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# Genesys Administrator Extension Deployment Guide

Deploying Genesys Administrator Extension

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# Deploying Genesys Administrator Extension

This page describes how to install and deploy Genesys Administrator Extension. Before beginning your installation, ensure that you have met the prerequisites listed in [Prerequisites](#). If you plan to install any of the modules in Genesys Administrator Extension, refer to [Prerequisites for Genesys Administrator Extension Modules](#) before using them.

Genesys Administrator Extension can be deployed using [Setup Mode](#) or the [command line](#).

## Important

- Although Configuration Server might support more database types, GAX only supports the following database types: Oracle, Microsoft SQL Server, and PostgreSQL. [Genesys Supported Operating Environment Reference Guide](#) for information on which operating environments are supported by GAX.
- Do not connect GAX to a Configuration Server Proxy; connect it to Configuration Server only. Configuration Server Proxy does not support some functionality that is required by GAX.
- Although Management Framework supports various operating systems, GAX can only be deployed on an Operating System that is also supported by Configuration Server and DB Server. For more information, see [Genesys Administrator Extension](#) and [Framework](#) pages of *Genesys Supported Operating Environment Reference*.

## Deploying Genesys Administrator Extension via Setup Mode

Setup Mode can set up new instances of GAX to connect to an existing Management Framework deployment. You can also use Setup Mode to install and configure new Genesys deployments. In the latter scenario, Setup Mode will install GAX, Configuration Server, and DB Server (where applicable). After these components are installed, you can use the installation package (IP) management features of GAX to deploy other installation packages.

If you are using Setup Mode to install GAX for the first time, you must be a local user on the machine on which GAX will be installed. You are considered a local user if you are using this machine in person or via a remote desktop connection. After the set up is completed, the local user account is no longer used for subsequent installations.

## Warning

Any interruption in the Setup Mode process might result in only partial and incomplete configuration of your environment. A complete restart of the setup process is needed. If you encounter an interruption while deploying GAX using Setup Mode, first reset Configuration Server (for example, stop any running Configuration Server processes) and your environment (for example, reset the Configuration Database) to their initial values. Then restart Setup Mode from scratch.

## To deploy GAX via Setup Mode

To deploy GAX using Setup Mode, you must do the following:

1. [Set up the GAX database](#)
2. [Set up the Host](#) on which GAX will be installed
3. [Install the GAX Server](#) on the Host
4. [Deploy GAX](#)
5. [Set up a connection to Solution Control Server](#)
6. [Configure Centralized Logs](#)

## Step 1 -- Set Up the GAX Database

## Important

In Setup mode, results of executing SQL statements that contain the drop keyword are ignored, although they are still logged by GAX. This is because some databases return errors when dropping tables or views; you can ignore these errors. If required, you can find the errors in the logs of the GAX server.

Choose one of the following database types:

### **[+] Show steps for Oracle**

To set up the Genesys Administrator Extension database for Oracle:

1. Refer to the Oracle documentation to install the Oracle Database Management System on the host machine.
2. Use the following SQL commands to create the users and ensure that they do not have excessive permissions:

```
create user <username> identified by <password>;
grant connect, resource to <username>;
alter user <username> quota <quota> on USERS;
```

3. If you are setting up a new Configuration Server, perform the following steps on the Configuration Server host:

- Run the Oracle Net Configuration Assistant.
- Select **Local Net Service Name Configuration** to create an entry in the **tnsnames.ora** file to map the Local Net Service Name to the host, port, and SID (System ID) used by the database.

### Important

The Local Net Service Name must be the same as the SID in order for Setup Mode in GAX to work properly.

- The **ORACLE\_HOME** environment variable must be set to the installation directory of the Oracle database client. Refer to Oracle documentation for additional details on completing this step.

To enable UTF-8 character encoding for Oracle databases (Optional):

### Warning

- Character-set migration is a non-reversible process. Incorrect data conversion can lead to data corruption, so always perform a full backup of the database before attempting to migrate the data to a new character set.
- In most cases, a full export and import is recommended to properly convert all data to a new character set.

To enable UTF-8 character encoding for Oracle databases in Genesys Administrator Extension, note the following:

You must ensure that:

- Configuration Server 8.1.2 or higher is installed.
- UTF-8 string encoding is enabled on Configuration Server 8.1.2 or higher.

The database character set must be set to **AL32UTF8** to support the use of UTF-8 character encoding. To verify the character set, use the following SQL command:

```
SELECT * FROM NLS_DATABASE_PARAMETERS;
```

In the response, if NLS\_CHARACTERSET is set to AL32UTF8, no additional actions are required. Otherwise, refer to the Oracle support guide for more information about character set migration: [http://docs.oracle.com/cd/B28359\\_01/server.111/b28298/ch11charsetmig.htm](http://docs.oracle.com/cd/B28359_01/server.111/b28298/ch11charsetmig.htm)

## [+] Show steps for Microsoft SQL

1. Refer to the Microsoft SQL Server documentation to create the Microsoft SQL Server Database for GAX.

2. Start SQL Server Management Studio.
3. Connect to Microsoft SQL Server as sa, with the following parameters:
  - Server type: Database Engine
  - Server name: Local
  - Authentication: SQL Server Authentication
4. Create a login and password for the GAX database. For example: A username of gax850admin with the password password.

### Important

When you create the login, uncheck the **Enforce password policy** check box.

5. Create the GAX database (for example, gax850) by using the login to make this login the owner of the database.
6. Verify that you can connect to the database with the login that you created:

## [+] Show steps for Postgre SQ

### Important

It is recommended to use PostgreSQL version 9.1 or higher and to set **compatible** as **true** under the **[GAX]** section of the postgres Database Access Point (DAP). If you are using **custom\_jdbc\_url**, append `?compatible=7.1` to the custom JDBC URL.

1. Refer to the PostgreSQL documentation to create the PostgreSQL Database for GAX.
2. Start pgAdmin.
3. Select the PostgreSQL 9.1 connection and connect to the PostgreSQL database with the following user name: postgres.

### Important

If a PostgreSQL 9.1 connection is not available, you can create it by clicking **Add Server**.

4. Create a login and password for the GAX database. For example: login gax850admin with the password password. You can also create a query to create the credentials using the **Query Tool**. For example:

```
CREATE USER gax WITH PASSWORD 'gax850admin' CREATEDB;
```
5. Create the GAX database (for example, gax850) by using the login created in the previous step to make this login the owner of the database.

```
create database gax850 owner gax;
```

6. Connect to the database with the login that you created in Step 4.
7. If you are setting up a new Configuration Server, you must do the following:
  - Update the DBMS configuration file **pg\_hba.conf** to allow the client to connect to the database.
  - Issue the command `pg_ctl reload` to complete the update of the DBMS configuration file.

### Important

- The PostgreSQL driver **LIBPQ.dll** must be installed on the host where Database Server is installed.
- The **PATH** environment variable must be set to the **bin** directory of PostgreSQL.

## Database Access Points

After you have set up the GAX database, you must configure a Database Access Point (DAP) through which GAX can access the GAX Database. Normally, a basic DAP is all you need. Follow the instructions [here](#).

Starting in GAX 8.5.25x, you can create a custom JDBC URL to connect to the GAX Database. This URL is specified in the Database Access Point (DAP), and is an alternative to using a connection based on the DAP object that enables access to the GAX Database.

To configure a custom JDBC URL, use the **jdbc\_url** option in the **[GAX]** section of the DAP object. If this option is not configured, GAX will use the DAP object values for establishing the connection.

Option Name: **jdbc\_url**

Valid Values: Any valid URL to an existing configured database.

Changes take effect: After restart of GAX

A sample URL for an MSSQL database is:

```
jdbc:sqlserver://hostname:portnumber;Database=gax_https;username=sa;password=sa@2008;ssl=off
```

In this URL, username and password are optional for security reasons, and may not be specified. If specified, GAX will consider them to be the access credentials to the GAX Database, and make the connection. If not specified, GAX will use the username and password values from the General tab of the DAP object.

### Warning

Each DBMS configures URL in different ways. You must provide the URL in the correct format and syntax as required for your DBMS. GAX cannot establish a connection to the Database if the URL is incorrect or not improperly formed.

### Step 2 -- Set Up the Host

To set up the host on which GAX will be installed:

1. If Java Server JRE 8 is not already installed on the host machine where Genesys Administrator Extension will be installed, install it now by downloading it from the following website: <http://www.oracle.com/technetwork/java/javase/downloads/index.html>

#### Important

JRE 1.8 is mandatory to install GAX 9.0.x. It is recommended to use the latest JRE 1.8 version.

Refer to the Oracle documentation for more information on how to install the tar.gz package.

#### Important

GAX only supports the 64-bit version of Oracle Java HotSpot Server VM.

2. Set the following environment variables for your host, as follows:

### Linux

1. Insert the following lines into the **/etc/profile** file:

```
export JAVA_HOME=/usr/lib/java/jre-<version of Java downloaded>/jre
export PATH=$PATH:/usr/lib/java/jre-<version of Java downloaded>/jre/bin
```

2. Log out and log in again to activate the new environment variables in the current session.

### Windows

1. Create a new System Variable named **JAVA\_HOME** and use the path that was used during installation as the value. For example, `C:\Programs\Java\jre1.6.0_23`.
2. Edit the **Path** variable and append `C:\Programs\Java\jre1.6.0_23\bin` to the existing value.
3. Install Local Control Agent on this host. For detailed instructions, refer to the [Framework Deployment Guide](#).

### Step 3 -- Install the GAX server on a host

To install the GAX Server, follow the instructions for the type of Operating System you are using.

Prerequisite:

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- The environment variable **JAVA\_HOME** has been configured in [Step 2 -- Set Up the Host](#).

## Linux

To install the GAX Server on Linux: **[+] Click to show steps**

1. Copy the IP to the host machine.
2. Navigate to the folder to which you copied the IP, and change the permissions of the installation file by entering the following command:

```
chmod 755 install.sh
```

3. Run the installation file to extract and copy the necessary files by entering the following command:

```
./install.sh
```

### Important

When you install Genesys Administrator Extension, you might receive the following error message that indicates that installation was unsuccessful:

```
Unable to find configuration information. Either you have not used configuration wizards and the GCTISetup.ini file was not created or the file is corrupted.
```

Ignore this message; Genesys Administrator Extension was installed successfully.

4. Navigate to the folder in which you installed GAX and run the **gax\_startup.sh** file.
5. Install the Genesys Deployment Agent on port 5000 of this Host. Follow the instructions in the [Framework Deployment Guide](#), but when asked to provide installation information for Local Control Agent, provide dummy values for now. After Configuration Server is installed, you can go back and install LCA with the correct values.

## Important

- The GAX installer creates a **setenv.sh** file that enables you to adjust the memory settings for GAX. The **setenv.sh** file defines the memory (RAM) settings for GAX to 1024 MB. You can change the memory setting in the **setenv.sh** file to a different value.
- If you enable TLS encryption, you must do the following:
  - Update the **setenv.sh** file. This file contains the following lines:

```
# Uncomment the following lines only if you are going to use TLS. Don't forget to set the correct path and password.
#export JAVA_OPTS="$JAVA_OPTS -Djavax.net.ssl.trustStore=/path_to_jre/jre6/lib/security/cacerts"
#export JAVA_OPTS="$JAVA_OPTS -Djavax.net.ssl.trustStorePassword=secret_password"

# This line defines the memory (RAM) settings for GAX. If you have more RAM available for GAX, adjust both values accordingly
#export JAVA_OPTS="$JAVA_OPTS -Xms2048m -Xmx2048M"

# Uncomment the following line to activate psdk.logs, Genesys recommends that you keep this this option deactivated.
#export JAVA_OPTS="$JAVA_OPTS
-Dcom.genesyslab.platform.commons.log.loggerFactory=com.genesyslab.platform.commons.log.Log4JLoggerFactoryImpl

# Enable this option for SSL Debugging
#export JAVA_OPTS="$JAVA_OPTS -Djavax.net.debug=all"
```

Follow the instructions in the first line by uncommenting the two lines following it, and setting the actual path and password.

- You must create a trust store and set the trust store path accordingly. See [Transport Layer Security](#) for more information.

## Windows

To install the GAX server on Windows: **[+] Click to show steps**

1. Copy the IP to the host machine.
2. Run the **setup.exe** installation file to extract and copy the necessary files. If there is an existing installation of GAX on the host, the installer will display a dialog box that prompts you to confirm whether or not you want to maintain the existing installation.
3. Follow the installation wizard to complete the installation.

## Important

- The GAX installer creates a **setenv.bat** file that enables you to adjust the memory settings for GAX. The **setenv.bat** file defines the memory (RAM) settings for GAX to 1024 MB. You can change the memory setting in the **setenv.bat** file to a different value.
- If you enable TLS encryption, you must do the following: The **setenv.bat** file contains the following lines:

```
REM Uncomment the following lines only if you are going to use TLS. Don't forget to set
the correct path and password.
REM set JAVA_OPTS=%JAVA_OPTS% -Djavax.net.ssl.trustStore="C:\Program Files\Java\jre6\lib\
security\cacerts"
REM set JAVA_OPTS=%JAVA_OPTS% -Djavax.net.ssl.trustStorePassword=secret_password
```

- Follow the instructions in the first line by uncommenting the two lines following it and setting the the correct path and password.
- You must create a trust store and set the trust store path accordingly. See [Transport Layer Security](#) for more information.

## Step 4 -- Deploy GAX

The deployment procedure for GAX depends on the installation environment. Follow the steps that corresponds to your situation.

- Deploy GAX to an Existing Management Framework Deployment **[+] Click to show steps**

### Prerequisites:

- Management Framework is deployed and configured.
- The host property of the Configuration Server application is set.

### Steps:

1. Connect to GAX locally by opening a supported web browser and navigating to the location of your GAX host (for example: <http://localhost:8080/gax/>).

### Important

- Ensure to run the **gax\_startup** batch file before accessing the GAX Setup Mode.
- Setup Mode is accessible only through a local connection. You cannot use Setup Mode if you connect remotely to the GAX host.
- Ensure that the port 8080 is accessible in the GAX host as GAX uses the port 8080.

2. Select the **Username** field and enter root. By default, there is no password.
3. Click **Log In**.
4. Choose **Connect to an Existing Deployment**.
5. You must provide configuration information about the existing Management Framework deployment. This screen pre-populates with existing details about the deployment, such as:
  - **Primary Configuration Server Host**
  - **Port** number
  - **Default Client Application Name**
  - **Username**
  - **Password**If there are any errors, GAX prompts you to re-enter the configuration information.
6. Click **Next**.
7. Associate this instance of GAX with an Application object. Do one of the following:

### Important

When you are first installing GAX, be sure to use an Application object that is based on the template from the GAX IP.

- To use an existing Application object, select the Application object from the list. If the Host object on which the object is configured has the same Host name or IP address as the current GAX instance, the Application object is highlighted as **recommended**.
  - To create a new Application object, provide the following information in the corresponding fields:
    - **Administrator Extension Application Object Name**—The name of the Application object to create.
    - **Template**—The application template to use.This creates an application of type Genesys Administrator. If the Host object does not exist, it is automatically created.
8. Click **Next**.

9. GAX prompts you to enter configuration information for the GAX database. This screen pre-populates with existing details that might be stored in Configuration Server. You must provide the following configuration information:
  - **Database Server Type**
  - **Database Host**
  - **Port** (numeric only)
  - **Database Name**
  - **Username**
  - **Password**
10. Click **Next**.
11. GAX verifies the database version and creates (or updates) the database access configuration. If an error occurs, an error message displays and you can either cancel or restart the deployment process.
12. Click **Finish**.
13. GAX restarts to finish the setup operation. When it is done, GAX displays the login screen and you can login to GAX.

### Important

If you start or stop GAX from GA or SCI when GAX is using `gax_startup.bat`, then GAX status appears incorrectly in Windows Services. To view the synchronized status in Windows Services, GA and GAX, you must manually edit the GAX application in Configuration Server and update the command line to `gaxservice.exe` and the command line arguments to, for example, `-service GAX64 -immediate - app GAX application name`.

- Deploy GAX 8.5.000.65 or Later and Management Framework 8.5.x/8.1.x **[+] Click to show steps**

#### Prerequisites:

- Genesys Deployment Agent (GDA) must be installed on port 5000 on the server that will run Configuration Server and Database Server.

### Important

Starting from Local Control Agent 8.5.100.31, GDA is no longer installed and supported as part of Management Framework and therefore all functionality using GDA (including the installation of IPs) is deprecated.

- The installation packages for Configuration Server and Database Server (required for Management Framework 8.1.x only) are in a location accessible to the GAX host machine.
- You are familiar with the prerequisites for deploying Management Framework. Refer to the [Management Framework documentation](#) for more information.

#### Steps:

1. Connect to GAX locally by opening a supported web browser and navigating to the location of your

GAX host (for example: <http://localhost:8080/gax/>).

### Important

Setup Mode is accessible only through a local connection. You cannot use Setup Mode if you connect remotely to the GAX host.

2. Select the **Username** field and enter root. By default, there is no password.
3. Click **Log In**.
4. Choose **Install a New Deployment**.
5. In the **Configuration Server Installation Package Path** field, enter the path to the Configuration Server installation package .zip file (Windows) or tar.gz file (Linux). The file must contain the **ip** and **Templates** directories.
6. Click **Next**.
7. (This step appears only if you are using an installation package for Configuration Server 8.1.x or lower.)  
In the **Database Server Installation Package Path** field, enter the path to the Database Server installation package .zip file (Windows) or tar.gz file (Linux). The file must contain the **ip** and **Templates** directories. When you are done, click **Next**.
8. In the **Configuration Server Details** section, provide the following information. Some fields are populated by default values.
  - **Installation Path on Target Host**—The installation path to which Configuration Server will be installed.
  - **Primary Configuration Server Host**—Enter the name of the Primary Configuration Server host.
  - **Port**—Enter the port number for the Primary Configuration Server.
  - **Target Host OS Type**—Select the operating system used by the target host.

### Important

Although Management Framework supports various operating systems, GAX can only deploy Configuration Server and Database Server on Windows Server 2003/2008/2012 or Red Hat Enterprise Linux 5.5/6.x. See [Prerequisites](#) for more information on operating systems that are supported by GAX.

- **Management Port**—Enter the port number for the Management Port.
9. Click **Next**.
  10. (This step appears only if you are using an installation package for Configuration Server 8.5.x or higher.)  
In the **Configuration Server License Path** field, enter the path to the Configuration Server license file and then click **Next**.
  11. (Optional) Click the **Install Backup Configuration Server** check box to install a Backup Configuration Server. You must provide the following information:

- **Backup Configuration Server Host**—Enter the name of the Backup Configuration Server host.
- **Port**—Enter the port number for the Backup Configuration Server.
- **Management Port**—Enter the port number for the Backup Management Port.

12. Click **Next**.

13. (This step appears only if you are using an installation package for Configuration Server 8.1.x or earlier.)

In the **Database Server Details** section, provide the following information. Some fields are populated by default values.

- **Installation Path on Target Host**—The installation path to which Database Server will be installed.
- **Port**—Enter the port number for the database.

When you are done, click **Next**.

14. In the **Configuration Server Database** section, provide the following information. Some fields are pre-populated by default values.

- **Database Server Type**—Select the database type to be used by GAX: Oracle, PostgreSQL, or MS SQL Server.
- **Database Host**—Enter the name of the database host.
- **Port**—Enter the port number for the database.
- **Database Name**—Enter the name of the database.
- **Username**—Enter the user name to use when accessing the database.
- **Password**—Enter the password to use when accessing the database.

### Important

GAX uses default values for some deployment parameters. These default values are not presented to the user. If you want to override these default values, you must edit the following file in the `\conf` directory: **asd\_hostinfo.properties, asd\_silentini\_<IP Nick Name>.properties**

15. Click **Next**.

16. A progress indicator displays while GAX performs the deployment. If an error occurs, an error message displays and you can either cancel or restart the deployment process.

17. Click **Next**.

18. In the **Application Object Details** section, enter the name of the GAX Application object in the **Administrator Extension Application Object Name** field.

19. Click **Next**.

20. In the **Administrator Extension Database Details** section, provide the following information. Some fields are pre-populated by default values.

- **Database Server Type**—Select the database type to be used by the GAX database: Oracle, PostgreSQL, or MS SQL Server.
- **Database Host**—Enter the name of the GAX database host.

- **Port**—Enter the port number for the GAX database.
- **Database Name**—Enter the name of the GAX database.
- **Username**—Enter the user name to use when accessing the GAX database.
- **Password**—Enter the password to use when accessing the GAX database.

21. Click **Next**.
22. GAX verifies the database version and creates (or updates) the database access configuration. If an error occurs, an error message displays and you can either cancel or restart the deployment process.
23. Click **Finish**.
24. GAX restarts to finish the setup operation. When it is done, GAX displays the login screen and you can login to GAX.

**Important:** Setup Mode reads SQL script files from IPs and executes them on the target database through a JDBC connection. SQL script files should follow these rules:

1. `<Script> ::= {[<Statement>] | [<Delimiter>] | [<Comment>]}`  
A script consists of a sequence of statements or comments, with or without delimiters in between.

2. `<Comment> ::= "/*" { <any_character> } "*/" | "/" { <any_character> } <Line Separator> | "--" { <any_character> } <EOL>`

A single-line comment starts with "/" or "--" and ends with the line.  
A multi-line comment starts with "/\*" and ends with "\*/".

3. `< Delimiter > ::= "go" | "/" | ";"`

An instance of go or / is a strong delimiter which delimits any statements.  
An instance of ; is a weak delimiter which delimits all other statements except `<CreateProcedure>`.

4. `<Quotations> ::= '{<any_character>}' | '{<any_character>}'`

Quotations can appear inside a statement. Any characters inside quotations are not treated as a statement, delimiter, or comment.

5. `<Statement> ::= <CreateProcedure> | <SimpleStatement>`

`<CreateProcedure> ::= "CREATE PROCEDURE" | "CREATE OR REPLACE PROCEDURE" {<any_character> | <Quotations>} "go" | "/" | <EOF>`

`<SimpleStatement> ::= "INSERT" | "UPDATE" | "DELETE" | "DROP" | "CREATE" | "ALTER" | "COMMIT" | "ROLLBACK" | "MERGE" | "TRUNCATE" {<any_character> | <Quotations>} [<Delimiter>]`

A create procedure statement must be specifically delimited by a strong delimiter.  
A simple statement can be delimited by a delimiter, a comment, or another statement.

6. All keywords are case insensitive.

- Deploy GAX 8.5.000.58 or Earlier and Management Framework 8.1.x **[+] Click to show steps**

### Important

This procedure describes how to use Setup Mode to deploy GAX 8.5.000.58 (or earlier) and Management Framework 8.1.x. If you want to deploy Management Framework 8.5.x, you must use GAX 8.5.000.65 or later and refer to the section above - **Deploy GAX 8.5.000.65 or Later and Management Framework 8.5.x/8.1.x.**

#### Prerequisites:

- Genesys Deployment Agent (GDA) must be installed on port 5000 on the server that will run Configuration Server and Database Server.

### Important

Starting from Local Control Agent 8.5.100.31, GDA is no longer installed and supported as part of Management Framework and therefore all functionality using GDA (including the installation of IPs) is deprecated.

- The installation packages for Configuration Server and Database Server are in a location accessible to the GAX host machine.
- You are familiar with the prerequisites for deploying Management Framework. Refer to [Management Framework documentation](#) for more information.

Steps:

1. Connect to GAX locally by opening a supported web browser and navigating to the location of your GAX host (for example: <http://localhost:8080/gax/>).

### Important

Setup Mode is accessible only through a local connection. You cannot use Setup Mode if you connect remotely to the GAX host.

2. Select the **Username** field and enter root. By default, there is no password.
3. Click **Log In**.
4. Choose **Install a New Deployment**.
5. In the **Installation Packages** pane, provide the following information:
  - **Configuration Server IP Path**—Enter the path to the Configuration Server installation package .zip file (Windows) or tar.gz file (Linux). The file must contain the **ip** and **Templates** directories.
  - **Database Server IP Path**—Enter the path to the Database Server installation package .zip file (Windows) or tar.gz file (Linux). The file must contain the **ip** and **Templates** directories.
6. Click **Next**.
7. In the **Configuration Server Details** section, provide the following information. Some fields are populated by default values.
  - **Installation Path on Target Host**—The installation path to which Configuration Server will be installed.
  - **Primary Configuration Server Host**—Enter the name of the Primary Configuration Server host.
  - **Port**—Enter the port number for the Primary Configuration Server.
  - **Target Host OS Type**—Select the operating system used by the target host.

### Important

Although Management Framework supports various operating systems, GAX can only deploy Configuration Server and Database Server on Windows Server 2003/2008/2012 or Red Hat Enterprise Linux 5.5/6. See [Prerequisites](#) for more information on operating systems that are supported by GAX.

- **Management Port**—Enter the port number for the Management Port.
8. Click **Next**.
  9. (Optional) Click the **Install Backup Configuration Server** check box to install a Backup Configuration Server. You must provide the following information:
    - **Backup Configuration Server Host**—Enter the name of the Backup Configuration Server host.
    - **Port**—Enter the port number for the Backup Configuration Server.
    - **Management Port**—Enter the port number for the Backup Management Port.
  10. Click **Next**.
  11. In the **Database Server Details** section, provide the following information. Some fields are populated by default values.
    - **Installation Path on Target Host**—The installation path to which Database Server will be installed.
    - **Port**—Enter the port number for the database.
  12. Click **Next**.
  13. In the **Configuration Server Database** section, provide the following information. Some fields are populated by default values.
    - **Database Server Type**—Select the database type to be used by GAX: Oracle, PostgreSQL, or MS SQL Server.
    - **Database Host**—Enter the name of the database host.
    - **Port**—Enter the port number for the database.
    - **Database Name**—Enter the name of the database.
    - **Username**—Enter the user name to use when accessing the database.
    - **Password**—Enter the password to use when accessing the database.

### Important

GAX uses default values for some deployment parameters. These default values are not presented to the user. If you want to override these default values, you must edit the following file in the `\conf` directory: **asd\_hostinfo.properties, asd\_silentini\_<IP Nick Name>.properties**

14. A progress indicator displays while GAX performs the deployment. If an error occurs, an error message displays and you can either cancel or restart the deployment process.
15. Click **Next**.

16. In the **Configuration Server Details** section, enter the name of the GAX Application object in the **Administrator Extension Application Object Name** field.
17. Click **Next**.
18. In the **Administrator Extension Database Details** section, provide the following information. Some fields are populated by default values.
  - **Database Server Type**—Select the database type to be used by the GAX database: Oracle, PostgreSQL, or MS SQL Server.
  - **Database Host**—Enter the name of the GAX database host.
  - **Port**—Enter the port number for the GAX database.
  - **Database Name**—Enter the name of the GAX database.
  - **Username**—Enter the user name to use when accessing the GAX database.
  - **Password**—Enter the password to use when accessing the GAX database.
19. Click **Next**.
20. GAX verifies the database version and creates (or updates) the database access configuration. If an error occurs, an error message displays and you can either cancel or restart the deployment process.
21. Click **Finish**.

GAX restarts to finish the setup operation. When it is done, GAX displays the login screen and you can login to GAX.

**Important** Setup Mode reads SQL script files from IPs and executes them on the target database through a JDBC connection. SQL script files should follow these rules:

1. `<Script> ::= { [<Statement> ] | [<Delimiter> ] | [<Comment> ] }`  
A script consists of a sequence of statements or comments, with or without delimiters in between.
2. `<Comment> ::= "/*" { <any_character> } "*" / / { <any_character> } <Line Separator> | "--" { <any_character> } <EOL>`  
A single-line comment starts with "/" or "--" and ends with the line.  
A multi-line comment starts with "/" and ends with "\*" / .
3. `< Delimiter > ::= "go" | "/" | ";"`  
An instance of go or / is a strong delimiter which delimits any statements.  
An instance of ; is a weak delimiter which delimits all other statements except `<CreateProcedure>`.
4. `<Quotations> ::= '{ <any_character> }' | '{ <any_character> }'`  
Quotations can appear inside a statement. Any characters inside quotations are not treated as a statement, delimiter, or comment.
5. `<Statement> ::= <CreateProcedure> | <SimpleStatement>`  
`<CreateProcedure> ::= "CREATE PROCEDURE" | "CREATE OR REPLACE PROCEDURE" { <any_character> } | <Quotations> } "go" | "/" | <EOF>`  
`<SimpleStatement> ::= "INSERT" | "UPDATE" | "DELETE" | "DROP" | "CREATE" | "ALTER" | "COMMIT" | "ROLLBACK" | "MERGE" | "TRUNCATE" { <any_character> } | <Quotations> } | <Delimiter>`  
A create procedure statement must be specifically delimited by a strong delimiter.  
A simple statement can be delimited by a delimiter, a comment, or another statement.
6. All keywords are case insensitive.

### Step 5 -- SCS Connection

GAX must have a connection to Solution Control Server (SCS) for the **System Dashboard** to function.

#### Prerequisites:

- **Solution Control Server** is installed and configured.

#### Steps:

1. In GAX, go to Configuration Manager.
2. Hover over the **Environment** icon and select **Applications** in the pop-up list.
3. In the **Applications** list, open the Application object for GAX.
4. In the GAX Application object details window, click the **Connections** tab.
5. Click **Add**.
6. In the pop-up window, enter information about the connection to SCS. Refer to the procedure "Creating Application Objects" on the **Applications** page for more information.
7. Click **OK**.
8. Click **Save**. You might see an error in the system dashboard at this point but it is resolved in the next step when you restart GAX.
9. Restart GAX.

## Deploying GAX via the Command Line

You can also deploy GAX (with or without Management Framework) via the command line by using a setup file to provide deployment instructions. This feature is useful for situations in which you cannot access the GAX host via a remote desktop connection.

To install GAX into an existing Management Framework Deployment, do the following:

### [+] Show steps

1. Before creating the setup file, make sure the that following prerequisites are met:
  - **The database is set up**

#### Important

When setting up Oracle databases manually, you must execute the scripts in the following order:

- Core
- Automatic Solution Deployment

- Operational Parameter Management

- The host is set up
- The GAX server is installed on the host
- The host property of the Configuration Server application is set.

2. Now create the setup file, to provide deployment instructions for the command-line argument. The setup file must contain the following content:

```
Configuration_Server_Host=  
Configuration_Server_Port=  
Default_Client_Application_Name=  
Configuration_Server_Username=  
Configuration_Server_Password=  
Application_Object_Name=  
Database_Server_Type=  
Database_Host=  
Database_Port=  
Database_Name=  
Database_Username=  
Database_Password=
```

### Notes:

- You must provide a valid value for each parameter in the setup file.
- If you are installing on Oracle, you need an Oracle JDBC driver, with a filename of **ojdbc<number>.jar**. You can download one from [here](#).
- For the Database\_Host= parameter, enter the DNS address of the database.
- For Database\_Server\_Type only the following values are valid: oracle, mssql, or postgres.

The following is an example of a completed setup file:

```
Configuration_Server_Host=192.168.0.1  
Configuration_Server_Port=2020  
Default_Client_Application_Name=default  
Configuration_Server_Username=default  
Configuration_Server_Password=password  
Application_Object_Name=GAX_APP  
Database_Server_Type=Oracle  
Database_Host=135.17.176.99  
Database_Port=1521  
Database_Name=GAX_DB  
Database_Username=gax_admin  
Database_Password=password
```

3. Enter the following command in a command-line window, replacing *<setup\_file\_name>* with the name of the setup file you just created: `java -jar gax.war -setup gax <setup_file_name>`

To deploy GAX and Management Framework, do the following:

---

## Important

You can only deploy Management Framework 8.5.x if you are using GAX 8.5.000.65 or later. GAX 8.5.000.58 or earlier can deploy only Management Framework 8.1.x.

## [+] Show steps

1. Before creating the setup file, make sure the that following prerequisites are met:
  - [The database is set up](#)
  - [The host is set up](#)
  - [The GAX server is installed on the host](#)
  - You are familiar with the prerequisites for deploying Management Framework. Refer to the [Management Framework documentation](#) for more information.
2. Now create the setup file, to provide deployment instructions for the command-line argument. The setup file must contain the following content:

```
#MF settings
Configuration_Server_IP=
Database_Server_IP=(Use this line only for Management Framework 8.1.x or lower)
MF_Installation_Path=
Configuration_Server_Licence_File=(Use this line only for Management Framework 8.5.x or
higher)
Configuration_Server_Host=
Configuration_Server_Port=
Configuration_Server_OS=
Configuration_Server_OS_Bit=
Configuration_Server_Management_Port=
Database_Server_Port=(Use this line only for Management Framework 8.1.x or lower)
Install_Backup_Configuration_Server=
Backup_Configuration_Server_Host=(Optional)
Backup_Configuration_Server_Port=(Optional)
Backup_Configuration_Server_Management_Port=(Optional)
Configuration_Server_Database_Type=
Configuration_Server_Database_Host=
Configuration_Server_Database_Port=
Configuration_Server_Database_Name=
Configuration_Server_Database_Username=
Configuration_Server_Database_Password=

#GAX settings
Default_Client_Application_Name=
Configuration_Server_Username=
Configuration_Server_Password=
Application_Object_Name=
Database_Server_Type=
Database_Host=
Database_Port=
Database_Name=
Database_Username=
Database_Password=
```

### Notes:

- You must provide a valid value for each parameter in the setup file, unless it is marked as optional.

- You must ensure that there are no trailing whitespace characters at the end of each parameter value line.
- If you are installing on Oracle, you need an Oracle JDBC driver, with a filename of **ojdbc<number>.jar**. You can download one from [here](#)
- For the Database\_Host= parameter, enter the DNS address of the database.
- For Database\_Server\_Type, only the following values are valid: oracle, mssql, or postgres.
- For Configuration\_Server\_OS, only the following values are valid: CFGRedHatLinux, CFGWinNT, CFGWindows2000, CFGWindowsServer2003, CFGWindowsServer2008. If you are using Windows Server 2012, you must use the CFGWindowsServer2008 value to prevent compatibility issues.
- For Configuration\_Server\_OS\_Bit, only the following values are valid: 32 or 64.
- Windows file paths should contain escaped backslashes. For example: C:\\GAX\\CS85mt.zip.

The following are examples of completed setup files.

### Management Framework 8.1.x (Windows)

```
#MF settings
Configuration_Server_IP=C:\\GAX\\CS64mt.zip
Database_Server_IP=C:\\GAX\\DB64.zip
MF_Installation_Path=C:\\genesys\\GCTI\\
Configuration_Server_Host=cs_primary_host
Configuration_Server_Port=2020
Configuration_Server_OS=CFGWindowsServer2008
Configuration_Server_OS_Bit=64
Configuration_Server_Management_Port=2021
Database_Server_Port=4040
Install_Backup_Configuration_Server=true
Backup_Configuration_Server_Host=cs_backup_host
Backup_Configuration_Server_Port=7020
Backup_Configuration_Server_Management_Port=7021
Configuration_Server_Database_Type=Oracle
Configuration_Server_Database_Host=cs_db_host
Configuration_Server_Database_Port=1521
Configuration_Server_Database_Name=cs_db
Configuration_Server_Database_Username=default
Configuration_Server_Database_Password=password

#GAX settings
Default_Client_Application_Name=default
Configuration_Server_Username=default
Configuration_Server_Password=password
Application_Object_Name=GAX_8.5
Database_Server_Type=Oracle
Database_Host=gaxdb_host
Database_Port=1521
Database_Name=gaxdb
Database_Username=default
Database_Password=password
```

### Management Framework 8.5.x (Linux)

```
#MF settings
Configuration_Server_IP=/opt/genesys/cs850linux64.tar.gz
MF_Installation_Path=/home/genesys/GCTI/
Configuration_Server_Licence_File=/opt/genesys/license.dat
Configuration_Server_Host=cs_primary_host
Configuration_Server_Port=2020
```

```
Configuration_Server_OS=CFGRedHatLinux
Configuration_Server_OS_Bit=64
Configuration_Server_Management_Port=2021
Install_Backup_Configuration_Server=true
Backup_Configuration_Server_Host=cs_backup_host
Backup_Configuration_Server_Port=7020
Backup_Configuration_Server_Management_Port=7021
Configuration_Server_Database_Type=Oracle
Configuration_Server_Database_Host=cs_db_host
Configuration_Server_Database_Port=1521
Configuration_Server_Database_Name=cs_db
Configuration_Server_Database_Username=default
Configuration_Server_Database_Password=password

#GAX settings
Default_Client_Application_Name=default
Configuration_Server_Username=default
Configuration_Server_Password=password
Application_Object_Name=GAX_8.5
Database_Server_Type=Oracle
Database_Host=gaxdb_host
Database_Port=1521
Database_Name=gaxdb
Database_Username=default
Database_Password=password
```

3. Enter the following command in a command-line window, replacing `<setup_file_name>` with the name of the file you just created above: `java -jar gax.war -setup mf-install <setup_file_name>`

## Deploying GAX into an existing Tomcat installation

### Important

**These steps are optional.** GAX uses an embedded instance of Jetty for web-server functions, so this procedure only applies if you prefer to deploy GAX into an existing Tomcat installation.

For this procedure, see [Deploying GAX into Tomcat 8](#) in the [Genesys Administrator Extension Migration Guide](#).