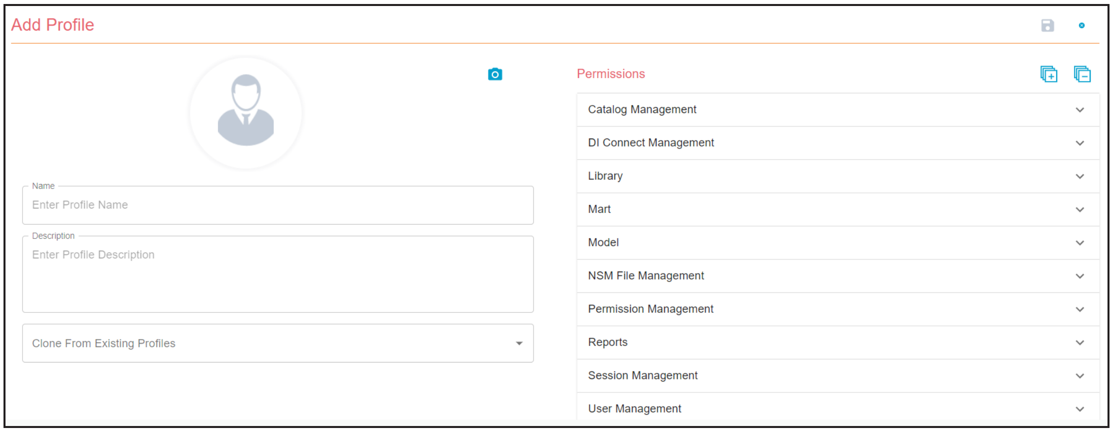
> Admin, Architect, Modeler, and Viewer profiles are created when you install Mart.

Follow these steps:

1. Go to **Application Menu** > **Profiles**.
   The Profiles page appears.


Home / Profiles
Profiles
Architect
Viewer
Admin
Modeler
Add Profile

2. Click **Add Profile**.
   The Add Profile page appears.


Add Profile
Name
Enter Profile Name
Description
Enter Profile Description
Clone From Existing Profiles
Permissions
Catalog Management
DI Connect Management
Library
Mart
Model
NSM File Management
Permission Management
Reports
Session Management
User Management

3. Select or enter values to the following fields:

Field	Description
Name	Specifies the name of the profile. `(backtick), ~(tilde), @(at the rate), %(percentage), ^(carat), () (brackets), -(hypen), _(underscore), +(plus), =(equal to), |(pipe), {} (flower bracket), [](square bracket), :(colon), ;(semi colon), .(dot) and ,(comma) are allowed.
Description	Specifies the description and purpose of the profile
Clone From Existing Profiles	If replicating an existing profile, specifies the source profile
Permissions	Specifies the permissions that the profile has on each Mart Portal module. If you have cloned an existing profile, on top of default permissions, you can edit the permissions according to your preferences. Any dependent permissions for the selected permissions are selected too. For example, if you select the Create Entity permission, then Model Modify, ER Diagram Modify, ER Diagram Modify under Subject Area, and Key Group Create permissions are also selected.

4. Click 💾.

To edit a profile, follow these steps:

1. Select the profile and click ✎.
2. Edit the **Name**, **Description**, or **Permissions**.
3. Click 💾.
   If the objects are part of a model, the changed permissions come to effect when the user opens the model the next time. If the objects are part of the Mart, such as catalog, the changed permissions are effective immediately.

To delete a profiles, select a profile and click 🗑.

> You cannot edit or delete the default profiles.

▲**Back to Top**

Verify if the Required Library Exists

When you migrate your models to erwin DM Version 9 Mart, you can choose to create libraries and copy models to them. Verify if you can assign these libraries to the user you want to create. If not, create the required libraries.

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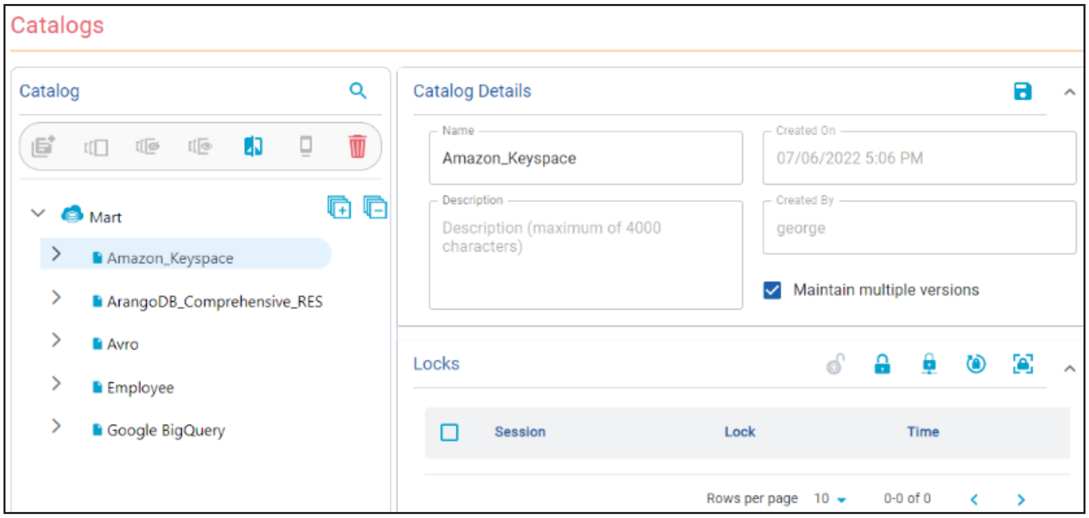
Create a Library

A library is a collection of related models and a catalog is a group of libraries. Use libraries to add an extra level of security or isolate implementation differences, such as development and production environments.

Follow these steps:

1. Go to **Application Menu** > **Catalogs**.
   The Catalogs page appears.



Name: Amazon_Keyspace
Created On: 07/06/2022 5:06 PM
Description: Description (maximum of 4000 characters)
Created By: george
☑ Maintain multiple versions

Mart
- Amazon_Keyspace
- ArangoDB_Comprehensive_RES
- Avro
- Employee
- Google BigQuery

Rows per page 10 0-0 of 0

2. In the Catalog pane, click 📄.
   A library is added to the catalogs tree.
3. Select the newly created library. and in the Catalog Details pane, click ✎.
4. Edit the **Name** and **Description**.

> In Name field, `(backtick), ~(tilde), @(at the rate), %(percentage), ^(carat), ()(brackets), -(hypen), _(underscore), +(plus), =(equal to), |(pipe), {}(flower bracket), [](square bracket), :(colon), ;(semi colon), .(dot) and ,(comma) are allowed.

5. Click 💾.

Refer to the following table for catalog tree icons and their descriptions:

Icon	Description
📄	Indicates a Mart model
🖥	Indicates that the model is harvested to erwin ER360
🖥	Indicates that the model is harvested to erwin ER360 but has newer updates that are not harvested.
📋	Indicates that the model was marked as a template while saving to the mart
📄	Indicates an erwin DM project saved to mart

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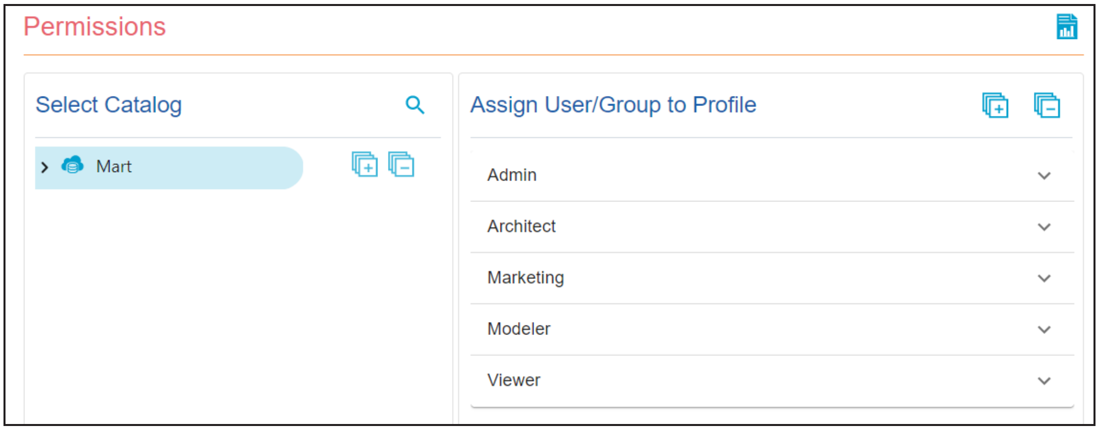
Assign Permissions to a User

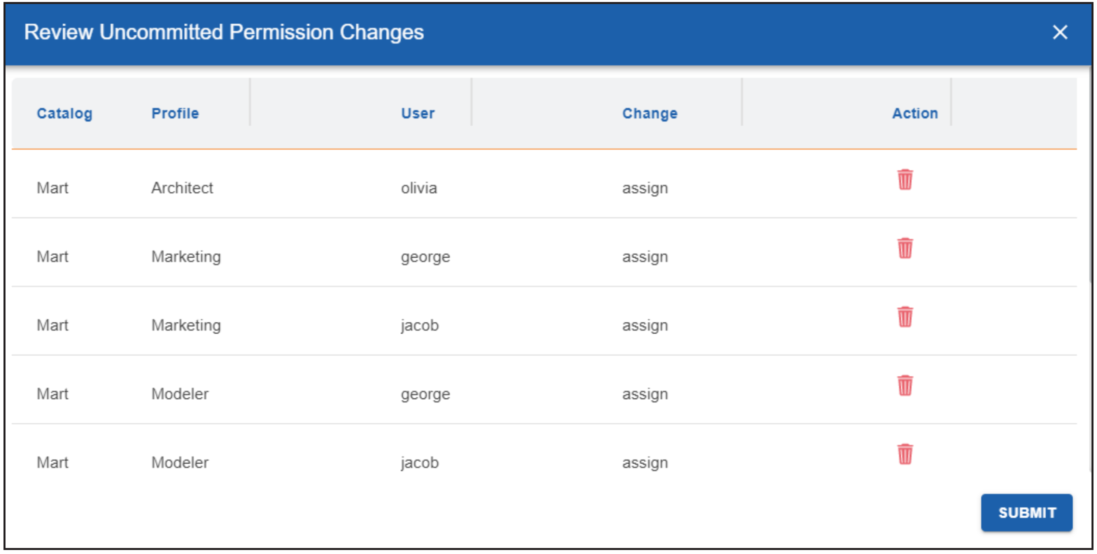
As a System Administrator, you assign different levels of permissions to different profile users. Control the level of permission and assign a user or a group to a profile so that they have specific access. A user can be assigned to multiple profiles. For example, a user can have full permissions on one library and only view permissions on another.

Follow these steps:

1. Go to **Application Menu** > **Permissions**.
   The Permissions page appears.


Permissions
Select Catalog
Mart
Assign User/Group to Profile
Admin
Architect
Marketing
Modeler
Viewer

2. In the Select Catalog pane, select the libraries that you want to the user to access.
3. In the Assign User/Group to Profile pane, click a profile.
4. Click the ▾ to view a list of users or groups.
5. Select the required users or groups. You can verify your permission updates before submitting them. Click **Review Changes**.
   The Review Uncommitted Permission Changes page appears.



Catalog	Profile	User	Change	Action
Mart	Architect	olivia	assign	🗑
Mart	Marketing	george	assign	🗑
Mart	Marketing	jacob	assign	🗑
Mart	Modeler	george	assign	🗑
Mart	Modeler	jacob	assign	🗑

6. Click **Submit**.
   The selected users or groups acquire the profile's permissions.

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Examples

This section describes steps to accomplish common business requirements.

Example: Provide permissions to view models in a specific library

Chris, a Business Analyst, has to access Mart to review the models you have copied to the *For Review* library. Chris only reviews the ER diagrams available in a specific subject area. He may modify the diagrams if required. Chris uses his Windows credentials to log on.

Follow these steps:

1. Add a Windows user named Chris.
2. Create a library named For Review and copy the required model to it.
3. Create a profile named Business Analyst and include the following permissions:
   - Model, Modify
   - Model, Modeling Object, Subject Area, Create and Modify
   - Model, Modeling Object, Subject Area, ER Diagram, Create and Modify

4. Assign the profile to Chris.

   Chris can now log in to Mart using his Windows credentials and review the model.

Example: Set up Mart that allows users save models under a specific library and not under root

You are a System Administrator and you want Jane to create models only under a specific library and not under Mart root.

Follow these steps:

1. Add a Windows user named Jane.
2. Create a library named Projects_Jane.
3. Create a profile named Jane_Profile and include the following permissions:
    - Model, Create
    - Model, Modeling Object, Subject Area, Create and Modify
    - Model, Modeling Object, Subject Area, ER Diagram, Create and Modify
4. Click Permission Management.
5. Select Projects_Jane in the Select Catalog pane.
6. Select Jane_Profile in the Select Assign User/Group to Profile pane.
7. Click the ▾ to view a list of users or groups and select Jane in the Select User/Group pane.
8. Click Submit.

   Jane can create models and save them only under the Projects_Jane folder.

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Sessions

When you log in to the mart, this event is recorded as the start of a session. During a session, the models that you open and the locks that are applied to each catalog entry are tracked. Each session has its own Action Log, contained in erwin Data Modeler, which logs the transaction information containing real-time changes that are made to a model. After you have logged out of the mart, the Action Log is updated and the session is closed.

Session Manager lets you view a session and terminate your sessions. You can also assign the appropriate permission to a user to terminate a session.

To view a session, on the ribbon, click Mart > Session Manager. The Session Manager dialog lists all the sessions of the current user.

You can also view and delete offline mart models that are saved in a session.

> Deleting the offline mart model does not delete the model from the stored location. It deletes the information about that model from erwin Data Modeler.

To delete an offline mart model, open the Session Manager dialog, and click Offline Mart Models. The Offline Mart Model Manager dialog opens. Select the Catalog item and click Delete offline mart models. The information about the offline mart model is deleted from erwin Data Modeler.

Terminate Inactive or Closed Sessions

Terminate an Inactive or a Closed session to release all the locks applied in that session. If a session is terminated, then all the information that is related to offline mart models in that session is deleted.

Follow these steps:

1. On the ribbon, click **Mart** > **Session Manager**.

   The Session Manager dialog opens. It displays all the sessions of a user.

2. Select a session from the Sessions list and click Delete Session.

   The selected session is terminated.

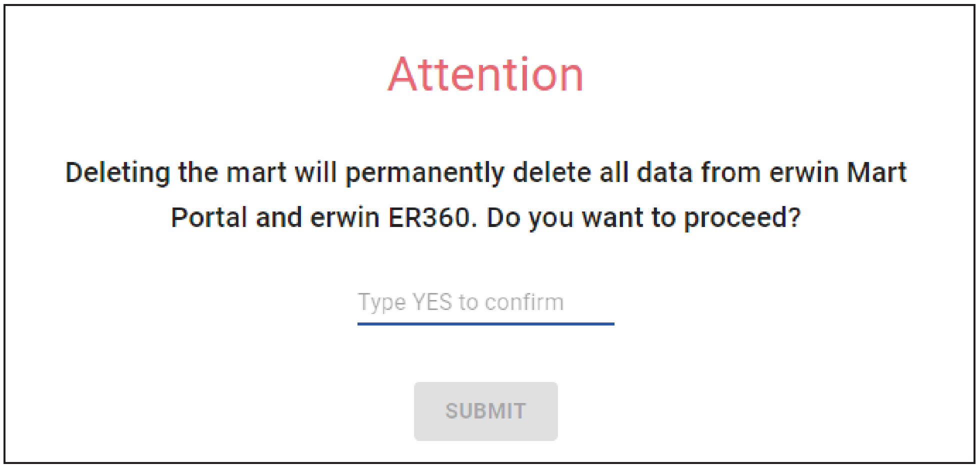
Delete Mart

As a Mart Portal, you can delete Mart.

Important! If you delete Mart, all your libraries, models, and the associated data are deleted permanently.

Follow these steps:

1. Go to **Application Menu** > **Settings** > **Delete Mart Portal**.



Attention

Deleting the mart will permanently delete all data from erwin Mart Portal and erwin ER360. Do you want to proceed?

2. Type YES and click **Submit**.

   Mart is deleted and the Initialize Mart page appears.

Catalog Management

The catalog includes libraries, models, and versions of models. Libraries help you organize projects by grouping models together. For example, you can create a library to store models that share a workgroup, a security level, or a target server. Any number of libraries or models can be created and stored in a catalog. By organizing your data models in libraries, you can also easily manage model merging and conflict resolution.

Library Structure Planning

Before you set up your library structure in the Catalog Manager, review how the workgroup modeling process works in your organization. To help you review your workgroup modeling process, answer the following questions:

- How are erwin Data Modeler models moved from the development library to the production library?
- How are the approval process for moving models documented and enforced?
- How are erwin Data Modeler models merged into the enterprise model and who controls this process?
- Do you use versioning to record the milestones of models?
- Who has what type of access to each library?
- Are erwin Data Modeler models generated to multiple target environments (such as Microsoft SQL Server and Oracle)?
- How are you warehousing your data?

Library Structure Organization

During the model development life cycle, you must have an organized library structure. Having an organized library structure helps you move only those models that are intended for production to that level. You can structure your libraries in three distinct types:

Development Libraries

Contains models that are being created or updated.

Test Libraries

Contains finished models that are being tested before moving them to production.

Production Libraries

Contains the finished models that were tested and debugged.

Library Security Levels

After you have created your libraries, determine the security levels for each library. The following examples give you an idea of how you can use libraries and security together to help safeguard models:

- The entire modeling team can have access to the development library and read-only access to the test and production libraries. Authorized project leaders can be assigned to move models from the development library to the test library, and then from the test to the production library.
- Models from other libraries (for example, Sales and Accounting) can be merged from their own libraries in the enterprise model. Modelers working on projects in the Sales or Accounting libraries can have read-only access to the enterprise library and full access to their own projects. Assign one person or group to manage integration to the enterprise model.
- Modelers need full access to their own libraries and read-only access to the libraries of others. This type of security enhances production for the following reasons:
  - Everyone can see what everyone else is working on.
  - All models are stored in one location.
  - Permissions can be changed as different collaborations among modelers become necessary.

Library Structure Considerations

You must consider any or all of these suggestions when building a library structure:

Practical library names

Use practical and functional library names that help all users understand the purpose and type of models contained in the library. For example, you can use the format: Short System Name+Version+Stage (for example, Ora_8_Production).

Model naming and data type standards

Enforce naming and data type standards, which are vital to efficient workgroup modeling.

> For more information, see the *erwin Data Modeler Online Help*.

Rules for promoting models

Define a rigid and documented model approval and promotion process using different libraries for each development phase.

Rules for versioning models

Define versioning rules using different libraries for each development version (for example, Development Beta 1).

User rights and security

Apply stricter rights to libraries that contain mature models nearing the latter stages of development. You can also apply strict rights to individual models.

Publication

Generate reports to communicate milestones in the model development process.

Schema generation rules

Set up a library where you generate the model schema. Usually, you generate the model schema of promoted models only in the latter stages of development.

Manage Catalogs

A catalog is similar to a directory structure. It consists of libraries, data models, model versions, and templates. Catalog Management displays a hierarchical tree of Mart and lets you manage your catalogs. It has all the features included in the Library Manager and Session Manager modules that were available in the previous releases of erwin Data Modeler Workgroup Edition.

Following are some of the features in Catalog Management:

Libraries

Use libraries to group related models. Libraries add an extra level of security or isolate implementation differences, such as development and production environments. A library can be part of another library or can be present under the Mart.

Sorting

In a catalog, the libraries are sorted alphabetically, and the models within the libraries are also sorted alphabetically. Versions are sorted newest to oldest; Named Versions appear first, and then Delta Versions follow. The catalog entries sort in the following order: Libraries, Models, Templates, and Versions respectively.

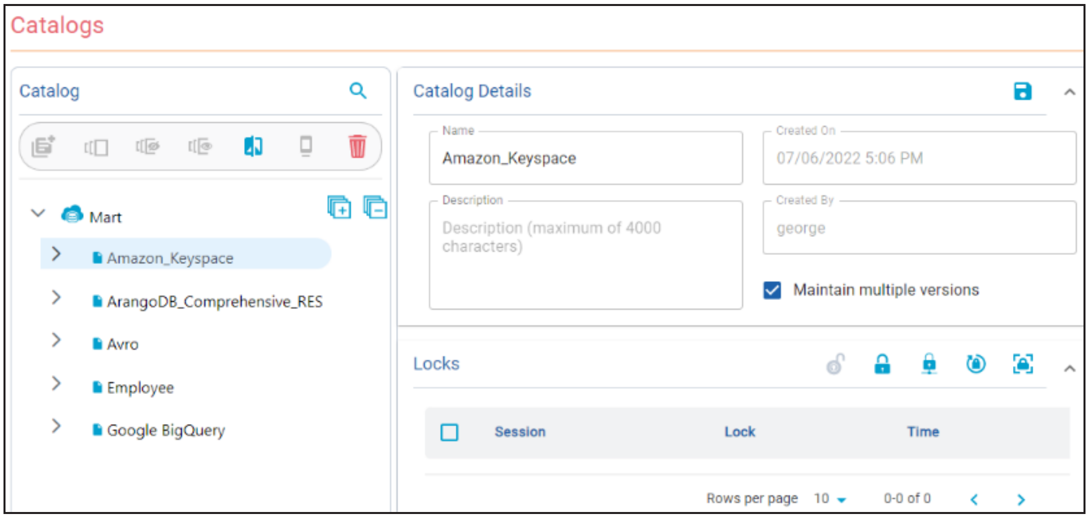
Context Menu

The context menu appears when you select a catalog entry and right-click. You can use the context menu to cut, copy, paste, and delete a library, model, or template. You can also use the context menu to mark a Delta version and delete, hide, and unhide Named and Delta versions.

You can create, delete, copy, and move catalog entries; you can hide and unhide versions.

Follow these steps:

1. Open erwin Mart Portal and select the Catalog Management panel.
2. To create a library, follow these steps:
    1. Go to **Application Menu** > **Catalogs**.
    The Catalogs page appears.


Catalogs
Catalog
Mart
Amazon_Keyspace
ArangoDB_Comprehensive_RES
Avro
Employee
Google BigQuery
Catalog Details
Locks
Session
Lock
Time
Rows per page 10
0-0 of 0

Name: Amazon_Keyspace
Created On: 07/06/2022 5:06 PM
Description: Description (maximum of 4000 characters)
Created By: george
☑ Maintain multiple versions

    2. In the Catalog pane, click .
    A library is added to the catalogs tree.
    3. Select the newly created library. and in the Catalog Details pane, click .
    4. Edit the **Name** and **Description**.

> In Name field, `(backtick), ~(tilde), @(at the rate), %(percentage), ^(carat), () (brackets), -(hypen), _(underscore), +(plus), =(equal to), |(pipe), {}(flower bracket), [](square bracket), :(colon), ;(semi colon), .(dot) and ,(comma) are allowed.

    5. Click .

Refer to the following table for catalog tree icons and their descriptions:

Icon	Description
	Indicates a Mart model
	Indicates that the model is harvested to erwin ER360
	Indicates that the model is harvested to erwin ER360 but has newer updates that are not harvested.
	Indicates that the model was marked as a template while saving to the mart
	Indicates an erwin DM project saved to mart

3. To create a Named version, follow these steps:
    1. Select either a Named version or a Delta version of a data model and click .

       A Named version is created.
    2. In the Catalog Details pane, edit the **Name** and **Description**.
    3. Click .

       The name and description of the Named version is updated.
4. To hide a model version, select the version from the Catalog pane, and click .
5. To unhide a model version, select the model of that version, click . From the Hidden versions dialog, select your version and click **OK**.
6. To delete a catalog entry, select the entry and click .

   The Delete button is disabled when the last existing version of a model, or all the versions of a model are selected. The catalog entry is permanently deleted from Mart and it cannot be recovered.

Lock a Catalog Entry

You can lock any catalog entry, even mart, to restrict other users from editing it. You can view the current lock status of a catalog entry in the Locks section. Locks last until the duration of a session or until removed. Locks can last even after a session is disconnected; it means that the user is disconnected from Mart but the lock is still preserved. You can work offline on a model without losing the lock. Only the Administrator can override any lock.

The following lock options are available in Mart:

Existence Lock

> Prevents other users from deleting a catalog entry. When you have an Existence lock, other users can read and update, but not delete the catalog entry. You can edit or move the catalog entry but cannot delete the entry. The presence of an Existence Lock prevents anyone, other than the lock owner, from acquiring an Exclusive Lock on the entry. You can apply Existence Lock, Shared Lock, or Update Lock, with the existing Existence Lock, to the catalog entry.

Shared Lock

> Prevents other users from editing the catalog entry. When a you have a Shared lock, other users can read, but cannot update or delete the catalog entry. You can open a model with Shared Lock in read-only mode; you cannot edit the model. The presence of a Shared Lock prevents anyone from acquiring Update Lock or an Exclusive Lock on the entry. You can apply Existence Lock with Shared Lock to a catalog entry.

Update Lock

> Lets only the lock holder to edit the catalog entry. When you have an Update lock, other users cannot read, update, or delete the catalog entry. The presence of Update Lock on an entry prevents other users from acquiring any other locks, except Existence Lock.

Exclusive Lock

> Lets only the lock holder to edit a catalog entry. When you have an Exclusive lock, other users cannot read, update, or delete the catalog entry. In addition, no other user can add any type of lock on the entry.

Unlock Entry

Lets only the lock holder to unlock an entry.

Depending on the type of lock, you can move any entry in the catalog. Acquire Update Lock on a catalog entry before you move that entry.

You cannot move or copy a catalog entry if any of the following conditions is true:

- the entry has any lock other than Existence Lock or Shared Lock
- the parent of that entry has any lock, other than Existence Lock
- the destination library or mart has any lock, other than Existence Lock

Lock Behavior

When you edit a catalog entry, locks are applied automatically to appropriate levels in the catalog to prevent other users from editing the entry. When the edit is complete, the locks are removed or downgraded automatically.

The following scenarios apply to locks when you edit a catalog entry:

- When you load a model, Shared Lock is applied to the model and Existence Lock is applied to the parent entry up to the mart. After the model is loaded, Shared Lock is replaced with Existence Lock.
- When you initially save a model, Update Lock is applied to the model automatically. After the model is saved, Update Lock is replaced with Existence Lock automatically. If you apply the Update Lock manually, the lock is retained until you release it manually, or until the model is closed.
- When you incrementally save a model, Update Lock is applied to all the versions created between the opened version and the newly created version. After the model is saved, Update Lock is replaced with Existence Lock.
- When you delete a model, Exclusive Lock is applied to the model. After the model is deleted, the lock is dropped.
- When you delete a user, all the locks that the user had applied are deleted.
- When you rename a library, Update Lock is applied to the library. After the library is renamed, the lock is removed.
- When you load models for version compare, Shared Lock is applied to the root model. After the model is loaded, Shared Lock is removed.
- When you merge or import objects during version compare, Update Lock is applied to the root model. When the merge or import is complete, Update Lock is removed.

Workgroup Modeling Reports

Modelers typically work from a common set of libraries and models, and share information about these objects with other users. One way to share information is by using reports, which details the information and definitions for a model. You can generate predefined reports to view the contents of specific libraries and models, view the changes and conflicts for specific models, and view the security structure for the database.

You can generate Mart reports using either the Report Designer, the Query Tool, or a third-party reporting tool.

Report Designer

Report Designer lets you create a wide variety of mart administrative reports and cross-model reports. You can create report templates for frequently used reports and you can export reports to the HTML, CSV, and PDF formats. You can create report solutions and include multiple report templates. For more information about the Report Designer, see the Online Help.

Reporting Tool

You can create custom reports using a third-party reporting tool. For more information about generating custom reports, see the Creating Custom Mart Reports using a Reporting Tool guide.

erwin Data Modeler Workgroup Edition includes the following predefined reports:

Cross Model Reports

The following table describes the cross-model reports that you can run against Mart:

Report Name	Description
Attributes/Columns	Provides information about attributes/columns of the mart models
Design Layer Lineage	Provides information about the model sources of the mart models
Domains	Provides information about Domains and Datatypes of Attributes of the mart models

Entities/Tables	Provides information about the entities/tables of the mart models
Naming Standard	Provides a list of mart models that have active naming standard objects
Relationships	Provides relationship information, such as parent and child tables of mart models
Subject Areas	Provides information about the subject areas of the mart models
User Defined Properties	Provides information about the UDPs present in the mart models
Views	Provides information about the views present in the mart models

The following table describes the filters available for the above reports:

Report Name	Filter By	Description
Attributes/Columns	Only The Attributes Within Entity	Filters attributes that are only part of entities
	Only The Attributes Without Comment	Filters columns without Comments
	Only The Attributes Without Definition	Filters attributes without Definition
	Only The Attributes Without Domains	Filters attributes whose domain is a default domain
	Specify Attribute Name at Run Time	Filters the attribute whose name is specified at run time
	Specify Model Name at Run Time	Filters the model whose name is specified at run time
Design Layer Lineage	Specify Model Name at Run Time	Filters the model whose name is specified at run time
Domains	Search Domain Name at Run Time	Filters the domain whose name is specified at run time

	Specify Model Name at Run Time	Filters the model whose name is specified at run time
Entities/Tables	Only The Attributes Without Comment	Filters columns without Comments
	Only The Attributes Without Definition	Filters attributes without Definition
	Specify Attribute Name at Run Time	Filters the attribute whose name is specified at run time
	Specify Model Name at Run Time	Filters the model whose name is specified at run time
Naming Standard	NSM_Option-Show Only Active NSM	Filters NSM Objects that are Active in Mart Models
Relationships	Exclude Relationship On View	
	Specify Model Name at Run Time	Filters the model whose name is specified at run time
	Specify Relationship Name at Run Time	Filters Relationship Names that are present in the Mart and whose name is specified at run time
Subject Areas	Search Subject Area Name at Run Time	Filters the subject area whose name is specified at run time
	Specify Model Name at Run Time	Filters the model whose name is specified at run time
User Defined Properties	Search UDP Name at Run Time	Filters the UDP whose name is specified at run time
	Specify Model Name at Run Time	Filters the model whose name is specified at run time

Views	Search View Name at Run Time	Filters the view whose name is specified at run time
	Specify Model Name at Run Time	Filters the model whose name is specified at run time

The filters available are mutually exclusive. Therefore, you can select only one of them at a time.

Mart Administrative Reports

The following table describes the mart administrative reports that can be run against models in the mart:

Report Name	Description
Libraries	Provides information about libraries present in the mart
Locks	Provides information about locks present in the mart, such as the models and catalogs that are locked
Models	Provides information about the models saved in the mart
Profiles	Provides information about the profiles present in the mart
Sessions	Provides information about the mart user sessions, such as the session status
User Logs	Provides information about the actions performed by mart users
User Permissions	Provides information about the permissions present for mart users
Users	Provides information about mart users, such as the user type

The following table describes the filters available for the above reports:

Report Name	Filter By	Description
Libraries	No Filter	

Locks	No Filter	
Models	No Filter	
Profiles	No Filter	
Sessions	Active Session	Filters active user sessions
	Current User	Filters all information of the user that is logged on currently or the use that runs the report
User Logs	User-Exclude Deleted Users	Filters log result of users, excluding the deleted users
	User-Specify Users at Runtime	Filters the user whose name is specified at run time
	Session_Log-Filter By Category- Authentication	Filters log-in, log-out, and authentication failure logs
	Session_Log-Filter By Category- Catalog	Filters actions performed on the Catalog Manager, such as open and close, initial save, incremental save, create catalog, and delete catalog
	Session_Log-Filter By Category- Log	Filters users that cleared logs using the Log Management pane of the erwin Mart Portal
	Session_Log-Filter By Category- Misc	Filters logs of miscellaneous actions that are not covered under any category. For example, report execution
	Session_Log-Filter By Category- Permission	Filters logs of actions performed using the Permissions pane of erwin Mart Portal
	Session_Log-Filter By Category- Profile	Filters logs of actions performed using the Profile Management pane of the erwin Mart Adminsitrator
	Session_Log-Filter By Category- User	Filters logs of actions performed using the User Management pane of the erwin Mart Portal

	Session_Log-Filter By Type- Error	Filters logs of actions that are registered as errors
	Session_Log-Filter By Type- Info	Filters logs of actions that are registered as information. This is the default level for all actions except for actions that result into errors.
User Permissions	Exclude Delete Users	Filters permission information of users, excluding deleted users
Users	Exclude Delete Users	Filters information of users, excluding deleted users

> The filters available are mutually exclusive. Therefore, you can select only one of them at a time.

Bulk Editor

The Bulk Editor provides the selection, validation, and maintenance of model object metadata, permits reusable customization (option sets), and realtime access to model changes. Export results or selected rows to a CSV file. You can use the Bulk Editor to edit a small set of properties over a large number of objects. Changes and updates are immediately committed as you make them, field by field.

For more information, refer to the Using the Bulk Editor topic.

Query Tool

The Query Tool is used to query the repository through executing SQL SELECT statements against a local model or a model in the mart. You can use the Query Tool to create your own .QRY report file. Save your option set locally to the model or as an XML file. Export your results to a CSV file. You can execute a query against the objects and properties in the model, the metadata defining those objects and properties, and the action log that records the changes that are made to your model during the modeling session. You can create new queries or paste text from another source (such as a .SQL file) into a query. Although the Query Tool provides a built-in query interface in erwin Data Modeler, you can also use any third-party reporting tool that has ODBC capability to query erwin Data Modeler modeling data.

For more information, refer to the Query Tool topic.

Create Reports Using Report Designer

Report Designer lets you create a wide variety of reports and on the current data available in your data models. If you are working in the Workgroup Edition, you can create Mart administrative reports and cross-model reports. You can create report templates for frequently used reports and you can export reports to HTML, CSV, and PDF formats. You can create report solutions and include multiple report templates.

You cannot reuse the .RTB reports that were created using Report Template Builder, because the metamodel objects are changed. You must recreate the reports in Report Designer.

Several sample (pinned) reports are included with the application and they are available in the following location:

```
%Installdir%\erwin\Data Modeler r9\BackupFiles\Report Solutions
```

Also at the following location:

Windows 7

```
C:\Users\<user name>\AppData\Local\erwin\Data Modeler\9.8\Report Solutions
```

> The pinned reports are created using a Logical-Physical model. If you use the pinned reports with a Logical-only or a Physical-only model, it may result in inappropriate results.

Follow these steps:

1. Click Tools, Report Designer. The erwin Report Designer window opens.
2. To create a report solution, click Create new solution for reports on the toolbar.

   If the current report solution is not saved already, you are prompted to save it. A new blank workspace appears.
3. To create a report template, follow these steps:
   a. Click Create a Report on the toolbar. The Report Editor dialog appears.
   b. Enter a name for the report.

c. Select the model type that you want to report on. Select Mart to create a report on the Mart data.

   The items in the Select Report Subject pane change according to the Report Type that you select.

   > You must have the Reports: View permission to create Mart reports.

d. In the Select Report Subject pane, select the item on which you want to generate the report.

e. In the Select Report Fields pane, select the fields that you want to include in the report.

f. To create a report that filters specific objects and includes them in the report, use the Filter by option. This option is available only for entities, tables, attributes, columns, subject areas, and indexes.

g. Click Run Report.

   If you are creating a report on your Mart and you have selected an option under Filter By, the Mart Report Filter dialog opens.

h. Select the specific models that you want to get the results from. Enter the specific model object name. Use wildcard characters, if necessary.

   The report is generated and displayed. If you do not specify any model or entity, the generated report includes all the models. If you have used a wildcard, by default, the wildcard is applied to all the names. For example, if you type ID, the report includes Cust_ID and ID_For_Category. If the result is very large for Mart reports, the report is displayed in multiple pages (data grid). Use the navigational icons in the toolbar to view the subsequent pages.

i. (Optional) Click the Clear data in data grid icon to clear the results in the grid.

4. To configure report preferences, follow these steps:
    a. Click Edit, Preferences. The Report Designer Preferences dialog appears.
    b. Complete the following fields and click OK:

Add object type as prefix for the properties 'Name' and 'Physical Name'

Prefixes the object type to only the Name and Physical Name columns. For example, you are generating a report on entities and the corresponding attribute names and data types. The column names in the report are displayed as Entity Name, Attribute Name, and Attribute Logical Data Type.

Add object type as prefix for all other properties

Prefixes the object type to all columns.

> These options work only when they are selected at the time of creating a report. If these options are selected at the time of modifying an existing report, they do not work.

Apply optimization mode if row count is more than

Specifies the number of rows at which the computer resources are optimized to display the report. If the row count in your report exceeds the number that you specify here, the report is displayed in optimization mode. In this mode, the group and sort options are not available in the result grid. If no value is entered, the row count for optimization mode is considered as equal to the total row count of a report.

Number of top rows to display

Specifies the number of top rows that you want to display. This option displays the first few rows that match a report criteria, when the result contains more rows than the number specified here.

5. To generate a report from an existing report template, select the template, right-click, and click Run.

6. To modify an existing report template, select the template, right-click and then click Properties. After you finish modifying, restart erwin DM. Your changes will take effect when you run the report again.

   > When you modify an existing report template and select more properties for the existing report subject, the selections are retained. If you select a different report subject, the previous report subject and its properties are not included in the report.

7. To customize the appearance of the report at the node-level, follow these steps:
   a. Right-click the node and click Properties. Complete the following fields:

      Name

      Specifies the name of the node. By default the name of the selected object is displayed.

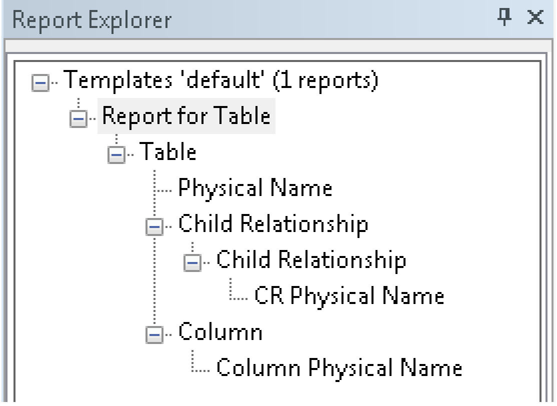
      HTML Style

      > These settings apply to both HTML and PDF reports.

      Font Family: Specifies the font for the selected node.

      Size: Specifies the font size for the selected node.

      PDF Page Breaking: Specifies that you want to display the details of each node on a new page. The node for which this option is selected and the subsequent nodes are displayed on a new page. This option is not effective when the report has only one node. When the report has multiple nodes, do not set this option on the main node. Suppose your report nodes look like the following illustration:



Report Explorer

Templates 'default' (1 reports)
  Report for Table
    Table
      Physical Name
      Child Relationship
        Child Relationship
          CR Physical Name
      Column
        Column Physical Name

If you apply the PDF Page Breaking option to the Child Relationship (above CR Physical Name) node, the CR Physical Name and Column Physical Name nodes are displayed on a new page.

Foreground: Specifies the text color.

Background: Specifies the background color.

Template Color: Specifies that the color that is specified in the template is used.

Bold/Italic/Underline/Strikeout: Specifies the effect for the text.

Width: Specifies the width of the selected node (report column). You can specify the width for any node and it is applied when the report is exported to HTML or PDF. However, the width is not applied to the last node (last column in the report) in a PDF report. This is because, the remaining length of the fixed page width is considered as the actual width of the column.

Alignment: Specifies the alignment of the text.

8. To export a report solution to HTML, follow these steps:
   - Right-click the report solution and click Export All to HTML. The Report Export dialog appears.
   - Click Browse and select the folder to which you want to export the report.
   - Go to the HTML tab and add the title in the Solution Title in HTML field.
   - Click OK. The report is generated in the specified folder.

9. To export a report to HTML, follow these steps:
    a. Click the Clear data in data grid icon and clear the result grid.

       This is a best practice and helps the application export the report without consuming much of the computer resources.
    b. Right-click the report and click Export to HTML. The Report Export dialog appears.
    c. Click Browse and select the folder to which you want to export the report.
    d. Go to the HTML tab and complete the following fields:

       Select the template for exporting to HTML

       Specifies the templates that you want to use with the HTML report. You can use customized templates, provided the formatting is similar to the default templates. After you finish modifying, restart erwin DM. Your changes will take effect when you run the report again.
       The default templates are available in the following folder:

       C:\Program Files\erwin\Data Modeler r9\Report\Template\Template-Default

       Solution Title in HTML

       Specifies the title for the entire report solution.

       Report Header in HTML

       Specifies the text that appears between the report title and the first line of the report.

       Report Footer in HTML

       Specifies the text that appears at the bottom of the report.
    e. Click OK. The report is generated in the specified folder. If the report data spans multiple page grids in the Report Designer, the data is segregated into multiple sections in the HTML. The sections are first divided by model name and then by object name. This means that a section may include objects from different models, which are sorted by model name and object name.

10. To view the HTML report on a different computer, include the computer name in the path to the filename. For example, if you have published the report to c:\erwin\reports folder on a computer that is named Comp001, use the following path to access it:

    ```
    \\comp001\erwin\reports\index.htm
    ```

    > The computer from which you are accessing the report must be in the same domain as the one in which the report is published. In addition, the user who is accessing the report must have at least the read-only privileges on the corresponding folder.

11. To export a report or a report solution to CSV, follow these steps:
    a. Right-click the report and click Export to CSV. Or, right-click the report solution and click Export All to CSV. The Report Export dialog appears.
    b. Click Browse and select the folder to which you want to export the report.
    c. Go to the TEXT tab and select the following options:

       Format

       Specifies whether you want to include the first-level object names multiple times. For example, you have included entity names and attribute names in your report and you have selected No Duplicates. The entity name appears only once for all the corresponding attribute names. If you have selected Duplicates, the entity name appears as many times as the corresponding attribute names appear.

       Text Qualifier

       Specifies the symbol that you want to use to indicate the column headers.

       Delimiters

       Specifies how you want to separate two columns in the exported report. The option Comma Delimited creates a .CSV file and the remaining options create .TXT files.

    d. Click OK. The report is generated in the specified folder.

12. To export a report to PDF, follow these steps:
    a. Click the Clear data in data grid icon and clear the result grid.

       This is a best practice and helps the application export the report without consuming much of the computer resources.

    b. Right-click the report and click Export to PDF. The Report Export dialog appears.
    c. Click Browse and select the folder to which you want to export the report.
    d. Go to the PDF tab and enter values/set the following fields:

       Solution Title in PDF

       Specifies the title for the entire report solution.

       Report Header in PDF

       Specifies the text that appears on the first line of every page of the report.

       Report Footer in PDF

       Specifies the text that appears at the bottom of every page of the report.

       For each of these options, you can specify the font, size, color, and alignment.

       Image Orientation

       Specifies the direction of the images that are generated in the report. Images are generated for the Subject Area and ER Diagram reports, when you select properties under Graphical Members.

       Font & Color

       Specifies the styles to be used with respect to the font and its color.

       Table of Contents

       Indicates whether the report should contain a table of contents.

       Index

       Indicates whether the report should contain an index.

Comprehensive Report

Indicates whether the report should contain comprehensive tabular information based on the items selected for the report. Selecting this option lets you avoid information duplication in the report.

e. Go to the Advanced tab and enter values/set the following fields:

Report Logo

Lets you add a logo to the report. Also, lets you link the logo to a URL of your choice.

Logo Position

Specifies the position of the logo in the report.

Alignment

Specifies the alignment of the logo at the selected position in the report.

Custom Report

Lets you set custom colors to the various sections of the report. Select the Use Custom Colors check box to be able to select colors of your choice.

Select ER Diagram Format

Specifies the format of the ER diagram.

Page Size

Specifies the page size that would be used for printing the PDF copy of the report.

f. Click OK. The report is generated in the specified folder. If the report data spans multiple page grids in the Report Designer, the data is segregated into multiple sections in the PDF. The sections are first divided by model name and then by object name. This means that a section may include objects from different models, which are sorted by model name and object name.

13. To add a report from another report solution, follow these steps:
    - In the Report Designer dialog, right-click the template name and click Add Report.
    - Select the report that you want to include (.erpt file) and click OK.
    - Save the report solution.

This section contains the following topics

[Mart-Level Reports in Report Designer]

[Cross-Model Reports]

Mart-Level Reports in Report Designer

You can now generate reports on the Mart. The reports that you generate could be administrative or about the model objects. For example, you can generate a report on the profiles that are attached to users, or on the list of entities without primary keys. When you generate the report, you can use the filter to search within specific objects. The filter supports SQL wildcard characters such as ? and %.

> You must have the Reports: View permission to create Mart reports.

Follow these steps:

1. Open erwin Data Modeler and log in to the Mart.
2. Click Tools, Report Designer.
3. Enter a name for the report and click Mart.
4. Select the report subject in the Select Report Subject pane.
5. [Optional] In the Select Report Fields pane, select Specify Attribute Name at Run Time or Specify Model Name at Run Time check box.
6. Select the properties that you want to include in the report and click one of the following buttons:
    a. Click Run Report.

       If you have selected an option under Filter By, the Mart Report Filter dialog opens.

Select the specific models that you want to get the results from. Enter the specific model object name. Use wildcard characters, if required.

The report is generated and displayed. If you do not specify any model or entity the generated report includes all the models. If you have used a wildcard, by default, wildcard is applied to all the names. For example, if you type ID, the report includes Cust_ID and ID_For_Category.

b. To add the report to the current Report Solution, click OK.

Cross-Model Reports

You can now generate a report on the properties of attributes and columns present across multiple models in a Mart. When you generate the report, you can use the filter to search within specific models. The filter supports SQL wildcard characters such as *?* and *%*.

Follow these steps:

1. Open erwin Data Modeler and log in to the Mart.
2. Click Tools, Report Designer.
3. Enter a name for the report and click Mart.
4. Click Attribute/Column in the Select Report Subject pane.
5. In the Select Report Fields pane, select Specify Attribute Name at Run Time or Specify Model Name at Run Time check box.
6. Select the properties that you want to include in the report.
7. Click Run Report.
8. Select the specific models that you want to get the attributes from. Enter the attribute or column name.

   By default, wildcard is applied to all the names. For example, if you type ID, the report includes Cust_ID and ID_For_Category.

9. Click OK.

   The report is generated and displayed.

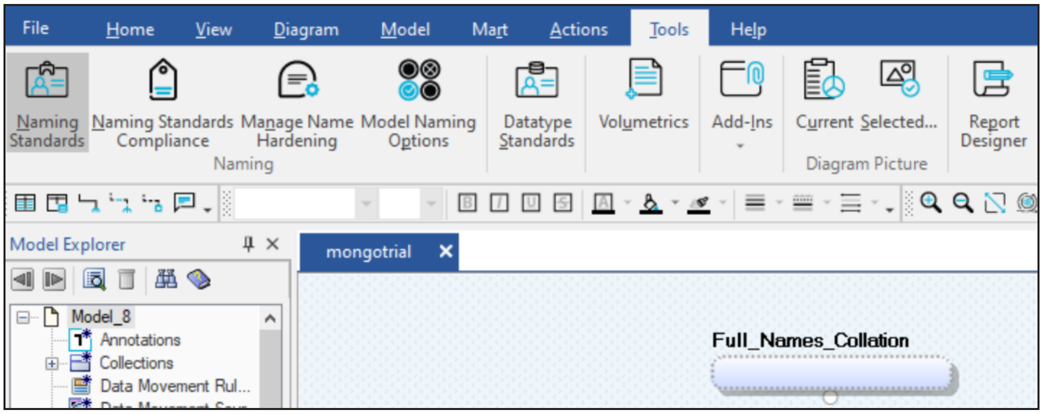
Generate the Current Diagram Picture

You can generate a picture of model diagrams in erwin Data Modeler into multiple formats. This function allows you to generate a picture report of the entire model in the following formats:

- Enhanced Metafiles (.emf)
- PNG (.png)
- JPG (.jpg)
- SVG (.svg)
- PDF (.pdf)

To generate a picture of the current model diagram, follow these steps:

1. Open the model, go to **Tools** > **Diagram Picture** section.


File
Home
View
Diagram
Model
Mart
Actions
Tools
Help
Naming Standards
Naming Standards Compliance
Manage Name Hardening
Model Naming Options
Naming
Datatype Standards
Volumetrics
Add-Ins
Current
Selected...
Diagram Picture
Report Designer
Model Explorer
Model_8
Annotations
Collections
Data Movement Rul...
mongotrial
Full_Names_Collation

2. On the Diagram Picture section, click the **Current** option.

   The Save As dialog opens.

3. On the Save As dialogue box, specify a name, and location for the file.
4. In the **Save as type** list, select a format. Then, click **Save**.
   Once the picture is generated, you can view the complete diagram in the saved file format.

   The generated file can be saved in EMF, PNG, JPG, SVG, and PDF file formats.

erwin® Data Modeler Workgroup Edition Performance

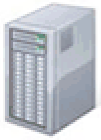
This section contains the following topics:

Optimize the Performance
Reindex the Database
Run the Database Statistics

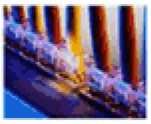
Optimize the Performance

The performance of erwin Data Modeler Workgroup Edition depends on many factors. This appendix outlines some steps you can take to improve your performance. The five main components where a slow down can occur are the database, the server, the network, the client PC, and the erwin Data Modeler Workgroup Edition software.

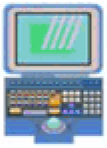
Database
- Reindexing
- Statistics
- Tuning



Server
- RAM
- Speed (GHz)
- CPU
- Disk space
- Dedicated to erwin WE or shared by multiple applications?



Network
- LAN or WAN?
- Speed
- Throughput
- Traffic



Client Machine
- RAM
- Speed (GHz)
- CPU
- Disk space and virtual memory

erwin Data Modeler
erwin

Software

You should regularly reindex the database and run the database statistics. Sometimes running the database statistics alone does not affect the performance, however it is good practice to run the database statistics on a regular basis to ensure the maximum performance of your database.

If you have many domains in a model, they consume a lot of memory and file space. Having too many domains can slow down erwin Data Modeler Workgroup Edition. If you need to use many domains, we suggest you create a template model to house them, and then import the specific domains that you need, to each of your individual models. If you are using the domains to enforce unique attribute or column naming standards, you can alternatively use the erwin Glossary for that purpose.

Optimize the Performance

Check the erwin Data Modeler Workgroup Edition Release Notes for the latest system requirements. Greater CPU speed, and more RAM and disk space result in better performance.

Reindex the Database

Over a period of time, database indexes become fragmented. A large number of inserts and deletes can lead to significant performance degradation. The scripts provided in this appendix rebuild the indexes and fix them. In some cases, it can make a significant difference in the mart performance.

We recommend that you reindex your mart database nightly or during off-peak hours. As the index is recreated, the process can temporarily degrade the performance of your database. You can create an automated batch job to do the reindex. You should also reindex the database after a large model merge, a save to the mart, and right after a conversion of the mart when upgrading to a later version of the software.

Run the Oracle DBMS Reindex Script

As the new index is being built, it coexists with the old index in the database. For this reason, you should plan for enough space to store both the old index and the new index. When the index is rebuilt, the new index becomes available, the old index is dropped, and the space is reclaimed by the database. If you encounter any errors while rebuilding the indexes, re-run the statements. If you require more space to rebuild those specific indexes, add more storage to your index tablespace, and then try rebuilding those specific indexes again.

To run the Oracle DBMS reindex script:

1. Create the mmreindex.ora script and copy it locally.
2. Edit the script and replace 'MODELMART' with the name of the mart schema-owner and 'MMINDEX' with the name of the mart index tablespace. Save your changes.
3. Connect to SQL*PLUS as the user SYS.
4. Grant the 'ALTER ANY INDEX' privilege to the mart Schema Owner.
5. Run your Oracle query tool and execute the following at the SQL prompt:
   GRANT ALTER ANY INDEX TO <MART SCHEMA OWNER>;
6. Disconnect user SYS and Connect to your Oracle query tool as the Schema Owner.
7. Execute the following Script at the SQL Prompt:
   @c:\mmreindex.ora

Example: Oracle Reindex Script (MMReIndex.ora)

```
------------------------------------------------------------------
----------------
-- Object:   MMReIndex.ora
-- Desc:     Use this Procedure to ReIndex the MM ORACLE Repos-
itory whenever a
--           Merge/Save of big model is done to MM
--           Limitation(s) is specific to Oracle Releases >= 817
-- For ORACLE DBMS < 8i Modify the script to Use NOPARALLEL
--
```

Run the Oracle DBMS Reindex Script

> You will need to change MMOWNER to the Mart schema owner name.
> -- You will need to change MMINDEX to the Mart index tablespace.
> -- Oracle indexes are not self-balancing. They become fragmented after a large

```
-- number of INSERTs and DELETEs which may lead to significant
performance degradation.
-- This script rebuilds the Mart indexes and cures them.
------------------------------------------------------------------
-------------------
set pagesize 1000
set linesize 2000
set verify off
set feedback off
set heading off
spool c:\mmreindex.ora
SELECT        'ALTER INDEX ' || USER || '.' || INDEX_NAME ||
' REBUILD PARALLEL NOLOGGING COMPUTE STATISTICS TABLESPACE
MMINDEX;'
FROM   DBA_INDEXES
WHERE OWNER = UPPER ('MMOWNER')
AND    (INDEX_NAME like 'XPK%' or INDEX_NAME like 'XAK%'
        or INDEX_NAME like 'XIE%')
order by index_name;
spool off
set heading on
set pagesize 24
set verify on
set feedback on
@c:\mmreindex.ora
/
```

Troubleshooting the Reindexing Script

Symptom:

The query tool responds as given below:

```
no rows selected
not spooling currently
```

Solution:

Run the Oracle DBMS Reindex Script

You do not have the correct name for the mart schema-owner. Get the correct user name, replace 'MODELMART' with the user name, and re-run the script.

Run the Database Statistics

Database statistics show the distribution of the data in the database, and how the data is stored. When a database executes a query, it uses an optimizer to determine the best path to access the data. The optimizer relies on execution plans that specify the order in which the database accesses the tables and the exact steps used to pull the data. The database bases the creation of the execution plans on the database statistics.

As the data grows and changes, the statistics quickly become outdated and no longer reflect the true condition of the database. As a result, the execution plans no longer apply and the optimizer makes poor decisions when processing queries. You should run statistics regularly to ensure the maximum performance of your database and, therefore, your mart. We recommend that you run the database statistics nightly, and create an automated batch job to simplify the process.

Microsoft SQL Server Tuning Recommendations

This section contains the following topics:

Physical Tuning Parameters
Server-Level Tuning Parameters
Named Cache Configuration
Database Tuning Parameters
Database and Log Sizing
How to Maintain an Efficient Database

Physical Tuning Parameters

The mart is dynamic, with many queries and data manipulations performed with each model save and load.

The configuration changes that must be made to Microsoft SQL Server for optimum performance with maximum fault tolerance and recoverability are provided.

Database Placement

erwin Data Modeler Workgroup Edition mart databases are written to in bursts of activity. Stored procedures and bulk insert statements are used to minimize overhead when saving data to Microsoft SQL Server. To optimize performance, place the database on low activity Microsoft SQL Server files. If possible, place the log and data segments on different physical drives to reduce contention between log writes and database reads.

Data Redundancy

Make sure that you make a copy of the transaction log on a separate drive to maximize recoverability of the database. If the up-time of the database is considered critical, make a copy of the database and the transaction logs, and other Microsoft SQL Server files you consider important.

Server-Level Tuning Parameters

You should perform the following server-level tuning tasks:

- Configure Microsoft SQL Server to use as much memory as possible. Allocating more memory to the Microsoft SQL Server caching mechanisms means less physical reads from the disk and improved database query performance.
- Allow several megabytes of disk space for the procedure cache because erwin Data Modeler Workgroup Edition uses many stored procedures.

The following table shows the recommended configuration parameters for a Microsoft SQL Server running erwin Data Modeler Workgroup Edition:

Parameter Type	Recommended Value	Notes
memory	512 MB minimum 1 GB is recommended	More memory implies less physical I/O
procedural cache	Set the cache to grow to a fixed size, such as 50 MB or 100 MB.	erwin Data Modeler Workgroup Edition is stored procedure-intensive

Named Cache Configuration

For SAP ASE systems, consider setting up a 4 KB pool for the default data cache. SAP ASE writes I/O to the log more often in 4 KB increments than in 2 KB increments (the default). You can set up a 4 KB I/O pool using sp_poolconfig, but you must restart the server to enable the 4 KB I/O writes to the log. Set the pool up as a smaller subset of the cache.

> Be careful when making changes to the data caching systems in SAP ASE. Monitor your changes with SQL Monitor or sp_sysmon to ensure that the changes you make do not starve the 2 KB I/O pool or other caches.

The following shows the recommended size of the 4 KB I/O pool for small, medium, and large servers:

Server Size	Data Cache Size	4 KB I/O Pool Size
Small	128 MB	4 MB
Medium	512 MB	6 MB
Large	1 GB	10 MB

Database Tuning Parameters

You can make database tuning adjustments in three different areas:

- Transaction log
- Threshold procedures
- Database options

Transaction Log

The transaction log keeps a before and after image of each change made in the database. Microsoft SQL Server keeps a transaction log for each database.

Back up the transaction log frequently. This keeps the transaction log small and reduces the amount of data lost in the event of a severe database corruption.

Threshold Procedures

For SQL Server, the option to set a threshold procedure is not available. Ensure that you back up the log frequently to keep the log small.

"trunc. log on chkpt" Option

To ensure maximum recoverability, do not enable the trunc. log on chkpt option, since the log is cleared automatically after each checkpoint operation. If the database device becomes damaged with the log device still active and this option is set, the database cannot be recovered using the log files since they are almost empty.

Database and Log Sizing

Since the database is a dynamic environment, allow plenty of space for the models you create. Tests have shown that models generate between 10 KB and 20 KB of data per entity during initial save times. Log overhead per object is approximately 15 KB to 21 KB per entity. Allocate 50 to 65 percent of the database size to the log to avoid running out of room in the log for a typical model save.

An average mart can range in size between 200 MB and 1 Gig. Size the transaction log accordingly. A 50 MB data device can store several large models (about 2,500 entities and 100,000 total objects), but keep in mind that the database becomes more flexible and has less storage space issues when the data device is large.

The following table shows the recommended database size and log size for small, medium, and large marts:

Database Size	Database Device	Transaction Log Device
Small	200 MB	100 MB
Medium	500 MB	200 MB
Large	1 GB	400 MB

How to Maintain an Efficient Database

To maintain an efficient database, perform the following maintenance tasks:

- Run UPDATE STATISTICS and execute sp_recompile frequently on every table in the database. This keeps the statistics up-to-date for the indexes, resulting in better overall performance.
- Periodically recreate the clustered indexes in the database to reduce fragmentation. Be sure to back up the database and transaction log daily.
- Run DBCC CheckDB(), DBCC CheckCatalog(), and DBCC CheckAlloc() or DBCC NewAlloc () on the database nightly, to check for corruption and inconsistencies in the

database. Check the output of these queries and look for keywords like corrupt. Any problems detected by these commands are sent to the query output, so save the files and scan them regularly.

The following table shows maintenance tasks and the recommended frequency for performing these tasks:

Maintenance Task	Recommended Frequency	Reason
DBCC Checkdb	Nightly	Check for corruption in databases.
DBCC NewAlloc	Weekly	Check for allocation corruption (Microsoft SQL Server only).
DBCC CheckAlloc	Weekly	Check for allocation corruption (Microsoft SQL Server only).
DBCC CheckCatalog	Weekly	Check for system table inconsistencies.
UPDATE STATISTICS	Nightly	Recreates the statistics page for each index.
EXEC sp_recompile	Nightly	Tells which stored procedures have changed.
Backup Database	Weekly	Full backup of database should be done at least weekly, if not nightly.
Backup Transaction Log	Daily	Backing up the transaction log daily saves all committed transactions and clears the log.

DBCC Commands

Use the following DBCC commands to perform maintenance tasks on the database:

```
DBCC CheckDB(mart)
 go
DBCC CheckAlloc(mart)
 go
DBCC CheckCatalog(mart)
 go
```

Oracle Tuning Recommendations

This section contains the following topics:

Recommended Disk Configurations

Database Configuration

Storage Parameters

Recommended Disk Configurations

Oracle servers are available on many different platforms ranging from PCs to mainframes. To support the wide range of hardware platforms and application requirements, Oracle servers have a number of configuration options that you can use to tailor the behavior of an Oracle database. You can also use these configuration options to tailor your database. Some of the options documented in this guide only apply to specific Oracle versions. For further information, see the appropriate Oracle documentation.

If the Oracle server is not dedicated to the erwin Data Modeler Workgroup Edition mart, as database administrator you must be careful to balance the requirements of all users on the server. This is particularly true for database servers that support OLTP (On Line Transaction Processing) applications that require tight response characteristics.

The layout of Oracle database files on physical disk drives plays a major role in the performance of the database. When used with erwin Data Modeler Workgroup Edition, Oracle performs large bursts of database operations (fetches, inserts, updates, and deletes) in a short period of time. This usage pattern often requires Oracle to perform a significant amount of disk I/O operations. For good performance, it is important that as many I/O operations as possible be performed in parallel. This enables Oracle to retrieve data faster during fetches and to write data faster during inserts, updates, and deletes.

To maximize parallel I/O access, split the Oracle database files across many physical disks. Ideally, you should place the database on four physical disks. If this is not possible, you can use three, two, or one disk systems.

> Installing Oracle on a single disk system causes significant performance degradation.

Database Configuration

Proper database configuration is essential to the smooth operation and good performance of an Oracle database. You can use the configuration options described to optimize the processing of your Oracle server.

Maximum Number of Processes

Oracle must be preconfigured at startup with a maximum number of processes that can access the database. The parameter that controls the maximum number of processes, called PROCESSES, is defined in the INIT.ora or INIT<SID>.ora file. It should be set to the maximum potential number of concurrent users plus seven. The additional seven are for Oracle background processes that must also access the database. Setting the number of processes at a lower value can prevent some users from accessing the server during peak usage times. Setting the number of processes at a higher value can waste a small amount of system memory resources.

Shared Pool

The shared pool is an area of Oracle memory that includes two main structures:

- The library cache, which stores parsed SQL and PL/SQL statements
- The dictionary cache, which stores the Oracle data dictionary (or Oracle metadata)

The SHARED_POOL_SIZE parameter is defined in the INIT.ora or INIT<SID>.ora file and is used to regulate the size of the shared pool. Set the SHARED_POOL_SIZE parameter to a minimum of 3500000 (3.5 million). Setting the shared pool to a smaller value can degrade performance, forcing Oracle to do disk I/O to retrieve objects that cannot fit in the shared pool. A larger shared pool may be required, depending on the size and number of models and the number of users.

Buffer Cache

The buffer cache serves as a memory cache for all data going to and from Oracle data files. When Oracle needs a block of data it first checks whether that block exists in the buffer cache. If it does, Oracle gets the data from the buffer cache avoiding disk access. Having a large enough buffer cache lets the Oracle server bypass most I/O requests.

Buffer cache size is controlled by the DB_BLOCK_BUFFERS parameter defined in the INIT.ora or INIT<SID>.ora file. Set the buffer cache to a minimum of 4 MB. Values smaller than 4 MB force Oracle to do many more I/O requests and significantly degrades the performance. Values larger than 4 MB improve performance and should be used if memory is available.

> In Oracle, the DB_BLOCK_BUFFERS parameter is specified as a number of database blocks instead of actual size in bytes. To compute the value of DB_BLOCK_BUFFERS, divide the desired buffer cache size in bytes by the database block size defined by the DB_BLOCK_SIZE parameter in the INIT.ora or INIT<SID>.ora file.

Redo Log Files

Redo log files contain a record of all Data Manipulation Language (DML) commands (such as INSERT, UPDATE, and DELETE commands) performed on the database. As DMLs are performed, the Oracle engine writes them to sequential redo log files. Periodically, an Oracle background process retrieves the DMLs from the Redo log files and writes the actual changes to the Oracle tablespace files. This mechanism lets Oracle defer most of the I/O burden associated with DMLs to a background process that does not slow down the client processes.

> Oracle Redo log files are treated by the database engine as a ring. When one file fills up, the engine performs a log switch and starts writing to the next log file in the ring. When that log file fills, the engine switches again.

The number and size of the Redo log files is an important performance consideration. If the log files are too small or if there are not enough of them in the ring, Oracle may have to stall on a log switch. If this happens, the DMLs in the next log in the ring may not have been written to the tablespace files, and therefore the next log file has not been archived by the background ARCH process. For more information about Redo log archiving, see the Oracle documentation.

Redo log files are created when the database is created. However, Redo log files can be added or deleted at any time using Data Definition Language (DDL) statements.

You should have at least four Redo log files, each 2 MB in size. A smaller number of Redo log files or a smaller Redo log file size can cause I/O bottlenecks. If the disk space is available, using more than four Redo log files further reduces the chances of delayed log switches. Larger Redo log files improve performance, but care must be taken to adequately schedule checkpoints that write DMLs stored in the Redo logs to the tablespace files.

If the number of disks permits, you should mirror Redo log files by creating Redo log groups with two mirrored members per group. This offers the database some protection against single disk errors.

Increase Space in Redo Logs

The number and size of the Redo log files is an important performance consideration. Redo log files are created when the database is created.

To increase space in the Redo logs

1. Log in to Oracle using SQL*Plus as SYSDBA or SYSOPER and run the following script to create eight Redo logs that are 2 MB each:

```
rem -- parm1 -- temp dir

rem Generate creation script
SELECT 'ALTER DATABASE ADD LOGFILE '''
    ||  SUBSTR ( MEMBER , 1 , INSTR ( MEMBER , '\' , -1 , 1 )
)
    || 'REDO_11.LOG'' SIZE 2M ;'
  from V$LOGFILE
 where ROWNUM = 1
   and not exists ( SELECT 1 from V$LOGFILE where MEMBER like
'%REDO_11.LOG' )
 UNION

SELECT 'ALTER DATABASE ADD LOGFILE '''
    ||  SUBSTR ( MEMBER , 1 , INSTR ( MEMBER , '\' , -1 , 1 )
)
    || 'REDO_12.LOG'' SIZE 2M ;'
  from V$LOGFILE
 where ROWNUM = 1
   and not exists ( SELECT 1 from V$LOGFILE where MEMBER like
'%REDO_12.LOG' )
 UNION

SELECT 'ALTER DATABASE ADD LOGFILE '''
    ||  SUBSTR ( MEMBER , 1 , INSTR ( MEMBER , '\' , -1 , 1 )
)
    || 'REDO_13.LOG'' SIZE 2M ;'
   from V$LOGFILE
  where ROWNUM = 1
    and not exists ( SELECT 1 from V$LOGFILE where MEMBER like
'%REDO_13.LOG' )
  UNION
SELECT 'ALTER DATABASE ADD LOGFILE '''
    ||  SUBSTR ( MEMBER , 1 , INSTR ( MEMBER , '\' , -1 , 1 )
)
    || 'REDO_14.LOG'' SIZE 2M ;'
   from V$LOGFILE
  where ROWNUM = 1
    and not exists ( SELECT 1 from V$LOGFILE where MEMBER like
'%REDO_14.LOG' )
  UNION
SELECT 'ALTER DATABASE ADD LOGFILE '''
    ||  SUBSTR ( MEMBER , 1 , INSTR ( MEMBER , '\' , -1 , 1 )
)
    || 'REDO_15.LOG'' SIZE 2M ;'
   from V$LOGFILE
  where ROWNUM = 1
    and not exists ( SELECT 1 from V$LOGFILE where MEMBER like
'%REDO_15.LOG' )
  UNION
SELECT 'ALTER DATABASE ADD LOGFILE '''
    ||  SUBSTR ( MEMBER , 1 , INSTR ( MEMBER , '\' , -1 , 1 )
)
    || 'REDO_16.LOG'' SIZE 2M ;'
   from V$LOGFILE
  where ROWNUM = 1
    and not exists ( SELECT 1 from V$LOGFILE where MEMBER like
'%REDO_16.LOG' )
  UNION
```

```
SELECT 'ALTER DATABASE ADD LOGFILE '''
    ||  SUBSTR ( MEMBER , 1 , INSTR ( MEMBER , '\' , -1 , 1 )
)
    || 'REDO_17.LOG'' SIZE 2M ;'
  from V$LOGFILE
 where ROWNUM = 1
   and not exists ( SELECT 1 from V$LOGFILE where MEMBER like
'%REDO_17.LOG' )
 UNION
SELECT 'ALTER DATABASE ADD LOGFILE '''
    ||  SUBSTR ( MEMBER , 1 , INSTR ( MEMBER , '\' , -1 , 1 )
)
    || 'REDO_18.LOG'' SIZE 2M ;'
  from V$LOGFILE
 where ROWNUM = 1
   and not exists ( SELECT 1 from V$LOGFILE where MEMBER like
'%REDO_18.LOG' )
.
 Spool &1.AddLog.ORA
/
Spool Off
COMMIT ;
SELECT 'ALTER SYSTEM SWITCH LOGFILE ;' from V$LOG where
ROWNUM < 5
.
 Spool &1.SwtchLog.ORA
/
Spool Off
COMMIT ;
rem Generate Deletion script
SELECT 'ALTER DATABASE DROP LOGFILE GROUP ' || TO_CHAR (
GROUP# ) || ' ;' from V$LOG where BYTES < 2097152
.
```

```
 Spool &1.DropLog.ORA
/
Spool Off
COMMIT ;

@&1.AddLog.ORA
$Del &1.AddLog.ORA
COMMIT ;

@&1.SwtchLog.ORA
$Del &1.SwtchLog.ORA
COMMIT ;

@&1.DropLog.ORA
$Del &1.DropLog.ORA
COMMIT ;
```

2. Run the following query to verify the new Redo log configuration:

```
SQLWKS> select group#, status, bytes from v$log;
```

> Oracle does not let you drop an older Redo log file that is still ACTIVE. If you must drop an older Redo log file that is still ACTIVE, drop that log file manually.

Redo Log Buffer

The Redo log buffer is an area in memory that Oracle uses to collect DMLs before they are written to the Redo log files. The log file write occurs when either a transaction commits or a Redo log buffer is full. Because erwin Data Modeler Workgroup Edition tends to generate fairly large transactions, use a log buffer size of 163840 bytes. (For single disk Oracle installations, use a log buffer size of 655360 bytes.) Setting the Redo log buffer size to a value smaller than the recommended value can degrade I/O performance. Using a larger value requires more memory.

The Redo log buffer size is defined using the LOG_BUFFER parameter in the INIT.ora or INIT<SID>.ora file.

Checkpoints

An Oracle checkpoint is an event that posts DMLs from the Redo log files to the tablespace files. Checkpoints always occur after a Redo log file switch and can also be configured to occur at predefined time intervals. For erwin Data Modeler Workgroup Edition, which generates large transactions, checkpoints should occur only after log switches to minimize I/O.

To ensure a checkpoint only after a log switch, *do not*set the LOG_CHECKPOINT_INTERVAL and LOG_CHECKPOINT_TIMEOUT parameters in the INIT.ora or INIT<SID>.ora file.

Storage Parameters

Object storage parameters in Oracle determine the amount of space allocated for each object in the database. Setting these parameters correctly is critical to both operation and performance of the database. Incorrect storage allocations can cause a database object to run out of space, which prevents you from saving models to the repository. Inefficient selection of storage parameters can lead to performance problems by forcing Oracle to do time-consuming space management operations during DML statement execution.

Recommendations for storage parameter values differ based on the size of your model:

- Small data models: 1 to 50 Entities
- Medium data models: 51 to 100 Entities
- Large data models: over 100 Entities

Rollback Segments

Rollback segments contain undo information for all changes performed by noncommitted transactions. Rollback segments are a shared resource used by all active transactions in the database. When a transaction starts, Oracle binds that transaction to a particular rollback segment. As DMLs in the transaction execute, rollback segment space is used. For large transactions, rollback segments may need to allocate new extents as the transaction continues. When the transaction ends, a properly configured Oracle database releases the additional rollback extents so that they can be used for other rollback segments. To ensure that the additional rollback extents are released, configure the OPTIMAL parameter for each rollback segment.

Use a maximum of five transactions per rollback segment by setting the TRANSACTIONS_PER_ROLLBACK_SEGMENT parameter in the INIT.ora or INIT<SID>.ora file. Use the following rollback segment storage parameters for small, medium, and large models:

Model Type	Initial Extent Size	Next Extent Size	Optimal Size
Small	1 MB	1 MB	~ 2 MB x (# of transactions)
Medium	6 MB	6 MB	~ 12 MB x (# of transactions)
Large	6 MB	6 MB	~ 12 MB x (# of transactions)

> The # of transactions is the maximum number of simultaneous erwin Data Modeler Workgroup Edition connections to Oracle.

In Oracle it is common to see the following error statement when the Rollback logs are not set up optimally:

ORA-01562 failed to extend rollback segment number string

Set Optimal Configuration for the Rollback Logs

For large transactions, rollback segments may need to allocate new extents as the transaction continues. When the transaction ends, a properly configured Oracle database releases the additional rollback extents so that they can be used for other rollback segments. To ensure that the additional rollback extents are released, configure the OPTIMAL parameter for each rollback segment.

To set the optimal configuration for the rollback logs of large databases

1. Log in to Oracle as SYS or SYSTEM and run the following query and check the result to view the current configuration of the Rollback Segments:

   ```
   SQLWKS> select SEGMENT_NAME, INITIAL_EXTENT, NEXT_EXTENT,
   MIN_EXTENTS, MAX_EXTENTS, STATUS from dba_rollback_segs;
   ```

   The result is:

   ```
   SEGMENT_NAME INITIAL_EX NEXT_EXTEN MIN_EXTENT MAX_EXTENT
   STATUS
   SYSTEM   51200         51200           2       121      ONLINE
   RB_TEMP          102400        102400          2       121      OFFLINE
   RB1              2097152       2097152         2       121      ONLINE
   RB2              2097152       2097152         2       121      ONLINE
   RB3              2097152       2097152         2       121      ONLINE
   RB4              2097152       2097152         2       121      ONLINE
   RB5              2097152       2097152         2       121      ONLINE
   RB6              2097152       2097152         2       121      ONLINE
   RB7              2097152       2097152         2       121      ONLINE
   RB8              2097152       2097152         2       121      OFFLINE
   RB9              2097152       2097152         2       121      OFFLINE
   RB10     2097152       2097152         2       121      OFFLINE
   RB11     2097152       2097152         2       121      OFFLINE
   RB12     2097152       2097152         2       121      OFFLINE
   RB13     2097152       2097152         2       121      OFFLINE
   ```

```
RB14     2097152       2097152         2       121      OFFLINE
RB15     2097152       2097152         2       121      OFFLINE
RB16     2097152       2097152         2       121      OFFLINE
18 rows selected.
```

> In this example, there are sixteen rollback segments with 2 MB INITIAL EXTENT, 2 MB NEXT EXTENT, and MAX EXTENTS of 121 MB.

2. Run the following query for each Rollback Segment:

```
alter rollback segment rb1 offline;
 drop rollback segment rb1;
 create public rollback segment rb1
tablespace rollback_data
storage (initial 6M
next 6M
minextents 2
maxextents 121
optimal 12M);
 alter rollback segment rb1 online;
 alter rollback segment rb2 offline;
 drop rollback segment rb2;
 create public rollback segment rb2
tablespace rollback_data
storage (initial 6M
next 6M
minextents 2
maxextents 121
optimal 12M);
 alter rollback segment rb2 online;

<Repeat for each Rollback Segment>
```

This query sets the optimal Rollback Segment configuration to 6 MB INITIAL EXTENT, 6 MB NEXT EXTENT, 2 MB MIN EXTENT, 121 MB MAX EXTENT, and 12 MB OPTIMAL.

3. Run the following query to verify the Rollback segment configuration changes:

   ```
   SQLWKS> select SEGMENT_NAME, INITIAL_EXTENT, NEXT_EXTENT,
   MIN_EXTENTS,MAX_EXTENTS, STATUS from dba_rollback_segs;
   ```

   The result is:

   ```
   SEGMENT_NAME INITIAL_EX NEXT_EXTEN MIN_EXTENT MAX_EXTENT
   STATUS
   SYSTEM   51200        51200       2        121        ONLINE
   RB_TEMP          102400        102400       2        121        OFFLINE
   RB1              6291456       6291456      2        121        ONLINE
   RB2              6291456       6291456      2        121        ONLINE
   RB3              6291456       6291456      2        121        ONLINE
   RB4              6291456       6291456      2        121        ONLINE
   RB5              6291456       6291456      2        121        ONLINE
   RB6              6291456       6291456      2        121        ONLINE
   RB7              6291456       6291456      2        121        ONLINE
   RB8              6291456       6291456      2        121        ONLINE
   RB9              6291456       6291456      2        121        ONLINE
   RB10     6291456       6291456     2        121        ONLINE
   RB11     6291456       6291456     2        121        ONLINE
   RB12     6291456       6291456     2        121        ONLINE
   RB13     6291456       6291456     2        121        ONLINE
   RB14     6291456       6291456     2        121        ONLINE
   RB15     6291456       6291456     2        121        ONLINE
   RB16     6291456       6291456     2        121        ONLINE
   18 rows selected.
   ```

Tablespaces

To improve performance you can create more than one tablespace for indexes. Then, after you install the software, you can move some indexes to the other tablespaces.

The following table lists the suggested initial sizes for DATA and INDEX tablespaces:

Tablespace	Small	Medium	Large

DATA	200 MB	500 MB	1 GB
INDEX	200 MB	250 MB	500 MB

DATA and INDEX tablespaces with these initial sizes can accommodate at least ten models or versions.

Sample Files

This section contains the following topics:

Sample workers.properties File
Sample isapi_redirect.properties File
Sample isapi_redirect.reg File
Sample uniworkers.properties File
Sample uriworkermap.properties File

Sample workers.properties File

The workers.properties file includes the following parameters:

`worker.list`

`worker.<workername>.host`

`worker.<workername>.port`

`worker.<workername>.type`

`worker.<workername>.connection_pool_size`

The descriptions of the parameters are as follows:

workers. list

Lists all the workers that are defined. When you start the web server, the plug-in instantiates these workers.

worker.<workername>.host

Defines the IP address of the computer where Tomcat (WA-OP) is installed.

worker. <workername>.port

Defines the port that the AJP workers inside Tomcat listen to. By default, AJP13.Workers listen to port 8009.

worker. <workername>.type

Defines the type of worker. The type of the worker can be ajp13, ajp14, jni, lb, or status.

worker. <workername>.connection_pool_size

Defines the number of connections made to AJP back-end.

The following is a sample workers.properties file:

```
# This file provides minimal jk configuration properties needed to
# connect to Tomcat.
#
# The workers that jk should create and work with
#
worker.list=lb,jk-status
#
# Defining a worker named node1 and of type ajp13
# Note that the name and the type do not have to match.
#
worker.node1.type=ajp13
worker.node1.host=localhost
worker.node1.port=8009
#
# Defining a load balancer
#
worker.lb.type=lb
worker.lb.balance_workers=node1
#
```

```
# Define status worker

#

worker.jk-status.type=status
```

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Sample isapi_redirect.properties File

The following is a sample isapi_redirect.properties file:

```
extension_uri=/jakarta/isapi_redirect.dll

# Full path to the log file for the ISAPI Redirector

log_file=<path to the native_iis folder>\native_IIS\logs\isapi_
redirect.log

# Log level (debug, info, warn, error or trace)

log_level=info

# Full path to the workers.properties file

worker_file=<path to the native_iis folder>\native_IIS\-
workers.properties

# Full path to the uriworkermap.properties file

worker_mount_file=<path to the native_iis folder>\native_IIS\uri-
workermap.properties
```

In this example, *jakarta* refers to the virtual directory you have added before you created the ISAPI filter.

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Sample isapi_redirect.reg File

The following is a sample isapi_redirect.reg file:

```
REGEDIT4
```

```
[HKEY_LOCAL_MACHINE\SOFTWARE\Apache Software Foundation\Jakarta
Isapi Redirector\1.0]

"extension_uri"="/jakarta/isapi_redirect.dll"

"log_file"="<path to the native_iis folder>\\native_IIS\\-
logs\\isapi.log"

"log_level"="debug"

"worker_file"="<path to the native_iis folder>\\native_IIS\\-
workers.properties"

"worker_mount_file"="<path to the native_iis folder>\\native_
IIS\\uriworkermap.properties"
```

In this example, *jakarta* refers to the virtual directory you have added before you created the ISAPI filter.

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Sample uniworkers.properties File

The following is a sample uniworkers.properties file:

```
/MartServer/*=node1
```

Sample uriworkermap.properties File

The following is a sample uriworkermap.properties file:

```
# This file provides sample mappings for example wlb

# worker defined in workermap.properties.minimal

# The general syntax for this file is:

# [URL]=[Worker name]

/*=lb

#

# Mount jkstatus to /jkmanager
# For production servers you will need to

# secure the access to the /jkmanager url

#

/jk-manager=jk-status
```

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