



Tungsten TotalAgility Prerequisites Utility Guide

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TUNGSTEN
AUTOMATION

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Preface

Tungsten TotalAgility requires certain software to be installed on your system before proceeding with the installation. You can run the Prerequisite utility for the different types of installation before installing TotalAgility to ensure all required software is installed on your computer.

This guide provides the following important information.

- System requirements for installing Tungsten TotalAgility
- Database management requirements
- Instructions for running the Prerequisite utility
- Software checklist for various installation types

Read this guide completely before installing the software.

TotalAgility documentation

Access the full documentation set online, from the [Tungsten TotalAgility Documentation page](#).

You can also access the TotalAgility documentation in offline mode by downloading it from the [Tungsten Automation Fulfillment Site](#) for each language separately.

For a full documentation set, and how to access the documentation in offline mode, refer to the *Tungsten TotalAgility 8.1.0 Release Notes*.


Training

Tungsten Automation offers both on-demand and instructor-led training to help you make the most of your product. To learn more about training courses and schedules, visit the [Tungsten Automation Learning Cloud](#).

Getting help with Tungsten Automation products

The [Tungsten Automation Knowledge Portal](#) repository contains articles that are updated on a regular basis to keep you informed about Tungsten Automation products. We encourage you to use the Knowledge Portal to obtain answers to your product questions.

To access the Tungsten Automation Knowledge Portal, go to <https://knowledge.tungstenautomation.com/>.

 The Tungsten Automation Knowledge Portal is optimized for use with Google Chrome, Mozilla Firefox, or Microsoft Edge.

The Tungsten Automation Knowledge Portal provides:

- Powerful search capabilities to help you quickly locate the information you need.
Type your search terms or phrase into the **Search** box, and then click the search icon.
- Product information, configuration details and documentation, including release news.
To locate articles, go to the Knowledge Portal home page and select the applicable Solution Family for your product, or click the View All Products button.

From the Knowledge Portal home page, you can:

- Access the Tungsten Automation Community (for all customers).
On the Resources menu, click the **Community** link.
- Access the Tungsten Automation Customer Portal (for eligible customers).
Go to the [Support Portal Information](#) page and click **Log in to the Customer Portal**.
- Access the Tungsten Automation Partner Portal (for eligible partners).
Go to the [Support Portal Information](#) page and click **Log in to the Partner Portal**.
- Access Tungsten Automation support commitments, lifecycle policies, electronic fulfillment details, and self-service tools.
Go to the [Support Details](#) page and select the appropriate article.

Chapter 1

Prerequisites

The primary source of information about supported operating systems and other Tungsten TotalAgility requirements is the Technical Specifications document, which is available on the [TotalAgility Documentation page](#). This chapter provides additional details about Tungsten TotalAgility hardware and system requirements.

TotalAgility

This section provides information about TotalAgility system requirements for the server where both the Web Server and Application Server exist.

You must install the Web Server and Application Server with the same user account.

TotalAgility is supported in virtual machine environments, such as the Hyper-V role in Windows Server 2008 R2. Each virtual machine (child partition) must have sufficient processor resources, memory, and disk resources for its TotalAgility instance.

The SQL and TotalAgility servers must run in the same time zone; otherwise, unexpected issues such as activities resetting incorrectly, may occur.

Supported operating systems

See [Technical Specifications](#) on the [TotalAgility Documentation page](#).

Minimum hardware requirements

Component	Requirement
Processor Type	x64 Processor: AMD Opteron, AMD Athlon 64, Intel Xeon with Intel EM64T support, Intel Pentium IV with EM64T support
Processor Speed	x64 Processor: 2.6 GHz or faster
Disk Space	4 GB of available hard disk space Disk space requirements may vary with the TotalAgility components you install.
Memory	8 GB
Database	100 MB
DVD Drive	Required if installing from a disk.

Software checklist

The system performs the following software check when you run the Pre-requisite Utility before installing TotalAgility to ensure all required software is installed on your computer.

Web Server and Real Time Transformation Service

- Windows Operating System (Windows Server 2022 & above)
- Log on as a service
- IIS (ASP.NET, Windows Authentication, Static Content)
- WCF HTTP Activation

Application Server

- Windows Operating System (Windows Server 2022 & above)
- Log on as a service
- IIS (ASP.NET, Windows Authentication, Static Content)
- WCF HTTP Activation
- Database Creation Permissions

See [Appendix A](#) for more information.

Web Application Server

For the Web Application Server software checks, see [Application Server](#).

Permissions and privileges

TotalAgility requires the following permissions and privileges.

Database permissions

The permissions required to connect to the databases during installation depend on different scenarios:

- **If the databases are created new:** The dbo schema is the default schema and by default, TotalAgility uses the default SQL server dbo schema. The account used to connect to the databases during the installation must have the rights to create the databases (dbcreator).
- **If selecting to overwrite the databases when the databases are not yet created:** The account must be the dbcreator role.
- **If selecting to overwrite the databases when the databases are already created:** The account must have the rights to maintain/overwrite databases (dbowners).

The runtime privileges needed by the service account used to connect to TotalAgility databases depend on the following:

- If Windows Authentication is used to connect to TotalAgility databases, then the service account requires db_datareader, db_datawriter, and execute permissions on the databases. The user who

runs installer is the owner of the databases (db_owner) after installation if new databases are created.

- If SQL Authentication is used to connect to TotalAgility databases, the SQL user requires db_datareader, db_datawriter, and execute permissions on the databases. The service account does not require any permissions on the databases. The SQL user is the owner of the databases (db_owner) after installation if new databases are created.

On installing TotalAgility on-premise multi-tenancy:

- If Windows Authentication is used for database access in on-premise multi-tenancy, the Tenant Management System database account, that is, the Windows account user requires the following privileges:
 - **db_datareader**
 - **db_datawriter**
 - **Execute permission**
- If Windows Authentication is not used for database access, the account used by the Tenant Management System website must have the following two database accounts when adding tenants:
 - **Database Creator:** This account must have the right to create a tenant database.
 - **Login Creator:** This account must have the right to create logins for tenants.

See the *Tenant Management System Help* for more information. For a list of supported databases, see the Technical Specifications document, which is available on the Tungsten Automation website at www.tungstenautomation.com.

Permissions needed for Amazon S3 configuration

The user who runs the TotalAgility installer requires the following permissions on the bucket for the Amazon S3 Capture data storage service:

- s3:ListAllMyBuckets
- Bucket owner

Privileges to run TotalAgility components

The privileges required for running various TotalAgility components are based upon the "Principle of Least Privilege".

The installation privileges are different than those required to run TotalAgility. Installing TotalAgility requires administrator privileges.

All the Service accounts require certain privileges.

- Local Policies Permissions
 1. Log on as Administrator and open a Command Prompt window.
 2. Run the following command: **secpol.msc**
 3. Under **Security Settings**, navigate to **Local Policies**, click **User Rights Assignment**, and ensure the account has the following permissions:
 - Allow logon locally
 - Log on as a service


- Bypass traverse checking
- You must have read and write permissions on the ProgramData folder, and enumerate the network user accounts against a domain. When the AppPool user changes, permissions to the ProgramData folder must be granted manually.
- When a split Web Application server is deployed, and Kerberos is being used, enable the computer and the user account used by IIS to be trusted for delegation.
- The account under which the Transformation Server service runs must have specific [access permissions](#).
- The Service account under which the Streaming service runs must have permission to register a URL and reserve a namespace for it. If it is a non-admin account, the local machine administrator needs to do these for the service account. See the *TotalAgility Installation Guide*.
- The license service can be run under a non-admin account. The non-admin account should have permission to open a WCF listener. If it is running under a non-admin account on a non-standard port, you should reserve a namespace for it. To do so, on the Command Prompt, run the following command using an account that has administrator rights on the local machine:


```
netsh http add urlacl url=http://+:3581/SAL user=%domainuser%
netsh http add urlacl url=http://+:3581/SALMetadata user=%domainuser%"
```
- When you run the Import Connector with a non-admin account, the following permissions are required:
 - Registry Permissions: Read permissions on HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Kofax\KIC-ED\MC
 - Folder Permissions: Full control on the following folders: ProgramData\Kofax\KIC-ED\MC, Installation Folder, Temp Folder

Permissions for Active Directory Synchronization

The account used to execute the active directory synchronization (configured as a server variable) requires the following permissions:

- Read MemberOf
- List Contents
- Read E-mail-Addresses
- Read userPrincipalName
- Read department
- Read cName
- Read DeletedObjectsContainer

 if "Referrals" are needed, the account must have permission to interrogate the same attributes across forests.

Additionally:

- The account does not need to be a Domain Admin.
- The account does not create anything in Active Directory; it is read-only.

Transformation Server

This section provides information about system requirements for installing the Transformation Server.

Supported operating systems

See the Technical Specifications available on the [Tungsten TotalAgility Documentation](#) page.

i Transformation Server installs some runtime prerequisites. The Prerequisite utility checks for the software which Transformation Server does not install.

Minimum hardware requirements

Component	Requirement
Processor Type	x64 Processor: AMD Opteron, AMD Athlon 64, Intel Xeon with Intel EM64T support, Intel Pentium IV with EM64T support
Memory	See Memory requirements for the Transformation Server .
Database	Not required

Software checklist

- Windows Operating System (Windows Server 2022 & above)
- Log on as a service
- DigiCert Assured ID Root CA certificate

i For a Transformation Server, .NET Framework is automatically installed if the Transformation Server is installed where you installed TotalAgility. If you install Transformation Server or Transformation Designer independent of TotalAgility, make sure the supported version of .NET Framework is already installed on that machine.

Privileges

You must have administrator privileges to run the Transformation Server on-premise multi-tenancy on all Windows (Server) operating systems.

Runtime prerequisites

Runtime Transformation Server requires the following prerequisites:

- Microsoft .NET Framework 4.8
- Visual Studio vc++ redistributables**
 - vcredist_2019_x86
 - vcredist_2019_x64


**Automatically installed if currently not available on the machine.

Non-admin access permissions

Transformation Server can be run in an On-Premise environment.

Set up a user account (such as TS_User) for Transformation Server and make sure it has the following non-admin privileges:

- It is a part of Windows Group: Users.
- It has the Local Security Policy rights: Log on as Service.
- It has full access to the log file folder configured for logging. (By default, it is the installation folder)
- It has full access to the following folders:
 - C:\ProgramData\Tungsten
 - C:\Program Files (x86)\Common Files\Tungsten\Server

 This folder contains "Tungsten.CEBPM.CPUServer.ServiceHost.exe.config."

- It has the following rights to the database:
 - db_reader
 - db_writer
 - Execute permission

Memory requirements for the Transformation Server

The computer running Transformation Server must have sufficient memory to keep multiple extraction and classification groups cached in memory. Transformation Server maximizes memory utilization and uses any free memory to run and cache additional extraction processes.

In addition to the memory requirements for the operating system, memory is required for the Transformation Server based on the size of the extraction and classification groups and the number of available slots. You can calculate the minimum amount of memory needed for Transformation Server as follows.

1. Determine the number of slots available

During installation, Transformation Server can calculate the number of slots automatically using the following formula:

Number of processor cores * 1.25

A quad-core processor has five slots.

You can also specify the number of slots during installation.

2. Calculate the minimum amount of memory

Use the following formula:

200 MB + (average extraction process size * number of slots)

The extraction process size is the amount of memory needed for a single extraction process and depends on the complexity of classification and extraction groups. Typically, these are

150–200 MB, but can be as large as 500 MB. To find out the exact sizes, examine the processes in Windows Task Manager and look for the instances of ExtractionProcess.exe.


For example, if you are processing large extraction and classification groups and have five slots of available, the minimum amount of memory will be:

$200 \text{ MB} + (250 \text{ MB} * 5) = 1450 \text{ MB}$ or 1.42 GB

These are minimum requirements. Additional memory can improve system performance.

Tungsten Reporting Server

The Tungsten Reporting Server provides centralized storage of historical operational metrics and audit data. The Tungsten Reporting Server includes components such as the ETL Agent and databases.

 Due to high process utilization by Transformation Server (99%), Reporting Server is known to produce a "SQL Timeout error" when installed on the same machine as Transformation Server. Therefore, you must install Reporting Server separately from Transformation Server.

Software checklist

- Windows Operating System (Windows Server 2022 and higher)
- Log on as a service

See [Appendix A](#) for more information.

Permissions and privileges

- The user who will run the Reporting Server must have "Log on as Service" rights. The user need not have the administrative rights.
- The user must have read and write permissions on the ProgramData folder and enumerate the network user accounts against a domain. When the AppPool user changes, permissions to the ProgramData folder must be granted manually.
- The user who is running the Reporting Server is used for all communication channels where Windows authentication is used. For example, if Windows authentication is being used for SQL Server, this user must have rights on this server; otherwise, Reporting Server will not work.

Integration Server

The section provides information about the Integration Server system requirements for the server where both the Web Server and Application Server reside.

i Each virtual machine (child partition) must have sufficient processor, memory, and disk resources for its Integration Server instance.

Each virtual machine (child partition) must have sufficient processor, memory, and disk resources for its Integration Server instance.

Supported operating systems

For updated information about supported operating systems and other system requirements for TotalAgility, see the Technical Specifications document available on the Tungsten Automation website at www.tungstenautomation.com.

Minimum hardware requirements

Component	Requirement
Processor Type	x64 Processor: AMD Opteron, AMD Athlon 64, Intel Xeon with Intel EM64T support, Intel Pentium IV with EM64T support
Processor Speed	x64 Processor: 2.6 GHz or faster
Hard Disk	Minimum: 4 GB of available hard disk space Disk space requirements will vary with the Integration Server components you install.
Memory	Minimum: 8 GB
DVD Drive	Required if installing from a disk.

Software checklist

- Windows Operating System (Windows Server 2022 & above)
- Log on as a service
- IIS (ASP.NET, Windows Authentication, Static Content)
- WCF HTTP Activation

See [Appendix A](#) for more information.

Tungsten License Server

This section provides information about the Tungsten License Server.

Software checklist

To install the Tungsten License Server successfully for use with TotalAgility, verify that the following prerequisites are met:

- The "Log on as a service" right must be assigned to the user running the Windows service.
- The Visual Studio C++ 2019 Redistributable x86 runtime must be installed.

- If the License Server is installed separately from TotalAgility, the installation should be performed by a user with elevated privileges.

See [Appendix A](#) for more information.

Tungsten Message Connector

This section provides information about the system requirements for installing and operating a Message Connector.

Component	Requirement
Disk Usage	<ul style="list-style-type: none"> • 2000 MB approximately for the application. • Additional space for temporary storage of transferred documents. (Maximum storage size supported = 250000 MB).
Supported Third-Party Fax Servers	<p>Message Connector can connect and import messages from the following third-party fax servers:</p> <ul style="list-style-type: none"> • RightFax • Biscom • Tungsten Communication Server <p>For information about supported versions, refer to <i>TotalAgility Technical Specifications</i>.</p>
Attachment Encoding	<p>Message Connector supports attachments with the following Content-Transfer-Encoding types:</p> <ul style="list-style-type: none"> • Base64 • Quoted-Printable • Uuencode/x-uuencode <p>TotalAgility does not support Xxencode encoding.</p>
Required Third-Party Technology	Microsoft .NET Framework 4.8

Chapter 2

Run the Prerequisite Utility

To run the Prerequisite Utility, the user must have administrator rights.

1. Navigate to `TotalAgility\Utilities\Pre-requisite Utility` in the installation files, right-click **Agility.Installation.Server.Prerequisites**, and select **Run as administrator**.
The **TotalAgility Prerequisite Check** window appears.

2. Click **Next**.


The **Type of Installation** window appears. You can run the prerequisite checks for the following installation types: Database Only, Web Server / Real Time Transformation Service, Application Server, Web / Application Server, Application Server On-Premise Multi-Tenancy, Web / Application Server On-Premise Multi-Tenancy, License Server, Integration Server, Reporting Server, and Transformation Server.

3. Select the installation type on which the prerequisite check needs to be detected, such as Web/ Application Server, and click **Next**.

The **Credentials** window appears.

4. Enter the credentials for the user who will run TotalAgility and click **Next**.

The **Database** window appears.

 If the user does not have "Log on as Service" rights, a warning appears.

5. Select either option to create the databases:

- **Automatically by the Installation Program:** Select this option to allow the installation program to automatically create databases. Then select the database server mode.

SQL Server NonSSL	<ol style="list-style-type: none">a. In the Database Server box, enter a name for the database server.b. Under Security, select either option:<ul style="list-style-type: none">• Windows Authentication• SQL Server Authentication and provide the username and password.
SQL Azure	<ol style="list-style-type: none">a. In the Database Server box, enter a name for the database server.b. Under Security, select SQL Server Authentication and provide the username and password.

- **Manually:** Select this option to manually create databases.

6. Click **Next**.

The "Software checks" window for the selected installation type appears. The system displays a list of required software and indicates whether the software is installed.

7. Review the Detected Software list.

- If your system does not have all the required software, the software check is completed with errors that are logged to PrerequisiteUtilityErrorLog.txt, which is created automatically. Resolve the errors and rerun the utility until the results are error-free.
- If your system has all the required software, click **Finish**.

Additional details

This section provides additional checks for various installation types, including prerequisites for the integration components.

HTTP activation for WCF services

- Ensure IIS is installed on the computer.
- Ensure that the .NET Framework is registered with IIS.
- Ensure that the Authentications are enabled in IIS (both Windows and Anonymous should be enabled).

Configure WCF activation in Windows Server 2022.

1. Click **Server Manager** on the taskbar.
The Server Manager Dashboard page appears.
2. Click the **Add roles and features** link.
The **Add Roles and Features** wizard screen appears.
3. Click **Next**.
4. Select the installation type as **Role-based or feature based installation** or **Remote Desktop Services installation** and click **Next**.
5. Select a server or virtual hard disk on which to install roles and features and click **Next**.
6. On the **Server Roles** tab, expand **Web Server (IIS)** and do the following:
 - a. Expand the **Web Server > Application Development** and select **ASP.NET 4.8**.
 - b. Expand **Management Tools** and select **IIS Management Console**.
7. Click **Next**. Ensure that on the **Feature** tab, **.NET Framework 4.8 Features** is selected and under **WCF Services**, **HTTP Activation** is selected. You can add other types of WCF Services, such as TCP Activation, and Named Pipe Activation, if required.
8. Click **Next**.
9. On the **Confirmation** tab, click **Install**.

Internet

If using a shared or remote license server, you need a connection to the Internet to get the product code and serial number.

Internet browser

Refer to [Technical Specifications](#) for the supported browsers.

Internet Information Services (IIS)

IIS v10 or later is required.

- Add the Web server role with ASP.NET and Windows Authentication in Server Manager.
- To activate Windows Communication Foundation (WCF), install ASP.NET 4.8 and .NET WCF 4.8 along with IIS.
- If .NET Framework is installed before you install the IIS, you must register the .NET Framework with IIS. In the Command Prompt window, run `aspnet_regiis -i` located at `C:\Windows\Microsoft.NET\Framework64\v4.0.30319`.
If IIS is already installed, the .NET Framework registers itself with the IIS during installation.
- Use IIS Dynamics IP Restrictions for Denial of Service attacks.
- Install URL Rewrite and write the rules to prevent access to sensitive files.

 URL Rewrite is not required for the Integration Server.

- Make sure the default website HTTP binding (default: Port 80) is available before the TotalAgility installation.

IIS components activation in Windows Server 2022 and higher

1. Click **Server Manager** on the task bar.
The Server Manager Dashboard page appears.
2. Click the **Add roles and features** link.
The Add Roles and Features Wizard screen appears.
3. Click **Next**.
4. Select the installation type as **Role-based or feature based installation** or **Remote Desktop Services installation** and click **Next**.
5. Select a server or virtual hard disk on which to install roles and features and click **Next**.
6. On the **Server Roles** tab, expand **Web Server (IIS)** and do the following:
 - a. Expand the **Web Server> Common HTTP Features** and select **Static Content**.

- b. Expand the **Web Server Security** and select **Windows Authentication**.
- c. Expand **Web Server > Application Development** and select **ASP.NET 4.8**.
7. Click **Next**. Ensure that in the **Feature** tab, **.NET Framework 4.8 Features** is selected and under **WCF Services, HTTP Activation** is selected.
8. Click **Next**.
9. On the **Confirmation** tab, click **Install**.

Network protocol

TCP/IP is the supported network protocol.

Integration components

This section includes prerequisites for the integration components.


TCM Proxy

Before installing the TCM Proxy, install URL Rewrite on the Web server in either of the following ways:

- Download from the Microsoft website.
- Use the Web Platform Installer (Web PI). If using a Web PI, either install it manually or run the following command from a Command Prompt window:


```
C:\<install location>\Web Platform Installer\WebPICmd"install\accepteula
\Products:ARRv3_0
```

When using the TCM (Tungsten Communications Manager) Interactive form control, browsers prevent cross-domain HTTP requests to the TCM server made from a form hosted on the TotalAgility server. The TCM Proxy allows cross-domain communication and uses the TCM control to generate documents.

 To use TCM functionality, you must run the installer on every Web server that is in use. Ensure that the Microsoft plug-in, Web Platform Installer, is installed before you add the TCM Proxy Web server.

Data Access

TotalAgility supports the Oracle ODAC Driver which is an OLEDB provider. The driver depends on the SQL server. If it is a 64-bit server, then you must use the 64-bit version of the driver; otherwise, use the 32-bit version. TotalAgility supports both versions depending on the platform version.

 You can still download and install Oracle 32-bit drivers.

OpenText Content Manager

Prerequisites for OpenText Content Manager include:

- IIS
- .NET Framework
- TotalAgility (optional)