Framework Deployment Guide

Starting Manually

4/9/2026

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Starting Manually

When using a manual procedure to start an application, specify the startup parameters in the command prompt. In the command prompt, command-line parameters must follow the name of the executable file. On the **Shortcut** tab of the **Program Properties** dialog box, command-line parameters must also follow the name of the executable file.

Some Genesys interface components also require that you log in to them using preassigned login credentials. Use the procedure Logging In.

Starting in release 8.5.1, all Framework servers, except DB Server and Genesys SNMP Master Agent, support *bootstrap logging*, that is, generating logs when the server is started from the command line. These logs, called *bootstrap logs*, are generated from the very beginning, when the command line (where the log arguments are set) triggers the startup of the server, until the server loads its log configuration information from the Configuration Database. These logs are generated using the command-line parameters **-log-<log option name> <log-type>** and optionally **-log-<log-type> <filename>**, which are described in the supporting component-specific sections below.

Common Command Line Parameters

The following table lists command-line parameters that are common to all Framework components:

-host	The name of the host on which Configuration Server is running.
-port	The communication port that client applications must use to connect to Configuration Server.
-app	The exact name of an application as configured in the Configuration Database.
-l	The license address. Use for the server applications that check out technical licenses. Can be either of the following: • Full path to, and exact name of, license file used by an application. For example, **-l /opt/mlink/license/license.dat** • Host name and port of license server, as specified in SERVER line of license file, in **port@host** format. For example, **-l 7260@ctiserver**.
-v	The version of a Framework component. This parameter does not start an application, but returns its version number instead. Either uppercase (**V**) or lowercase (**v**) letter can be used.
-nco [X/Y]	The Nonstop Operation feature is activated; X exceptions occurring within Y seconds do not cause an application to exit. If the specified number of exceptions is exceeded within the specified number of seconds, the application exits or, if so configured, the Management Layer restarts the application. If you do not specify a value for the **-nco** parameter, the default value (6 exceptions handled in 10 seconds) applies. To disable the Nonstop Operation feature, specify **-nco** 0 when starting the application.
-lmspath	The full path to the log messages files (the common file named **common.lms** and the application-specific file with the extension ***.lms**) that an application uses to generate log

events. This parameter is used when the common and application-specific log message files are located in a directory other than the application's working directory, for example, when the application's working directory differs from the directory to which the application is originally installed. Note that if the full path to the executable file is specified in the startup command line (for instance, **c:\gcti\multiserver.exe**), the path specified for the executable file is used for locating the ***.lms** files, and the value of the **-lmspath** parameter is ignored.

> Warning
>
> An application that does not find its ***.lms** file at startup cannot generate application-specific log events and send them to Message Server.

Starting Components

> **Important**
>
> When an application is installed on a UNIX operating system and the application name, as configured in the Configuration Database, contains spaces (for example, **My T-Server**), you must surround the application name by quotation marks (**" "**) in the command line, as follows:
>
> **-app "My T-Server"**
>
> Specify the rest of the command-line parameters as for any other application.

This section contains prerequisites, procedures, and other information about starting each Framework component, as follows:

- Configuration Server
- Configuration Server Proxy
- Local Control Agent
- Message Server
- Solution Control Server
- SNMP Master Agent

Prerequisites for starting other Framework components are also provided, as follows:

- License Manager
- Genesys Administrator
- HA Proxy
- T-Server
- Stat Server

Configuration Server

Prerequisite

- FlexNet Publisher License Manager is installed and running.

Configuration Server does not require any of the common command-line parameters for startup.

You can use the following command-line parameters when starting Configuration Server:

-log-<log option name> <log-type>	
	Specifies the amount and level of bootstrap logging to occur at startup of Configuration Server, before the server retrieves its log configuration information from the Configuration Database. The log option name must be the same as is specified in the **[log]** section. All options from the **[log]** section are supported by this parameter except those related to centralized logging by Message Server. For example: `confserv -c confserv.cfg -s confserv -log-verbose all` **Important** If the value for the **verbose** option in both the Configuration Database and the Configuration Server Application object (that is, the value used for the operation logs, not the startup logs) is either not given or is invalid, the value of **<log-type>** is also used for the operational logs, but only for that session.
-log-<log-type> <filename>	
	Used with **-log-<log option name> <log-type>** to specify the name of the file that stores only the startup logs. After Configuration Server has started up and initialized, the operational logs are stored in the file specified in the Configuration Server Application object. For example: `confserv -c confserv.cfg -s confserv -log-verbose all -log-all CSstartup`
-c	Configuration Server reads its configuration settings from a configuration file with the specified name. If you set this parameter, its value overrides the default name of the configuration file (**confserv.conf** on UNIX or **confserv.cfg** on Windows).
-s	Configuration Server reads its configuration

	settings from a configuration section with the specified name. The section must be configured within Configuration Server's configuration file; the section name must be the same as the name of the Configuration Server application configured in the Configuration Database. Use this parameter to start a backup Configuration Server.
-p	Forces an instance of Configuration Server to start, encrypt the database password in the configuration file, and terminate. Refer to Encrypting the Configuration Database Password for more information about encrypting the Configuration Database password.
-keys [<encryption file name> <decryption file name>]	
	Forces Configuration Server to use an asymmetric encryption algorithm to encrypt and decrypt the Configuration Database password. If the subparameters are specified, the encrypt key is stored in the <encryption file name> and the decryption (private) key in the <decryption file name>. If not specified by this parameter, the keys are stored in the enc.pem and dec.pem in the directory in which Configuration Server is installed. Refer to Encrypting the Configuration Database Password for more information about encrypting the Configuration Database password.
-cfglib-conn-async-tmout	
	Sets a timeout (in seconds) for a client to expect a TCP success or failure response from the server to which it is connecting. If the timeout expires, all pending connection requests are cancelled, enabling the connection to be made. Without the timeout, the connecting client might eventually stop trying to reconnect, and then stop responding completely because of network issues. This timeout applies to the following connections: • Primary or backup Configuration Server Proxy connecting as a client to primary master Configuration Server • Backup master Configuration Server connecting as a client to primary master Configuration Server If no value is specified for this parameter, a default value of 20 seconds is used. Tip For the backup master Configuration Server only, this value can be set in the configuration file for the backup server, using the **cfglib-conn-async-tmout** configuration option. Refer to the *Framework Configuration Options Reference Manual* for more information about this option.

-cfglib_port	
	Configuration Server opens the listening port specified in the command line. The port is opened in unsecured mode. This port is not written to the Configuration Server Application object, and does not survive a restart of Configuration Server. Do not use this option as a part of normal startup. Use it only as a last resort when regular secure ports cannot be accessed because of a configuration problem, such as incorrect or expired security certificates, or when a duplicate port (not necessarily secure) is specified in the configuration and therefore cannot be opened.
-upgrade-mode 1	Use this command-line parameter during migration of HA Configuration Servers to force one Configuration Server to ignore its peer server in the HA pair and initialize itself as the primary Configuration Server. This parameter functions the same way as the **upgrade-mode** configuration option, but does not require a change to the configuration file. This parameter can also be used when a restart of the server is required by the database, such as to recover from corrupt data in Configuration Server memory. For more information about using this parameter, refer to Upgrading an HA Pair of Configuration Servers in the *Management Framework Migration Guide*.

On UNIX

Go to the directory in which Configuration Server is installed and do one of the following:

- To use only the required command-line parameters, type the following on the command line:
  ```
  sh run.sh
  ```
- To specify the command line yourself, or to use additional command-line parameters, type the following command on the command line:
  ```
  confserv [<additional parameters and arguments as required>]
  ```

On Windows

Do one of the following:

- Use the **Start > Programs** menu.
- To use only the required command-line parameters, go to the directory in which Configuration Server is installed, and double-click the **startServer.bat** file.
- To specify the command line yourself, or to use additional command-line parameters, open the MS-DOS window, go to the directory in which Configuration Server is installed, and type the appropriate

command on the command line:

```
confserv.exe [<additional parameters and arguments as required>]
```

Configuration Server Proxy

Configuration Server Proxy supports only the command-line parameters common to Framework server components; it does not support any of the additional command-line parameters specific to Configuration Server.

Prerequisites

- The Master Configuration Server is installed and running.
- License Manager is installed and running.

You can also use the following command-line parameters when starting Configuration Server Proxy:

-log-<log option name> <log-type>	
	Specifies the amount and level of bootstrap logging to occur at startup of Configuration Server Proxy, before the proxy server completes its connection to the master server and reads log options from the master server Application object. The log option name must be the same as is specified in the **[log]** section. All options from the **[log]** section are supported by this parameter except those related to centralized logging by Message Server. For example: `confserv -host localhost -port 2020 -app csproxy -log-verbose all` Important If the value for the **verbose** option in both the Configuration Database and the Configuration Server Proxy Application object (that is, the value used for the operation logs, not the startup logs) is either not given or is invalid, the value of **<log-type>** is also used for the operational logs, but only for that session.
-log-<log-type> <filename>	
	Used with **-log-<log option name> <log-type>** to specify the name of the file that stores only the startup logs. After Configuration Server Proxy has started up and initialized, the operational logs are stored in the file specified in the Configuration Server Proxy Application object. For example: `confserv -host localhost -port 2020 -app`

	`csproxy -log-verbose all -log-all CSPstartup`
-cfglib-conn-async-tmout	
	Sets a timeout (in seconds) for a client to expect a TCP success or failure response from the server to which it is connecting. If the timeout expires, all pending connection requests are cancelled, enabling the connection to be made. Without the timeout, the connecting client might eventually stop trying to reconnect, and then stop responding completely because of network issues. This timeout applies to the following connections: • Primary or backup Configuration Server Proxy connecting as a client to primary master Configuration Server • Backup Configuration Server Proxy connecting as a client to primary Configuration Server Proxy If no value is specified for this parameter, a default value of 20 seconds is used.

On UNIX

Go to the directory in which Configuration Server Proxy is installed and do one of the following:

- To use only the required command-line parameters, type the following on the command line:
  `sh run.sh`
- To specify the command line yourself, or to use additional command-line parameters, type the following command on the command line:
  `confserv [<additional parameters and arguments as required>]`

On Windows

Do one of the following:

- Use the **Start > Programs** menu.
- To use only the required command-line parameters, go to the directory in which Configuration Server Proxy is installed, and double-click the **startServer.bat** file.
- To specify the command line yourself, or to use additional command-line parameters, open the MS-DOS window, go to the directory in which Configuration Server Proxy is installed, and type the appropriate command on the command line:
  `confserv.exe [<additional parameters and arguments as required>]`

Local Control Agent

With default settings, Local Control Agent starts automatically every time a computer is started or rebooted. In Windows, you can manually start LCA from the **Start > Programs** menu. You can also change the default LCA port value, following the instructions in Step 3 when Creating a Host.

Starting LCA on Linux Without Root Privileges

RHEL 6

On Red Hat Enterprise Linux 6 systems, you can configure LCA to start automatically when the Host starts, and without root privileges.

To configure the runlevel for LCA on Linux 6, do the following:

- For runlevel 3:
  - LCA: `ln -s /etc/init.d/gctilca /etc/rc3.d/S99gctilca`
- For runlevel 5:
  - LCA: `ln -s /etc/init.d/gctilca /etc/rc5.d/S99gctilca`

> **Important**
>
> For RHEL 6, do not use `/etc/rc.local`, which will cause LCA to start at run levels 2, 3, 4, and 5, which you do not need.

RHEL 7

On Red Hat Enterprise Linux 7 systems, you can configure LCA to start automatically when the Host starts, using the available service method, and without root privileges.

To configure LCA auto start using service method on Linux 7, do the following:

1. Run `cd /etc/systemd/system/`
2. Create the service for LCA (`lca.service`). Name it per your environment standard.
3. Edit `lca.service`:

```
[Unit]

Description=Script to start the LCA

[Service]

Type=simple

WorkingDirectory=/home/admin/bin/LCA

ExecStart=/home/admin/bin/LCA/lca 4999

User=genesys
```

```
KillMode=process

[Install]

WantedBy=default.target
```

4. Run `systemctl daemon-reload`
5. Run `systemctl start lca.service`
6. Run `systemctl enable lca.service`

To configure the runlevel for LCA on Linux 7, do the following:

- For runlevel 3:
  - LCA: `ln -sf /lib/systemd/system/runlevel3.target /etc/systemd/system/default.target`
- For runlevel 5:
  - LCA: `ln -sf /lib/systemd/system/runlevel5.target /etc/systemd/system/default.target`

> **Important**
>
> For RHEL 7, do not use /lib/systemd/system/rc-local.service, which will cause LCA to start at run levels 2, 3, 4, and 5, which you do not need.

There are various run levels available for Linux, and some of them are listed in the following table. Refer to the Linux website for a complete list of run levels.

Run Level	Description
0	System halt; no activity, the system can be safely powered down.
1	Single user; rarely used.
2	Multiple users, no Network File System (NFS); rarely used.
3	Multiple users, command-line (all-text mode) interface; the standard runlevel for most Linux-based server hardware.
4	User-definable.
5	Multiple users, graphical user interface; the standard runlevel for most Linux-based desktop systems.

Configuring different (but non-root) <user> and <group> for LCA on Linux

1. Install the LCA as root. For RHEL7, use the `systemd` service method to start LCA service. So, during LCA installation in RHEL7, for the step `Do you want to add LCA to startup (RC) files (y/n)?`, specify **n**.
2. Select the <user> and <group> that you want to use as a replacement for the user "root" and the group "root".

3. Ensure that the <user> and <group> each have the adequate privileges for the folders/directories in which LCA is installed, and for the other applications and modules that will be controlled/managed by LCA.
4. Change the owner and group for LCA, as follows:
   a. Set the current working directory to the location where LCA is installed.
   b. Enter the following commands and press `Enter` after each:
      - `chown <user> lca`
      - `chgrp <group> lca`
5. Change the current user from root to <user>.
6. On the command line, enter `su - <user>`, and press **Enter**.
7. Set the `setUID` and `setGID` attributes for LCA. On the command line, enter `chmod ug+s lca`, and press `Enter`.
   This essentially equates the user/group ID to <user>/<group> when LCA is launched by another user.
8. Change the current user from <user> to root, and check how LCA will be launched using the root account, by entering the following commands on the command line, pressing `Enter` after each:

```
su -
./lca &
ps -ef | grep lca
```

You should see something like this:

```
UID process
<user> ./lca
```

This indicates that the effective user for LCA is <user> and all applications launched by LCA should have the same effective user id <user>. Normally, this approach of setting UID and GID is used to elevate privileges, but in this case, it is used to downgrade privileges.

Message Server

Message Server supports the common command-line parameters.You can also use the following command-line parameters when starting Message Server:

-log-<log option name> <log-type>	
	Specifies the amount and level of bootstrap logging to occur at startup of Message Server and before it retrieves its log configuration information from the Configuration Database. The log option name must be the same as is specified in the **[log]** section. For example: `MessageServer -host <CS host> -port <CS port> -app <MS Application> -log-verbose all`
-log-<log-type> <filename>	
	Use with **-log-<log option name> <log-type>**

	to specify the name of the file that stores only the logs captured at startup. After Message Server has started up and initialized, the operational logs are stored in the file specified in the Message Server Application object. For example: `MessageServer -host <Configuration Server host> -port <Configuration Server port> -app <Message Server Application> -log-verbose all -log-all MSstartup`

Prerequisites

- Configuration Server is installed and running.

On UNIX

Go to the directory in which Message Server is installed and do one of the following:

- To use only the required command-line parameters, type the following on the command line:
  `sh run.sh`
- To specify the command line yourself, or to use additional command-line parameters, type the following command on the command line:
  `MessageServer -host <Configuration Server host> -port <Configuration Server port> -app <Message Server Application> [<additional parameters and arguments as required>]`

On Windows

Do one of the following:

- Use the **Start > Programs** menu.
- To use only the required command-line parameters, go to the directory in which Message Server is installed, and double-click the **startServer.bat** file.
- To specify the command line yourself, or to use additional command-line parameters, open the MS-DOS window, go to the directory in which Message Server is installed, and type the appropriate command on the command line:
  `MessageServer.exe -host <Configuration Server host> -port <Configuration Server port> -app <Message Server Application> [<additional parameters and arguments as required>]`

Solution Control Server

Solution Control Server uses the command-line parameters common to Framework server components described above. You can also use the following command-line parameters when

starting Solution Control Server:

-f <SCS configuration file>	

	SCS gets Configuration Server's settings from the SCS configuration file. Because the SCS configuration file contains a list of Configuration Servers to which it should try to connect, this option allows SCS to connect to Configuration Server that is running in primary mode.
	
	The SCS configuration file has the filename extension **.cfg** for Windows; **.conf** for UNIX. Here is a sample of the contents:
	
	`[backup_configserver]`
	`host=<backup CS host name>`
	`port=<backup CS port>`
	`name=<SCS application name>`
	`server=primary_configserver`
	
	`[primary_configserver]`
	`host=<primary CS host name>`
	`port=<primary CS port>`
	`name=<SCS application name>`
	`server=backup_configserver`
	
	where `host` is the name of the Host object on which the appropriate Configuration Server is running, as defined in the Configuration Database.

-log-<log option name> <log-type>	
	Specifies the amount and level of bootstrap logging to occur at startup of Solution Control Server and before it retrieves its log configuration information from the Configuration Database. The log option name must be the same as is specified in the **[log]** section. For example: `scs -host <Configuration Server host> -port <Configuration Server port> -app <Solution Control Server Application> -log-verbose all`
-log-<log-type> <filename>	
	Use with **-log-<log option name> <log-type>** to specify the name of the file that stores only the logs captured at startup. After Solution Control Server has started up and initialized, the operational logs are stored in the file specified in the Solution Control Server Application object. For example: `scs -host <Configuration Server host> -port <Configuration Server port> -app <Solution Control Server  Application> -log-verbose`

	`all -log-all SCSstartup`

Prerequisites

- Configuration Server is installed and running.
- If you are starting SCS in Distributed mode, or if HA support or SNMP functionality is required, License Manager must be installed and running.

> **Warning**
> If you are using SNMP, you must start or restart SCS immediately after the SNMP <license option> has been (re)activated. Otherwise, you will lose all SNMP functionality until SCS has been (re)started.

On UNIX

Go to the directory in which SCS is installed and do one of the following:

- To use only the required command-line parameters, type the following on the command line:

  ```
  sh run.sh
  ```

- To start SCS with values from the configuration file, type the following command on the command line:

  ```
  scs -f <name of SCS configuration file>
  ```

  Values for the `-host`, `-port`, and `-app` parameters are read from the specified configuration file.

- To specify the command line yourself, or to use additional command-line parameters, type the following command on the command line:

  ```
  scs -host <Configuration Server host> -port <Configuration Server port> -app <SCS
  Application> [<additional parameters and arguments as required>]
  ```

> **Important**
> If you are operating on a dual-stack machine, and dual stack is enabled, add the following start-up parameter on the command line:
>
> `-transport-ip-version 6,4`
>
> This specifies what internet protocol versions you are using, in this case IPv4 and IPv6.

On Windows

Do one of the following:

- Use the **Start > Programs** menu.
- To use only the required command-line parameters, go to the directory in which SCS is installed, and double-click the **startServer.bat** file.
- To start SCS with values from the configuration file, type the following command on the command line:

  ```
  scs.exe -f <name of SCS configuration file>
  ```

  Values for the `-host`, `-port`, and `-app` parameters are read from the specified configuration file.

  </source>

- To specify the command line yourself, or to use additional command-line parameters, open the MS-DOS window, go to the directory in which SCS is installed, and type the appropriate command on the command line:

  ```
  scs.exe -host <Configuration Server host> -port <Configuration Server port> -app <SCS Application> [<additional parameters and arguments as required>]
  ```

> **Important**
>
> If you are operating on a dual-stack machine, and dual stack is enabled, add the following start-up parameter on the command line:
>
> ```
> -transport-ip-version 6,4
> ```
>
> This specifies what internet protocol versions you are using, in this case IPv4 and IPv6.

SNMP Master Agent

Starting SNMP Master Agent depends on how it is configured—as a Net-SNMP Master Agent or as a Genesys SNMP Master Agent. See SNMP Master Agent for information about the two configurations.

Prerequisites

- Configuration Server is installed and running.
- If you plan to use SNMP alarm signaling, Message Server must be installed and running.

Net-SNMP Master Agent

If your SNMP Master Agent, either a Genesys SNMP Master Agent or a third-party SNMP Master Agent, is configured to work as a Net-SNMP Master Agent, it can be started manually using the commands specific to the platform on which it is running.

Additional Prerequisite:

- Net-SNMP is installed and running.

On UNIX

Go to the directory in which SNMP Master Agent is installed and do one of the following:

- On the AIX 64-bit platform:

```
snmpd -Lsd -Lf /dev/null -p /var/run/snmpd.pid -a
```

- On Linux and Solaris 64-bit platforms:

```
snmpd -Lsd -Lf /dev/null -p /var/run/snmpd.pid
```

Where:

-L	Defines content and make up of logs. Sub-parameters are: **s** — Log to syslog (via the specified facility). **d** — Dump sent and received SNMP packets. **f** — Do not fork from the shell.
p	Stores the process id in FILE.
a	Logs addresses. This parameter is used only on AIX.

On Windows

Go to the directory in which SNMP Master Agent is installed, and type the following on the command line:

```
snmpd.exe -service
```

Genesys SNMP Master Agent

Genesys SNMP Master Agent uses the command-line parameters common to Framework server components, described above.

On UNIX

Go to the directory in which Genesys SNMP Master Agent is installed and do one of the following:

- To use only the required command-line parameters, type the following on the command line:
  ```
  sh run.sh
  ```
- To specify the command line yourself, or to use additional command-line parameters, type the following command on the command line:
  ```
  gsnmpmasteragent -host <Configuration Server host> -port <Configuration Server port>
  -app <Genesys SNMP Master Agent Application> [<additional parameters and arguments as
  required>]
  ```

On Windows

Do one of the following:

- Use the **Start > Programs** menu.
- To use only the required command-line parameters, go to the directory in which Genesys SNMP Master Agent is installed, and double-click the **startServer.bat** file.
- To specify the command line yourself, or to use additional command-line parameters, open the MS-DOS window, go to the directory in which Genesys SNMP Master Agent is installed, and type the appropriate command on the command line:
  ```
  gsnmpmasteragent.exe -host <Configuration Server host> -port <Configuration Server
  port> -app <Genesys SNMP Master Agent Application> [<additional parameters and
  arguments as required>]
  ```

When starting a third-party backup SNMP Master Agent, make sure that you use the following command-line options:

-host	The name of the host on which Configuration Server is running.
-port	The communication port that client applications must use to connect to Configuration Server.
-app	The exact name of the backup SNMP Master Agent Application object as configured in the Configuration Database.

License Manager

For information about starting License Manager, see the *Genesys Licensing Guide*.

Genesys Administrator

Information about starting and stopping Genesys Administrator is located in the *Framework 8.1 Genesys Administrator Deployment Guide*.

Prerequisites

- Configuration Server is installed and running.

HA Proxy

Details on starting and stopping HA Proxy, if applicable, are located in the latest version of the Framework T-Server Deployment Guide for your specific T-Server.

If one or more HA Proxy components are required for T-Server connection to its switch, start HA Proxy before starting T-Server.

Prerequisites

- Configuration Server is installed and running.

T-Server

Details on starting and stopping T-Server are located in the latest version of the Framework T-Server Deployment Guide for your specific T-Server.

Before starting T-Server, be sure that the following components are running:

- Configuration Server
- License Manager

> **Important**
> If an HA Proxy component is required for T-Server connection to its switch, you must start HA Proxy before starting T-Server.

Stat Server

Details on starting and stopping Stat Server are located in the documentation for your release of Stat Server.

Prerequisites

- Configuration Server is installed and running.

> **Important**
> For Stat Server to operate correctly, T-Server must also be running.

Stopping

Server Applications

On UNIX

To stop a server application on UNIX, use one of the following commands:

- `Ctrl+C`
- `kill <process number>`

On Windows

To stop a server application on Windows, do one of the following:

- Type `Ctrl+C` in the application's console window.
- Click **End Task** in the Windows Task Manager.

GUI Applications

Windows-based

To stop a Windows-based GUI application, select **File > Exit** in the main window.

Web-based

To stop a web-based GUI application, such as Genesys Administrator, click **Logout** on the main page.