Genesys Administrator Extension Deployment Guide

Deploying Genesys Administrator Extension

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The following table summarizes the steps necessary to perform the basic deployment of 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.

The following procedures use Setup Mode to install GAX. Setup Mode is a new feature that 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 Database Server. After these components are installed, you can use the installation package (IP) management features of GAX to deploy entire Genesys installations.

To access Setup Mode, you must be a local user on the machine where GAX will be installed. You are considered a local user if you are using this machine in person or via a remote desktop connection.

> ## Important
>
> - Not all functions are available in GAX if a Configuration Server is not present.
>
> - Although Configuration Server might support more database types, GAX only supports the following database types: Oracle, Microsoft SQL Server, and PostgreSQL.

Deploying Genesys Administrator Extension

1a. Set up the database for Oracle.

Setting up the Genesys Administrator Extension database (for Oracle)

Purpose

- To set up the Oracle 11g R2 or Oracle 12c database that is used by Genesys Administrator Extension.

If you prefer to use PostgreSQL or Microsoft SQL Server, see Setting up the Genesys Administrator database (for Microsoft SQL Server) or Setting up the Genesys Administrator database (for

PostgreSQL).

Start

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 10M on USERS;
    ```

    > **Important**
    >
    > The above quota value is an example. Consult the Oracle documentation to determine the correct quota value for your system.

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 the Oracle documentation for additional details on completing this step.

End

> **Important**
>
> To enable UTF-8 character encoding, see Enabling UTF-8 character encoding (for Oracle).

1b. Set up the database for Microsoft SQL.

Setting up the Genesys Administrator Extension database (for Microsoft SQL Server)

Purpose

- To set up the Microsoft SQL Server 2008/2012 database that is used by Genesys Administrator Extension.

If you prefer to use Oracle or PostgreSQL, see Setting up the Genesys Administrator database (for Oracle) or Setting up the Genesys Administrator database (for PostgreSQL).

Start

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.

- Server type: `Database Engine`

- Server name: `Local`

- Authentication: `SQL Server Authentication`

- Create a login and password for the GAX database. For example: gax814admin with the password `password`.
- Create the GAX database (for example, gax814) by using the login to make this login the owner of the database.

> ### Important
> When you create the login, uncheck the `Enforce password policy` check box.

- Verify that you can connect to the database with the login that you created:

  - Server type: `Database Engine`

  - Server name: `Local`

  - Authentication: `SQL Server Authentication`

End

1c. Set up the database for PostgreSQL.

Setting up the Genesys Administrator Extension database (for PostgreSQL)

Purpose

- To set up the PostgreSQL database that is used by Genesys Administrator Extension.

> Important
>
> - It is recommended to use PostgreSQL version 9.1.x.

If you prefer to use Oracle or Microsoft SQL Server, see Setting up the Genesys Administrator database (for Oracle) or Deploying#t-1 Setting up the Genesys Administrator database (for Microsoft SQL Server).

Start

1. Refer to the PostgreSQL 9.1 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 the Add Server button.

4. Create a login and password for the GAX database.

   For example: gax814admin with the password `password`.

   You can execute queries by clicking the `Query Tool` button. For example:

   ```
   CREATE USER gax WITH PASSWORD 'gax814admin' CREATEDB;
   ```

5. Create the GAX database (for example, gax814) by using the login created in Step 4 to make this login the owner of the database.

   ```
   create database gax814 owner gax;
   ```

6. Connect to the database with the login that you created in Step 4.

7. Perform the following steps if you are setting up a new Configuration Server:

   - You must 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.

End

(Optional) Enable UTF-8 character encoding for Oracle databases.

Enabling UTF-8 character encoding (for Oracle)

To enable UTF-8 character encoding for Oracle databases in Genesys Administrator Extension releases 8.1.3 and higher, 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

> ## 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.

Important

In most cases, a full export and import is recommended to properly convert all data to a new character set.

2. Set up the host upon which Genesys Administrator Extension will run.

Setting up the host for Genesys Administrator Extension server

Purpose: To set up Oracle Java Server JRE (Java Runtime Environment) version 6 or 7. (**Note**: GAX only supports the 64-bit version of Oracle Java HotSpot Server VM.)

Start

1. If Java JRE 6 or 7 is not already installed on the host machine where Genesys Administrator Extension will be installed, install it now as follows:

    a. Download the Oracle Java Runtime Environment Kit (JRE) from the following website:

    > http://www.oracle.com/technetwork/java/javase/downloads/index.html

    > (Linux) Select the `tar.gz` package.

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

    c. (Windows) Double click the Java installer. The contents will be installed in the directory that you specify during the installation.

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

    a. (Linux) Insert the following lines into the `/etc/profile` file:

    > `export JRE_HOME=/usr/lib/java/jre-<version of Java downloaded>/jre`

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

    b. (Windows) Create a new System Variable named JRE_HOME and use the path that was used during installation as the value (for example, `C:\Programs\Java\jre1.6.0_23`). To do this, right-click your Computer icon. Select `Properties > Advanced System Settings > Environment`

`Variables`, and then create the JRE_HOME variable.

3. Install Local Control Agent on this host. For detailed instructions, refer to the Framework 8.1 Deployment Guide.

End

3a. Install Genesys Administrator Extension server on a Linux host.

Installing Genesys Administrator Extension server on a Linux host

Prerequisites

- The environment variable for JRE_HOME has been configured (see Step 2 of Setting up the host for Genesys Administrator Extension server).

Start

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.

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, ensure that you make the following updates to the `setenv.sh` file. The `setenv.sh` 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 -Xms1024m -Xmx1024M"

  # Uncomment following line to activate psdk.logs, it's recommended to let this option
  deactivated
  #export JAVA_OPTS=%JAVA_OPTS%
  -Dcom.genesyslab.platform.commons.log.loggerFactory=com.genesyslab.platform.commons.log.Log4JLoggerFactoryI
  # 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 indicated lines below it and setting the path and password.
- You must create a trust store and set the trust store path accordingly. See Transport Layer Security for more information.

End

3b. Install Genesys Administrator Extension server on a Windows Server host.

Installing Genesys Administrator Extension server on a Windows Server host

Prerequisites

- The environment variable for JRE_HOME has been configured (see Step 2 of Setting up the host for Genesys Administrator Extension server).

Start

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. Navigate to the folder in which you installed GAX and run the `gax_startup.bat` file.

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 `setnev.bat` file to a different value. If you enable TLS encryption, ensure that you make the following updates to the `setenv.bat` file. 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 indicated lines below it and setting the path and password.
- You must create a trust store and set the trust store path accordingly. See Transport Layer Security for more information.

End

4a. Deploy Genesys Administrator Extension Using Setup Mode (Existing Deployment).

Deploying Genesys Administrator Extension (Existing Deployment)

Start

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 `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. Perform one of the following actions:

   - Select the GAX `Application` object to be associated with the existing instance. The list includes all objects of type `CfgApplications` with a subtype of either `CFGGenesysAdministratorServer` or `CFGGenesysGenericServer`. If the associated `Host` object has the same host names or IP addresses as the current GAX instance, it is highlighted as `recommended`.

   - Create a new `Application` object. You must provide the following information:

     - `Administrator Extension Application Object Name`—Enter the name of the `Application` object to create.

     - `Template`—Select the application template to use.

     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.

End

4b. Deploy Genesys Administrator Extension using Setup Mode (New Deployment).

Deploying Genesys Administrator Extension (New Deployment)

Prerequisites

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

- The installation packages for Configuration Server and Database Server are located in a location accessible to the GAX host machine.

Start

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, provide the following information.

    - `Administrator Extension Application Object Name`—Enter the name of the GAX Application object.

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`.

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

End

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.