



P2 SECURITY

Plug-in User's Guide

First Edition (February 2021)

This edition applies to Version 3.2 of P2 Security and to all subsequent releases and modifications until otherwise indicated in new editions.

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Preface

This guide provides users with information on how to use P2 Security Plug-in for Enterprise Manager.

P2 Security provides consistent user authorisation functionality for applications developed by P2. Applications can use P2 Security to authenticate users, and to check their privileges against centralised or distributed databases. Privileges can be granted to individual users or user groups.

P2 Security Plug-in for Enterprise Manager provides users with the functionality to perform low-level management of application definitions, security objects, user groups' privileges, as well as user accounts and their membership in user groups. The plug-in is designed for administrators, who have detailed knowledge about the applications' internal security structures.

This guide explains how this information is organized and how to use the P2 Security Plug-in.

Who Should Read This Guide

This guide is intended for users who access P2 Security, P2 Security Plug-in or any other application that supports P2 Security.

This guide assumes working knowledge of:

- Performing basic operations in the Enterprise Manager.
- Basic P2 Security functionality.

Related Documentation

Documents in the P2 Security documentation suite are:

Title	Description		
P2 Security Release Notes	Release notes for P2 Security.		
P2 Security Web UI User's Guide	How to use P2 Security Web UI.		
P2 Security Plug-in User's Guide	How to use P2 Security Plug-in for Enterprise Manager.		
P2 Security Installation Guide	How to install and configure P2 Security Web UI and P2 Security		
	Plug-in for Enterprise Manager.		

These documents are available from P2 Customer Support.



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 Phone:
 1300 739 969 (Australia only) or +61 8 9241 0314 (outside Australia) USA: 1-844-REACHP2 (1-844-732-2472)

 Support Portal
 http://support.p2energysolutions.com



Introduction

P2 Security provides consistent user authorisation functionality for applications developed by P2.

The security mechanisms are provided to handle user authentication, verification of privileges of individual users and user groups, and to limit users' access to specific business areas or dialog windows within applications.

This chapter contains a description of what P2 Security does, and what its main features and benefits are. Detailed information about the P2 Security Plug-in, its user interface, and its navigation can also be found in a later section of this document.

System Overview

P2 Security provides consistent user authorisation functionality for applications developed by P2. Other applications can use P2 Security to authenticate users, and to check their privileges against centralised or distributed databases. Privileges can be granted to individual users or to user groups. The applications can also use P2 Security to limit users' access to particular business areas or dialog windows. Privileges can also be used to control which actions users can perform on specific business objects or visual controls.

P2 Security consists of the following parts:

Database instances (SQL Server or Oracle)

Store information about applications, object groups, object types, objects, privileges, and their associations. Databases also store the definitions of user groups, users, and their membership.

Web UI (user interface)

A web application that provides users with the functionality to perform high-level management of user accounts and their membership in user groups.

Plug-in (user interface)

A plug-in interface for Enterprise Manager that provides users with the functionality to perform low-level management of application definitions, security objects, user groups' privileges, and also user accounts and their membership in user groups.

API (application programming interface)

A set of common libraries, which are referenced and delivered as components of the P2 applications.

Dependent applications

These provide authentication functionality, and verify users' access based on the privileges defined in an SQL Server or Oracle database instance using P2 Security API. Users can control the security settings using P2 Security Web UI or P2 Security Plug-in.

Benefits

P2 Security provides authentication functionality to applications developed by P2. It offers the following benefits:



- Separate front-end applications for administrators (P2 Security Plug-in) and super-users (P2 Security Web UI) lets these users focus on the level of control they have been authorised to perform. Administrators have full control over all the security objects, whereas super-users can focus on basic user account management and assigning group membership.
- Password Authentication can be used in the systems that require dedicated security mechanisms, while Domain Authentication lets a user log in to the application without explicitly providing a user name and password.
- With a centralised P2 Security database instance, the configuration of privileges for various applications can be performed from a single user interface.

Features

This section describes the features offered by P2 Security Web UI and P2 Security Plug-in.

P2 Security Web UI

For basic management of user accounts and group membership, the component comes with P2 Security Web UI. This web application allows users to create, edit and delete user accounts, as well as to include or exclude them from existing user groups.

Administrator			_				
pplications			Groups				
pplication Name Global Application>			Group Name		Description	he synchronization utility.	
Jsers in group		~		Users not in group			
Users in group	First Name	Login	Name	Users not in group	First Name	Login Name	

P2 Security Web UI - Group Maintenance Page

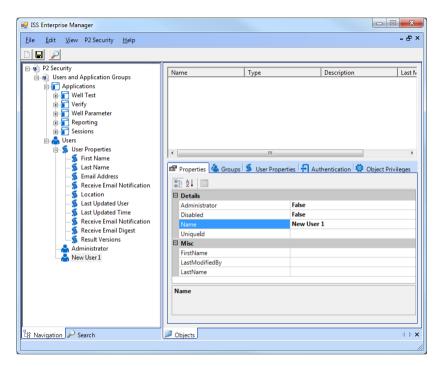
P2 Security Web UI is meant for the super-users, the non-technical end-users who are responsible for user account administration. Super-users do not have to be familiar with the internal organisation of security within individual applications. The application does not give them control over all the aspects of security configuration, but hides the complexity of its structure to make the configuration process easy to use.



P2 Security Plug-in

P2 Security comes with a plug-in for Enterprise Manager that exposes all the configurations of the security settings. P2 Security Plug-in, like all the plug-ins for Enterprise Manager, is a desktop user interface, and therefore requires direct or remote access to the desktop of the system where Enterprise Manager has been installed.

Administrators can use P2 Security not only to manage users, but to define application objects, individual privileges and objects these privileges apply to, and to manage many other types of P2 Security definitions.



P2 Security Plug-in - Main Window

P2 Security Plug-in is a convenient tool for performing post-installation configuration of P2 Security for new applications in the system. To modify advanced settings, users should be familiar with the internal organisation of security within individual products. They must be aware of what predefined structures (object types, privileges, and so on) applications require in order to work properly. Such information can be found in the relevant Installation Guide documentation of individual products.

Note: Changes to security configuration made with P2 Security by unqualified personnel can be harmful to the stability, security and performance of applications.



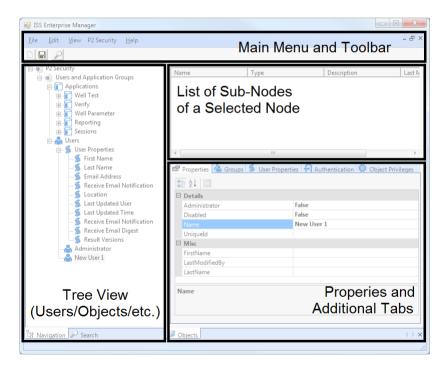
Overview of the Plug-in

Main Window

P2 Security is an extension library for Enterprise Manager, that facilitates the management of security configuration for many supporting applications.

The main window of Enterprise Manager, when P2 Security is loaded, consists of the following elements:

- Main Menu and Toolbar of Enterprise Manager;
- Tree View of Enterprise Manager displaying the hierarchy of security objects, especially users and applications;
- List of sub-nodes of a selected node; if the Objects node is selected, the list shows individual object definitions, whereas if the User Groups node is selected, the list shows individual user groups, and so on.
- Properties and Additional Tabs displays a property grid editor for a selected node, as well as additional tabs, depending on the type of the selected node; for example, if a user account node is selected, the Groups, User Properties, Authentication and Object Privileges tabs are shown.



Typically, to make changes to the security configuration, the user opens Enterprise Manager, and selects a profile that includes P2 Security. From there, the user can navigate to various parts of the Tree View representing hierarchical views of the security definitions, to add or remove definitions, and to edit their properties.

Some additional tabs in P2 Security support dragging nodes from the Tree View and dropping them onto the tab to create new associations (for example: user group membership, object group membership).



Properties and Additional Tabs

The lower left side of the Main Window of P2 Security includes the Properties and Additional Tabs panel. The *Properties* tab () is shown for all the node types and includes a simple property grid with text boxes and combo boxes for editing the values. Depending on the type of a node, the available properties may vary; typically they include at least a name and a description.

The other tabs in the panel are defined exclusively for specific node types. The following summary lists each of the tabs and its purpose for P2 Security definitions:

Objects Group

- Objects tab lets administrators drag and drop the objects from the Tree View to assign them to an object group.

• User

- Groups tab lets administrators drag and drop the user groups from the Tree View to assign user accounts to them.
- User Properties tab lets administrators edit text values of custom properties describing the user.
- Authentication tab lets administrators change the authentication type for the user and set a password for Password Authentication method.
- Object Privileges tab lets administrators drag and drop the objects from the Tree View and Allow/Deny individual user privileges to them.

User Group

- Object Privileges tab lets administrators drag and drop objects from the Tree View and Allow/Deny individual user group privileges to these objects.



Getting Started

Creating an Enterprise Manager Profile

Before you start using P2 Security for Enterprise Manager you need to configure an Enterprise Manager profile that includes the plug-in. When the Enterprise Manager application is started, the Select Your Profile dialog window is shown.

Select your p	profile			
Name		Description		
I		1 1	1	
	New Profile.	Edit Profile	ОК	Cancel

Enterprise Manager - Select Your Profile Dialog Window

1. If there are no existing profiles in the list, click New Profile.

The Edit Profile dialog window for a new profile appears.

🖳 Edit Profile	
Name New Profile	
Description	
File name	
Profile 1	
Plug-ins P2 Security	ConnectionString Driver={SQL Server};S
	OK Cancel

Enterprise Manager - Edit Profile Dialog Window

- 2. Update the settings for the profile.
 - a. Edit the name, description and file name of the profile.
 - b. In the Plug-ins section, select P2 Security and fill out the connection string value.



With the default provider, the connection string can be specified in the ODBC format as presented below:

SQL Server

```
Driver={SQL Server};Server=[SERVER];Database=[DATABASE];Uid=[USER
ID];Pwd=[PASSWORD];
```

Note: Although P2 Security does not expose as many configuration parameters as in older versions, the component is also able to use old profile files with additional parameters. For parameters that have not been specified explicitly, the new P2 Security releases uses default values.

When the profile settings have been set, press OK to save the new profile. Then choose the newly created profile in the Select Your Profile window and press the OK button to load the plug-in.

Navigating in the Tree View

While adding, editing and removing security definitions in P2 Security, you will often navigate to different nodes of the Tree View in Enterprise Manager. For P2 Security, the definitions are grouped under two main nodes:

- {Profile Name}\Users and Application Groups\Applications
- {Profile Name}\Users and Application Groups\Users

The hierarchy of security definitions under Applications node is as follows:

Applications

- Application 1
 - Object Types
 - Object Type 1
 - Object Privilege 1
 - Object Privilege 2
 - Object Type 2
 - Objects
 - Object 1
 - Object 2
 - Object Groups
 - Object Group 1
 - Object Group 2
 - User Groups
 - User Group 1
 - User Group 1.1
 - User Group 1.2
 - User Group 2

- Application 2



The user groups, but not the object groups, can compose a deep, multilevel hierarchy, as the user groups can inherit privileges of other user groups.

The hierarchy of security definitions under Users node is as follows:

• Users

- User Properties

- User Property 1
- User Property 2
- User 1
- User 2

If the icons of P2 Security have been properly installed to the Enterprise Manager icon folder, all the nodes are displayed using the images corresponding to their type to make navigation more intuitive.



Common Tasks

Checking Plug-in Version

To check the version of P2 Security choose the About the Plug-In option from the P2 Security main menu. The About dialog window appears.

To close the About window, click the close (x) button at the top right corner of the window.

Editing Users

Editing Users is the most common task performed when working with P2 Security. This section describes basic operations related to user account management.

Adding Users

To add a new security user, follow the steps presented below:

- 1. Open the Enterprise Manager profile that includes the P2 Security configured to work with the selected P2 Security database.
- 2. In the Enterprise Manager left-side tree view, navigate to the {P2 Security Profile}\Users and Application Groups\Users.
- 3. From the context menu of Users node choose the Add User option.
- 4. The New User 1 will be added as the last of the sub-nodes of the Users. If the New User 1 security user account already exists, New User 2 will be created, and so on.

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<u>F</u> ile <u>E</u> dit <u>V</u> iew P2 Security <u>H</u> elp				- 8 ×
Applications Application Groups Applications Well Parameter Well Parameter Sessions Surger Properties Surger Propertes Surger Properties Surger Properties	Name Name Properties & Groups Details Administrator Disabled Name UniqueId Misc FirstName LastModifiedBy LastName Name	Fals Fals	-	Last N
😫 Navigation 🖉 Search	Dbjects			∢ ⊳ ×

- a. The standard *Properties* is tab includes basic information, such as the user account name, first and last name, as well as the setting for disabling the user account.
- b. The Groups ^(C) tab includes groups to which the user belongs. To add more groups to the list, drag and drop their nodes from the tree view to the list.



- c. The User Properties **5** tab provides value input controls for all the user properties defined. To manage users' properties, navigate to the {P2 Security Profile}\Users and Application Groups\Users\User Properties node in the Enterprise Manager tree view.
- d. The Authentication 🗧 tab offers the selection of available authentication methods. Typically, two methods are available:

Password Authentication

The explicit authentication that requires a user name and password before the user can access an application that is using P2 Security.

Windows Authentication

The implicit authentication that does not require the provision of authentication details (user name and password) when the user has already been authenticated by the Windows domain server (typically the Active Directory host).

ß	Properties Grou	ps ≶ User Properties 🕂 Authentication 蓉 Object Privileges	
Г	Authentication		
	Authenticate on:	Password Authentication	
	Password:	*****	
			-

- e. The Object Privileges is tab can be used to Allow or Deny specific privileges of individual objects to the user. Objects are displayed in the top list, grouped by applications. To add more objects to the list, drag and drop their nodes from the tree view to the list. When an object is selected, the bottom list shows available privileges and offers Allow/Deny settings.
- 5. To save the new security user account, click the Save button on the Enterprise Manager toolbar, or select the Save option from the File main menu.

Deleting Users

To delete an existing security user, follow the steps below:

- 1. Open the Enterprise Manager profile that includes the P2 Security configured to work with the selected P2 Security database.
- 2. In the Enterprise Manager left-side tree view, navigate to the {P2 Security Profile}\Users and Application Groups\Users.
- 3. Expand the Users node to display all users, and select the user you want to delete.
- 4. From the context menu of the selected user node choose the Delete option.
- 5. To save the changes, click the Save button on the Enterprise Manager toolbar or select the Save option from the *File* main menu.

Note: No confirmation dialog window is shown during this operation. However, all the changes are performed in memory and must be explicitly saved in the database to be effective.

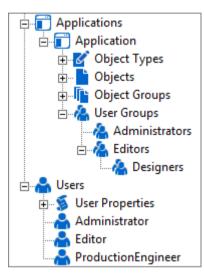


Grouping Users

User groups provide an intuitive way to manage privileges. A user group can represent the role of users included in the user group, for example *Editors*. User groups can also include other user groups to simplify the administration process.

To display the user groups defined in P2 Security for a specific application, follow the steps below:

- 1. Open the Enterprise Manager profile that includes the P2 Security Plug-in configured to work with the selected P2 Security database.
- 2. In the Enterprise Manager left-side tree view, navigate to the {P2 Security Profile}\Users and Application Groups\Applications.



- a. Expand the Tree View node representing the application whose user groups you want to edit.
- b. Browse and edit user groups which are grouped under the User Groups node or their descendant nodes.
- c. You can associate a user with a user group by selecting a node corresponding to the user in the Tree View, dragging the user group node and dropping it onto the User Groups tab of the user node.
- d. To save the changes, click the Save button on the Enterprise Manager toolbar or select the Save option from the *File* main menu.

Editing Applications

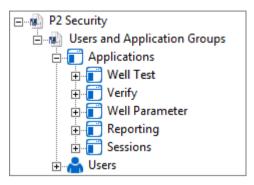
Applications' definitions correspond to the individual instances of the applications installed. During runtime, these applications access the P2 Security database instance with P2 Security API, and use various definitions associated with their own application definition to control users' access rights. For each application definition there should exist an actual application that is able to utilise the security settings.

To display the applications defined in P2 Security, follow the steps presented below:

1. Open the Enterprise Manager profile that includes the P2 Security configured to work with the selected P2 Security database.



2. In the Enterprise Manager left-side tree view, navigate to the {P2 Security Profile}\Users and Application Groups\Applications.



Example of a List of Applications Shown by the Plug-in

- a. Select the application you want to edit. The Properties 🖆 tab will display the properties of a selected application: Name, Description and UniqueId.
- b. To save the changes, click the Save button on the Enterprise Manager toolbar or select the Save option from the File main menu.

Editing Objects

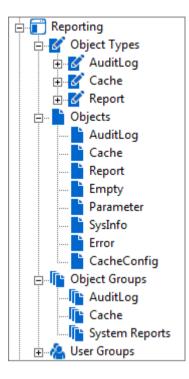
Security objects can represent any real-world or virtual entities, objects, business areas or parts of applications, against which these application are able to check users' privileges. Objects and privileges associated with them are always application-specific.

To display the objects defined in P2 Security for a specific application, follow the steps presented below:

1. Open the Enterprise Manager profile that includes the P2 Security Plug-in configured to work with the selected P2 Security database.



2. In the Enterprise Manager left-side tree view, navigate to the {P2 Security Profile}\Users and Application Groups\Applications.



Example of Lists of Objects, Object Types and Object Groups Shown by the Plug-in

- a. Expand the Tree View node representing the application whose objects you want to edit.
- b. Browse and edit objects, which are grouped under the Objects node.
- c. Each object is associated with an object type. An object type determines what privileges are available for objects of this type. If required, browse and edit object types listed under the *Object Types* node of the same application.
- d. Objects can be combined into object groups. Object groups let the users assign privileges to object groups rather than individual objects one at a time. If required, browse and edit object groups listed under the *Object Groups* node.
- e. To save the changes, click the Save button on the Enterprise Manager toolbar or select the Save option from the *File* main menu.

Editing Privileges

Privileges represent actions on objects of a specific type. Privileges can be assigned to user groups, as well as to individual users. There are three possible types of relations between privileges and users or user groups:

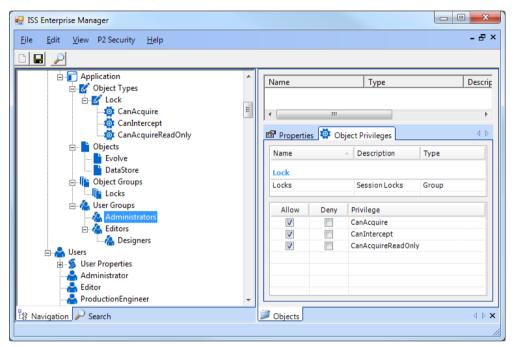
- A privilege has been assigned as Allow.
- A privilege has been assigned as Deny.
- A privilege has not been assigned to a user or a user group.



The last two cases are not equivalent. If a user is a member of any user groups that explicitly deny a specific privilege, or the privilege has been denied only to this user, the user cannot perform action, regardless of whether or not the user has been allowed the privilege directly or through any user group.

To manage the privileges defined in P2 Security for a specific application, follow the steps presented below:

- 1. Open the Enterprise Manager profile that includes the P2 Security Plug-in configured to work with the selected P2 Security database.
- 2. In the Enterprise Manager left-side tree view, navigate to the {P2 Security Profile}\Users and Application Groups\Applications.



Example of List of Privileges of a User Group Shown by the Plug-in

- a. Expand the Tree View node representing the application and the object type whose privileges you want to edit.
- b. Browse and edit privileges, which are grouped under the object type.
- c. You can Allow/Deny specific privileges of an object or an object group to users or user groups by selecting their node in the Tree View, dragging the object or the object group and dropping it onto the *Objects Privilege* tab. Privilege permissions can be changed after selecting the object or the object group in the Object *Privilege* tab.
- d. To save the changes, click the Save button on the Enterprise Manager toolbar or select the Save option from the *File* main menu.



Searching

P2 Security offers search capabilities for all the definition types. To enter the search mode in Enterprise Manager, switch the view from *Tree View* to *Search* tab using Enterprise Manager's tabs from the lower left corner of the main window.

28 N	avigation	🔑 Search	

Enterprise Manager Search Tab

1. To begin searching, enter the phrase in the Look For text box, and choose a definition type from the Filtered by combo-box; the option (Default Filters in this example) will search on users and user groups.

ESS Enterprise Manager					
<u>File E</u> dit <u>V</u> iew P2 Security <u>H</u> elp			- 8 ×		
Search by any or all of the criteria below	Name	Туре	Description		
Look for: hitered bitered Show Advan Security Users Show Advan Security User Groups Diject Types Privileges Security Object Groups User Properties	Name	m m	4 b		
Delete Display	Dijects				

Enterprise Manager in Search Mode

- 2. Click Search button. Any objects matching the search criteria will be displayed under the options panel.
- 3. To view or edit an object's details, double-click any of the objects displayed in the panel; the object's details will appear in the panel on the right.

Note: The link to Show Advanced Options may be ignored, as these additional options are not relevant in the P2 Security.

