Progress®
Corticon®

Corticon
Installation

Copyright

Last updated: Corticon 7.1

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Learn about Corticon installations

Progress® Corticon® is the Business Rules Management System with the patented rules engine that enables you to automate sophisticated decision processes—without having to write code. This guide presents procedures for accessing, downloading, and running Corticon installers, as well as providing dynamic access to information about . Links to the Progress KnowledgeBase provide additional information about third-party software setup.

Note: The Corticon Installer wizards will install or update Corticon 7.x Java Server runtime components. You can install Corticon products on a machine that has a previous version installed. Where a previous version is installed, you must manage any port overloads that might result from running both versions.

Progress Corticon products

Progress Corticon distinguishes its development toolsets from its server runtime environments.

- **Corticon Studio** is the Windows-based development environment for creating and testing business rules.
- **Corticon runtime components** implement and manage web services and in-process servers for deploying business rules defined in Corticon Studio:
  - **Corticon Server for Java** is supported on various UNIX and Linux web service platforms, in-process, and on various application servers. After you install it on a supported Windows platform, its runtime artifacts can be redeployed
  - **Corticon Server for .NET** facilitates deployment of Corticon Decision Services on Windows .NET Framework and Microsoft Internet Information Services (IIS).
  - **Corticon Web Console** enables administration of multiple remote Corticon Servers. A Web Console server is deployed into an application server, and then is accessed by users through authenticated web browser connections. The Web Console is a separate installation that enables it to maintain autonomy to manage all the supported long-term Corticon Server installations.

- **Corticon Utilities** enable a command line interface for the Corticon Web Console, a utility for Corticon command line operations, and a utility for command line compilation of multiple decision services.

For details, see the following topics:

- Java requirements
- Download installer packages
- How to prepare for a Corticon installation

Java requirements

Corticon requires a supported Java distribution to run.

Corticon Studio

The Corticon workbench bundles a Java distribution for use in running Studio. This Java distribution should not be used to run Corticon Server, Web Console or otherwise be used in a production or server environment.

Note: Cannot install Studio into an existing Eclipse— Corticon Studio ships with Java 11 or higher, which introduces changes in how JAR files are handled: Java no longer supports the direct addition of custom JARs to the classpath as earlier versions did. As a result, the ability to drop extension JARs into the Eclipse plugin folder is no longer functional. The recommended method for adding extension JARs is in an installed Corticon Studio either:

- For Eclipse tools, choose **Help > Install New Software**, and then typically choosing tools at `https://marketplace.eclipse.org/` .
- For your extensions, such as extended operators and service callouts, in a Rule Project, choose **Properties > Corticon Extensions.**

Corticon Server and Utilities

The runtime components require the user to provide a supported Java distribution, as listed in *"Corticon 7.2 Supported Platforms"*. The user is responsible for ensuring that this Java distribution has any required security updates.

Note: You can verify the Java on the path by opening a command prompt window, and then entering `java -version`. If you get Java 17 as the response, you are all set. Otherwise, you need to revise system variables and perhaps even the environment variables.

Java distributions are available from multiple sources. One good source is Adoptium: https://adoptium.net/

Note: Corticon installers utilize an embedded Java distribution for the purpose of performing install and uninstall operations. This Java distribution should not be used for any other purpose.

Download installer packages

Corticon installers can be used to perform a new install or update an existing installation.

- When performing a new installation the installer will prompt for information about the installation.
- When updating an installation, such as when applying a service pack, the installer will perform the update without asking for this information.

You can have multiple major.minor versions of Corticon components installed in distinct folders and they can be run concurrently, although they must keep their workspaces separate.

If the same or later version of a Corticon 7.1 component is already installed at any location on the target machine, an alert is posted that denies permission to continue.

To download Corticon installer packages:

1. Get credentials to access to download packages on the Progress Software Electronic Software Download (ESD) site.
2. Log in, and then navigate to the **Progress Corticon Server+.NET and Studio 7.1** page.
3. Click **View License**, and then click **Download**.
   - Unpack the `.zip` file.
   - Read and save the `.txt` file.
   - Copy the `.jar` file, rename the copy `CcLicense.jar`, and then save it at a location that the Corticon 7.1 applications can either reference it or pick it up.
4. Locate, download, and save the required Corticon installer packages to a temporary location accessible by the target machine.

Corticon installer packages

Product	Platform	Format	Download
Studio	Windows	exe	`PROGRESS_CORTICON_7.1_STUDIO_WIN_64.exe`
Java server	Windows	exe	`PROGRESS_CORTICON_7.1_SERVER_WIN_64.exe`
	Linux	bin	`PROGRESS_CORTICON_7.1_SERVER_JAVA_LNX_64.bin`
.NET server	Windows	exe	`PROGRESS_CORTICON_7.1_SERVER.NET_WIN_64.exe`
Web Console	Windows	exe	`PROGRESS_CORTICON_7.1_WEB_CONSOLE_WIN_64.exe`
	Linux	bin	`PROGRESS_CORTICON_7.1_WEB_CONSOLE_LNX_64.bin`
Server Utilities	Windows	exe	`PROGRESS_CORTICON_7.1_UTILITIES_WIN_64.exe`
	Linux	bin	`PROGRESS_CORTICON_7.1_UTILITIES_LNX_64.bin`

You can run all the product installers for a platform on one machine as they will collocate in the `Progress\Corticon 7.1` folder.

Note: There is no explicit download package for Docker. The Server download installs `C:\Progress\Corticon 7.1\Server\Deploy\Docker`. See *"How to deploy Corticon on Docker" in the Deployment Guide*.

How to prepare for a Corticon installation

Before running installers

To avoid possible constraints on the installers, do the following:

- **Review the supported platforms** - Refer to the Progress Software web page Corticon Supported Platforms Matrix to review the operating system versions for Corticon Studio, Corticon runtime components, and supporting software.
- **Stage your Corticon licenses** - You will be asked for your license when you run the installer. You can skip that step, and then add the license later, but the installations will not run until you have a license. For .NET server you need a license that enables it on the IIS server.
- **Confirm that you have Administrator permissions on the target machine** - Administrator rights allow the installer to copy all the Corticon files to their proper locations. You must have Administrator rights and permissions to install this software. See your system administrator to obtain these rights.
- **Verify file system access** - Several Corticon features write files to the “home” directory structure. If the target machine for the Corticon installation does not have read and write access to this directory, you need to choose a directory location where Corticon will have both read and write access.

If you are evaluating Corticon

You can install Studio, start it, and get underway! The evaluation license enables you to access the sample projects as well as develop your business rules projects, and then test the projects in an embedded test server. To evaluate Corticon Server deployment, contact your Progress sales rep for a Corticon Server evaluation license.

If you are upgrading Corticon

With each new release of Corticon, Progress strives to maintain full compatibility with prior releases. Sometimes changes in technology or product requirements introduce incompatibilities that users need to be aware of when planning an upgrade.

For detailed upgrade instructions, see the *Corticon Upgrade Guide*.

2

Installing Corticon Studio

Corticon Studio is a standalone Windows application installed by the Corticon Studio installer.

What Corticon Studio installers provide

The installer wizard package includes:

- Corticon Studio rule modeling environment
- Corticon Server runtime for use in testing rules you create in Corticon Studio
- Java Runtime Environment (JRE)
- Sample projects
- API documentation for extending Corticon

Note: Corticon Studio is built on the Eclipse development platform. This enables you to customize Corticon Studio with the addition of third party plugins, adding additional capabilities to Corticon Studio. However, you cannot install Studio into an existing Eclipse. Corticon Studio ships with Java 17 which introduces changes in how JAR files are handled: Java no longer supports the direct addition of custom JARs to the classpath as earlier versions did. As a result, the ability to drop extension JARs into the Eclipse plugin folder is no longer functional. The recommended method for adding extension JARs is in an installed Corticon Studio either:

- For Eclipse tools, choose **Help > Install New Software**, and then typically choosing tools at `https://marketplace.eclipse.org/` .
- For your extensions, such as extended operators and service callouts, in a Rule Project, choose **Properties > Corticon Extensions.**

System requirements for Corticon Studio

Refer to the Progress Software web page

The target system for a Corticon Studio installation requires:

- Supported Windows operating system
- 8 GB memory (16 GB or more recommended)
- 1.25 GB disk space

Corticon Studio licensing

Corticon Studio starts out with an embedded 90-day evaluation license that enables all features working including deployment packaging of Decision Services, but not deployment.

After you obtain an appropriate license for Studio, it is easily applied by starting Studio, and then choosing **Window > Preferences**, then **Progress Corticon**. Click the License File **Browse** button to navigate to your valid license. The Corticon Studio license default location is the Studio's work directory, typically: `C:\Progress\Corticon_Studio_Work_x.x\license\Studio\`.

Once you **Apply and Close** the **Preferences** dialog, the license is in effect immediately.

For details, see the following topics:

- Run the Corticon Studio installer wizard
- Options after installing Corticon Studio

Run the Corticon Studio installer wizard

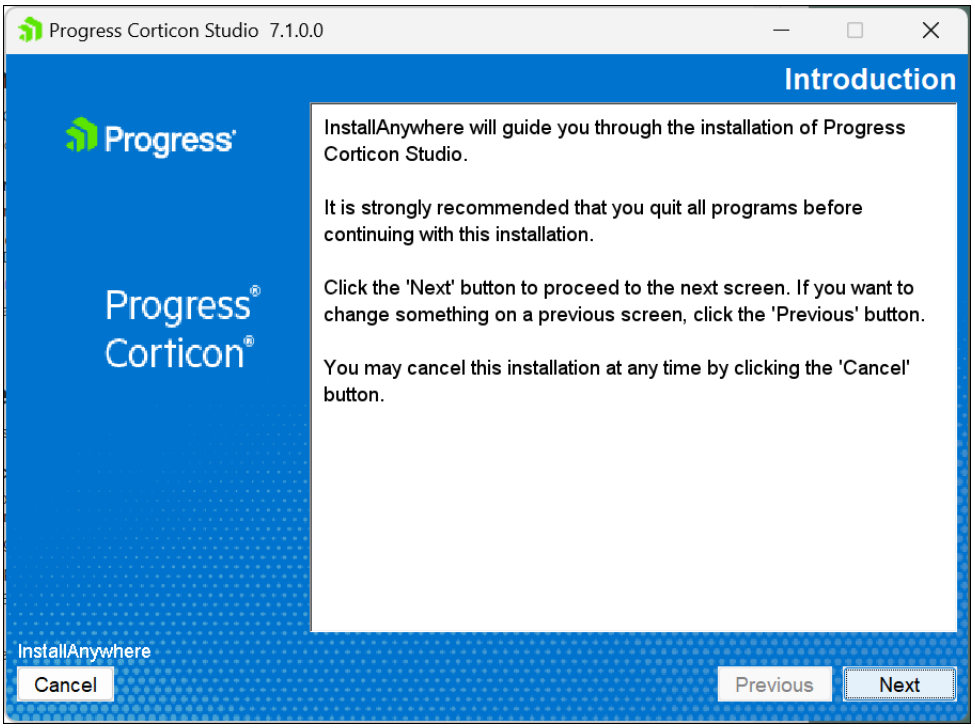
To perform an installation of Corticon Studio 7.x to the latest release (x) :

1. Double click on the installer file, `PROGRESS_CORTICON_7.x_STUDIO_WIN_64.exe`, to launch the Corticon Studio installer.

   Note: While not typically required, if you are told to do an administrator install, right-click on the EXE file, and then choose **Run as administrator**.

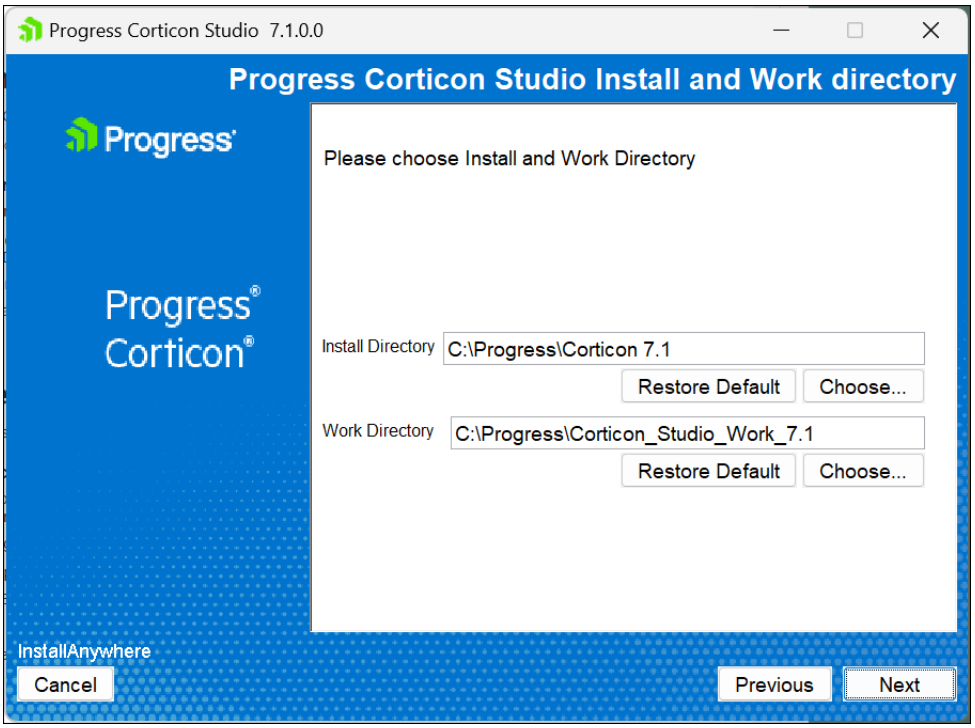
   The installer opens in the installer wizard.

2. The first installer panel opens with information about the installer.



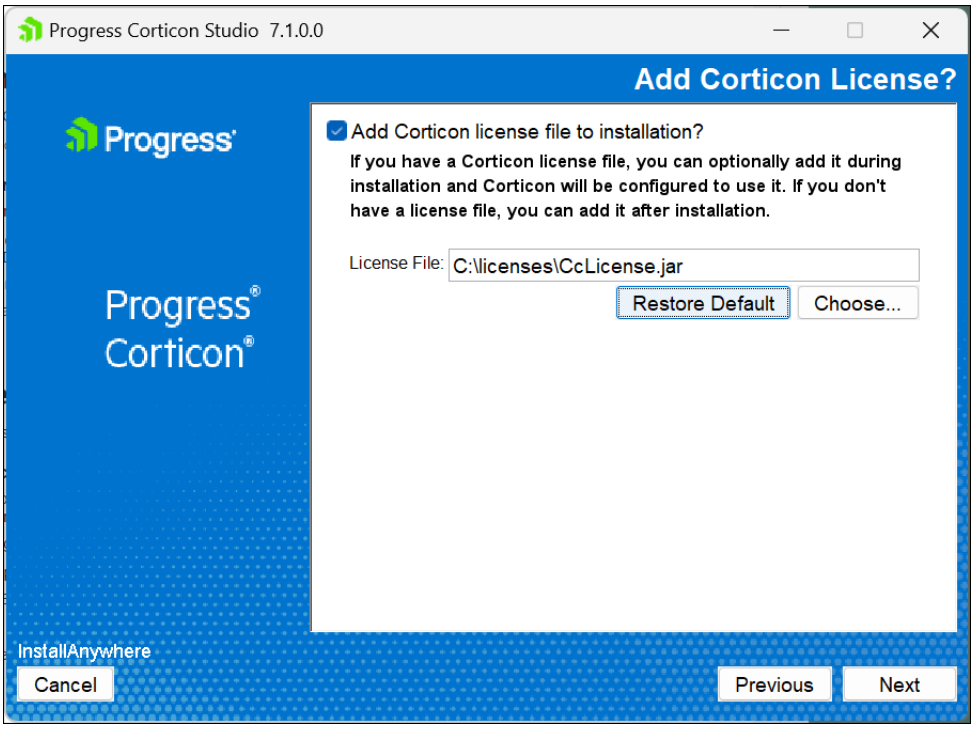
3. Click **Next** to continue.

   The **Choose Install Folder** panel opens.



4. Specify the installation location. The default location for the installation directory and the work directory are as shown above. Either accept the default locations, or specify your preferred locations.

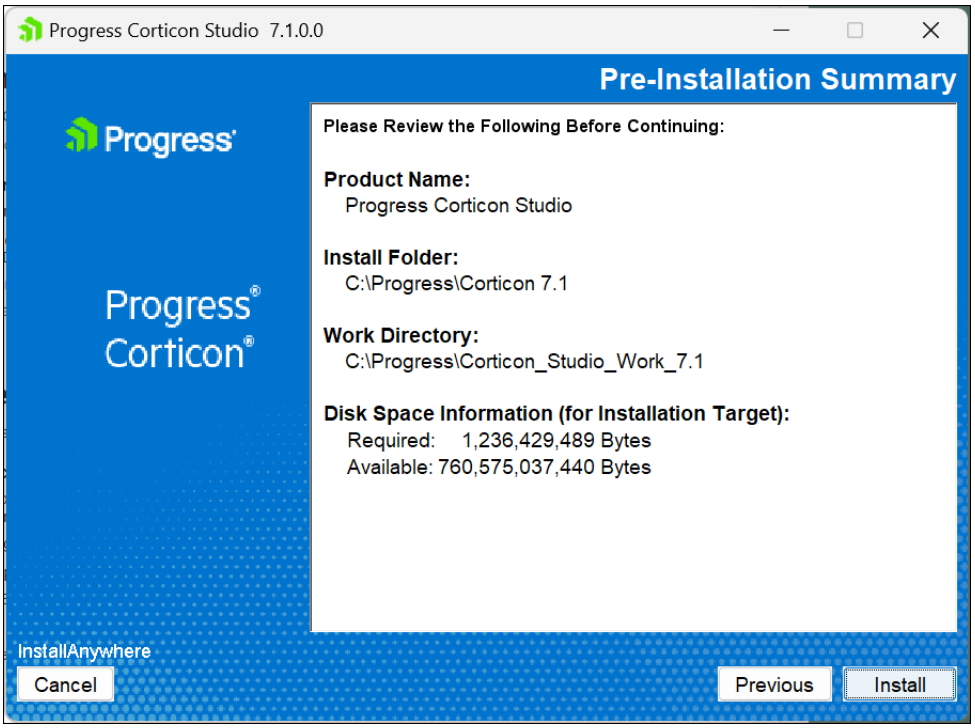
5. Click **Next**.
6. The **Corticon License** panel opens:



- If you select **Add Corticon license file to installation?** on this panel, the entry area for the **License File** lets you enter or choose the path where you have staged your license file on the local machine. In the illustration, the license file are in the `licenses` folder.
- If you skip the selection, a normal installation will proceed. The Studio will open for your use with a 90 day limited use license. You need to get a Corticon Studio 7.x license, and then place it a staging location. You then open Studio, choose **Preferences > Progress Corticon**, and then enter or browse to the license's staging location.

Click **Next** to continue.

7. The **Pre-installation Summary** panel opens.



Confirm that your installation location has adequate disk space for the Corticon Studio components as well as at least 100 MB of workspace.

8. Click **Install** to continue.

   An installation status window opens to display the state of the installation process. When the process has finished, the **Install Complete** panel opens.

9. Click **Done** to quit and close the installer.

   The installation or update of Corticon Studio 7.x is complete.

10. Start the Corticon Studio by launching the **Corticon 7.1 Studio** shortcut.

Options after installing Corticon Studio

There a few settings you might want to adjust after installing Studio.

Increase Corticon Studio memory allocation

When working on large Rule Projects, you will get better performance by increasing the amount of memory available to Corticon Studio.

To change Corticon Studio memory allocation after installation, do the following:

1. Edit the command file `eclipse.ini` located at `[CORTICON_HOME]\Studio\eclipse`
2. Change (typically, increase) the `Xmx` value (maximum memory setting). The default `Xmx` setting is 2 gigabyte, specified as `Xmx2g`. Often, that is increased to `4g` when appropriate memory is available.

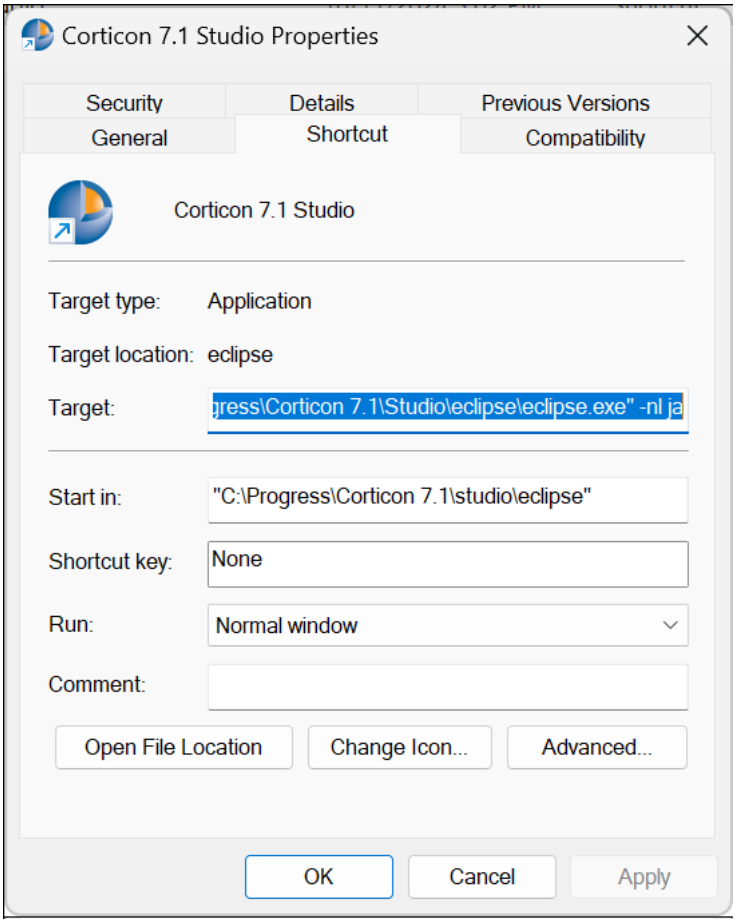
Set Studio to run in another language

You can specify a preferred language for Corticon Studio. The options are:

- English (`en` - default)
- French (`fr`)
- Japanese (`ja`)
- Portuguese (Brazilian) (`pt_BR`)
- Spanish (`es`)

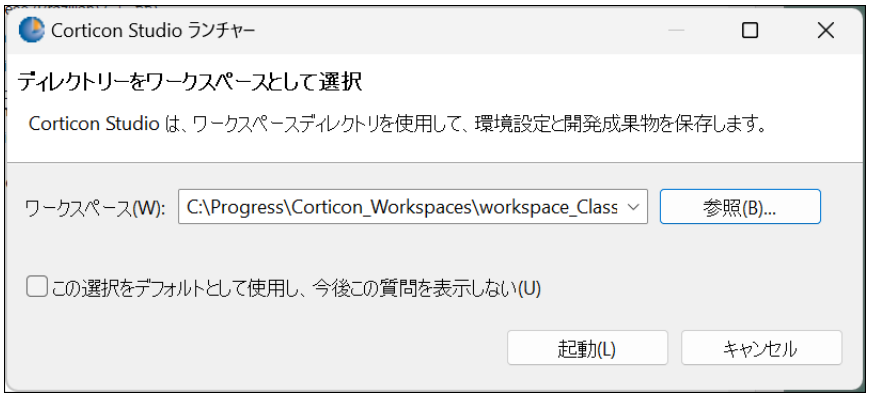
To set Corticon Studio to start in your preferred language:

1. On Windows, right-click on the **Start** menu item for **Corticon Studio**, and then choose **More > Open file location**.
2. Right-click on the shortcut **Corticon Studio**, and then choose **Properties**.
3. Choose the **Shortcut** tab, and then add to the **Target** value with the language option, `-nl` followed by a language value, as shown setting `ja` for Japanese:



4. Click **Apply**, and then **OK** to set the change.

When you start Corticon Studio its labels are in Japanese, as illustrated:



Note: A preferred user language might use different formats for decimals, dates and list ranges than shown in the Corticon documentation.

3

Installing Corticon runtime components

The Corticon runtime components allow you to deploy and manage your Corticon decision services in production and test environments. What you need depends on your deployment choices. The runtime component options include:

- **Corticon Server for Java**: For deploying decision services to Java applications or application servers.
- **Corticon Server for .NET**: For deploying decision services to .NET applications or an IIS application server.
- **Corticon Web Console**: For managing Corticon server deployments through a Web UI.
- **Corticon Server Utilities**: For orchestrating the packaging and deployment of decision services.

Using installer wizards—Each runtime component is provided as its own Windows installer. Performing command-line Linux installations of Corticon components on page 35 enables the Linux installer to run from the shell as a command with parameters.

For details, see the following topics:

- Performing silent installations

System requirements for Corticon runtime components

Progress Corticon products are supported on a variety of platforms and third-party components.

Corticon Server for Java

Refer to the Progress Software web page Corticon Supported Platforms Matrix to review the currently supported platforms and application servers. Also see the Corticon KnowledgeBase entry Corticon Server sample WAR installation for different Application Servers for detailed instructions on configuring Corticon Server on all supported platforms.

The target system for a Corticon Server for Java installation requires:

- Java 17 JDK
- Supported Windows or Linux operating system
- Optional application server (Documentation refers to Tomcat 9 with default port 8080 or 8850)
- 8 GB Memory (16 GB or more recommended)
- 600 MB disk space

Corticon Web Console

Refer to the Progress Software web page Corticon Supported Platforms Matrix for information on supported browser versions.

The target system for a Corticon Web Console installation requires:

- Java 17 JDK
- Supported Windows or Linux operating system
- Supported application server (Documentation refers to Tomcat 9 with default port 8080)
- 8 GB Memory (16 GB or more recommended)
- 600 MB disk space

Corticon Server for .NET

Refer to the Progress Software web page Corticon Supported Platforms Matrix for information on supported .NET Framework and IIS versions as listed in the topic Prerequisites for setting up a Corticon .NET Server on page 26.

The target system for a Corticon Server for .NET installation requires:

- Java 17 JDK
- Supported Windows operating system
- Supported .NET Framework and Internet Information Service (IIS)
- 8 GB Memory (16 GB or more recommended)
- 700 MB disk space

Utilities for Java Server

Corticon Server Utilities can be used when located on a remote machine to act on a Java Server or Web Console installation.

- Java 17 JDK
- Supported Windows or Linux operating system
- 8 GB Memory (16 GB or more recommended)
- 700 MB disk space

Corticon runtime component licensing

Corticon Server for Java

The Corticon Server license default location is in the Server's work directory: `C:\Progress\Corticon_Server_Work_x.x\license\Server\`.

Note: Until you have a valid Corticon Server license for the current version, the Server will not run.

Corticon Web Console

The Corticon Web Console does not require any license.

Corticon Utilities

Corticon Utilities require either a valid Studio or Server license. The Corticon Utilities license default location is in the directory: `C:\Progress\Corticon_Utilities_Work_7.1\license\utilities\`.

Copy your license file to that location.

Note: If your license location is different, then set the option that will locate it in each of the `.bat` files. Edit each file, locate the option, and then change its path and value to your preferred path and name.

Corticon Server for .NET

Your license must enable Corticon .NET Server for the current version. Copy your .NET-enabled `CcLicense.jar` file to `C:/inetpub/wwwroot/Corticon/lib/`.

Note: Until you have a valid Corticon .NET Server license for the current version, the Corticon .NET Server will not run.

Web Console Managed Servers

The Web Console copies the `CcLicense.jar` (or its preferred name) from each managed server installation to its `CcServerSandbox`, located on the machine hosting the Web Console Server.

Installing Corticon Server for Java

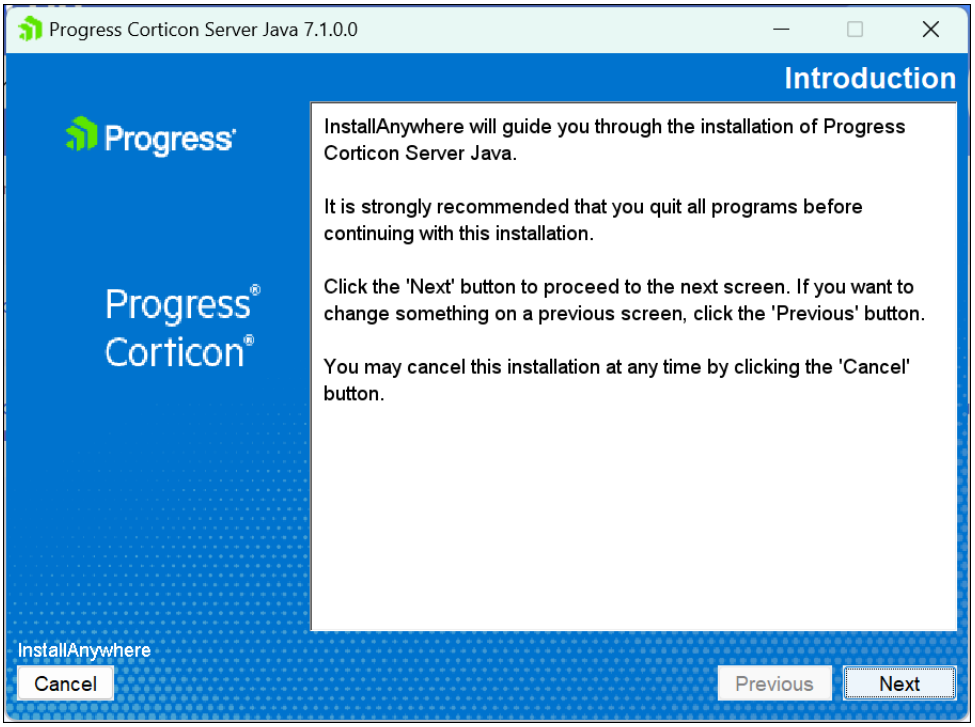
To create or update an installation of Corticon Java Server 7.x:

1. On the target machine, access the Corticon 7.x installers you downloaded.
2. To open the Corticon Java Server Setup Wizard:
   - For Windows, double click on: `PROGRESS_CORTICON_7.x.x_SERVER_WIN_64.exe`

     Note: While not typically required, if you are told to do an administrator install, right-click on the EXE file, and then choose **Run as administrator**.

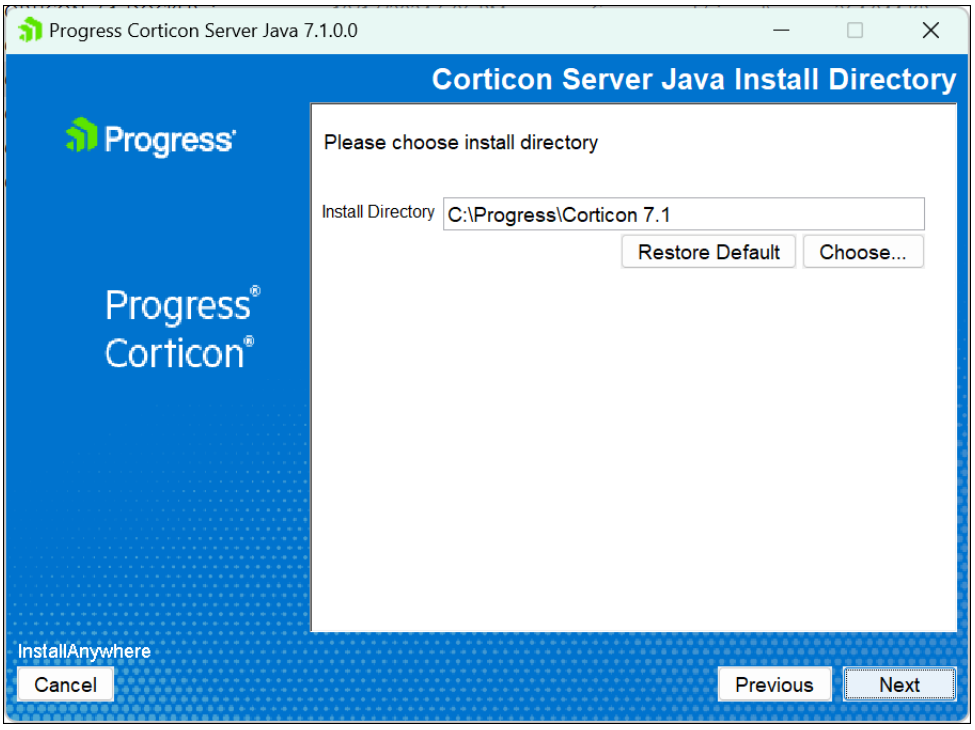
   - For Linux, run: `PROGRESS_CORTICON_7.x.x_SERVER_LNX_64.bin`

   The installer opens in the installer wizard. The first installer panel opens with information about the installer.



Note: If the same or higher Corticon Java Server 7.x is installed at any location on the target machine, an alert is posted that denies permission to continue. You will be able to apply Server 7.x service packs and patches. You can have other major.minor versions of Corticon Server installed in distinct folders and they can run concurrently, although they must run on separate ports.

3. Click **Next** to continue.
4. The **Choose Server Java Install Directory** panel opens.



The default install directory is shown. To specify a preferred directory, enter the explicit path, or click **Choose** to browse to the preferred directory.

5. Review the information in the **Pre-Installation Summary** panel.
6. Click **Install** to continue. The installation status window opens. When done, the **Install Complete** panel opens.
7. Click **Done** to complete the Corticon Server for Java installation and close the installer.
8. **Corticon Work folder**—Create the folder `C:\Progress\Corticon 7.1\Corticon_Server_Work_7.1`.
   a. Copy the `brms.properties` file from `C:\Progress\Corticon 7.1\Server` to the **Corticon Work** folder.
   b. For **CDD deployment**, copy the CDD file `C:\Progress\Corticon 7.1\Server\cdd` to the **Corticon Work** folder.
   c. Copy the license file to:

      `Corticon_Server_Work_7.1/license/Server/CcLicense.jar`.

9. **App Server**—If deploying Corticon Server to an application server, follow the application server's guide for installing the appropriate Corticon Server `.war` file from the server installation's `C:\Progress\Corticon 7.1\Server\Deploy` folder.

Note: Enabling Swagger—Corticon provides an optional Swagger endpoint for exploring the Corticon Server REST API. See *"The REST API Swagger documentation" in the Server Guide* for details.

Installing Corticon Server for .NET

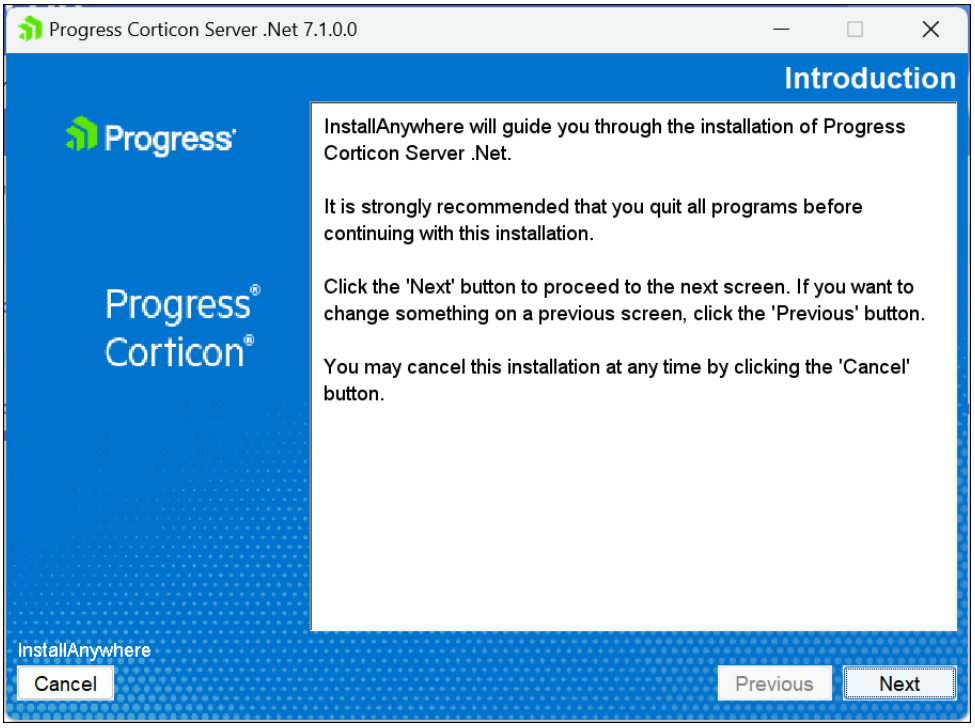
When you install .NET Server 7.1 on a machine that has an IIS Server setup that satisfies the prerequisites, the Corticon .NET Server installer will install or update .NET Server 7.x.

To create or update an installation of .NET server 7.x:

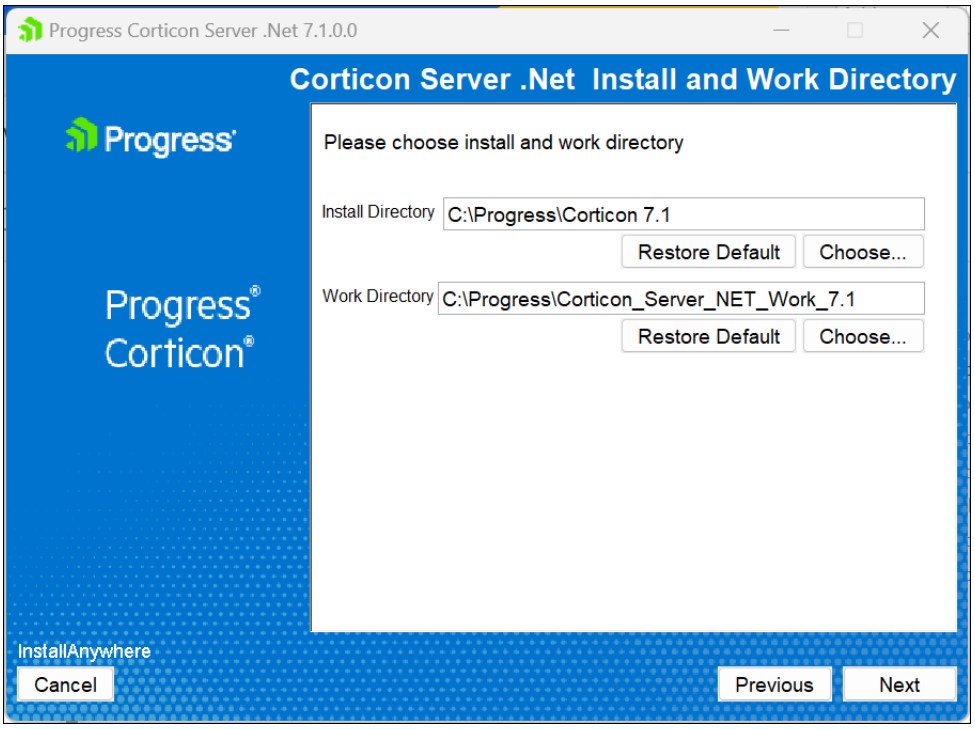
1. On the target machine, access the Corticon 7.x installers you downloaded.
2. To open the .NET Server Setup Wizard on Windows, double click on:
   `PROGRESS_CORTICON_7.x.x_SERVER.NET_WIN_64.exe`

Note: While not typically required, if you are told to do an administrator install, right-click on the EXE file, and then choose **Run as administrator**.

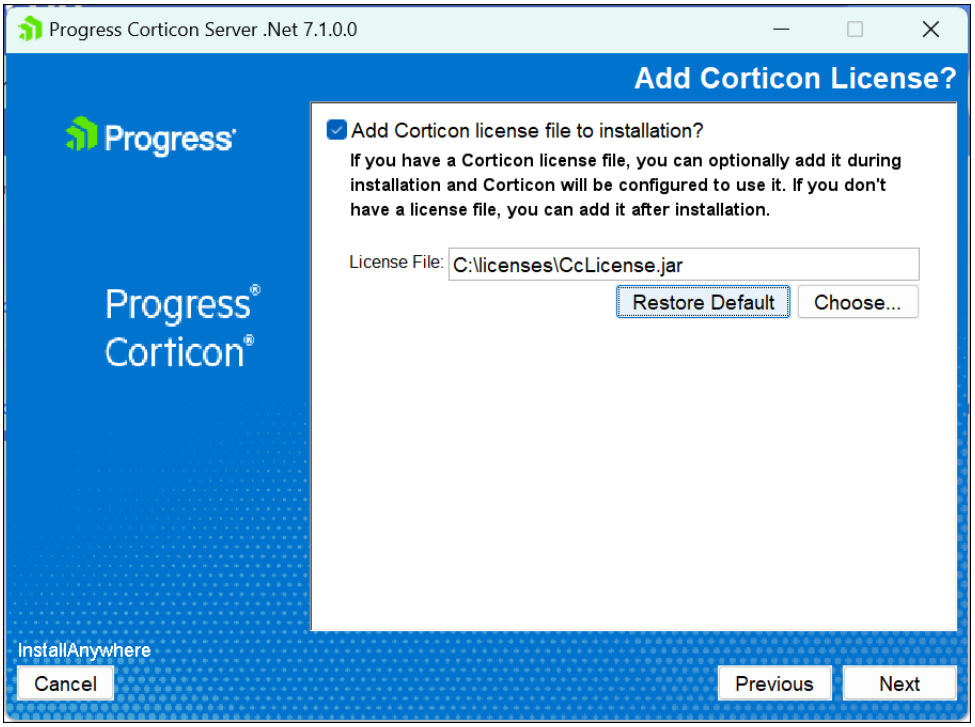
The installer opens in the installer wizard. The first installer panel opens with information about the installer.



3. Click **Next** to continue.
4. The **Choose Server .Net Install and Work Directory** panel opens.



5. The default installation directories are shown. To specify preferred directories on each line, either enter the explicit path, or click **Choose** to browse to each preferred directory.
6. Click **Next** to continue. The **Add Corticon License?** panel opens:



- If you select **Add Corticon license file to installation?** on this panel, the entry area for the **License File** lets you enter or choose the path where you have staged your **.NET ENABLED** license file on the local machine. The license will be copied to the .NET server.
- If you skip the selection, a normal installation will proceed. However, Corticon .NET will not open for your use here or on the IIS Server until you add an appropriate license file from a staging location.

7. The default install directory is shown. To specify a preferred directory, enter the explicit path, or click **Choose** to browse to each preferred directory.
8. Verify your selections in the **Pre-Installation Summary** panel. Nothing has happened yet so you can click **Previous** to go back to a panel to make changes, or click **Cancel** to quit this installation procedure.
9. Click **Install** to continue. The installation status window opens. When done, the **Install Complete** panel opens.
10. Click **Done** to complete the Corticon .NET Server 7.1 installation and close the installer.
11. In your .NET Server installation's `C:\Progress\Corticon 7.1\Server .NET\IIS` folder, run `install.bat` as administrator, entering **Y** or **A** to install all the files.
12. If you did not reference your license through the installer wizard, copy your .NET `CcLicense.jar` file to `C:/inetpub/wwwroot/Corticon/lib/`.

The installation and update of Corticon .NET Server and its setup on IIS Server are complete. See the instructions for *"Web services on .NET" in the Web Services guide* for additional information.

Note: Enabling Swagger—Corticon incorporates Swagger into its REST endpoints; however, you must take a few steps to enable it. See *"The REST API Swagger documentation" in the Server Guide* for details.

More about .NET server on IIS

See:

- Prerequisites for setting up a Corticon .NET Server on page 26
- How to set up IIS server on page 27

Prerequisites for setting up a Corticon .NET Server

The runtime server for Corticon Server for .NET is Microsoft Internet Information Services (IIS), a distinct setup into which you install and update with the latest Corticon Server for .NET resources.

Before installing the Corticon .NET Server resources:

1. Obtain an appropriate Corticon license for Corticon Server for .NET.

   Note: You must obtain .NET evaluation and deployment licenses from your Progress representative.

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2. Confirm that your target machine meets the system requirements. See System requirements for Corticon runtime components on page 20 for more information. Corticon Server for .NET requires Java 17 as discussed in Java requirements on page 8. Copy the JRE folder to `C:/inetpub/wwwroot/Corticon/JRE`.
3. See the Progress Software web page Corticon Supported Platforms Matrix for information on supported .NET prerequisites and Microsoft IIS.
4. Confirm that the IIS server has the features that Corticon .NET requires. You can set up or check the features for IIS server in the topic How to set up IIS server

When you have the set up complete, see the instructions for *"Web services on .NET" in the Web Services guide* to install the resources.

How to set up IIS server

You need to have the Microsoft Internet Information Services (IIS) set up on the machine where you intend to install Corticon .NET server.

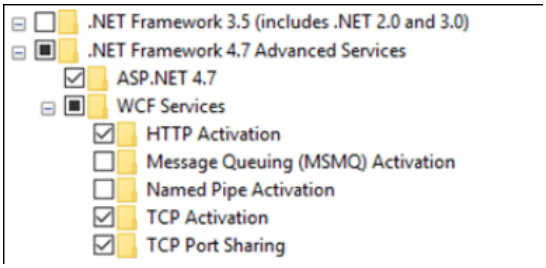
Note: Confirm that you have Visual Code C++ Redistributable 2012 x64(VC++ 11.0), Visual Code C++ Redistributable2015-22 (x64), and .NET Framework runtime 4.0 or higher. For details, see .NET Prerequisites in the Supported Platforms matrix.

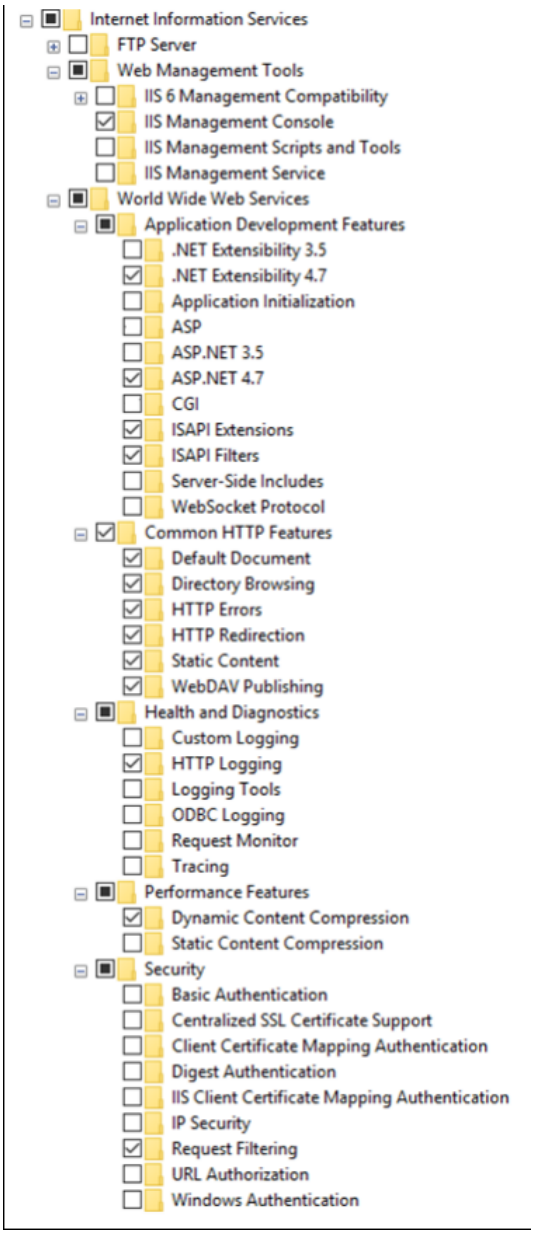
Supported Windows and Windows Server installations include Internet Information Server (IIS) 10.0 but require user interaction to enable it. Server Manager is installed by default with all editions of Windows Server. You can use Server Manager in Windows Server to setup IIS as a role-based feature. While you can download a Server Manager for Windows, this document describes the common functionality that turn Windows features on.

To set up IIS 10 on supported Windows or Windows Server versions, perform the following steps:

1. In the Windows Search entry area, type `appwiz.cpl`, and then press **Enter**.
2. On the Programs and Features control panel, click **Turn Windows features on or off**.
3. In the Windows Features panel, select the following features:

Note: Some versions of Windows might not have World Wide Web Services in this dialog. Also the version number of some features might be newer.





4. Click **OK**. The required IIS features for Corticon .NET are turned on.
5. Reboot the computer.
6. In most browsers, when you type `localhost`in the URL entry area, the Microsoft IIS .NET home page opens indicating successful installation. Click **Welcome** to explore the features, forums, and community.
7. Continue the setup of Corticon Server on IIS at *"Set up Corticon Server for .NET on IIS" in the Web Services Guide*.

Installing Corticon Web Console

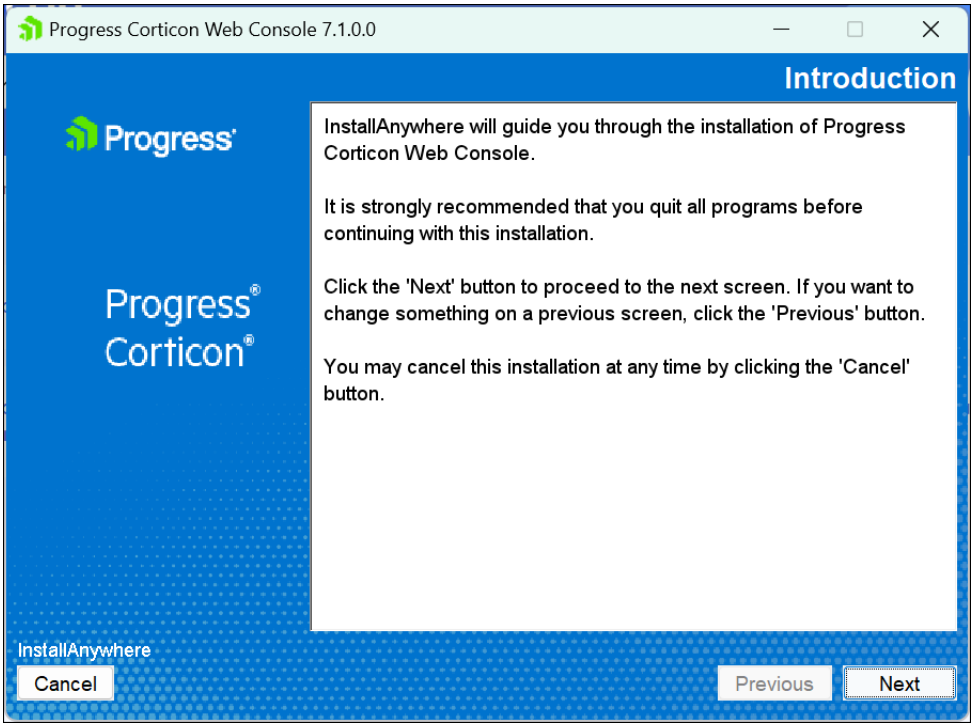
To create or update an installation of Web Console 7.1:

1. On the target machine, access the 7.1 installers you downloaded.
2. To open the Web Console Setup Wizard:
   - For Windows, double click on: `PROGRESS_CORTICON_7.1.x_WEB_CONSOLE_WIN_64.exe`

     Note: While not typically required, if you are told to do an administrator install, right-click on the EXE file, and then choose **Run as administrator**.

   - For Linux, run: `PROGRESS_CORTICON_7.1.x_WEB_CONSOLE_LNX_64.bin`

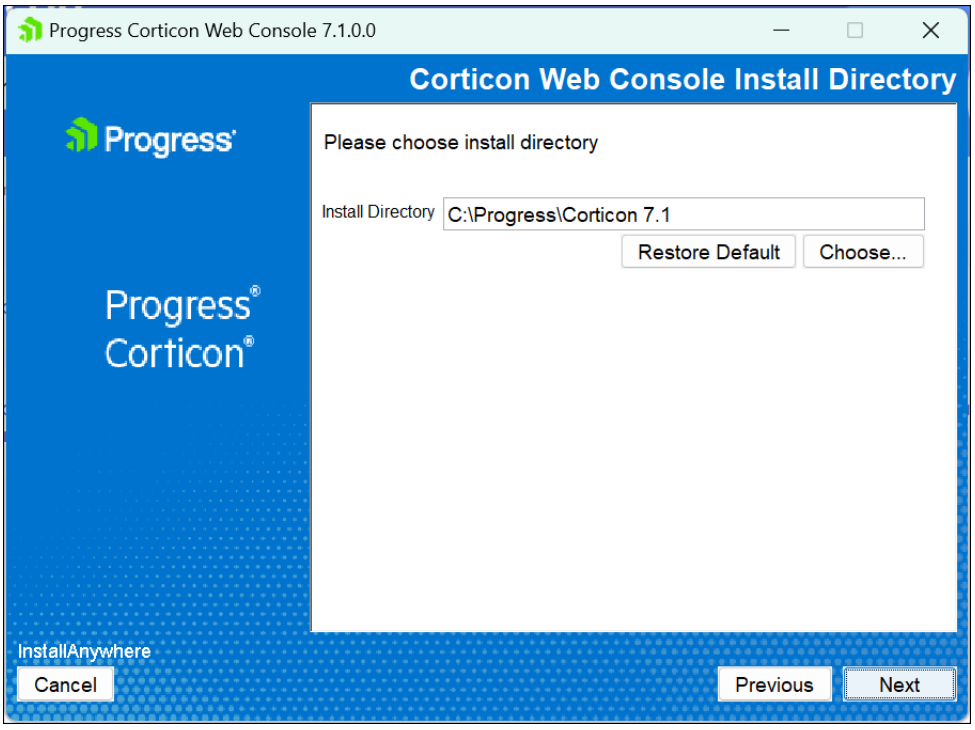
   The installer opens in the installer wizard. The first installer panel opens with information about the installer.



Note: If the same or higher Corticon 7.1 Web Console is installed at any location on the target machine, an alert is posted that denies permission to continue. You will be able to apply Web Console 7.1 service packs and patches. You can have other major.minor versions of Corticon Web Console installed in distinct folders and they can run concurrently, although they must run on separate ports.

3. Click **Next** to continue.

   The **Choose Web Console Install Directory** panel opens.



4. The default install directory is shown. To specify a preferred directory, enter the explicit path, or click **Choose** to browse to the preferred directory.
5. Verify your selections in the **Pre-Installation Summary** panel. Nothing has happened yet so you can click **Previous** to go back to a panel to make changes, or click **Cancel** to quit this installation procedure.
6. Click **Install** to continue. The installation status window opens. When done, the **Install Complete** panel opens.
7. Click **Done** to complete the Corticon Web Console 7.1 installation and close the installer.
8. In your Web Console installation's `C:\Progress\Corticon 7.1\WebConsole\Tomcat\9` folder, copy the `corticon.war` archive file, to the app server's `webapps` folder; for example, `C:\Progress\myTomcat9\apache-tomcat-9.0.91-windows-x64\apache-tomcat-9.0.91\webapps`.
9. The installation and update of Corticon Web Console and its app server are complete. Click **Done** to complete the Web Console installation and close the installer.
10. Edit the `logback.xml` file at `C:\Progress\Corticon 7.1\WebConsole\etc` to change `<property name="WORK_DIR_LOGS"` to have the `value="C:\Progress\Corticon_7.1\WebConsole\logs"/>`
11. Copy the Web Console `etc` folder with its `.groovy` and `logback.xml` files, and then paste the folder at `C:\Progress\Corticon_Server_Work_7.1\`.
12. Start the Corticon Web Console by launching the app server. For example, `C:\Progress\myTomcat9\apache-tomcat-9.0.91-windows-x64\apache-tomcat-9.0.91\bin\startup.bat`.

The installation and update of Web Console 7.1 is complete.

Note: Using an LDAP store for Web Console authentication—You can set up Corticon Web Console to authenticate users using an LDAP server. See the topic *"How to use LDAP for Web Console authentication" in the Web Console Guide.*

Installing Corticon Server Utilities

The Utilities installer will perform actions on 7.x Servers and Web Console.

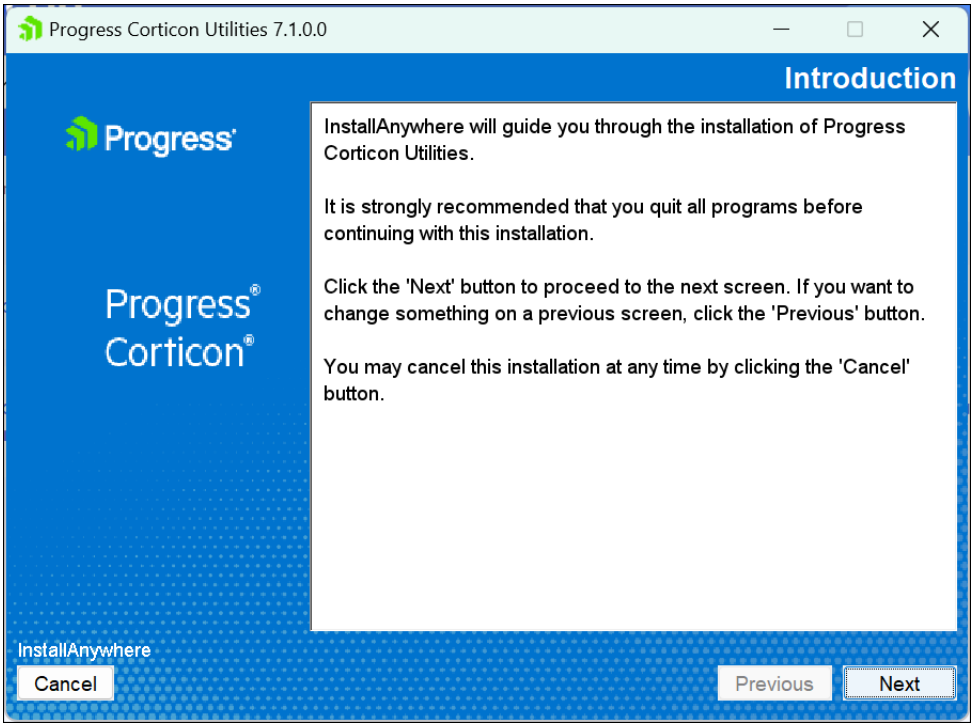
To create or update an installation of Corticon Server Utilities 7.x:

1. On the target machine, access the Corticon 7.x installers you downloaded.
2. To open the Setup Wizard:
   - For Windows, double click on: `PROGRESS_CORTICON_7.x.x_UTILITIES_WIN_64.exe`

     Note: While not typically required, if you are told to do an administrator install, right-click on the EXE file, and then choose **Run as administrator**.

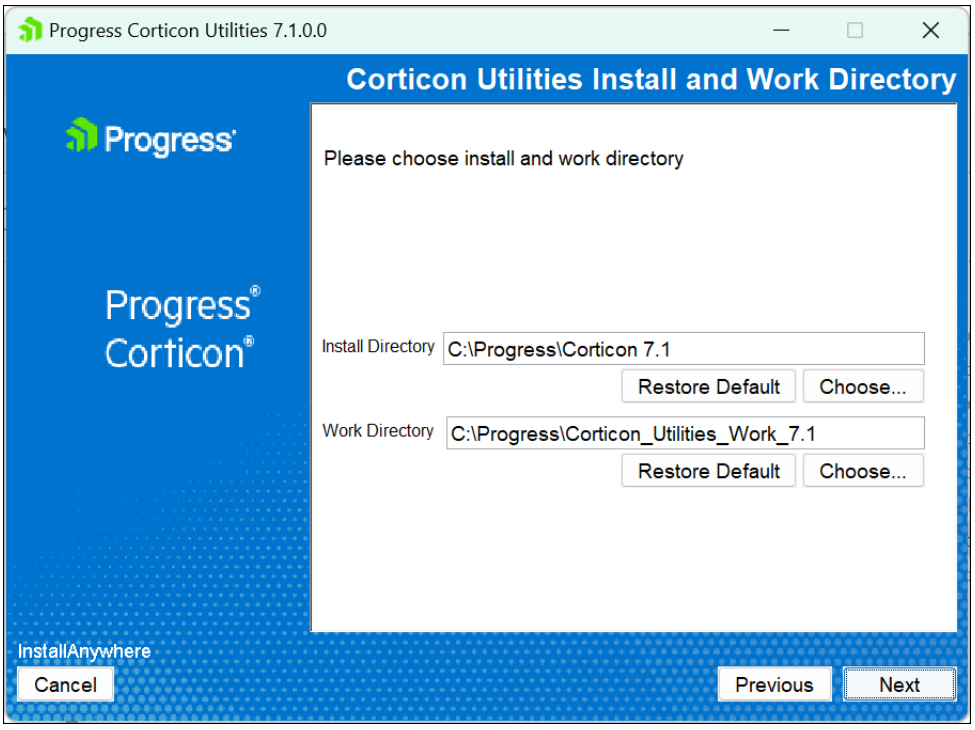
   - For Linux, run: `PROGRESS_CORTICON_7.x.x_UTILITIES_LNX_64.bin`

   The installer opens in the installer wizard. The first installer panel opens with information about the installer.

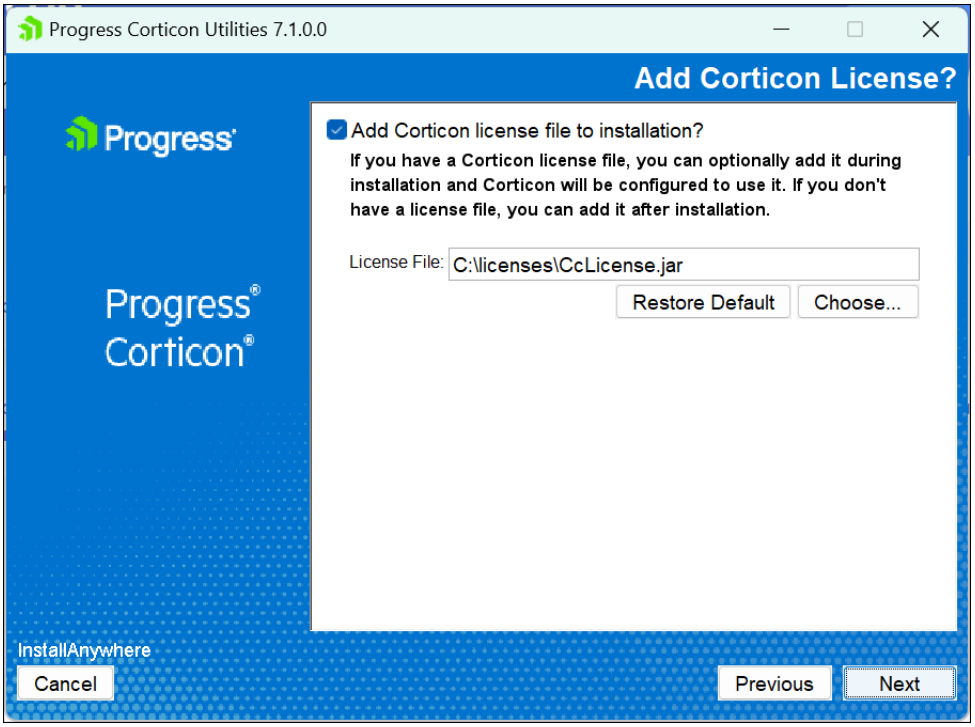


Note: If the same or higher Corticon Utilities 7.x is installed at any location on the target machine, an alert is posted that denies permission to continue. You will be able to apply Utilities 7.x service packs and patches. You can have other major.minor versions of Corticon Server installed in distinct folders and they can run concurrently, although they must run on separate ports.

3. Click **Next** to continue.
4. The **Choose Utilities Install and Work Directory** panel opens.



5. The default installation directories are shown. To specify preferred directories on each line, either enter the explicit path, or click **Choose** to browse to each preferred directory.
6. The **Corticon License** panel opens:



- If you select **Add Corticon license file to installation?** on this panel, the entry area for the **License File** lets you enter or choose the path where you have staged your license file on the local machine. The license will be copied to `C:\Progress\Corticon_Server_Work_7.1\license\Server\`.
- If you skip the selection, a normal installation will proceed. However, the Corticon Server will not open for your use until you have a valid license. Corticon Utilities work with either a valid Studio or a Server license.

7. Click **Next**.
8. Verify your selections in the **Pre-Installation Summary** panel. Nothing has happened yet so you can click **Previous** to go back to a panel to make changes, or click **Cancel** to quit this installation procedure.
9. Click **Install** to continue. The installation status window opens. When done, the **Install Complete** panel opens.
10. Click **Done** to complete the Corticon Utilities installation and close the installer.

The installation and update of Corticon Utilities is complete.

If you chose non-standard install paths, modify the paths in each of the utility `.bat` files in the `bin` directory.

Configuration Settings

JAVA_HOME

Ensure that the `JAVA_HOME` environment variable is set correctly and points to the appropriate Java version.

If you prefer not to set `JAVA_HOME` as a system-wide environment variable, you can configure Corticon Utilities to use the correct Java version by setting the `JAVA_HOME` variable directly in the `corticon_env.bat` file, located in the path:

```
C:\Progress\Corticon 7.1\Utilities\bin
```

Add the following line to the `corticon_env.bat` file to point to the correct Java version:

```
rem
rem Conditionally set CORTICON_WORK to allow it to be overriden.
rem
if not defined CORTICON_WORK
set CORTICON_WORK=C:\Progress\Corticon_Utilities_Work_7.1
set "JAVA_HOME=C:/jdks/Java17/jdk-17.0.3" -> Location of Java
```

License

If a license was selected during installation, it was placed in the following location:

```
C:\Progress\Corticon_Utilities_Work_7.1\license\utilities\
```

To switch to a different license, copy your `CcLicense.jar` file to the same directory:

```
C:\Progress\Corticon_Utilities_Work_7.1\license\utilities\
```

Installing Corticon Runtime on Tomcat

Prior releases of Corticon included a bundled distribution of Tomcat. The following instructions provide guidelines for installing Corticon Server and WebConsole into Tomcat to create a runtime environment similar to previous Corticon releases. These examples are specific to Windows installations. The following topics on Linux installations follow a similar pattern. For additional details, refer to the *Corticon Deployment Guide*.

Folder Setup

The steps below assume the following file system folder setup:

- `C:\Java_17` : Java 17 installation
- `C:\Tomcat_9` : Apache Tomcat 9 installation
- `C:\Progress\Corticon 7.1`: Default Corticon 7.1 installation
- `C:\Corticon_Work_7.1`: User chosen work directory for Corticon Server

Change the folder locations as needed in each step to match your configuration.

Install Tomcat

1. Download the binary distribution of Apache Tomcat for your platform from: https://tomcat.apache.org/download-90.cgi For Windows, download "64-bit Windows zip".
2. Extract the downloaded files to:

   ```
   C:\Tomcat_9
   ```

3. **Deploy Corticon Server to Tomcat** Edit the file: `C:\Tomcat_9\bin\startup.bat`, and then add the lines:

   ```
   set JAVA_HOME="C:\Java_17"
   set CATALINA_OPTS=-DCORTICON_HOME="%CATALINA_HOME%"
                     -DCORTICON_WORK_DIR="C:\\Corticon_Work_7.1\\"
   set JAVA_OPTS=%JAVA_OPTS% -Dfile.encoding=UTF-8
   ```

4. Copy the file:

   ```
   C:\Progress\Corticon 7.1\Server\Deploy\Tomcat\9\axis.war
   ```

   to:

   ```
   C:\Tomcat_9\webapps\axis.war
   ```

5. **Deploy Corticon WebConsole to Tomcat** Copy the file:

   ```
   C:\Progress\Corticon 7.1\WebConsole\Deploy\Tomcat\9\corticon.war
   ```

   to:

   ```
   C:\Tomcat_9\webapps\corticon.war
   ```

6. Copy the `etc` folder (which contains the files `logback.xml` and `CorticonServerConsoleConfig.groovy`):

   ```
   C:\Progress\Corticon 7.1\WebConsole\etc
   ```

   to:

   ```
   C:\Corticon_Work_7.1\etc
   ```

7. Edit the file:

   ```
   C:\Corticon_Work_7.1\etc\logback.xml
   ```

and then set WORK_DIR_LOGS to the folder to write log files:

```
<property name="WORK_DIR_LOGS" value=" C:\Corticon_Work_7.1\logs"/>
```

8. **Configure Tomcat Ports (Optional)** Edit the file:

   ```
   C:\Tomcat_9\conf\server.xml
   ```

   and then set the preferred ports (the port settings here reflect those previously used by Corticon):

   ```
   <Connector port="8850" protocol="HTTP/1.1"
       connectionTimeout="20000"
       redirectPort="8851"
       maxParameterCount="1000"/>
   <Server port="8852" shutdown="SHUTDOWN">
   ```

9. **Restart Tomcat.** If Tomcat is running, stop it.
10. Start Tomcat by running:

    ```
    C:\Tomcat_9\bin\startup.bat.
    ```

Performing command-line Linux installations of Corticon components

A command-line install runs a Linux installation in a command shell as a text command with parameters.

To perform command-line installations for Corticon components on Linux:

1. On a supported 64-bit Linux platform, copy the downloaded Linux installer binary files to a temp directory CorticonInstall:
   - PROGRESS_CORTICON_7.x_SERVER_LNX_64.bin
   - PROGRESS_CORTICON_7.x_WEB_CONSOLE_LNX_64.bin
   - PROGRESS_CORTICON_7.x_UTILITIES_LNX_64.bin
2. Copy the CcLicense.jar you created from the license download to /tmp/CorticonInstall.
3. Grant your installation user access to the installation directory:

   ```
   > cd tmp
   > sudo chmod 755 CorticonInstall
   ```

4. Review the files copied to the temp directory on your Linux machine:

   ```
   > cd CorticonInstall
   > ls
   ```

5. Ensure that you can install each Corticon Server bin files by assigning the proper rights:

   ```
   > sudo chmod 777 PROGRESS_CORTICON_7.1_SERVER_JAVA_LNX_64.bin
   ```

6. In a shell, run the binary with the console option. For example:

```
# ./PROGRESS_CORTICON_7.x_SERVER_LNX_64.bin -i console
```

7. Follow the prompts to complete the installation via the command-line.

Note: The work directory path must not contain spaces.

Installing Corticon Runtime on Tomcat on Linux

Prior releases of Corticon included a bundled distribution of Tomcat. The following instructions provide guidelines for installing Corticon Server and Web Console into Tomcat to create a runtime environment similar to previous Corticon releases. For additional details, refer to the *Corticon Deployment Guide*.

Folder Setup

The steps below assume that the Linux system folders are setup as follows:

- `/usr/lib/jvm/java-17-openjdk/amd64` : Java 17 installation
- `/opt/tomcat` : Apache Tomcat 9 installation
- `/usr/local/Progress/Corticon 7.1`: Default Corticon 7.1 installation
- `/opt/tomcat/work`: User chosen work directory for Corticon Server

Change the folder locations as needed in each step to match your configuration.

How to install Corticon Runtime on Linux

Note: These steps describe how to install Corticon Server and Corticon Web Console on Tomcat. The steps are conceptually the same for other supported app servers (see Corticon Supported Platforms Matrix) even though the semantics will likely vary.

Perform the following steps:

1. **Create a dedicated Tomcat user and group:**

```
> sudo useradd -r -s /sbin/nologin tomcat
> sudo groupadd tomcat
> sudo usermod -aG tomcat tomcat
```

2. **Install Tomcat:**

a. Download the binary distribution of Apache Tomcat for Linux platform from: https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.98/bin/apache-tomcat-9.0.98.tar.gz

b. Extract the downloaded files to:

```
> sudo mkdir /opt/tomcat
> sudo tar xzvf apache-tomcat-9*tar.gz -C /opt/tomcat --strip-components=1
> sudo chown -R tomcat:tomcat /opt/tomcat
```

c. Adjust the file and directory permissions:

```
> cd /opt/tomcat
> sudo chmod -R 755 /opt/tomcat/bin
> sudo chmod -R 644 /opt/tomcat/conf
> sudo chmod -R 644 /opt/tomcat/lib
> sudo chmod -R 664 /opt/tomcat/logs
> sudo chmod -R 777 /opt/tomcat/temp
> sudo chmod -R 755 /opt/tomcat/webapps
> sudo chmod -R 777 /opt/tomcat/work
```

3. Prepare Tomcat for the Corticon Server:

Note: The log file location, CDD location, and Decision Service deployment file location all depend on the CorticonServerWork directory. To change the CorticonServerWork directory, add a `trtup.sh` to the Tomcat `bin` directory. Edit the `setenv.sh` file to include the example `CATALINA_OPTS` line below. The `setenv.sh` file will be initialized by the Tomcat `catalina.sh` file automatically to set the CorticonServerWork directory.

---

a. Edit the file: `=/opt/tomcat/bin/startup.sh` , and then add the lines:

```
Environment=JAVA_HOME=/usr/lib/jvm/java-17-openjdk-amd64
Environment=CATALINA_PID=/opt/tomcat/temp/tomcat.pid
Environment=CATALINA_HOME=/opt/tomcat
Environment=CATALINA_BASE=/opt/tomcat

ExecStart=/opt/tomcat/bin/startup.sh
ExecStop=/opt/tomcat/bin/shutdown.sh
```

b. Create the work directory:

```
> sudo mkdir /usr/local/Progress/Corticon_Server_Work_7.1
```

Create the `setenv.sh` file:

```
> cd /opt/tomcat/bin
> sudo nano setenv.sh
```

c. Add the export Tomcat and Java options to `setenv.sh`:

```
export CATALINA_OPTS="$CATALINA_OPTS
        -Dfile.encoding=UTF-8
        -DCORTICON_WORK_DIR=/usr/local/Progress/Corticon_Server_Work_7.1
        -DCORTICON_SETTING=SER

-CORTICON_LICENSE=/usr/local/Progress/Corticon_Server_Work_7.1/license/Server/CcLicense.jar

        -DCORTICON_SETTING=SER"
export JAVA_OPTS="-Xms1g -Xmx2g"
```

d. Modify the execution permissions for this file to Tomcat user group:

```
> chown :tomcat ./setenv.sh
> chmod g+x ./setenv.sh
```

e. Install the license:

```
> cd /usr/local/Progress/Corticon_Server_Work_7.1
> sudo mkdir license
> cd license
> sudo mkdir Server
> sudo chmod 644 /usr/local/Progress/Corticon_Server_Work_7.1/license/Server
> sudo cp /tmp/CorticonInstall/CcLicense.jar
/usr/local/Progress/Corticon_Server_Work_7.1/license/Server
```

f. Install the .war files into Tomcat:

```
> sudo cp /usr/local/Progress/Corticon_7.1/Server/Deploy/Tomcat/9/axis.war
/opt/tomcat/webapps/
> sudo cp /usr/local/Progress/Corticon_7.1/WebConsole/Deploy/Tomcat/9/corticon.war
/opt/tomcat/webapps/
```

4. **For Web Console installations:**

a. Edit the file:

```
/usr/local/Progress/Corticon_7.1/WebConsole/etc/logback.xml
```

and then set WORK_DIR_LOGS to the folder to write log files:

```
<property name="WORK_DIR_LOGS" value=/usr/local/Progress/Corticon_Server_Work_7.1/logs
```

b. Copy the etc folder (which contains the files logback.xml and CorticonServerConsoleConfig.groovy):

```
> sudo cp -r /usr/local/Progress/Corticon_7.1/WebConsole/etc
/usr/local/Progress/Corticon_Server_7.1/etc
```

Start Tomcat: Reload systemd and start Tomcat:

```
> sudo systemctl daemon-reload
> sudo systemctl start tomcat
> sudo systemctl enable tomcat
```

To confirm that Corticon server is running, in Linux enter:

```
> curl http://<Server IP>:8850/axis/corticon/server/ping
```

To confirm that the Web Console is running, in your web browser enter:

```
> http://<Server IP>:8850/corticon
```

Configure the app server installation

Several tunings can improve your installation. Restart the app server after you make any changes.

- **Date and time**-Check your Linux Server's date/time settings, especially in Cloud implementations. Your local time should be properly recorded in the Web Console statistics and Corticon Server log files.
- **Encryption**-Use HTTPS and then see the topics under Secured deployment on Java web services

- **Swagger**-Access the Swagger web interface to see the documentation of all Corticon Server public API's. See *the Server guide topic "The REST API Swagger documentation"*. Follow the steps to enable Swagger, and then restart the Tomcat service.
- **Tomcat Port:** Edit the file:

  ```
  > cd /opt/tomcat/conf/
  > sudo nano server.xml
  ```

  and then set the preferred ports (the port settings here reflect those previously used by Corticon):

  ```
  <Connector port="8850"
     protocol="HTTP/1.1"
     connectionTimeout="20000"
     redirectPort="8851"
     maxParameterCount="1000"/>
  <Server port="8852" shutdown="SHUTDOWN">
  ```

- **BRMS Properties:**—The `brms.properties` file is installed by default at `C:\Progress\Corticon_Server_Work_7.1` with several commented-out options to help you tune the behavior of a Corticon deployment. For additional properties, see *"Server Properties and Settings"" in the Server guide.* If you are upgrading from a previous version of Corticon, you should assess the differences between the prior file and the installed one, and then either reuse the prior file or update the installed file. To copy it to the Corticon Server Work directory:

  ```
  > sudo cp /usr/local/Progress/Corticon_7.1/Server/brms.properties
       /usr/local/Progress/Corticon_7.1/Corticon_Server_Work_7.1/brms.properties
  ```

  Any changes to the `brms.properties` file are not implemented until you restart the Tomcat service.

- **Tomcat as a service** - Create a `systemd` service file to run Tomcat as a service. This ensures that if your Linux machine is rebooted, Tomcat and Corticon will auto-start:

  ```
  > sudo nano /etc/systemd/system/tomcat.service
  ```

  Add content to the Tomcat service definition:

  ```
  [Unit]
  Description=Tomcat Corticon Server 7.1
  After=network.target

  [Service]
  Type=forking
  Environment=JAVA_HOME=/usr/lib/jvm/java-17-openjdk-amd64
  Environment=CATALINA_PID=/opt/tomcat/temp/tomcat.pid
  Environment=CATALINA_HOME=/opt/tomcat Environment=CATALINA_BASE=/opt/tomcat

  ExecStart=/opt/tomcat/bin/startup.sh
  ExecStop=/opt/tomcat/bin/shutdown.sh

  User=tomcat
  Group=tomcat
  UMask=0007
  RestartSec=10
  Restart=always

  [Install]
  WantedBy=multi-user.target
  ```

Performing silent installations

An unattended (silent) install requires that you first run an installation or updater in the installer wizard to capture the selected options, and then use the captured response file on other targets to 'playback' the responses into the installer without any user interaction.

To perform silent installations of Corticon Studio:

1. Run the Studio installer with your preferred locations and options to capture a response file, using the syntax *installer*.exe **-r** *file* where *installer* is the preferred Studio installer, and *file* is the response file you will reuse. For example, PROGRESS_CORTICON_7.x_STUDIO_WIN_64.exe -r C:\CorticonStudio64_7x.responses
2. On other target machines, access the Studio 7.x installer executable and the response file.
3. On those machines, run the installer using the syntax *installer*.exe **-i silent -f** *file* where *installer* is the Studio installer, and *file* is your response file. For example, PROGRESS_CORTICON_7.x_STUDIO_WIN_64.exe -i silent -f C:\CorticonStudio64_7x.responses.

An unattended (silent) install requires that you first run an installation in the installer wizard (Windows or Linux) to capture the selected components and options, and then use the captured response file on targets on the same platform to 'playback' the responses into the installer without any user interaction.

Silent installations or updates for runtime components on Windows:

1. Run the runtime component installer with your preferred locations and options to capture a response file, using the syntax *installer*.exe **-r** *file* where *installer* is the preferred installer, and *file* is the response file you will reuse. For example:

   ```
   PROGRESS_CORTICON_7.x_SERVER_WIN_64.exe -r C:\CorticonServer_7x_WIN.responses
   ```

2. Then, on other target Windows machines, access the Server 7.x installer executable and the response file.
3. Run the installer using the syntax *installer*.exe **-i silent -f** *file* where *installer* is the Server installer, and *file* is your response file. For example:

   ```
   PROGRESS_CORTICON_7.x_SERVER_WIN_64.exe -i silent -f
   C:\CorticonServer_7x_WIN.responses
   ```

Silent installations or updates for runtime components on Linux:

1. Run the runtime component's Linux installer with your preferred locations and options to capture a response file, using the syntax *installer*.bin **-r** *file* where *installer* is the preferred Server installer, and *file* is the response file you will reuse. For example:

   ```
   PROGRESS_CORTICON_7.x_SERVER_LNX_64.bin -r
   /usr/corticon/CorticonServer_7x_LNX.responses
   ```

2. Then, on other target Linux machines, access the Server 7.x installer binary and the response file.
3. Run the installer using the syntax *installer*.bin **-i silent -f** *file* where *installer* is the Server installer, and *file* is your response file. For example:

   ```
   PROGRESS_CORTICON_7.x_SERVER_LNX_64.bin -i silent -f
   /usr/corticon/CorticonServer_7x_LNX.responses
   ```

4

Uninstalling Studio and runtime components

You can remove distinct subsets of `C:\Progress\Corticon 7.1\` by running the individual uninstallers. To remove them all, proceed through each component's uninstaller.

Note: Uninstalling Corticon Studio or runtime components removes a complete major.minor version of those products, including any service packs or hotfixes applied. It is not possible then to uninstall just a service pack or hotfix.

Uninstalling Corticon Studio

To remove a version of Corticon Studio, do the following:

1. Close Corticon Studio.
2. Choose the **Start** menu **Control Panel** function **Programs and Features**, and then double-click on **Progress Corticon Studio x.x** to launch its uninstaller.

The installed files in the Studio's `[CORTICON_HOME]` are removed. Files you created (including the complete workspace) are NOT removed or replaced during this process.

If the Uninstaller program is unable to fully remove components (usually because they are open), it will display messages, and might require a reboot to complete the process.

Uninstalling runtime components

The runtime components -- Corticon Server for Java, Corticon Server for .NET, Corticon Web Console, and Corticon Utilities use the common installation directory, yet you can choose to uninstall just selected components.

To uninstall deployment components on Windows:

1. Stop the components on the machine.
2. Backup any files you want to retain.
3. Choose the **Start** menu **Control Panel** function **Programs and Features**, and then double-click on the Progress Corticon 7.x component you want uninstall to launch its uninstaller.

Note: You could initiate the same task directly by navigating to the component's uninstall folder, and then run the uninstall executable.

To uninstall Corticon Server on Linux:

1. Stop the components on the machine.
2. Backup any files you want to retain.
3. In a command shell, navigate to `[CORTICON_HOME]\Uninstall Progress Corticon <component> 7.x`, and then run the component's uninstall `bin`.

Note: Files you created are NOT removed or replaced during this process. No server files in the `[CORTICON_WORK_DIR]` are removed.
