

# XPress Agent Scheduler

for Microsoft® SQL Server® Express Edition



Version 2.2

## Installation manual

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# XPress Agent- Installation Manual

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## 2 Introduction

### 2.1 Intended Audience

The User Manual is intended for end-users who will be using the application's features.

The Installation Manual is intended for the installer, typically a database administrator (DBA) or system administrator, responsible for the initial setup.

**Note:** The Introduction chapter (Chapter 2) is identical in both the User and Installation Manuals for consistent context.

### 2.2 SQL Server free editions

There are two free editions of SQL Server: Developer Edition and Express Edition.

Developer Edition offers the full functionality of the Enterprise Edition, making it ideal for development and testing environments.

Express Edition is designed for smaller-scale applications and learning purposes. While it offers a subset of features, it's limited in terms of database size, memory usage, and CPU cores.

Key Differences:

- **Production Use:** A significant advantage of Express Edition is that it is legitimate to use SQL Server Express for production environments, unlike Developer Edition.
- **SQL Agent:** However, Express Edition's lack of SQL Agent can be a major limitation in production scenarios. SQL Agent is essential for automating tasks like backups, maintenance jobs, and integrations.

To establish a robust SQL Server production environment with SQL Agent capabilities, a substantial investment in a licensed edition of SQL Server is typically required.

*Note: as from SQL Server 2025, Express Edition has a limit of 50 GB per database which is significantly more than earlier versions.*

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## 3 Before installation

### 3.1 Prerequisites

1. Account **sa** should be enabled.
2. .NET Framework 4.8 should be installed.
3. SQL Server 2022 or 2025 should be installed.
4. The installer (you) should have administrator rights on the database server.

### 3.2 Pre installation

Consider these three account options for the service. However, Microsoft strongly recommends using a dedicated service account for optimal security (option 3):

1. Default is Local System account, if you use this, you should grant the built-in SQL account [NT AUTHORITY\SYSTEM].
2. Existing SQL Server service account.
3. Dedicated service account. If you created one you need to grant that 'Log on as a service' rights, for more info see **Appendix A: Log on as a service**.

Whichever account you select, ensure it has the necessary permissions to execute all Jobs on the SQL Server instance. Typically, the *sysadmin* role provides sufficient privileges.

### 3.3 Files explained

The XPress Agent package comes with these files:

group	file	purpose
Console	XPAgent_Manager.exe	user program executable
	ODSCrypt.dll	cryptographic functions library
	ODSFormLib.dll	standard form library
Service	XPAgent_Service.exe	service program executable
	XPAgent_Install.cmd	Install help
	XPAgent_Uninstall.cmd	Uninstall help
Database	xpagentdat.mdf	master datafile
	xpagentlog.ldf	log datafile
Documentation	XPAgent – User Manual.pdf	User manual
	XPAgent – Installation Manual.pdf	Installation manual

### 3.4 Important note

Since the License is stored in the database and configured using the Console the database should be installed and pre-configured first, then the Console.

Since the Service depends on the License to run, the Service is installed last.

That's why it is crucial to follow the installation steps in the exact given order and to ensure that each step completes successfully before proceeding to the next.

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## 4 Database

### 4.1 Installation

Copy the database files to their respective directories on the database server and attach them.

You can keep the default database name **XPAgent** which they were shipped with or choose another one but in that case, make sure that the filenames match the database name.

If you change it, you must specify it during installation file also, see next paragraph.

For help on attaching a database, follow [this](#) link.

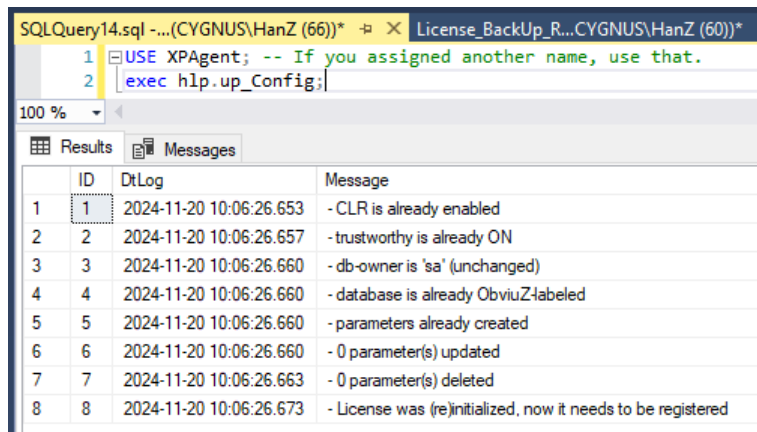
### 4.2 Configuration

Several database server options require configuration, the next procedure addresses this task.

Open a query window and execute...

```
USE XPAgent; -- If you assigned another name, use that.  
exec hlp.up_Config;
```

Output should be similar to this:



ID	DtLog	Message
1	2024-11-20 10:06:26.653	- CLR is already enabled
2	2024-11-20 10:06:26.657	- trustworthy is already ON
3	2024-11-20 10:06:26.660	- db-owner is 'sa' (unchanged)
4	2024-11-20 10:06:26.660	- database is already ObviusZ-labeled
5	2024-11-20 10:06:26.660	- parameters already created
6	2024-11-20 10:06:26.660	- 0 parameter(s) updated
7	2024-11-20 10:06:26.663	- 0 parameter(s) deleted
8	2024-11-20 10:06:26.673	- License was (re)initialized, now it needs to be registered

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## 5 Console files and documentation

Copy the documentation to a (shared) directory of your choice and make the User Manual available to the end-user(s).

The 3 Console files should always stay together in the same directory, we recommend to place them under **Program Files** in the subdirectory called **XPAgent**, but it can be any directory of your choice.

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## 6 License

Without a valid license, the use of the Console will be limited to enabling license requests or license entry, no other functionality will be available.

The License can be a free (evaluation) license or a paid regular license for 1 year, the only limitation of a free license is that it expires after the evaluation period.

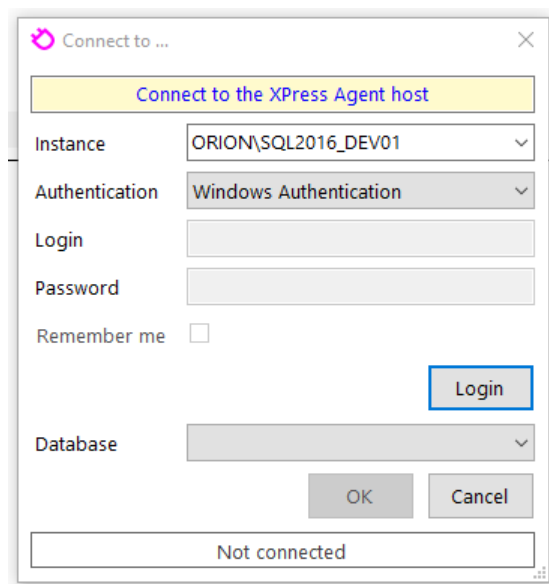
Both are configured the same way; this is the process:

1. Retrieve the necessary data from the installation
2. Send us that data with a request for a license
3. We'll send you the registration data
4. You enter the registration data

That's it.

### 6.1 Step by step setup

1. Start the Console and enter the name of the instance where the *XPress Agent* Database is located:

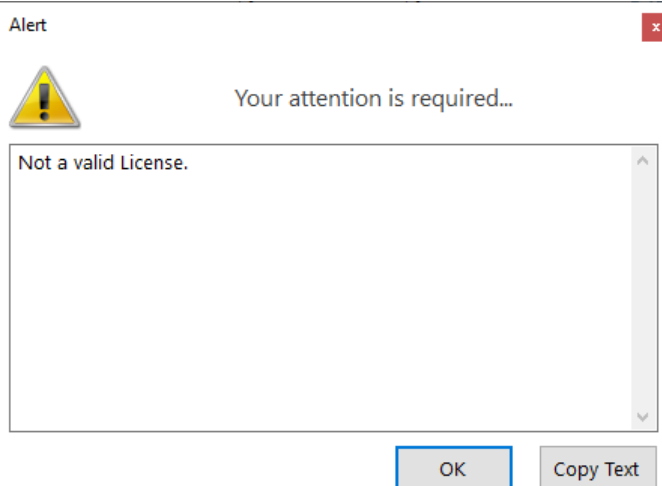


Choose Windows Authentication or enter your (sysadmin) credentials and click Login.

2. Enter or select the Database name and click [OK].

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3. After you connect for the first time, you'll see this popup because there is no License configured yet:



4. Click **[OK]** and you'll see this form:

Item	Value
ProductCode	C4EE-203E-4736-8741
InstanceName	ORION\SQL2022_EXP01
LicenseType	1
Registered	20241119
RegistrationCode	
Updated	20241119
ValidUntil	20241119

License Type: 1

Valid Until: 19-11-2024

Registration Code: - - - - -

Info Quote Copy Reset Paste Save Exit

5. Using the appropriate buttons, you can either:
- Read the info (click **[Info]**)
  - have the program open a new mail in your default mail program (if any) with a quotation request and all data in it (click **[Quote]**)
  - copy all necessary data to the clipboard so you can save it and send it in an email from another workstation (click **[Copy]**).

Send us the request. Once the License data has been received you can finish this chapter.

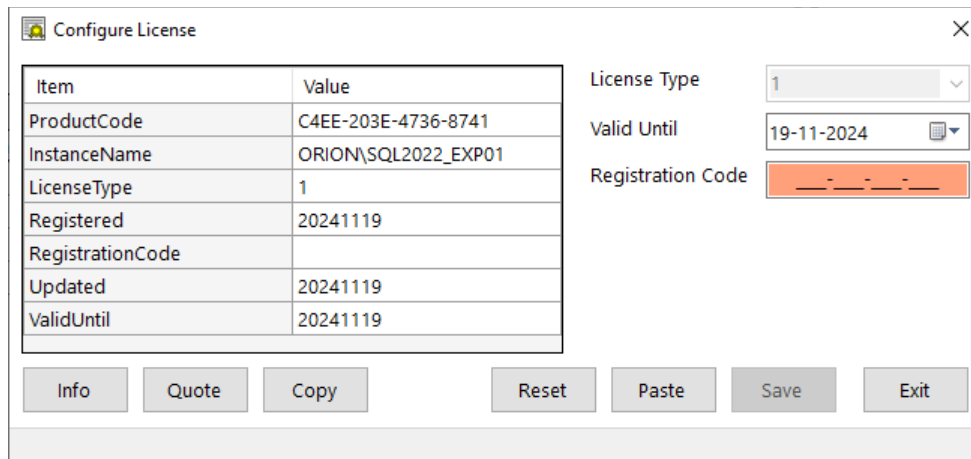
## 6.2 Configuration

Upon receiving your request, we will provide you with the License data. Please note that the registration code is generated exclusively from this data combination. Any alteration will render the license invalid.

Once the License data has been received, start the Console again as described in the previous chapter and enter the License data in this form:



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Item	Value
ProductCode	C4EE-203E-4736-8741
InstanceName	ORION\SQL2022_EXP01
LicenseType	1
Registered	20241119
RegistrationCode	
Updated	20241119
ValidUntil	20241119

License Type: 1

Valid Until: 19-11-2024

Registration Code: \_\_\_\_\_

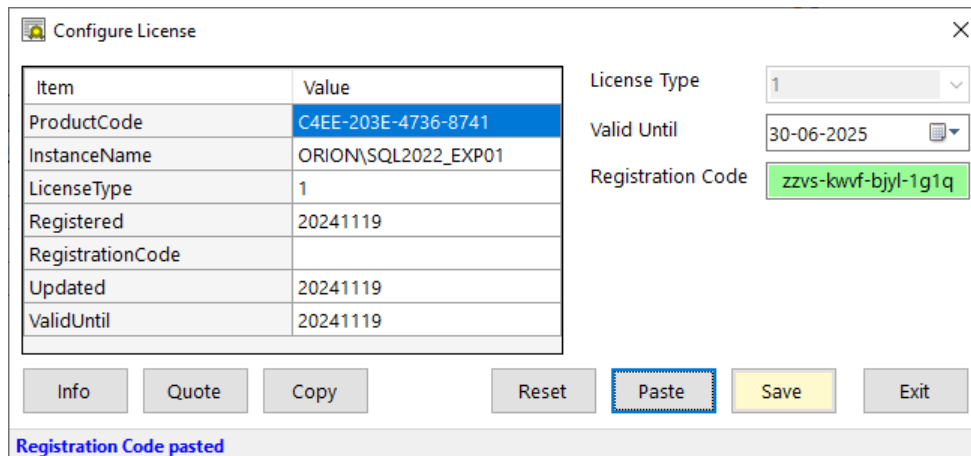
Info Quote Copy Reset Paste Save Exit

Enter the following data (*License Type* is always 1 for this application and is disabled):

- Type in the provided *Valid Until* or select from the DateTimePicker.
- Type in the provided *Registration Code* or use **[Paste]**.

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The situation is now similar to this:



The 'Configure License' dialog box contains a table with license details and fields for configuration.

Item	Value
ProductCode	C4EE-203E-4736-8741
InstanceName	ORION\SQL2022_EXP01
LicenseType	1
Registered	20241119
RegistrationCode	
Updated	20241119
ValidUntil	20241119

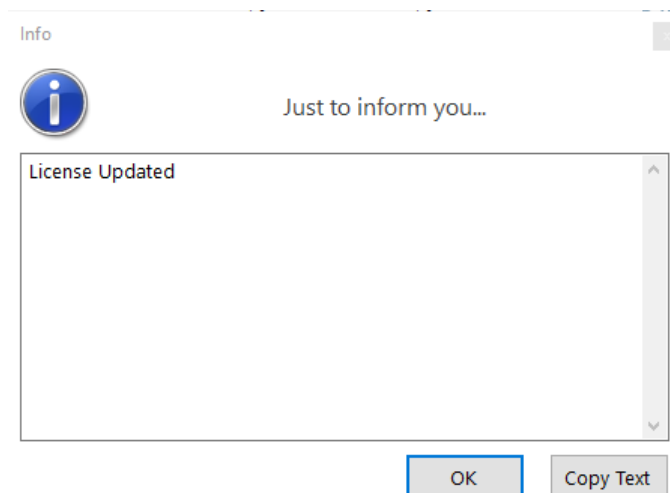
Configuration fields on the right:

- License Type: 1
- Valid Until: 30-06-2025
- Registration Code: zzvs-kwvf-bjyl-1g1q

Buttons at the bottom: Info, Quote, Copy, Reset, Paste, Save, Exit.

Status bar: Registration Code pasted

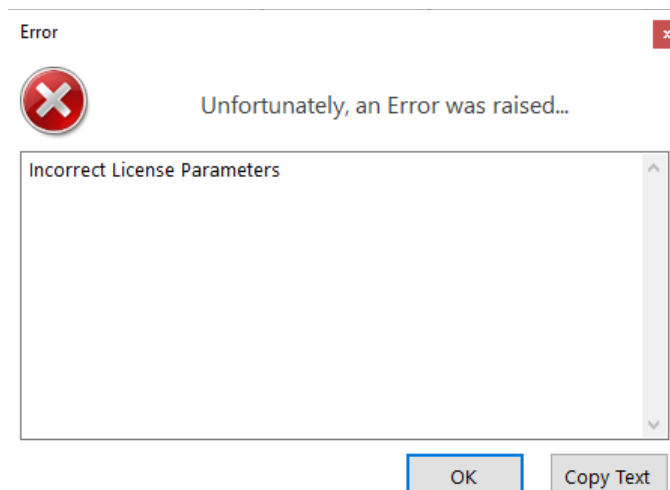
Click **Save** to validate and save the License data. A valid combination results in this pop-up and the License is activated:



An information dialog box titled 'Just to inform you...' with a blue information icon. It contains a text area with the message 'License Updated'.

Buttons at the bottom: OK, Copy Text

Should the combination of License data not be correct, then you'll see this:



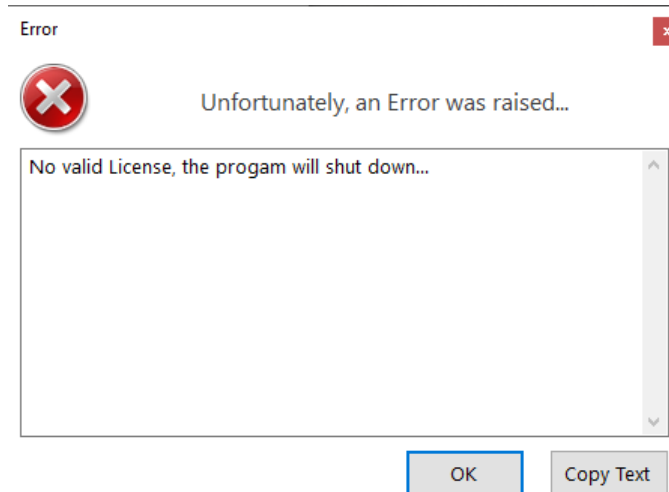
An error dialog box titled 'Unfortunately, an Error was raised...' with a red error icon. It contains a text area with the message 'Incorrect License Parameters'.

Buttons at the bottom: OK, Copy Text

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If you close the License configuration without saving a valid license, this will be shown:



In case you have any difficulty with the License, contact us.

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## 7 Service

### 7.1 Files and Installation Directory

Create a directory for the service executable and the two associated .cmd files on your database server, it can be any directory of choice, but we recommend to use **C:\Program Files\XPAgent**. Crucially, keep all three files (the executable and the two .cmd files) in this single directory.

### 7.2 Installation

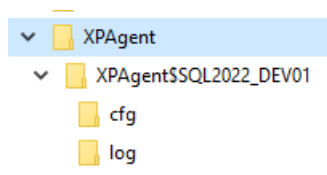
Determine the Instance and Database name, open a command prompt as administrator and navigate to the directory where you copied the service files to in the previous chapter.

XPAgent\_Install.cmd takes 2 optional parameters:

- InstanceName without the server prefix so just the instance name itself, for a default installation this is *SQLEXPRESS* which also is the default value for this parameter. If you want to run the service against another instance, you need to specify that here.
- DatabaseName, this is *XPAgent* by default.  
If you chose to install the database under another name (see paragraph 4.1), you need to specify that here, in that case you also need to specify the first parameter.

Run *XPAgent\_Install.cmd* with the correct parameters, or without them to use the defaults mentioned above. It shows the values that it will use to install the Service and asks for confirmation.

During this installation, subdirectories will be automatically created under **%ProgramData%** which usually is **C:\ProgramData**. In the example below you see the directories for this service on instance SQL2022\_DEV01:



The **XPAgent.cfg** configuration file is created in the **cfg** subdirectory, daily logs will be placed in the **log** subdirectory.

Appreciate that the first two lines of the config file are used for the connection. When they are missing or incorrect, the service will not run. Additional lines are allowed but will be ignored.

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## 7.3 Credentials

By default, the Service connects as Local System Account. If you prefer you can use a windows account, make sure this account has necessary privileges, see paragraph **3.2**). To change the credentials use *Services.msc*:

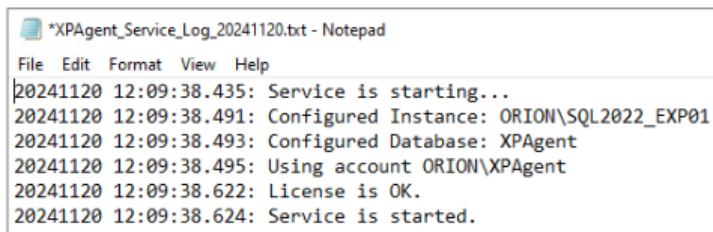
1. Double-click the service, open the tab “Log On” and enter the credentials
2. Click **OK**
3. Restart the service using the restart button.

## 7.4 Uninstallation

Run the supplied *XPAgent\_Uninstall.cmd* file. Be aware that the default servicename is XPAgent\$SQLEXPRESS, if you want to uninstall a service with another name, you must specify the instance name as only parameter.

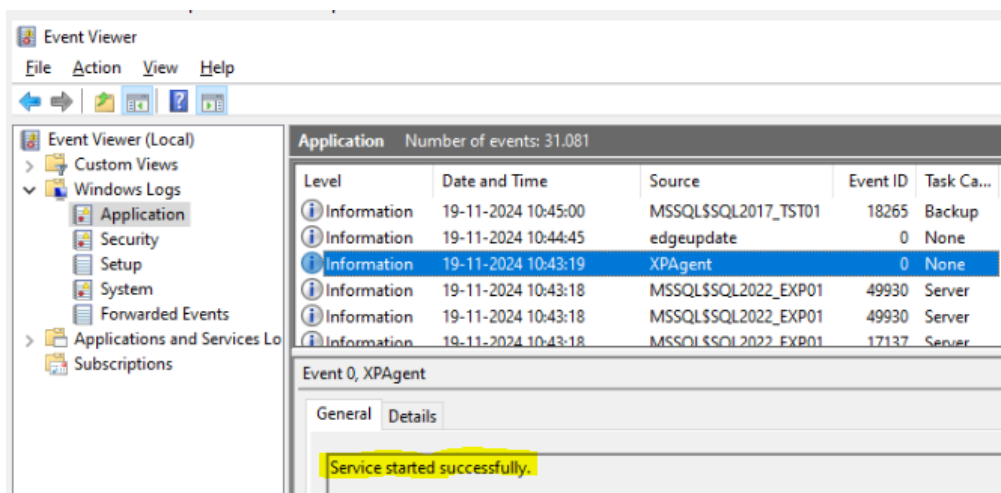
## 7.5 Conclusion

The service should be running now, check the log in the *Log* subdirectory:



```
*XPAgent_Service_Log_20241120.txt - Notepad
File Edit Format View Help
20241120 12:09:38.435: Service is starting...
20241120 12:09:38.491: Configured Instance: ORION\SQL2022_EXP01
20241120 12:09:38.493: Configured Database: XPAgent
20241120 12:09:38.495: Using account ORION\XPAgent
20241120 12:09:38.622: License is OK.
20241120 12:09:38.624: Service is started.
```

... or the Application Log in Event Viewer (source is XPAgent):







XPress Agent should be ready for use now.

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## 7.6 Multiple services

You can run one Service per Instance, but multiple Services on a single server with with multiple SQL Server Express Editions:

Name	Description
 XPress Agent (SQLEXPRESS)	ObviuZ Scheduler S...
 XPress Agent (SQL2022_EXP01)	ObviuZ Scheduler S...
 XPress Agent (SQL2017_EXP01)	ObviuZ Scheduler S...
 World Wide Web Publishing Se...	Provides Web conn...

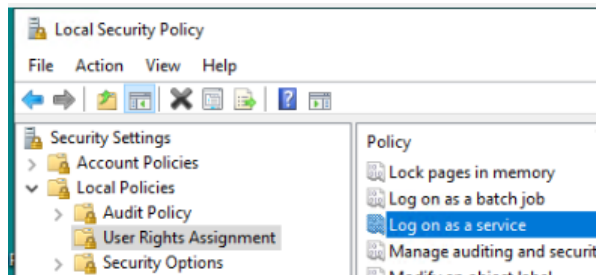
Note: Each combination of an *XPress Agent* Service and its associated Database requires its own license. The *XPress Agent* Console itself is license-free. Its sole function regarding licensing is to configure and manage the licenses for the installed Agents.

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## Appendix A: Log on as a service

To grant the Service account 'Log on as a service' rights, use Local Security Policy manager:



1. Execute secpol.msc
2. Left panel: select Local Policies
3. select User Rights Assignment
4. Right panel: double-click 'Log on as a service'
5. Click Add User or Group
6. Enter the Service account name and click OK
7. Click OK again and close Local Security Policy manager.