



Worksoft Certify Installation Guide

Worksoft Certify Installation Guide

Version 12

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Patent

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Overview

This guide contains information on how to install and configure Worksoft Certify from start to finish. Before you begin to install the product, review the system requirements and installation prerequisites. Go to Worksoft Help Portal to see the system requirements. You will install and configure Certify Enterprise in the following order:



Worksoft Certify Enterprise Package

The Worksoft Certify Enterprise package consists of the following components:

Component	Description
Worksoft Certify Site Prep.zip	This zip file contains the following:
	 Database Scripts directory- Contains the utility and scripts that you will use to create and update your Certify database. <i>Worksoft Certify Installation Guide</i>
CertifySetup.exe	Executable that installs Worksoft Certify client.
CertifySetup.msi	If you are logging in as a local administrator on the machine, you are able to install Worksoft Certify client with this file.
CertifyBaseSetup.exe	Executable that upgrades only the Certify base. It will not upgrade and install any interfaces.
InterfaceVersions.txt	Document that lists the interface versions within the package.
Certify Services directory	Contains the CertifyServices.exe executable that installs Worksoft Certify API so that you will be able to utilize Worksoft Certify for Automator's mode and Certify Results API.
Documents directory	Contains a link to the Worksoft Certify Installation Guide.

Worksoft Certify Deployment

The diagram below illustrates Worksoft Certify deployment.



Worksoft Certify Services

Worksoft Certify Services consists of the following features:

- Worksoft Certify for Automators
 - Worksoft Certify for Automators works on a service layer that accelerates processes for remote users.
- Worksoft Certify Results API

Worksoft Certify Results API allows you to view Certify results and generate reports without having Worksoft Certify installed.

To use these features, you will need to install Worksoft Certify Services on an application server. For more information, see Chapter 9 "Preparing Your System for Worksoft Certify Services".

Preparing Your System

Before installing and configuring Worksoft Certify, perform the following tasks in the order listed below:

- 1. Verify that the recommended system requirements are met on each computer where the Certify client will run. The Certify product has both minimum and recommended system requirements for the Worksoft Certify client, database server, and license server. Go to the Worksoft Help Portal to view the system requirements.
- 2. Obtain a license file from the Worksoft Customer Support. For information on how to install your license file, see the Setting Up Your Licensing section.
- 3. Set up a database server. For more information, see "Creating a Certify Database" on page 11.
- 4. Install all required third-party interface applications on Worksoft Certify clients. Go to Worksoft Help Portal to see the system requirements.
- 5. If you decide to distribute the Certify client on individual desktops, select a method for distributing the Worksoft Certify installation files to your users. For more information, see Chapter Chapter 4, "Distributing Installation Files," on page 28.
- 6. If you are working with the SAP interface, see Chapter 2 "Configuring Your SAP Environment"

If you plan to use Worksoft Certify Services, see Chapter 9 "Preparing Your System for Worksoft Certify Services" Additional system requirements are needed. For more information, see the Worksoft Help Portal.

If you are using Certify with a Citrix XenApp® system, see Chapter Chapter 6, "Installing Worksoft Certify Client into a Citrix Environment," on page 34, and the Worksoft Help Portal for system requirements information.

If you are using Certify with a Windows® Terminal Server, see Chapter Chapter 7, "Installing Worksoft Certify Client in a Windows Terminal Server Environment," on page 41, and the Worksoft Help Portal for system requirements information.

Setting Up Your Licensing

With Worksoft Certify v12 and later releases, you will use **Worksoft Portal** or **Worksoft Management Studio** for licensing. Worksoft Portal is replacing Management Studio as the administration tool for Worksoft products that manages licenses, users, and database settings.

If you are a new customer, Worksoft Customer Support will provide you with Worksoft licenses.

Go to the Worksoft Help Portal at docs.worksoft.com for Worksoft Portal information about the following:

- System requirements
- Installation and configuration
- Uploading license files

If you are using Worksoft Execution Suite or on-premise Worksoft Analyze, you already have Management Studio installed. You can register your licenses with that Management Studio instance.

Installing a Temporary Standalone License Key

A license key is needed to activate Worksoft Certify. Before you are able to acquire a permanent license key, you may be given a temporary standalone license key. This temporary key allows you to run Worksoft Certify without a centralized license server. You will need to install this license on each Certify client until you receive your permanent license key.

If you do not have a license server, the license file **WorksoftLic.xml** must be installed in the following directory:

C:\Program Files (x86)\Worksoft\Certify\Client

To install a temporary standalone license key:

1 On the Certify Client, copy and paste the license key file provided by Worksoft to the following directory:

C:\Program Files (x86)\Worksoft\Certify\Client

- 2 When you configure Worksoft Certify, select the **No License Server** option in the License section. For more information, see "Configuring Worksoft Certify Client" on page 24.
- **3** Click **Save** to save the configuration file.

Preparing the Database

Overview

To use Certify, you will need to create, connect to, and configure a SQL Server database. Use the information below to help guide you through the process of creating the Certify database.

Before you begin, determine the following:

- What type of database are you using?
- Who is going to create the database?
- Does the database need to be set up and configured?
- Where will the database reside? Is it on a local computer or a remote server?
- What is the database name?
- How do you connect to the database?

If your company is required to maintain results for an extended period, you need to create a second database for archiving results. The recommended name for this archive database is **CertifyArchive**. Your company's database administrator will need to assist you with creation of both the Certify and CertifyArchive databases. Your CertifyArchive database must have the same permissions and the same user access as your Certify database.

Creating a Certify Database

Use the Certify Configuration tool to specify the type of database you are using with Certify and how to connect to that database. The Configuration tool requests the following database information:

- Location of the database (e.g., server or computer name)
- Name of the database
- User ID for accessing the database server
- Password for accessing the database server

A configuration file, which contains the specifics on how to connect to the database, is created by the Certify Configuration tool for distribution with each Certify client.

Before creating the Certify database, Microsoft SQL Server should be installed on the computer or server where the database will reside. Read the system requirements in the Worksoft Help Portal to verify that you have a supported version of SQL Server. The SQL Server software is not provided with Certify. Download the software from Microsoft's web site.

- **To create a Certify database with the SQL Server Management Studio:**
- **1** Install and set up SQL Server on the computer or server by using the documentation provided by Microsoft.
- Launch SQL Server Management Studio from Start > All Programs > Microsoft SQL Server.
 The SQL Server Login dialog box appears.
- **3** Connect to the server where the database you are creating for Certify will reside.
- 4 Right-click **Databases** and select **New Database**.

The New Database dialog box appears.

- **5** Type a name for the Certify database in the Name field.
- **6** Leave the owner for the database as (**Default**).



Note: If you are not allowed to use "sa" as the User ID and the default password, then a new Certify user ID and password must be created. We recommend "CertifyUser" as the user ID. This user ID and password must have full database owner rights to the database, including the right to create tables and views, read, update, and delete. Essentially, this user must have the same rights as the "sa" user ID while the database is initially being created. After the database is created, the new "CertifyUser" rights may be scaled back to database owner rights only.

7 Click OK.

The database is created.

8 Close the SQL Server Management Studio.

Populating Your Certify Database

After you have created your database, you will now need to populate your Certify database. If you purchased Worksoft's SAP MasterContent database, then you will populate your database through the SQL Server Management tool.

If you did not purchase the SAP MasterContent database, then you will use the **Apply.exe** utility and the database scripts that are located in the Database Scripts directory within the Worksoft Certify Site Prep.zip file. Your database administrator may want to review each of the scripts before populating the database. For more information, see Populating Your Database with the Apply.exe Tool.

Populating Your Database with the SAP MasterContent Database

If you are using Worksoft's SAP MasterContent database, then you will need to create your Certify database from the MasterContent backup database.

• To create a Certify database from the MasterContent backup database:

- Launch SQL Server Management Studio from Start > All Programs > Microsoft SQL Server.
 The SQL Server Login dialog box appears.
- 2 Connect to the server where the database you are creating for Certify will reside.
- 3 Right-click **Databases** and select **Restore Database**.

The Restore Database dialog box appears.

- 4 In the Destination for Restore section of the General page, type in the new database name.
- **5** In the Source for Restore section, select **MasterContent.bak**. Depending on the software version, the exact file name will vary. You may need to use the Browse button to select your database.
- 6 Click OK.

The database is created. If there are patches to be applied, refer to the Readme file included with the patch to upgrade your database.

Populating Your Database with the Apply.exe Tool

If you are creating a database on a remote server, SQL Server must be installed on that server.

- **To create a Certify database:**
- **1** Locate the Apply.exe utility within your Certify Enterprise distribution:

... \Worksoft Certify Site Prep\Site Prep\Database Scripts\CertifyDatabase

2 Double-click **Apply.exe**.

The Apply utility opens.

- **3** In the text fields, type in the following database connection information:
 - Database server name
 - Database name
- 4 If you will use the Windows authentication security option, select the option. Go to Step 6.
- **5** If you selected SQL database authentication, type the user name and password in the text fields to access the database server.
- 6 Click Start.

The Apply utility begins to create your new database.

If there are patches to be applied, refer to the Readme file included with the patch to upgrade your Certify database.

Transaction Log Settings

To ensure the transaction logs for the Certify database do not expand out of control causing you to experience performance issues, perform the following:

- Set your maintenance plans to back up the transaction logs periodically. The transaction log will grow when the database is in full or bulk-logged recovery models.
- Optionally, change the recovery model of the Certify database to Simple Recovery mode so that you are able to maintain your transaction log growth and have less maintenance. Databases that have a Full Recovery mode will have substantially larger transaction logs.

If your company's IT policy does not allow the database to run in Simple Recovery Mode and you need to use the Full Recovery mode, then you will need to verify that you have enough disk space for the log files on your database server. For small organizations, you need at least 20 GB of free space. For large global organizations, you will need at least 50 GB of free space.

Next Step

If you are working with the SAP interface, then you will need to configure your SAP environment before you begin to configure your Certify environment. See Chapter 2 "Configuring Your SAP Environment" for more information.

If you are not working with the SAP interface, then you are ready to install Worksoft Certify. For more information, see Chapter 3 "Installing and Configuring Worksoft Certify"

If you are upgrading your Certify system, see Chapter 5 "Upgrading Your Worksoft Certify Client Version"



Chapter 2 Configuring Your SAP Environment

In This Chapter

Overview	
Configuring the SAP GUI	
Enabling SAP GUI High Speed Connection	
Configuring the SAP Application Server	
Next Step	

Overview

In order for Worksoft Certify to work with your SAP environment, you will need to configure the following:

- SAP GUI
- SAP Application Server

This chapter shows you how to configure your environment.



Note: Before you begin configuring your environment, verify that your SAP environment does not have the SAP Signature theme selected. Worksoft Certify only supports the Enjoy and Classic themes.

Configuring the SAP GUI

The SAP GUI needs to be configured to support the script recording and playback feature of the Certify SAP Learn utility.

• To configure the SAP GUI to support script recording and playback:

- **1** Log on to SAP.
- 2 From the SAP GUI interface, click the **Customizing of Local Layout** button from the SAP toolbar.

The Settings menu appears.

3 Click Options.

The Options dialog box appears.

4 Click the **Scripting** tab.

The Scripting tab appears.

- 5 Under the User Settings field, select the **Enable Scripting** check box.
- **6** Remove the check marks in the remaining check boxes.
- 7 Click Apply.
- 8 Click OK.

The Options dialog box closes.

To set your modal properties:

- 1 Log on to SAP.
- From the SAP GUI toolbar, select Help > Settings.
 The Personal Settings dialog box appears.
- **3** Click the **F4 Help** tab.
- 4 In the Display section, select **Dialog (modal)**.
- 5 Click the **Save** button.

Enabling SAP GUI High Speed Connection

The SAP GUI Logon Pad needs to be configured to use the high speed connection for your SAP system that you will be using with Certify.

• To configure the SAP GUI to use the high speed connection:

- **1** Open the SAP Logon Pad.
- **2** Select the SAP system that you will be using with Certify.
- **3** If you are using SAP GUI for Windows v7.1, then click the **Change Item** button.

If you are using SAP GUI for Windows v7.2, then right-click on the SAP system and select **Properties**.

If you do not see either option on the SAP Logon Pad, then you do not have the appropriate permissions to change this setting. You will need your SAP System Logon administrator's help to complete this setup.

The System Properties dialog box appears.

- 4 Click the **Network** tab.
- 5 In the Network Settings section, select the **High Speed Connection (LAN)** option.
- 6 Click OK.

Configuring the SAP Application Server

Once you have configured the SAP GUI interface to support script recording and playback, the SAP Application Server(s) must be configured to support scripting. Worksoft Certify interacts with the SAP interface through user scripting. Scripting must be enabled in the active SAP application server in order to use Certify on the server.

You must enable scripting in the permanent SAP configuration for the SAP application server in order to ensure that scripting support remains enabled when the server is restarted. Transaction **rz11** is used to enable scripting in the active SAP application server. Transaction **rz10** is used to permanently enable scripting in the SAP application. This section presents both procedures.

You must have administrator rights to the SAP Application Server to make these changes.

- **To enable scripting with transaction rz11**:
- **1** From the SAP GUI interface, type **rz11** in the Command field of the SAP toolbar.
- 2 Press <**Enter**>.

The Maintain Profile Parameter screen appears.



3 In the Param Name field, type the following: sapgui/user_scripting.

4 Click **Display**.

The Display Profile Parameter Attributes screen appears.

Display Profile P	Parameter Attributes		
Documentation Ch	ange Value		
Param. Name			
sapgui/user_scripting			
Short description(Engl)	Enable or disable user scripting on the frontend.		
Appl. area	GUI Frontend		
ParameterTyp	Logical value 🤕		
Changes allowed	Change permitted		
Valid for oper. system	All operating systems 🥘		
DynamicallySwitchable Same on all servers			
Dflt value	FALSE		
ProfileVal	FALSE		
Current value	TRUE		
Switched from	WSTEST02 11/19/2009 13:27:41		

5 Click the **Change Value** button.

The Change Parameter Value screen appears.

Param. Name	sapgui/user_scripting	
Dflt value	FALSE	
ProfileVal	FALSE	
Current value	FALSE	
New value	FALSE	
Switch on all	servers	

- **6** In the New Value field, type **TRUE**.
- 7 Click the **Save** button.
- **8** Change these additional parameters:

Parameter	Value
<pre>sapgui/user_scripting_disable_recording</pre>	FALSE
<pre>sapgui/user_scripting_force_notification</pre>	FALSE
<pre>sapgui/user_scripting_set_readonly</pre>	FALSE

Your SAP system is now able to interact with Certify.

• To enable scripting with transaction rz10:

- **1** From the SAP GUI interface, type **rz10** in the Command field of the SAP toolbar.
- 2 Press <**Enter**>.

The Edit Profiles screen appears.

⊡ Profile Edit Goto Utilities System Help
◎ ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●
Edit Profiles
Create 🚰 Check 🕼 Copy 😰 Import
Profile 🔄
Version
Edit Profile
Administration data
O Basic maintenance
O Extended maintenance
🚱 Display 🖉 Change

- **3** In the Profile field, select the name of the profile you want to update.
- 4 In the Edit Profile section, select the **Extended Maintenance** option.

5 Click Change.

The Maintain Profile screen appears.

Maintain Profile 'R31_DVEBMGS Copy % & Darameter & Parameter 8/31/2010 Active Parameter Name Included come full	CO1_WSSAPIDESO	1' Version '000012' 11:04:22 Heter value		
Maintain Profile R31_DVEEMGS Copy % 69 Derameter @Parameter 8/31/2010 Active Parameter Name	OT_WSSAPIDESO @^Parameter Parameters Parameters VSSAPIDES01.works	1' Version '000012' .11:84:22 Heter value		
Copy 🎾 🍰 🗋 Parameter 🥒 Parameter 8/31/2010 Active Paraseter Nase	GrParameter H e parameters Param VSSAPIDES91.works	11:04:22 Meter value		
8/31/2010 Activ Parameter Name	e parameters Parameters VSSAPIDES01.works	11:84:22 seter value		1
Parameter Name	Paras VSSAPIDES01.works	eter value		
ice/host page full	WSSAPIDES01 .works			
		off con		
sannus /user scrinting	TRUF	1014.008		
SAPSYSTEMNAME	831			
SAPSI ORAL HOST	WSSAP TOFSO			
APSYSTEM	01			
INSTANCE NAME	DVEBMGS91			
DIR CT RUN	\$(DIR EXE ROOT)	(OS UNICODE) \NTAMD64		
OIR EXECUTABLE	\$/DIR INSTANCE) \	KA .		
HYS MEMSIZE	4895			
disp/wp_no_dia	6			
disp/wp_no_btc	3			
icm/server_port_8	PROT=HTTP,PORT=80	155		
as/server_port_0	PROT=HTTP, PORT=81	\$\$		
rdisp/wp_no_enq	1			
rdisp/wp_no_vb	1			
rdisp/wp_no_vb2	1			
em/max_size_MB	64000			
rdisp/ep_no_spo	1			
abap/buffersize	689988			
zcsa/table_buffer_area	30000128			
rtbb/buffer_length	10000			
rsdb/cua/buffersize	3000			
ccsa/presentation_buffer_area	4408128			
rdisp/appc_ca_blk_no	100			
rdisp/ep_ca_blk_no	308			
rsdb/ntab/entrycount	19990			
rsdb/ntab/ftabs1ze	30002			
rsdb/htab/irbdbize	8000			
rsdb/ntab/sntabsize	3000			
2csa/system_ranguage	ED.			
zcsavinscalled_languages	IED			
> (i			4	

- 6 In the Parameter Name column, select the sapgui/user_scripting parameter. If it does not exist, create the parameter.
- 7 In the Parameter Value column, the parameter value should be set to **TRUE**. If it is not set to TRUE, edit the value by double-clicking on the parameter or pressing **<F2>** to open the parameter's properties.
- 8 After you have completed your edits, a change confirmation message appears, click **Yes**.
- **9** If you created the parameter or changed the value, restart the instance to update the new value.

Your SAP system is now able to interact with Certify.

Next Step

You are now ready to install Worksoft Certify. For more information, see Chapter 3 "Installing and Configuring Worksoft Certify".



Chapter 3

Installing and Configuring Worksoft Certify

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Installing Worksoft Certify Client

Worksoft Certify client and all supported interfaces are installed with the **CertifySetup.exe** file. You must have full administrator rights on the computer in which you plan to install Certify.

If you are using Certify with a Citrix XenApp system, see Chapter 6 "Installing Worksoft Certify Client into a Citrix Environment"

If you are using Certify with a Windows® Terminal Server, see Chapter 7 "Installing Worksoft Certify Client in a Windows Terminal Server Environment"

After you have installed Worksoft Certify, you will need to configure the product. For more information, see "Configuring Worksoft Certify Client" on page 24.

To install the Worksoft Certify client:

- **1** If needed, temporarily disable anti-virus software and close all open applications on your computer.
- 2 Right-click the CertifySetup.exe file and select Run as Administrator.

If you are logging in as a local administrator on the machine, double-click **CertifySetup.msi**.

The Worksoft Certify Install Wizard opens.



3 Click Next.

The Destination Folder page appears.

C Worksoft Certify		-		×
Destination Folder				
Worksoft Certify will be installed insid	le the folder displayed below.			
Same -	and the second of the second of the	r Sela		Čer
A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR A C	- Constitution of the second second		a lorge	S.
and the second		/	- wat	1985
	Available Disk Space: 10.813 MB	1		
	Required Disk Space: 211,885 KB			
C:\Program Files (x86)\Worksoft				
SmartBear				^
Windows Defender				
Windows Mail				
- Windows Media Pla	ayer			
- Windows Multimed	ia Platform			
windows nt				
Windows Photo Vie	ewer			
Windows Portable	Devices			
WindowsPowerShe				~
	< Back Next >		Cancel	

4 If you want to accept the default directory for your installation files, click **Next**.

If you do not want to accept the default directory for the installation files, select a different installation directory and click **Next**.

Worksoft Certify
Ready to Install
The Install Wizard is now ready to configure Worksoft Certify on this computer.
Important
Please close all running programs before you start the installation.
Click "Install" to install Worksoft Certify now.
Click "Back" to review or revise your installation settings.
Click "Cancel" to exit.

The Ready to Install page appears.

5 Click **Next** to begin the installation.

The installation completes, and the Setup Complete page appears.



- **6** If you do not want to open Certify, cancel the **Run Worksoft Certify Now** option.
- 7 Click Finish.

You are now ready to create your Certify test environment.

Configuring Worksoft Certify Client

After you have installed Worksoft Certify, you will need to configure the product with the Certify Configuration tool. With this utility, you will set the following:

- Mode
- Database settings
- Licensing

The Certify Configuration tool creates a file named Worksoft.Certify.exe.config. You can find this file in your C:\Program Files (x86)\Worksoft\Certify\Client directory. The configuration settings control access to the Certify system, its database, the license server, and web servers. Current settings are created at the time of installation.

Automator's Mode

You can select to use Certify Classic mode or Automator's mode that is designed for Certify users who work on a remote machine. The Automator's mode works on a service layer that accelerates process execution for remote users. To use the Certify for Automator's feature, you will need to install Worksoft Certify Services on an application server.

The Worksoft Certify Services installation package is included in the Worksoft Certify distribution package. For more information, see Chapter 9 "Preparing Your System for Worksoft Certify Services"

This section provides instructions for both Automator's mode and Classic mode.

To configure Worksoft Certify client in Automator's Mode:

- **1** Open Worksoft Certify by double-clicking on the **Certify** desktop icon.
- 2 From the Certify menu, select **Configure > Certify > Database and Licensing**.

The Certify Configuration tool appears.

Classic Mo	ode	Automator	's Mode		
atabase S	etting	IS			
Server Name		vsql2016			S. . .
Database Na	ime:	vMBCertifyMC			-
Security:		Use Windows	Authentication		
		Use SQL Server	Authentication	n	
		User Name:	CertifyTester		
		Password:	******		
Service Layer	URL:	http://worksoft/d	ertifyapi		
				Validate S	ervice URL
Icense Mo	aei				
O Worksof	t Licens	e File			
Worksof	t Licens	e Server			
URL:	http://worksoft/managementstudio				
Tenant : Engin		ering			
				Validate	e License

- **3** Select the **Automator's Mode** option.
- 4 In the Database Server Name field, type in a server name.
- **5** In the Database Name field, type in a database name.

If you would like to select a database from the drop-down list, you will need to set up your security authentication first. Go to **Steps 6** and **7**.

- **6** Select which Security option that you will use:
 - Use Windows Authentication
 - Use SQL Server Authentication
- 7 If you selected SQL database authentication, type the user name and password in the text fields to access the database server.
- **8** In the Service Layer URL field, type in the URL address for the web server that is hosting Worksoft Certify Services.

Example: http://servername/certifyapi

9 Click the Validate Service URL button to test your connection.

10 In the License Model section, select one of the following options and enter the required information:

• Worksoft License File

If you do not have a license server, the license file **WorksoftLic.xml** must be installed in the following directory: C:\Program Files (x86)\Worksoft\Certify\Client

• Worksoft License Server

Type the Management Studio URL and tenant information. Use **Default** as your tenant name unless you already have tenants created.

11 Click **Validate License** to test the connection.

If for some reason the test fails, you will need to troubleshoot the license server connection.

12 Click OK.

A message appears stating that you need to restart Certify.

13 Click **Yes** to restart Certify with these saved configuration changes.

To configure Worksoft Certify client in Classic Mode:

- **1** Open Worksoft Certify by double-clicking on the **Certify** desktop icon.
- From the Certify menu, select Configure > Certify > Database and Licensing.
 The Certify Configuration tool appears.

Classic Mo	ode	OAutomator	's Mode	
atabase S	etting	js		
Server Name	e	vsql2016		•
Database Na	ime:	vMBCertifyMC		•
Security:		OUse Windows	Authentication	
		Use SQL Serve	r Authentication	
		User Name:	CertifyTester	
		Password:	******	
			Validate Database Setting	
icense Mo	del		Validate Database Setting	5
icense Mo	del		Validate Database Setting	5
icense Mo) Worksoft	o del t Licens	e File	Validate Database Setting	5
<mark>icense Mo</mark> ○ Worksofi ● Worksofi	o <mark>del</mark> t Licens t Licens	e File e Server	Validate Database Setting	5
icense Mo O Worksoft O Worksoft URL:	o <mark>del</mark> t Licens t Licens http://v	e File e Server vorksoft/managem	Validate Database Setting	5
icense Mo Worksoft Worksoft URL : Tenant :	r del t Licens t Licens http://v Enginer	e File e Server vorksoft/managem ering	Validate Database Setting	5
icense Mo Worksoft Worksoft URL : Tenant :	del t Licens t Licens http://v Enginee	ie File ie Server vorksoft/managem ering	Validate Database Setting entstudio Validate License	5

- **3** Select the **Classic Mode** option.
- 4 In the Database Server Name field, type in a server name.

5 In the Database Name field, type in a database name.

If you would like to select a database from the drop-down list, you will need to set up your security authentication first. Go to **Steps 6** and **7**.

- **6** Select which Security option that you will use:
 - Use Windows Authentication
 - Use SQL Server Authentication
- 7 If you selected SQL database authentication, type the user name and password in the text fields to access the database server.
- 8 Click the **Validate Database Connection** button to test your connection.

If for some reason the test fails, you will need to troubleshoot the database connection.

9 In the License Model section, select one of the following options and enter the required information:

• Worksoft License File

If you do not have a license server, the license file **WorksoftLic.xml** must be installed in the following directory: C:\Program Files (x86)\Worksoft\Certify\Client

• Worksoft License Server

Type the Management Studio URL and tenant information. Use **Default** as your tenant name unless you already have tenants created.

10 Click **Validate License** to test the connection.

If for some reason the test fails, you will need to troubleshoot the license server connection.

11 Click OK.

A message appears stating that you need to restart Certify.

12 Click **Yes** to restart Certify with these saved configuration changes.

Next Step

You are now ready to distribute installation files to all Certify users. For more information, see Chapter 4 "Distributing Installation Files" You will need to include the Worksoft.Certify.exe.config file that you created in the installation directory.



Chapter 4 Distributing Installation Files

In This Chapter

Distributing Worksoft Certify Installation Files

If you are installing Worksoft Certify on multiple workstations, create a directory on a shared drive to distribute the following files:

- Worksoft Certify installer CertifySetup.exe or CertifySetup.msi
- Worksoft Certify configuration file Worksoft.Certify.exe.config

These files must be located in the same directory in order for Certify to install correctly.

- **•** To distribute the Certify client installation files to users:
- **1** Create a **CertifyInstall** directory on a shared drive and provide access to all Certify users.
- 2 From the Worksoft Certify package, copy **CertifySetup.exe** or **CertifySetup.msi** and paste it into the **CertifyInstall** directory.
- **3** Copy the **Worksoft.Certify.exe.config** file from the single workstation where you installed Certify and paste into the CertifyInstall directory.

This file is located in the following directory:

C:\Program Files (x86)\Worksoft\Certify\Client

- **4** Notify the Certify users of the following:
 - Name and location of the CertifyInstall directory
 - Instructions for installing Certify



Chapter 5

Upgrading Your Worksoft Certify Client Version

In This Chapter

Testing the Worksoft Certify Upgrade Release	31
Upgrading Your Worksoft Certify Version	31
Upgrading Worksoft Certify Services	32
Upgrading Earlier Versions of Worksoft Certify Services	33

Testing the Worksoft Certify Upgrade Release

Before you install the Certify upgrade on your production server, you need to test and verify the upgrade release.

• To test and verify the upgrade:

- **1** Create a full backup of your production Certify database.
- 2 Create a new Certify test database in SQL Enterprise Manager and restore the Production Certify database backup into this new database. You will need to have Database Owner rights to the restored test database in order to complete this update.
- **3** If needed, temporarily disable anti-virus software and close all open applications on your computer.
- 4 Upgrade your Certify test database with the Multi-Version Upgrade utility. For more information, see Upgrading Your Worksoft Certify Version.
- **5** Before you install Certify, execute your critical Certify processes using this test database to verify that the test machine is set up correctly. Take note of the test results prior to the upgrade.
- 6 Right-click the **CertifySetup.exe** file and select **Run as Administrator**. For more information about installing and configuring Certify, see Chapter 3 "Installing and Configuring Worksoft Certify".

If you are logging in as a local administrator on the machine, double-click CertifySetup.msi.

- 7 Open Certify and verify that the upgraded database contains all of your data, including variables, recordsets, layouts, processes, requirements, etc.
- 8 Execute your critical Certify processes again to see if the results are still the same as before the upgrade. If you have a number of discrepancies, do not proceed with the upgrade and notify Worksoft Support.
- **9** Once the tests are complete and you have verified the upgrade works, then you are ready to upgrade your production server. Before you upgrade on your production machine, all users must be logged out of the Certify production database.

Upgrading Your Worksoft Certify Version

The Worksoft Certify product has both minimum and recommended system requirements for your database server. Before installing Worksoft Certify, ensure that your server meets the requirements listed in the Worksoft Help Portal for the new version.

To upgrade your Certify database:

If you have multiple Certify databases, Worksoft recommends upgrading all of your Certify databases, including the Certify results archival directory, to the same version.

- **1** Back up your current database.
- **2** Locate the Apply.exe utility within your Certify distribution:

...\Worksoft Certify Site Prep\Site Prep\Database Scripts\UpdateDatabase

3 Double-click **Apply.exe**.

The Apply utility opens.

- 4 In the text fields, enter the following database connection information:
 - Database server name
 - Database name
- 5 If you will use the Windows authentication security option, select the option. Go to Step 7.
- **6** If you selected SQL database authentication, type the user name and password in the text fields to access the database server.
- 7 Click **Start** to begin updating your database.

Worksoft Certify v12.0.2112

If you have over 500,000 LogImageData rows in your database, you need to use the upgrade and migration executables in the **UpdateDatabase - Post Upgrade Migration** directory. For more information, see Appendix G "Compressing Images in Your Database."

Upgrading Your Worksoft Certify Version

The Worksoft Certify product has both minimum and recommended system requirements. Before installing Worksoft Certify, ensure that your system meets the requirements listed in the Worksoft Help Portal for the new version.

- To upgrade your Worksoft Certify version:
- **1** Close Worksoft Certify and all browsers.
- 2 If needed, temporarily disable anti-virus software and close all open applications on your computer.
- 3 Right-click the **CertifySetup.exe** file and select **Run as Administrator**.

You do not need to uninstall previous versions of Certify because the installer for the new version will uninstall the older version.

4 After you have installed and configured Certify, you can update all Certify clients by distributing the installation files to all users. For more information, see Chapter 4 "Distributing Installation Files".

If you have Worksoft Certify Services installed, you are able to update all Certify clients by using the **Worksoft Certify Auto Update** tool. For more information, see the Worksoft Help Portal.

Upgrading Worksoft Certify Services

Before installing Worksoft Certify Services, ensure that your system meets the requirements listed in the Worksoft Help Portal for the new version.

To upgrade Worksoft Certify Services:

- **1** Close Worksoft Certify Services and all browsers.
- 2 If needed, temporarily disable anti-virus software and close all open applications on your computer.
- 3 Right-click the **CertifyServices.exe** file and select **Run as administrator**.

You do not need to uninstall previous versions of Certify Services because the installer for the new version will uninstall the older version.

Upgrading Earlier Versions of Worksoft Certify Services

Worksoft Certify Services was introduced in version v11.0.1911, so if you have an earlier version of Certify for Automators and Certify Results API, you will need to complete these procedures.

To upgrade Worksoft Certify for Automator's:

- **1** Uninstall earlier version of Worksoft Certify for Automator's.
- **2** Delete the Certify Web API directory from the old installation path:

C:\Program Files (x86)\Worksoft\Certify Web API

3 Install Worksoft Certify Services. For more information, see Chapter 9 "Preparing Your System for Worksoft Certify Services"

To upgrade Worksoft Certify Results API:

1 Uninstall earlier version of Worksoft Certify Results API.

The App_Data directory will not be deleted from the old installation path:

C:\Program Files (x86)\Worksoft\Worksoft Certify Results API

Do NOT delete this directory because it contains Worksoft Management Studio connection information and generated tokens that you will paste into the new installation directory.

- 2 Install Worksoft Certify Services. For more information, see Chapter 9 "Preparing Your System for Worksoft Certify Services".
- **3** From the old installation path, copy the contents of the App_Data directory and paste the contents into the new installation path:

C:\Program Files (x86)\Worksoft\Certify Services\Certify Web API\App_Data

Chapter 6

Installing Worksoft Certify Client into a Citrix Environment

In This Chapter

Overview	35
Configuring Your Citrix Server	35
Installing Worksoft Certify Client to a Citrix Server	35
Accessing Worksoft Certify Through the Citrix Client	39
Troubleshooting	40

Overview

This chapter provides you with the following information needed if you are using Worksoft Certify client with Citrix XenApp®:

- Configuring your Citrix server
- Installing Worksoft Certify client on a Citrix server
- Accessing Worksoft Certify client through the Citrix client
- Troubleshooting

Configuring Your Citrix Server

When using Worksoft Certify in a Citrix XenApp environment, all applications that Certify needs to access must be shared in the same Citrix session ID with Certify. Worksoft recommends using Citrix in the Published Desktop mode with Certify so that no additional configuration will be needed.

You will need to install the following applications on the same Citrix server:

- Worksoft Certify client
- Any application under test, such as an SAP GUI application
- Any third-party tool, such as SmartBear
 Software TestExecute[™] or Microfocus Application Lifecycle Management

If you are unable to run Citrix in a Published Desktop mode, then you will need to enable sharing in the Citrix session. Certify and all of the required applications will need to be installed on the same Citrix server to ensure that all of the applications are shared on the same Citrix session ID.

System Requirements

If you are using Citrix XenApp, you will need additional system requirements. Requirements are listed in the Worksoft Help Portal, and these recommendations are based on field usage of Worksoft products for a typical IT organization. Before you purchase your server hardware, consult with your Citrix administrator.

Installing Worksoft Certify Client to a Citrix Server

Before you install Worksoft Certify, you will need to first create a Certify database. For more information, see "Preparing the Database" on page 11.

When you install Worksoft Certify client to a Citrix machine, the machine must be in the **Install** mode.

• To set your Citrix server into the Install mode:

- **1** Log on to the Citrix server as a local administrator
- 2 Open a **Command Prompt** window as an Administrator.
- **3** To put your Citrix server into the Install mode, type **change user** /install in the Command Prompt window.

4 Press **<Enter>**.

Your server is now in the Install mode.

5 Minimize the Command Prompt window, but leave it open to change the server back to **Execute mode** after installing Worksoft Certify.

To install Worksoft Certify client on a Citrix server:

- **1** If needed, temporarily disable anti-virus software and close all open applications on your computer.
- 2 Right-click the **CertifySetup.exe** file and select **Run as Administrator**.

The Worksoft Certify Install Wizard opens.

Worksoft Certify - InstallAv	ware Wizard		
	Welcome to the InstallAware Wizard for Worksoft Certify		
	The InstallAware Wizard will install Worksoft Certify on your computer.		
WORKS()FT.			
	WARNING: This program is protected by copyright law and international treaties.		
	To continue, click Next.		
	< Back Next > Cancel		

3 Click Next.
The Destination Folder page appears.

Worksoft Certify - InstallAware Wizard	
Destination Folder Select folder where setup will install files.	WORKS()FT.
Install Worksoft Certify to:	
C:\Program Files (x86)\Worksoft	Change
Destination Folder Required Disk Space: Remaining Disk Space:	192,415 КВ 208,447 МВ
InstallAware	< Back Next > Cancel

4 If you want to accept the default directory for your installation files, click **Next**.

If you do not want to accept the default directory for the installation files, click the **Change** button to select a different installation directory for the Certify client, and then click **Next**.

The Completing the Maintenance Wizard page appears.

Worksoft Certify - InstallAwa	re Wizard	
	Completing the Maintenance Wiz Worksoft Certify	ard for
WORKS()FT.	The InstallAware Wizard is now ready to config Certify on this computer.	ure Worksoft
	- Click Next to begin configuration	
	- Click Back to change settings	
	- Click Cancel to exit	
	< Back Next >	Cancel

5 Click **Next** to begin the installation.

The installation completes, and the Setup Complete page appears.

🕼 Worksoft Certify - InstallAware Wizard		
	Completing the Wizard for Worksoft Certify	
WORKSCJFT.	You have successfully completed the InstallAware Wizard for Worksoft Certify.	
	Run Worksoft Certify now	
	To close this wizard, click Finish.	
	< Back Finish Cancel	

6 If there are no patches to be installed and you want to open Certify, select the **Run Worksoft Certify Now** option.

If there are patches to be installed, do not select the **Run Worksoft Certify Now** option. Refer to the Readme file included with the patch to upgrade the Certify client.

7 Click **Finish**.

You are now ready to create your Certify test environment.

• To set your Citrix server into the Execute mode:

1 Restore the **Command Prompt** window.

2 To put your Citrix server into the Execute mode, type **change user** /**execute** in the Command Prompt window.

3 Press <Enter>.

Your server is now in the Execute mode.

4 Close the Command Prompt window.

Accessing Worksoft Certify Through the Citrix Client

Worksoft Certify client, the application under test, and any third-party applications must be published on the Citrix server as an application. You do not need to publish Certify Learn utilities that can be launched from the Certify menu. To access the Certify command line functionality in Citrix, export the batch file and then publish the batch file as a Citrix published application.

Each application that you publish must use an explicit user. Worksoft does not recommend using an anonymous user because customizations and user preferences will be lost after the user logs out.

Depending on the configuration of Citrix, Certify can be accessed through the Citrix client by one of two ways:

- Logging on to a published desktop
- Using Certify as a published application

Logging on to a Published Desktop

If you choose to access Certify by logging on to a published desktop, no additional configuration is needed. During a remote desktop session, Certify will interact with any other applications that are running in the same unique session.

Using Certify as a Published Application

As a published application, Certify will not be accessed through a remote desktop session, and it will only interact with other published applications launched in the same client's unique session. For example, if the client runs both Certify and Microsoft® Internet Explorer® during a unique session, Certify will be able to interact with the Internet Explorer window.

Certify running as a published application will not be able to interact with any local application that is run on the client machine.

Like most Windows applications, the Certify client needs write access to the Application data directory for the user. Under recommended settings from Citrix, the Application data directory should be writable and maintained across the Citrix farm for each Citrix user using the Roaming profile. For more information on the best practices for setting up profile types, see http://support.citrix.com/article/CTX110351.

Troubleshooting

This section provides solutions to issues that you may encounter when using Citrix XenApp with Certify.

- Issue: After installing the Certify client, Certify will not start and reports Unhandled Exception errors when trying to connect to the database server.
- Cause: Your Citrix server may not be able to reach the Domain Name Server (DNS) for your system to resolve server names into IP addresses.
- Solution: Verify that the Citrix server can successfully access your DNS to resolve server names. If you can not access your DNS, then change the names of the license server and the database server in the Worksoft.Certify.exe.config file to the actual IP addresses. After you have made these changes, you will need to restart Certify.
- Issue: Screen captures in Certify reports are displaying as "black boxes" with screen fields and other objects displayed as white outlines on the screen.
- Cause: The Citrix server's desktop display color depth is less than 16-bit.
- Solution: The minimum supported resolution for Certify screen captures in Citrix is 16-bit.
- Issue: If you are running the SAP interface and you receive the following error, "wsTest.Main: wsSAP.dll cannot be loaded".
- Cause: Worksoft Certify was installed by a user without the required administrator permission, or Worksoft Certify was not installed through the Windows Control panel.
- Solution: Log on as the server administrator and reinstall Certify using the Windows Control panel.
- Issue: Certify SAP and HTML Learn utilities not working and an error message appears.
- Cause: You do not have permissions to open the utility on the Citrix machine.
- Solution: Open permissions on your Citrix machine for the following directory: C:\Program Files\Worksoft.



Chapter 7

Installing Worksoft Certify Client in a Windows Terminal Server Environment

In This Chapter

Configuring Your Terminal Server	42
Installing Worksoft Certify Client to Your Terminal Server	42

Configuring Your Terminal Server

This chapter provides you with the following information needed if you are using Worksoft Certify client with a Windows Terminal Server:

- Configuring your terminal server
- Installing Worksoft Certify client on a terminal server

Before you begin using your terminal server with Certify, the following applications must be installed on the same server:

- Worksoft Certify client
- Any application under test, such as an SAP GUI application
- Any third-party tool, such as SmartBear[®] Software TestExecute[™]

System Requirements

If you are using a Terminal Server, you will need additional system requirements. Requirements are listed in the Worksoft Help Portal, and these recommendations are based on field usage of Worksoft products for a typical IT organization. Before you purchase your server hardware, consult with your Terminal Server administrator.

Installing Worksoft Certify Client to Your Terminal Server

Before you install Worksoft Certify client, you will need to first create a Certify database. For more information, see "Preparing the Database" on page 11.

When you install Worksoft Certify client to a terminal server, the machine must be in the **Install** mode.

- **•** To set your terminal server into the Install mode:
- 1 Log on to the terminal server as a local administrator
- 2 Open a **Command Prompt** window as an Administrator.
- **3** To put your terminal server into the Install mode, type **change user** /**install** in the Command Prompt window.
- 4 Press <Enter>.

Your server is now in the Install mode.

5 Minimize the Command Prompt window, but leave it open to change the server back to **Execute mode** after installing Worksoft Certify.

To install Worksoft Certify client on a terminal server:

- **1** If needed, temporarily disable anti-virus software and close all open applications on your computer.
- 2 Right-click the **CertifySetup.exe** file and select **Run as Administrator**.

The Worksoft Certify Install Wizard opens.

C Worksoft Certify - InstallAware	e Wizard		
	Welcome to the InstallAware Wizard for Worksoft Certify		
	The InstallAware Wizard will install Worksoft Certify on your computer.		
WORKS()FT.			
	WARNING: This program is protected by copyright law and international treaties.		
	To continue, click Next.		
	< Back Next > Cancel		

3 Click Next.

The Destination Folder page appears.

C Worksoft Certify - InstallAware Wizard	
Destination Folder Select folder where setup will install files.	WORKS()FT.
Install Worksoft Certify to:	
C:\Program Files (x86)\Worksoft	Change
Destination Folder Required Disk Space: Remaining Disk Space: InstallAware	192,415 КВ 208,447 МВ
	< Back Next > Cancel

4 If you want to accept the default directory for your installation files, click **Next**.

If you do not want to accept the default directory for the installation files, click the **Change** button to select a different installation directory for the Certify client, and then click **Next**.

The Completing the Maintenance Wizard page appears.

C Worksoft Certify - InstallAwa	re Wizard
	Completing the Maintenance Wizard for Worksoft Certify
WORKS()FT.	The InstallAware Wizard is now ready to configure Worksoft Certify on this computer.
	- Click Back to change settings
	- Click Cancel to exit
	< Back Next > Cancel

5 Click **Next** to begin the installation.

The installation completes, and the Setup Complete page appears.

C Worksoft Certify - InstallAware Wizard			
	Completing the Wizard for Worksoft Certify		
WORKS()FT。	You have successfully completed the InstallAware Wizard for Worksoft Certify.		
	Run Worksoft Certify now		
	To close this wizard, click Finish.		
	< Back Finish Cancel		

6 If there are no patches to be installed and you want to open Certify, select the **Run Worksoft Certify Now** option.

If there are patches to be installed, do not select the **Run Worksoft Certify Now** option. Refer to the Readme file included with the patch to upgrade the Certify client.

7 Click **Finish**.

You are now ready to create your Certify test environment.

• To set your terminal server into the Execute mode:

- **1** Restore the **Command Prompt** window.
- 2 To put your terminal server into the Execute mode, type **change user /execute** in the Command Prompt window.
- 3 Press <Enter>.

Your server is now in the Execute mode.

4 Close the Command Prompt window.



Chapter 8 Maintaining Worksoft Certify

In This Chapter

Database Maintenance

Worksoft provides database maintenance scripts to help improve Certify performance. These scripts allow you to:

- Archive results to a separate database
- Delete results

These database scripts are found in the following directory:

SitePrep\Database Scripts\Results Maintenance

Based on how Certify is being used, your database administrator will determine whether to delete your results or archive them on a separate database. Database maintenance should be performed by the database administrator.

For information on using these database maintenance scripts, see the **Tech Note - Managing Worksoft Certify Results.pdf** file that is included in the DB Maintenance directory.

Other ways to help improve the database performance is to have adequate memory on the Certify database server and using a dedicated database server whenever possible.

Creating Additional Databases

After installing Certify, it may be necessary to create additional databases for use with Certify. Each time you create a database, you will need to have the following information:

- Database server
- Database name
- User ID and password for the database server

For procedures on creating databases, see "Creating a Certify Database" on page 11.

Switching Databases

If you have more than one Certify database, you can switch databases in Certify.

To switch databases

- **1** Log on to Certify.
- 2 In the menu, click **Tools > Change Configuration**.

The Configuration Tool appears.

- **3** In the Database Server Name text field, select a server from the drop-down list or type in a server name.
- **4** In the Database Name text field, select a database from the drop-down list or type in a database name.
- **5** Select which Security option that you will use:
 - Windows Authentication
 - SQL database Authentication
- **6** If you selected SQL database authentication, type the user name and password in the text fields to access the database server.

- Click the Test Database Connection button to test the database connection.A message appears stating the connection was successful.
- 8 Click Save.

A message appears stating that Certify must close down in order to complete this database change.

- 9 Click **Yes** to save changes and to close Certify. Certify closes.
- **10** Log on to Certify.

Certify is now connected to the new database.

Chapter 9

Preparing Your System for Worksoft Certify Services

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Enabling IIS Services	61
Configuring HTTPS on Your Application Server	62
Installing Worksoft Certify Services	62
Accessing Worksoft Certify Results API	68
Verifying IIS Settings	69
Configuring HTTPS on Your Application Server	62
Configuring a Custom Web Site	71
Using Windows Authorization	72

Overview

This chapter contains information on how to install and configure Worksoft Certify Services which consists of the following services:

- Worksoft Certify for Automators
- Worksoft Certify Results API

Before you begin to install Worksoft Certify Services, you need to install Worksoft Certify and the needed system requirements. For more information, see the Worksoft Help Portal. The additional requirements for Worksoft Certify Services are also listed in the Portal.

Worksoft Certify for Automators

Worksoft Certify for Automators works on a service layer that accelerates processes for remote users. After you install Worksoft Certify Services, you will be able to select between two separate Certify modes in the Change Configuration tool:

- Automator's mode
- Classic mode

You must select Automator's mode in order to utilize the service layer.

Worksoft Certify Results API

Worksoft Certify Results API allows you to view Certify results and generate reports without having Worksoft Certify installed. Users can query a Certify database using RESTful API calls, and view result attributes, processes, and process attributes. Data is returned in JSON format for third-party reporting tools to display and provide calculations.

Worksoft Portal

Worksoft Certify and Certify Results API require the administration tool Worksoft Portal installed.

The Worksoft Portal register database settings, licenses, users, and integrations for Worksoft products. Certify leverages this information.

Go to the Worksoft Customer Portal to download these products. If you already have one of these tools installed, you can use that version.

For system requirements and installation guides, go to the Worksoft Help Portal.

Configuring Your Application Server

In order to transform your application server into a web server to host the Worksoft Certify Services, Microsoft® Internet Information Services (IIS) must be installed and the Server Manager must be configured.

These procedures assume that you have not already configured your IIS. If you have already set up the Roles and Features, verify that the following Role Services on page 58 have been selected.

You need to first configure your server with HTTP, and then you can reconfigure the application server to use HTTPS.

Adding Roles and Features

The Server Manager allows you to add specific roles and features to your web server that are required for Worksoft products.

• To add roles and features to your web server:

1 From the Start menu, select **Server Manager**.

The Server Manager opens.

🚡 Server Manager					3	- 0	x u
Server Ma	anager • Dashboard			• 🕄 🏲 Manag	e Tools	View	Help
Dashboard Local Server All Servers File and Storage Services	CUICK START	nfigure this local server add roles and features add other servers to manage					
	WHATS NEW 4 0	Treate a server group				,	Hide
	File and Storage 1 Services 1 Manageability Events Performance BPA results	 Local Server 1 Manageability Events Services Performance BPA results 6/16/2023 14:00 	 All Servers 1 Manageability Events Services Performance BPA results 				

- 2 In the Navigation pane, select **Dashboard**.
- 3 In the Summary Tasks pane, select Add Roles and Features.

The Add Roles and Features Wizard opens.

📥 Add Roles and Features Wizard		1.000		×
Add Roles and Features Wizard Before you begin Installation Type Server Selection Server Roles Features Confirmation Results	This wizard helps you install roles, role services, or features. You determine which features to install based on the computing needs of your organization, such as a hosting a website. To remove roles, role services, or features: Start the Remove Roles and Features Wizard Before you continue, verify that the following tasks have been completed: • The Administrator account has a strong password • Network settings, such as static IP addresses, are configured • The most current security updates from Windows Update are installed If you must verify that any of the preceding prerequisites have been completed, complete the steps, and then run the wizard again. To continue, click Next.	DESTINA n roles, role haring doc	L ATION SERV e services, uments, o	X or or
	Skip this page by default :			
	< Previous Next > Ir	nstall	Cance	4

4 Click Next.

The Select Installation Type page opens.

📥 Add Roles and Features Wizard	1			×
Select installation	i type	DESTINA	TION SERV	ER
Before You Begin Installation Type Server Selection Server Roles Features Confirmation Results	 Select the installation type. You can install roles and features on a running physical machine, or on an offline virtual hard disk (VHD). Role-based or feature-based installation Configure a single server by adding roles, role services, and features. Remote Desktop Services installation Install required role services for Virtual Desktop Infrastructure (VDI) to create a or session-based desktop deployment.	virtual ma	er or virtu	al
	< Previous Next > Ins	tall	Cance	

5 Select the **Role-based or feature-based Installation** option.

6 Click Next.

The Select Destination Server page opens.

📥 Add Roles and Features Wizard	I)			:
Select destination	n server			DESTINATION SERVER
Before You Begin Installation Type Server Selection	Select a server or a Select a server Select a virtual 	virtual hard disk on which from the server pool hard disk	to install roles and features.	
Server Roles Features Confirmation	Server Pool Filter:			
Results	Name	IP Address	Operating System	
	1 Computer(s) four	nd		

- **7** Select a server.
- 8 Click Next.

The Select Server Roles page opens.

Add Roles and Features Wizard						Х
Select server roles				DESTIN	ATION SERV	/ER
Before You Begin Installation Type Server Selection	Select one or more roles to install on the selected server. Roles Active Directory Federation Services	^	Description Web Server (II	S) provide	s a reliabl	e,
Server Roles Features Confirmation Results	 Active Directory Lightweight Directory Services Active Directory Rights Management Services Device Health Attestation DHCP Server Fax Server File and Storage Services (1 of 12 installed) ▶ File and Storage Services (1 of 12 installed) Host Guardian Service Hyper-V Network Policy and Access Services Print and Document Services Remote Desktop Services Volume Activation Services Volume Activation Services Web Server (IIS) (21 of 43 installed) Windows Deployment Services Windows Server Update Services 	~	manageable, application in	and scalab	le Web e,	
	< Previous	Next >	In	istall	Cance	1

- **9** From the Server Roles list, select the following roles:
 - File Services
 - Web Server (IIS)
- 10 Click Next.

The Select Features page opens.

📥 Add Roles and Features Wizard			– 🗆 X
Select features			DESTINATION SERVER
Before You Begin Installation Type Server Selection Server Roles Features Confirmation Results	Select one or more features to install on the selected se Features Image: NET Framework 3.5 Features Image: NET Framework 4.8 Features (Installed) Image: NetWork Unlock BranchCache Cleint for NFS Containers Data Center Bridging Direct Play Enhanced Storage Failover Clustering Group Policy Management Host Guardian Hyper-V Support V/O Quality of Service Image: Iso Host ble Web Core (Installed) Internet Printing Client IP Address Management (IPAM) Server LPR Port Monitor	erver.	Description .NET Framework 4.8 provides a comprehensive and consistent programming model for quickly and easily building and running applications that are built for various platforms including desktop PCs, Servers, smart phones and the public and private cloud.
	< Previous	Next	> Install Cancel

- **11** Select the following features:
 - .NET Framework 4.8 Features and all of its child nodes
 - WCF Services and all of its child nodes
 - IIS Hostable Web Core and Media Foundation

12 Verify that Message Queuing Services and Message Queuing Server are enabled.



- **13** Use the scroll bar to verify the **Windows Process Activation Service** is enabled with the following child nodes:
 - Process Model
 - Configuration APIs
- 14 Click Next.

Configuring the Web Server Role (IIS)

The Web Server Role (IIS) page opens if you have not already installed the web server.

1 In the Navigation pane, click **Role Services** under Web Server Role (IIS).



The Select Role Services page opens.

2 In the Role Services list, use the scroll bar to select the following services.

If you have already set up the Roles and Features, verify that the following services have been selected.

Node	Child Nodes
Common HTTP Features	Default Document
	Directory Browsing
	HTTP Errors
	Static Content
	WebDAV - Verify that this option is disabled. Worksoft's RESTful Services will not work correctly if enabled.
Health and Diagnostics	HTTP Logging
	Request Monitor
Performance	Static Content Compression
	Dynamic Content Compression
Security	Request Filtering
	Basic Authentication
Application Development	.NET Extensibility 4.8
	Application Initialization
	ASP
	ASP.NET 4.8
	CGI
	ISAPI Extensions
	ISAPI Filters
	WebSocket Protocol
Management Tools	IIS Management Console
	IIS Management Scripts and Tools
	Management Service

3 Click Next.

The Confirm Installation Selections page appears.

4 Click **Install** to install the role services.

Configuring Application/Json MIME Type Compression

After you have enabled Dynamic Content Compression within IIS, you need to verify HTTP Compression for the application/json MIME type. Certify Automator's mode uses Dynamic Content Compression to improve performance, and HTTP compression must be enabled for the application/json MIME type.

When the Dynamic Content Compression feature is enabled, it will overwrite any previous HTTP compression settings.

To verify application/json MIME type compression:

- 1 Open **IIS Manager**.
- 2 In the left Navigation pane, click on your server.
- 3 In the Management section, double-click the **Configuration Editor**.



The Configuration Editor opens.

4 From the Section drop-down list, select **system.webServer > httpCompression**.



5 In the httpCompression section, click **dynamicTypes**.

		Apply
•		BK Cancel
	^	denerate Script
(Count=1)		Configuration
max-age=86400		Search Configuration
%SystemDrive%\inetpub\temp\IIS Temporary Compressed Files		Carthan (
True		Section
65536		Lock Section
90		'dynamicTypes' Element
50		
(Count=5)		Lock Element
Wed, 01 Jan 1997 12:00:00 GMT		× Remove
100		Edit Items
2700		Help
True		
True		
True		
False		
100		
50	100	
False	~	
	 (Count=1) max-age=86400 %SystemDrive%\inetpub\temp\IIS Temporary Compressed Files True 65336 90 50 (Count=5) Wed, 01 Jan 1997 12:00:00 GMT 100 2700 True True True True True True True False 100 50 	(Count=1) max-age: 86400 %SystemDrive%Ninetpub\temp\IIS Temporary Compressed Files True 65336 90 50 (Count=5) wed, 01 Jan 1997 12:00:00 GMT 100 2700 True True True False 100 50

6 Verify that **application/json** is listed in the dynamic compression mime types. If it is not listed, click the **Add** button in the Collection section to add it.

	- 11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -				(5) 225.
Items:				Actions:	
mimeType text/* message/* acclination/relation/relation/	enabled True True	Emp Path MACHINE/VEBROT/APPHOST MACHINE/VEBROT/APPHOST MACHINE/VEBROT/APPHOST		Collection Add Clear All	
application/javascript	True	MACHINE/WEBROOT/APPHOST		Item Properties	
•/• application/json	False True	MACHINEWEBRD07/APPH40ST		Lock Rem Remove Help Online Help	
< Properties:			>		
enabled mimeType		Inve f application/joon			
enabled Data Type:bool					

 After you completed your verification or addition, click the Close button The Configuration Editor opens.

erion: system.webServer/httpCompression			successfully saved.	cen
Deepest Path: MACHINE/WEBROOT/APPHOST		^	Actions	
(Collection)	(Count=1)		R/ Apply	
cacheControlHeader	max-age=86400		Re Cancel	
directory	%SystemDrive%\inetpub\temp\IIS Temporary Compressed Files		Gamerata Siziat	_
doDiskSpaceLimiting	True		of generate script	_
dynamicCompressionBufferLimit	65536		Configuration	
dynamicCompressionDisableCpuUsage	90		Search Configuratio	n
dynamicCompressionEnableCpuUsage	50		Section	
dynamicTypes	(Count=6)		Lock Section	
expiresHeader	Wed, 01 Jan 1997 12:00:00 GMT		LIVE JECTION	
maxDiskSpaceUsage	100		'dynamicTypes' Elemen	t
minFileSizeForComp	2700		Lock Element	
noCompressionForHttp10	True		X Remove	
noCompressionForProxies	True			
noCompressionForRange	True		Edit Items	_
sendCacheHeaders	False		Help	
staticCompressionDisableCpuUsage	100			
staticCompressionEnableCpuUsage	50	100		
staticCompressionIgnoreHitFrequency	False	~		
namicTypes				

- 8 Click **Apply** to apply your changes.
- **9** Verify that dynamicTypes lists a count of six.
- **10** Close the editor.

Enabling IIS Services

You will now need to verify that several IIS services are enabled.

• To verify IIS services are enabled:

1 If the Server Manager is not open, select **Administrative Tools > Server Manager** from the Start menu.

The Server Manager opens.

- 2 In the Navigation pane, select **IIS**.
- **3** Scroll down to the Services section.
- 4 In the Services pane, verify that the following services are enabled and running:
 - World Wide Web Publishing Service
 - Web Management Service
 - Application Host Helper Service
 - Windows Process Activation Service
- **5** If any of these window services are not running, start the services.

To start a service, select the service from the list and click **Start** in the right menu. You can also start services by going to **Administrative Tools > Services** on your machine.

Configuring HTTPS on Your Application Server

To use HTTPS on your application server, leave the HTTP binding on default port 80. After you have reconfigured the application server to use HTTPS, the port now defaults to 443.

You need both ports open.

Complete the following tasks to configure HTTPS on your application server:

- Request an SSL Certificate from your IT department.
- Add the certificate to IIS.
- Add new binding to port 443.
- Verify your SSL Settings on your application server.

Installing Worksoft Certify Services

After you have configure your application server, you are now ready to install Worksoft Certify Services on your server. When you install Worksoft Certify Services, you have a choice to use a custom web site or the virtual default application that the installer creates.

If you want to use the virtual default web site, begin to install Worksoft Certify Services. When the installer runs, a virtual application called **CertifyAPI** is created with all of the correct settings.

If your company uses web sites requiring a Secure Socket Layer (SSL), you will need to create a custom web site before installing Worksoft Certify Services. For more information, see Configuring a Custom Web Site.

To install Worksoft Certify Services:

- 1 Verify that you have met all system requirements for Worksoft Certify Services. For more information, see the Worksoft Help Portal.
- 2 In your software distribution directory, open the **Certify Services** directory.
- 3 Right-click the **CertifyServices.exe** file and select **Run as administrator**.

The Worksoft Certify Services Install Wizard opens.

C Worksoft Certify Services		1 <u>0.00</u>		×
Welcome to Wo	orksoft Certify Services			
Welcome to the Worksoft C install Worksoft Certify Sen	Certify Services installation. The Install Wizard is re vices on your computer.	ady to		
	Important	F		
S.	Please close all running programs, before you continue the installation.			
OR A	Software Worksoft Certify Services			
	Version			
To continue, click	"Next".		Cancel	

4 Click **Next** to begin the installation process.

The Select Features to Install page appears.



5 Select the Certify Services features that you want to install.

By default, all three services will be installed.

If you do not want one of the services installed, click the arrow next to that feature and select **Entire** feature will be unavailable.

AutoUpdates can not be removed. The AutoUpdates will be disabled unless you enable it. For more information, see the Worksoft Help Portal.



6 Click Next.

The Destination Folder page appears.

C Worksoft Certify Services		<u> </u>		×
Destination Folder				
Worksoft Certify Services will be inst	alled inside the folder displayed below	v.		
Weight				
Hall March	and the second second second			-
			- Way	
	Available Disk Space:			
	44,108 MB		1	
	Required Disk Space:			
	/11,423 KB			
C:\Program Files (x86)\Worksoft\Cer	tify Services			
Microsoft.NET				^
Windows Defender				
Windows Media Pla	ayer			
Windows Multimed	a Platform			
windows nt				
Windows Photo Vie	ewer			
Windows Portable	Devices			
WindowsPowerShe	<u>II</u>			1000
				~
	< Back Next >		Cancel	

7 If you want to accept the default directory for your installation files, click **Next**.

If you do not want to accept the default directory for the installation files, select a different installation directory and click **Next**.

The Worksoft Certify Results API Web Site Components page appears.



8 If you want to use the virtual default application that the installer creates, keep the value **Default Web Site**.

If you created a custom web site, then select your site from the drop-down list.

Worksoft recommends that you manually create your web site through IIS so that port numbers are handled properly. If you choose to create a web site from this page by typing in a new name, the default port 80 is assigned to this web site.

9 Click Next.

The Worksoft Certify Web API for Automators Web Site page appears.



10 If you want to use the virtual default application that the installer creates, keep the value **Default Web Site**.

If you created a custom web site, then select your site from the drop-down list.

Worksoft recommends that you manually create your web site through IIS so that port numbers are handled properly. If you choose to create a web site from this page by typing in a new name, the default port 80 is assigned to this web site.

11 Click Next.

The Worksoft Portal URL page appears.



12 If you do not have Worksoft Portal installed, click Next.If you do have Worksoft Portal installed, enter the URL address and click Next.The Ready to Install page appears.



13 Click **Install** to begin the installation.

After the installation completes, the Installation Result page appears.



14 Click Finish.

Accessing Worksoft Certify Results API

The URL address for Worksoft Certify Results API can be accessed using:

http://<servername>/CertifyResultsAPI.

Verifying IIS Settings

You need to verify the following IIS settings:

- UploadReadAheadSize setting
- Preload Enabled setting is set to true
- **To verify your UploadReadAheadSize setting:**
- **1** Open IIS Manager.
- 2 In the Connections pane, select **Sites > Default Web Site > CertifyAPI**.
- 3 In the Management section, double-click **Configuration Editor**.

The Configuration Editor opens.

9	Interne	et Information Services (IIS) Manager
• VNABDOC502	Sites Default Web Site CertifyAPI	
File View Help		
Connections	Configuration Editor	
Q,• 🗟 😰 🚱,	Conliguration Editor	
Start Page	Section: system.webServer/serverRuntime	From: ApplicationHost.config <location path='Default Web</th>
Application Pools Stes B Default Web Ste b B aspnet_client b () CertifyAPI	Dee Dee	xuthenticatedUser 10 10 10 10 10 10 10 10 10 10
< 10 >	Feature / validation	V V

4 From the Section drop-down list, select **serverRuntime**.

5 Verify that the uploadReadAheadSize value is set to **2147483647**.

		Actions
ection: system.webServer/serverRuntime	✓ From: ApplicationHost.config <location path='Default Web: ▼</p>	By Apply Bx Cancel
Deepest Path: MACHINE/WEBROOT/APPHOS	T	Generate Script
alternateHostName		Configuration
appConcurrentRequestLimit	5000	Search Configuration
authenticatedUserOverride	UseAuthenticatedUser	
enabled	True	Section
enableNagling	False	Revert To Parent
frequentHitThreshold	2	Unlock Section
frequentHitTimePeriod	00:00:10	Help
maxRequestEntityAllowed	4294967295	
uploadReadAheadSize	2147483647	
ploadReadAheadSize Jata Type:uint Value Range: Minimum:0 - Maximum:2,147,483,647	,	

6 Close the Configuration Editor after you have verified the value.

• To verify the Preload Enabled setting:

- **1** Open IIS Manager.
- 2 In the Connections pane, select **Sites > Default Web Site > CertifyAPI**.
- 3 In the Actions pane, select **Advanced Settings**.

The Advanced Settings dialog box opens.

	Adva	inced setungs	
4	(General)		
	Application Pool	CertifyAPI	
	Physical Path	C:\Program Files (x8	86)\Worksoft\W
	Physical Path Credentials		
	Physical Path Credentials Lo	gon Siearrext	· · ·
	Preload Enabled	True	ノ
	Virtual Path	/Ceruity-an	
4	Behavior		
	Enabled Protocols	http	
Pro [pi	eload Enabled reloadEnabled] If true, preload	feature is enabled for the	application

- 4 Verify that the Preload Enabled setting is set to **True**.
- 5 Click OK.

Troubleshooting

If you are having trouble with Worksoft Certify Services, open your Worksoft Certify API URL in a browser to verify that your meta data appears:

https://<servername>/CertifyAPI/odata/\$metadata

Configuring a Custom Web Site

If your company prefers to create a custom web sites uses web sites requiring a Secure Socket Layer (SSL), you will need to create a custom web site before installing Worksoft Certify API.

When you create your custom web site, you will need to consider the following:

• Will your web site use a DNS entry in the host header for the service?

If not, then the web site will need to run on a different port number than the default port 80.

Example URL: http://<servername>:port/certifyapi

Will the custom web site use SSL?

If so, a binding will need to be created for SSL, and a Certification Authority (CA) certificate will need to be installed on the server.

Application Pool Settings

You must set up an application pool with the following Advanced Settings properties:

Setting Group	Setting	Value
General	.NET Framework Version	v4.0
General	Start Mode	AlwaysRunning
Process Model	Identity	LocalSystem

To update these properties, right-click on the application pool and select **Advanced Settings**.

Using Windows Authorization

If you want to use Windows authorization for Worksoft Certify Services, you will need to do some additional configuration.

To configure Windows authorization, complete the following:

- Update the Web.config file
- Set up a service account
- Enable Windows Authentication in IIS
- Configure application pool setting
- Configure SQL Server access

To update the Web.config file:

1 Open the following directory:

C:\Program Files(x86)\Worksoft\Certify Services\Certify Web API

- 2 Open the **Web.config** file in a text editor.
- **3** In the update system.web section, you need to set the following:
 - authentication mode = Windows
 - identify impersonate = false

See example below:

<system.web>

```
......
<authentication mode="Windows"/>
<identity impersonate="false"/>
</system.web>
```
• To set up a Service account for Certify Services:

You must create a Service account to execute API requests. Example: CertifyTester1\worksoft0

After installing Certify Services, log on to Certify API Server and provide **Full** control to the Certify Web API directory above the Service account as shown below.

^ Name	Date modified Type Size
Certify Results API	3/18/2020 4:29 PM File folder
Certify Web API	3/18/2020 4:29 PM File folder
WorksoftUpdates	3/18/2020 4:29 PM File folder
	Certify Web API Properties X
	General Sharing Security Previous Versions Customize
	Object name: C:\Program Files (x86)\Worksoft\Certify Services\C
	Group or user names:
_	Contry Tester 1 (WORKSOFT0:CetifyTester1) Administrator (LEIA\Administrator) Control LeiA\Administrator) Control LeiA\Administrator Control LeiA\Administra
	To change permissions, click Edit. Edit
	Permissions for CertifyTester1 Allow Deny
	Full control Image: Control Modify Image: Control Pead & execute Image: Control List folder contents Image: Control
	Read V Write V
	For special permissions or advanced settings. Advanced click Advanced.

To enable Windows Authentication in IIS

1 From the Start menu, select **Control Panel > Programs and Features**.

The Programs and Features window opens.



2 Click Turn Windows features on or off.

The Windows Features dialog box opens.

- 3 In the Features list, expand Internet Information Services > World Wide Web Services.
- 4 Select Add Roles and Features.

The Add Roles and Features Wizard opens.

5 Click **Next** until come to the **Server Roles** page.



- 6 Expand the **Web Server IIS** role.
- 7 Under Security, select the **Windows Authentication** option.
- 8 Click **Next** until the Install option is enabled.
- **9** Click **Install** to complete the configuration.
- **10** Open the **IIS Manager**.
- **11** Click **Authentication**.



12 Enable Windows Authentication and disable all other Authentications.

Group by: No Grouping -		
Name	Status	Response Type
Active Directory Client Certificate	Disabled	HTTP 401 Challenge
Anonymous Authentication	Enabled	
ASP.NET Impersonation	Disabled	
Basic Authentication	Disabled	HTTP 401 Challenge
Digest Authentication	Disabled	HTTP 401 Challenge
Forms Authentication	Disabled	HTTP 302 Login/Redirect
Windows Authentication	Enabled	HTTP 401 Challenge

• To create a custom account application pool setting:

1 Select **Application Pools > CertifyAPI**.

nections	Ga Applicati	00.000	de .				Actions
(184 (LEW/Admentrator)	The peptide you view	and mana	no	plication pools on	the server. Application pools are associate	d with worker processes, contain one or more applications, and provide isolation among different applications.	Add Application Pool. Let Application Pool Dely
Application Pools Stel Onder Web Da	Filter	• 14	64 - 2 Pres	e All Group by	No Grouping +		Application Pool Tasks
a contract client	Marrie	Status	NET CLEV	Managed Pipel	Identity .	Applications	· Dep
w (P Cettuin)	Contract of the second	Stated	v2.0	Integrated	ApplicationPooldentity	8	2 Repte-
Ann Date	MET v2.0 Change	Started	v2.0	Classic	ApplicationPoolidentity	8	And Annaly stress Read
2 in the	@ NET+4.5	Started	v4.0	Integrated	ApplicationPoolidentity	0	The same bettern
p Content	2 NET v4.5 Classic	Started	v40	Classic	ApplicationPoolidentity	0	
> C fonts	CentryAPI	Started	140	Integrated	Worksoft/7.CentifyTester1	E.	
> -23 Scripts	CentlyResultsAPI	Supped	v48	Integrated	Locallystem	2	animiter settings.
> CertifyResults##1	Clessic MIT.Ap.	Started	v2.0	Classic	ApplicationPoolidentity	\$	and a set of the set o
) 🕐 CentifyResultsAP/Feature	Default/appPool	Sainted	0.6v	Integrated	ApplicationPoolidentity	1	× female
> 🔅 WorksoftUpdates	22 Ical	Started	v40	Integrated	ApplicationPoolIdentity	8	Van Apple stars
	2 Werksoft/Jpdates	Stated	y40	Selegested	Locallystem	1	0.00

2 In the Edit Application Pool section, select **Advanced Settings**.



3 Select **Identity** from the list.

The Application Pool Identity dialog box opens.

Application Pool Identity	? ×
O Built-in account:	
	4
Oustom account:	
Worksoft0\CertifyTester1	Set
	 -

- 4 Select Custom account.
- 5 Click Set.

The Set Credentials dialog box opens.

- **6** Enter the Service account user name and password.
- 7 Click OK.
- 8 In the Set Credentials dialog box, click **OK**.
- 9 In the Advanced Settings dialog box, click **OK**.

To configure SQL Server access:

Your database administrator will need to add the Service account to Logins under Security in order to provide access to Certify database.

Appendix A Worksoft Certify Firewall Port Settings

For Microsoft SQL Server, Certify uses the default port and protocol specified by the manufacturer. To permit Certify to work through a firewall, you must open the default TCP/IP port 1433. For more information, go to the following web site: http://support.microsoft.com/kb/287932

Specifying a SQL Server Port Number for Your Database

If TCP/IP port 1433 is already being used by another application in your network or if it is restricted in your network environment due to security constraints, Microsoft provides a way to change this port number. For information on changing the default SQL Server port on the server itself, go to the following web site: http://support.microsoft.com/kb/823938.

After you change your port number, you will need to modify your Worksoft.Certify.exe.config file with this new port number setting.

To modify the Worksoft.Certify.exe.config file to specify a different database server port number:

- 1 In the C:\Program Files\Worksoft\Certify\Client directory, open the Worksoft.Certify.exe.config file in a text editor, such as Notepad.
- **3** Modify the value to specify the new port number by including a comma and the port number after the server name:

<add key="DATABASESERVER" value="{server name}, {port number}" />

EXAMPLE:

To specify that Certify connects to the SQL Server via port 1434, you would use:

<add key="DATABASESERVER" value="localhost,1434" />



Appendix B Worksoft Certify Silent Installation

Silent Install

To run Worksoft Certify installation silently, run the installer from the command line and add **/s** option to the executable:

CertifySetup.exe /s

Installation Log File

The default installation log is located at **%userprofile%** of the user who installed Worksoft Certify. If you want to override the install log file location, enter the following string to provide an override for install log file location:

CertifySetup.exe /s /l=C:\temp\CertifyInstalllog.txt

Silent Uninstall

To uninstall Worksoft Certify silently, run the installer from the command line and enter the following string:

CertifySetup.exe /s MODIFY=FALSE REMOVE=TRUE UNINSTALL=YES

Certify Services

Silent Install

To run Certify Services installation silently, run the installer from the command line and add **/s** option to the executable:

```
CertifyServices.exe /s
```

To install specific component:

For Certify Web API:

CertifyServices.exe /s certifyapi=true

For Certify Results API:

CertifyServices.exe /s resultsapi=true

For Certify Results API with Worksoft Portal:

CertifyServices.exe /s Portal_URL=http://servername/portalsuite

Installation Log File

The default installation log is located at **%userprofile%** of the user who installed Certify Services. If you want to override the install log file location, enter the following string to provide an override for install log file location:

CertifyServices.exe /s /l=C:\temp\CertifyServicesInstalllog.txt

Silent Uninstall

To uninstall Certify Services silently, run the installer from the command line and enter the following string:

CertifyServices.exe /s MODIFY=FALSE REMOVE=TRUE

Both components are removed.



Appendix C Deploying Worksoft Certify Client Updates

You are able to deploy Worksoft Certify updates by creating a master desktop image.

Some IT organizations create a master desktop image of a user's machine that has a Worksoft Certify client installed. The master desktop image should be considered as a single client machine.

You must start the Certify client at least once for the new patch package to deploy. If you do not start the Certify client, then the files will not be placed in the correct directories and any DLL files will not be registered.



Appendix D Configuring Emulators for the Mainframe Interface

The following emulators are supported for use with the Mainframe interface:

- NetManage Rumba® Office
- IBM Personal Communications®
- ◆ AttachmateWRQ® EXTRA!™ X-treme
- Rocket BlueZone® Terminal Emulator
- Jolly Giant Software QWS3270 Secure™
- IBM Aviva for Desktops™

Configuring RUMBA

You must have RUMBA installed prior to performing these steps.

To configure a RUMBA emulator session:

1 Click Start > All Programs > RUMBA > Mainframe Display.

The RUMBA Mainframe window appears.

2 Select **Options > API**.

The API Options dialog box appears.

- 3 In the Session Short Name field, select **A** in the drop-down list.
- 4 Click the **Configuration** tab.
- 5 Click the toggle button next to **Classic HLLAPI data structure** to select it.
- 6 Click OK.

The API dialog box closes.

7 Select Connection > Configure.

The Connection Configuration dialog box is displayed.

- 8 On the General tab, click the toggle box next to **AutoConnect** to select it.
- 9 In the Installed Interfaces section, select **TN3270**.
- **10** Click the **TN3270** tab.

- 11 Click Insert.
- **12** Type a valid host name or IP address for the mainframe system being tested.
- 13 Click Connect.
- 14 Click OK.

The RUMBA Mainframe Display returns with the connection made.

- 15 Select File > Save As.
- **16** In the File Name field, type a name for the Rumba configuration file.
- 17 Click Save.

The configuration is saved, and it will be recalled every time you open the configured session.

18 Create a Desktop shortcut to this session.

To configure Certify Screen Scraper:

Worksoft Certify's Screen Scraper application must be configured for your specific emulator in order to connect and map fields within a Mainframe session.

- **1** Contact Worksoft Customer Support and ask for a **tdbg5.ocx** file.
- 2 Copy the **tdbg5.ocx** file and paste into this directory:

C:\windows\syswow64

3 As an administrator, open a Command Prompt window and execute the following:

Execute: cd c:\windows\syswow64

Execute: regsvr32 /u c:\windows\syswow64\tdbg5.ocx

Execute: regsvr32 c:\windows\syswow64\tdbg5.ocx

4 Open the **Screenscraper.xml** file in a text editor of your choice. This file is located in the following directory:

C:\Program Files(x86)\Worksoft\Certify\Interface Client\Worksoft\Mainframe

5 In the Screenscraper.xml file, edit the bolded text below by adding one of the supported emulators in which you plan to use.

<EMULATORS>

</EMULATOR>

- **6** Verify that the session name is always set as A.
- **7** Verify that the emulator is configured to always use HLLAPI. If there is an option to enable HLLAPI during start up, select it.
- **8** Once the steps above have been completed, shut down your emulator.
- **9** Verify that the Screen Scraper is shut down.
- **10** Relaunch both the emulator and Screen Scraper to test your connection.

If the connection is successful, the Learn button is enabled and the Connect button toggles to Disconnect.

Configuring IBM Personal Communications

You must have IBM Personal Communications® (IBM PCOM) installed prior to performing these steps.

To configure a PCOM emulator session:

- Click Start > All Programs > IBM Personal Communications > Start or Configure Sessions.
 The IBM Personal Communications Session Manager dialog box appears.
- 2 Click New Session.

The Customize Communications dialog appears.

- 3 In the Type of Host field, select **zSeries**.
- 4 In the Interface field, select LAN.
- 5 In the Attachment field, select **Telnet3270**.
- 6 Click Link Parameters.
- 7 In the IP Address for Primary Type field, type a valid host name or IP address.
- 8 Select the **Auto Reconnect** toggle button.
- 9 Click OK.
- **10** On the Customize Communications window, click **OK**.
- **11** From the **Edit > Preferences** menu, select **API**.
- **12** Verify that the **DDE/EHLLAPI** button is selected.
- 13 Click OK.
- 14 Click **Save** and save the file as **Session A**.

The configurations are saved, and they are recalled every time you open the configured session.

15 Create a Desktop shortcut to this session.

To configure Certify Screen Scraper:

Worksoft Certify's Screen Scraper application must be configured for your specific emulator in order to connect and map fields within a Mainframe session.

- 1 Contact Worksoft Customer Support and ask for a **tdbg5.ocx** file.
- 2 Copy the **tdbg5.ocx** file and paste into this directory:

C:\windows\syswow64

3 As an administrator, open a Command Prompt window and execute the following:

Execute: cd c:\windows\syswow64

Execute: regsvr32 /u c:\windows\syswow64\tdbg5.ocx

Execute: regsvr32 c:\windows\syswow64\tdbg5.ocx

4 Open the **Screenscraper.xml** file in a text editor of your choice. This file is located in the following directory:

C:\Program Files(x86)\Worksoft\Certify\Interface Client\Worksoft\Mainframe

5 In the Screenscraper.xml file, edit the bolded text below by adding one of the supported emulators in which you plan to use.

<EMULATORS>

<DEFAULT name="IBM Pcom"></DEFAULT>
<EMULATOR name="IBM Pcom">
<DLLNAME>WHLAPI32.dll</DLLNAME>

```
<DLLPATH></DLLPATH>
<SESSION>A</SESSION>
<CONFIGFILE></CONFIGFILE>
<REGKEY></REGKEY>
<REGPATH></REGPATH>
<KNOWNDLLNAME></KNOWNDLLNAME>
<KNOWNREGPATH></KNOWNREGPATH>
<KNOWNREGKEY></KNOWNREGKEY>
```

</EMULATOR>

- **6** Verify that the session name is always set as A.
- **7** Verify that the emulator is configured to always use HLLAPI. If there is an option to enable HLLAPI during start up, select it.
- 8 Once the steps above have been completed, shut down your emulator.
- **9** Verify that the Screen Scraper is shut down.
- **10** Relaunch both the emulator and Screen Scraper to test your connection.

If the connection is successful, the Learn button is enabled and the Connect button toggles to Disconnect.

Configuring Attachmate EXTRA!

To learn and test Mainframe applications using Attachmate EXTRA! X-treme, you need to configure an emulator session. Before you perform these steps, Attachmate EXTRA! needs to be installed.

When using the Mainframe interface, the Certify directory under C:\Program Files\Worksoft should be writable. For security reasons, if you cannot grant users Write permissions to the Certify directory, then you will need to save the Attachmate Extra! *.edp session on a writable shared network drive.

▶ To configure a new EXTRA! X-treme emulator session:

1 Click Start > All Programs > Attachmate EXTRA! X-treme > Attachmate EXTRA! X-treme.

The EXTRA! X-treme Session Manager dialog box appears.

- 2 Select the **Creating a New Session** option.
- 3 Click OK.
- 4 Select **IBM Mainframe** as the host type.
- 5 Click Next.
- 6 Select **3270 Display** for the type session.
- 7 Click Next.
- 8 Select **TN3270** for the type of connection.
- 9 Click Next.
- **10** On the General tab, click **Add**.
- **11** Type the Host Name or IP Address and click **OK**.
- 12 Click Next.
- **13** Select **None** for the type of file transfer to use.
- 14 Click Next.
- 15 Click Finish.

The new session window appears.

- **16** From the Options menu, select **Global Preferences**.
- 17 Click the Advanced tab
- **18** Select **A** for the session short name.
- **19** Click **Browse** and select the name of the session you are currently configuring from the list of session (e.g., Session1).
- 20 Click Open.
- 21 Click **OK** to save the session.
- **22** Create a Desktop shortcut to this session.

To configure Certify Screen Scraper:

Worksoft Certify's Screen Scraper application must be configured for your specific emulator in order to connect and map fields within a Mainframe session.

- 1 Contact Worksoft Customer Support and ask for a **tdbg5.ocx** file.
- 2 Copy the **tdbg5.ocx** file and paste into this directory:

C:\windows\syswow64

3 As an administrator, open a Command Prompt window and execute the following:

Execute: cd c:\windows\syswow64

Execute: regsvr32 /u c:\windows\syswow64\tdbg5.ocx

Execute: regsvr32 c:\windows\syswow64\tdbg5.ocx

4 Open the **Screenscraper.xml** file in a text editor of your choice. This file is located in the following directory:

C:\Program Files(x86)\Worksoft\Certify\Interface Client\Worksoft\Mainframe

5 In the Screenscraper.xml file, edit the bolded text below by adding one of the supported emulators in which you plan to use.

<EMULATORS>

```
<DEFAULT name="Attachmate Extra"></DEFAULT>
```

<EMULATOR name="Attachmate Extra">
 <DLLNAME>WHLLAPI.DLL</DLLNAME>
 <DLLPATH></DLLPATH>
 <SESSION>A</SESSION>

<CONFIGFILE></CONFIGFILE> <REGKEY></REGKEY> <REGPATH></REGPATH> <KNOWNDLLNAME></KNOWNDLLNAME> <KNOWNREGPATH></KNOWNREGPATH>

</EMULATOR>

- **6** Verify that the session name is always set as A.
- **7** Verify that the emulator is configured to always use HLLAPI. If there is an option to enable HLLAPI during start up, select it.
- 8 Once the steps above have been completed, shut down your emulator.
- **9** Verify that the Screen Scraper is shut down.
- **10** Relaunch both the emulator and Screen Scraper to test your connection.

If the connection is successful, the Learn button is enabled and the Connect button toggles to Disconnect.

Configuring Rocket BlueZone Terminal Emulator

You must have BlueZone installed prior to these steps.

To configure BlueZone:

1 On your desktop, double-click the **BlueZone Session Manager** icon.

The BlueZone Session Manager opens.

🔁 BlueZone Session Manager		- • ×
<u>File Session Options View</u>	<u>H</u> elp	
🔲 Mainframe Display 🛛 👻 🔶	S C C C C C C C C C C C C C C C C C C C	Show All Sessions
😑 Ready	Auto-Update Disabled	0 🛃 Desktop

2 From the BlueZone Session Manager menu, select Session > New Mainframe Display or select Start > All Programs > BlueZone 6.x > Mainframe Display on your desktop.

The Define New Connection dialog box appears.

efine New Connection	×
TN3270 / TN3270E Co	nnection
Connection Name:	
Host Address:	
<u>L</u> U Name:	
<u>T</u> CP Port:	23
<u>B</u> ackup Host:	None
Connection Timer:	15
Bypass Firewall	
🔽 Enable TN3270E	
Enable Extension	5
Enable <u>I</u> BM Atten	tion Key Handling
<u>o</u> k	Cancel

- **3** In the Connection Name field, type in the name you want for this connection.
- 4 In the Host Address field, type in the IP address of the mainframe host in which you want to connect.
- 5 Click OK.

The TN3270E Properties dialog box appears.

	Firewall	Security S	erver Abo
Connections [Device	Security	Certificate
TN2270 / TN2270E Co	proction		
Connection List	Intection		
Data Dallas			New
Data Dallas			<u>IN</u> EW
			<u>E</u> dit
		1	Remove
		6	Sort
			2011
Use Connection N	lame as Session	n Description	
Active Connection			
Connection Name:	Data Dallas		
Host Address:	199.34.66.35		
LU Name:			
TCP Port:	23		
Backup Host:	None		
THIRD TOT THEFT	Yes		
TN32/UE Enabled:			

6 Click OK.

If the connection to the mainframe host was successful, the BlueZone Mainframe screen appears.



7 From the BlueZone Mainframe menu, select **Options > API**.

The Settings Viewer - API Properties dialog box appears.

۲	S1 - Settings Viewer - API Properties	×
 API Color Scheme Connection Cursor Display Colors Edit File Options A³ Font HotSpots Keyboard Menu Mouse Power Pads Print Setup Program Scrient History Script 	S1 - Settings Viewer - API Properties Options Trace Dynamic Data Exchange (DDE) Enable DDE Server Interface Server / Service Name: Topic Name: Image: Topic Name: DDE Share: BlueZ_A\$ High Level Language API (HLLAPI) Short Name Session Identifier: A Session Long Name: Session L Auto-Assign HLLAPI Names	
 Screen History Script Sounds Spell Checking Statusbar Title Bar Toolbars 	Auto-Assign HLLAPI Names Auto-Launch the BlueZone DOS HLLAPI Redirector Allow Multiple Simultaneous Connections OK Ca	ncel <u>Apply</u>

- 8 In the Dynamic Data Exchange section, select the **Enable DDE Server Interface** option.
- 9 Click OK.
- 10 In the BlueZone Mainframe menu, select File > Save to save this session configuration to the location of your choice.

To configure Certify Screen Scraper:

Worksoft Certify's Screen Scraper application must be configured for your specific emulator in order to connect and map fields within a Mainframe session.

- **1** Contact Worksoft Customer Support and ask for a **tdbg5.ocx** file.
- 2 Copy the **tdbg5.ocx** file and paste into this directory:

C:\windows\syswow64

3 As an administrator, open a Command Prompt window and execute the following:

Execute: cd c:\windows\syswow64

Execute: regsvr32 /u c:\windows\syswow64\tdbg5.ocx

Execute: regsvr32 c:\windows\syswow64\tdbg5.ocx

4 Open the **Screenscraper.xml** file in a text editor of your choice. This file is located in the following directory:

C:\Program Files(x86)\Worksoft\Certify\Interface Client\Worksoft\Mainframe

5 In the Screenscraper.xml file, edit the bolded text below by adding one of the supported emulators in which you plan to use.

<EMULATORS>

```
<DEFAULT name="BlueZone"></DEFAULT>
<EMULATOR name="BlueZone">
<DLLNAME>WHLAPI32.dll</DLLNAME>
<DLLPATH>C:\Program Files (x86)\BlueZone\6.1</DLLPATH>
<SESSION>A</SESSION>
<CONFIGFILE></CONFIGFILE>
<CONFIGFILE></CONFIGFILE>
<REGKEY></REGKEY>
<REGKEY></REGKEY>
<REGPATH></REGPATH>
<KNOWNDLLNAME></KNOWNDLLNAME>
<KNOWNREGPATH><KNOWNREGPATH>
<KNOWNREGKEY></KNOWNREGKEY></Prove Particular Particu
```

</EMULATOR>

- **6** Verify that the session name is always set as A.
- **7** Verify that the emulator is configured to always use HLLAPI. If there is an option to enable HLLAPI during start up, select it.
- **8** Once the steps above have been completed, shut down your emulator.
- **9** Verify that the Screen Scraper is shut down.
- **10** Relaunch both the emulator and Screen Scraper to test your connection.

If the connection is successful, the Learn button is enabled and the Connect button toggles to Disconnect.

Configuring QWS3270 Secure

This procedure is intended specifically for Jolly Giant Software QWS3270 Secure[™] v4.8. You must have QWS3270 Secure installed prior to these steps.

To configure your QWS3270 Secure emulator, you will do the following tasks:

- Configure a QWS3270 emulator session
- Edit the ScreenScraper.xml and ScrScr.ini files
- Set the Terminal Emulator in Mainframe Learn (ScreenScraper) and verify the configuration
- To configure QWS3270 Secure emulator session:
- Click Start > All Programs > QWS3270 Secure > QWS3270s > Connect.
 QWS3270 Secure emulator opens.
- 2 From the QWS3270 menu, select **Edit > Options**.

The Session Options dialog box opens.

ression options for maturin	Rion esting	
Connection	By Host Settings	
Gig Host becomes	Script File:	Browse
Entry Assist Display Tab Options	Mainframe Codepage: 037 English-US	
Colours	Custom Language File: English(U.S.)	
Miscelaneous Miscelaneous Copy/Paste	Keyboard Mapping File:	
Mouse	C:\Program Files (x86)\QWS3270 Secure\QWS3270S.key	Browse
Printer	DDE Topic: 4	
	🗖 Start Associated Printer Session 🗖 Stop Associa	ited Printer Session
	Use Contention Resolution (if supported) Enable Comm	nand Chaining
	ОК	Cancel Apple

- 3 In the right Navigation pane, select **Connection > Host Settings**.
- 4 In the Host Settings section, replace **SESSIONA** with **A** in the DDE Topic field.
- 5 In the right Navigation pane, select **Connection**.
- **6** In the Connection section, select **A** in the HLLAPI Session ID drop-down list.

File Transfer Graphics IP Address: Security Security Security HIAD Security	Port Number: 992
Tab Options Colours Colours Clusor Hotspots Microlaneous Copy/Paste Mouse Copy/Paste Mouse Custom Toolbar Printer Environment Copy Paste Custom Screen Size Primary Rows Copy Paste Custom Screen Size Primary Rows Custom Screen Size Primary Rows Custom Screen Size	LU Name:

7 Click OK.

Your session is now configured.

To configure Certify Screen Scraper:

Worksoft Certify's Screen Scraper application must be configured for your specific emulator in order to connect and map fields within a Mainframe session.

- **1** Contact Worksoft Customer Support and ask for a **tdbg5.ocx** file.
- 2 Copy the **tdbg5.ocx** file and paste into this directory:

C:\windows\syswow64

3 As an administrator, open a Command Prompt window and execute the following:

Execute: cd c:\windows\syswow64

Execute: regsvr32 /u c:\windows\syswow64\tdbg5.ocx

Execute: regsvr32 c:\windows\syswow64\tdbg5.ocx

4 Open the **Screenscraper.xml** file in a text editor of your choice. This file is located in the following directory:

C:\Program Files(x86)\Worksoft\Certify\Interface Client\Worksoft\Mainframe

5 In the Screenscraper.xml file, edit the bolded text below by adding one of the supported emulators in which you plan to use.

<EMULATORS>

```
<DEFAULT name="QWS3270"></DEFAULT>
</Pre>

<eMULATOR name="QWS3270">

<DLLNAME>WHLLAPI.DLL</DLLNAME>
```

</EMULATOR>

- **6** Verify that the session name is always set as A.
- **7** Verify that the emulator is configured to always use HLLAPI. If there is an option to enable HLLAPI during start up, select it.
- **8** Once the steps above have been completed, shut down your emulator.
- **9** Verify that the Screen Scraper is shut down.
- **10** Relaunch both the emulator and Screen Scraper to test your connection.

If the connection is successful, the Learn button is enabled and the Connect button toggles to Disconnect.

11 Open the ScrScr.ini file in a text editor. This file is located in the following directory:

C:\Program Files (x86)\Worksoft\Certify\Interface Client\Worksoft\Mainframe

12 In the EmChecked field, update the value:

EmChecked=QWS3270

13 Save your changes.

Configuring IBM Aviva for Desktop

You must have IBM Aviva for Desktop (32 bit version) installed prior to performing these steps.

To configure a Aviva emulator session:

 Launch the Aviva Session Manager from Start > All Programs > Aviva for Desktops > Aviva Session Manager.

The Aviva Session Manger window appears.

- 2 Select the **Creating a New Session** option and click **OK**.
- **3** In the respective fields, type in the name and description of the new session.
- 4 In the Session Type drop-down list, select **3270**.
- 5 Click Next.
- 6 On the next page, click **Next** again.
- 7 For Setup, select **Express Setup**.
- 8 In the Connection Type field, select **TN3270**.
- 9 Click Next.
- **10** For the host session that you would like to connect, enter the IP address.
- **11** For TCP port, select default port **23**.
- 12 Click Next.
- **13** On the next page, click **Next** again.
- 14 Click **Finish** to close the wizard.
- 15 From the Aviva Session Manager menu, select Session > Properties.The Properties dialog box appears.
- **16** Click the **Destination** tab.
- 17 Select the Automatically connect when session is started option.
- **18** Click the **Automation** tab.
- **19** Cancel the **Choose first available short name** option.
- 20 In the Short Name field, type **A** in the drop-down list.
- **21** Click the **Terminal** tab.
- 22 In Screen Size section, select **Model 2** from the Screen Model drop-down list.
- 23 Click OK.



Appendix E Configuring Emulators for the Mainframe LT Interface

With Certify LiveTouch[™], you are able to learn objects while adding steps to your process and save the objects to a specific application version with the Certify LT interface. You will be able to use these new learned objects in other processes because these objects are saved in your Certify database.

When using Certify LiveTouch with the Mainframe LT interface, you must use the Aviva for Desktops™ emulator (32-bit only) to create Certify steps.

After you have created your steps with Certify LiveTouch, then you can use the following emulators for execution:

- IBM Aviva for Desktops™ v16
- IBM Personal Communications®
- Rocket BlueZone® Terminal Emulator
- Jolly Giant Software QWS3270 Secure™

Configuring IBM Aviva for LiveTouch and Execution

You must have IBM Aviva for Desktop (32 bit version) installed prior to performing these steps.

- To configure a Aviva emulator session:
- 1 Launch the Aviva Session Manager from Start > All Programs > Aviva for Desktops > Aviva Session Manager.

The Aviva Session Manger window appears.

- 2 Select the **Creating a New Session** option and click **OK**.
- 3 In the respective fields, type in the name and description of the new session.
- 4 In the Session Type drop-down list, select **3270**.
- 5 Click Next.
- 6 On the next page, click **Next** again.
- 7 For Setup, select **Express Setup**.
- 8 In the Connection Type field, select **TN3270**.
- 9 Click Next.

- **10** For the host session that you would like to connect, enter the IP address.
- **11** For TCP port, select default port **23**.
- 12 Click Next.
- **13** On the next page, click **Next** again.
- 14 Click **Finish** to close the wizard.
- 15 From the Aviva Session Manager menu, select Session > Properties. The Properties dialog box appears.
- **16** Click the **Destination** tab.
- 17 Select the Automatically connect when session is started option.
- **18** Click the **Automation** tab.
- **19** Cancel the **Choose first available short name** option.
- 20 In the Short Name field, type **A** in the drop-down list.
- **21** Click the **Terminal** tab.
- 22 In Screen Size section, select **Model 2** from the Screen Model drop-down list.
- 23 Click OK.

Configuring Certify for Execution

You must apply edits to the Mainframe LT configuration file for execution and using Certify LiveTouch.

To configure Certify for execution:

1 Open the following directory:

C:\Program Files(x86)\Worksoft\Certify\Interface Client\Worksoft\Mainframe-LT

- 2 Open the **EmulatorConfiguration.xml** file in a text editor.
- **3** In the EmulatorConfiguration.xml file, edit the text by adding one of the supported emulators in which you plan to use.

<EMULATORS>

<DEFAULT name="Aviva"></DEFAULT>

<EMULATOR name="Aviva">

<DLLNAME>WhllApi.Dll</DLLNAME>

<DLLPATH> C:\Program Files (x86)\Aviva Solutions\AFD</DLLPATH>

<SESSION>A</SESSION>

</EMULATOR>

</EMULATOR>

- 4 Verify that the session name is always set as **A**.
- **5** Verify that the emulator is configured to always use **HLLAPI**. If there is an option to enable HLLAPI during start up, select it.
- **6** Save your changes to the configuration file.
- 7 Once the steps above have been completed, shut down your emulator.

Configuring IBM Personal Communications for Execution

You must have IBM Personal Communications[®] (IBM PCOM) installed prior to performing these steps. After you install Host On-Demand, you will need to do the following to complete configuration:

- Configure an IBM Host On-Demand session
- Configure Certify for execution

To configure a PCOM emulator session:

Click Start > All Programs > IBM Personal Communications > Start or Configure Sessions.
 The IBM Personal Communications Session Manager dialog box appears.

2 Click New Session.

The Customize Communications dialog appears.

- 3 In the Type of Host field, select **zSeries**.
- 4 In the Interface field, select LAN.
- 5 In the Attachment field, select **Telnet3270**.
- 6 Click Link Parameters.
- 7 In the IP Address for Primary Type field, type a valid host name or IP address.
- 8 Select the **Auto Reconnect** toggle button.
- 9 Click OK.
- **10** On the Customize Communications window, click **OK**.
- **11** From the **Edit > Preferences** menu, select **API**.
- **12** Verify that the **DDE/EHLLAPI** button is selected.
- 13 Click OK.
- 14 Click **Save** and save the file as **Session A**.

The configurations are saved, and they are recalled every time you open the configured session.

15 Create a Desktop shortcut to this session.

Configuring Certify for Execution

You must apply edits to the Mainframe LT configuration file for execution and using Certify LiveTouch.

To configure Certify for execution:

1 Open the following directory:

C:\Program Files(x86)\Worksoft\Certify\Interface Client\Worksoft\Mainframe-LT

- 2 Open the **EmulatorConfiguration.xml** file in a text editor.
- **3** In the EmulatorConfiguration.xml file, edit the text by adding one of the supported emulators in which you plan to use.

<EMULATORS>

<DEFAULT name="IBM Pcom"></DEFAULT> <EMULATOR name="IBM Pcom"> <DLLNAME>WhllApi.Dll</DLLNAME> <DLLPATH>...</DLLPATH> <SESSION>A</SESSION> </EMULATOR>

</EMULATOR>

- 4 Verify that the session name is always set as **A**.
- **5** Verify that the emulator is configured to always use **HLLAPI**. If there is an option to enable HLLAPI during start up, select it.
- **6** Save your changes to the configuration file.
- 7 Once the steps above have been completed, shut down your emulator.

Configuring Rocket BlueZone Terminal Emulator for Execution

You must have BlueZone installed prior to these steps.

To configure BlueZone:

1 On your desktop, double-click the **BlueZone Session Manager** icon.

The BlueZone Session Manager opens.



2 From the BlueZone Session Manager menu, select Session > New Mainframe Display or select Start > All Programs > BlueZone x.x > Mainframe Display on your desktop.

The Define New Connection dialog box appears.

TN3270 / TN3270E Co	nnection	
Connection Name:	Ι	
Host Address:		
<u>L</u> U Name:		
TCP Port:	23	
<u>B</u> ackup Host:	None	•
Connection Timer:	15	
Bypass Firewall		
🔽 Enable TN3270E		
Enable Extension		
Enable IBM Atten	ion Key Handling	

- **3** In the Connection Name field, type in the name you want for this connection.
- 4 In the Host Address field, type in the IP address of the mainframe host in which you want to connect.
- 5 Click OK.

The TN3270E Properties dialog box appears.



6 Click OK.

If the connection to the mainframe host was successful, the BlueZone Mainframe screen appears.



7 From the BlueZone Mainframe menu, select **Options > API**.

The Settings Viewer - API Properties dialog box appears.

۲	S1 - Settings View	ver - API Properties			×
 API Color Scheme Connection Cursor Display Colors Edit File Options A³ Font HotSpots Keyboard Menu Mouse Power Pads Print Setup Print Setup Screen History Script Sounds Sounds 	S1 - Settings View Options Trace Dynamic Data Exchange (DDE) Enable DDE Server Interface Server / Service Name: Topic Name: Enable Network DDE Initialization DDE Share: High Level Language API (HLLAPI) Short Name Session Identifier: Session Long Name: Auto-Assign HLLAPI Names Auto-Launch the BlueZone DOS HL	Ver - API Properties			
 Spell Checking Statusbar Title Bar Toolbars 	Allow Multiple Simultaneous Connec	tions	ОК	Cancel	Apply

- 8 In the Dynamic Data Exchange section, select the **Enable DDE Server Interface** option.
- 9 Click OK.
- 10 In the BlueZone Mainframe menu, select File > Save to save this session configuration to the location of your choice.

Configuring Certify for Execution

You must apply edits to the Mainframe LT configuration file for execution and using Certify LiveTouch.

To configure Certify for execution:

1 Open the following directory:

C:\Program Files(x86)\Worksoft\Certify\Interface Client\Worksoft\Mainframe-LT

- 2 Open the **EmulatorConfiguration.xml** file in a text editor.
- **3** In the EmulatorConfiguration.xml file, edit the text by adding one of the supported emulators in which you plan to use.

```
<EMULATORS>
<DEFAULT name="Blue Zone"></DEFAULT>
<EMULATOR name="Blue Zone">
<DLLATOR name="Blue Zone">
<DLLATOR name="Blue Zone">
<DLLATOR>
</EMULATOR>
</EMULATOR>
</EMULATOR>
</EMULATOR>
```

- **4** Verify that the session name is always set as **A**.
- **5** Verify that the emulator is configured to always use **HLLAPI**. If there is an option to enable HLLAPI during start up, select it.
- **6** Save your changes to the configuration file.
- 7 Once the steps above have been completed, shut down your emulator.

Configuring QWS3270 Secure for Execution

This procedure is intended specifically for Jolly Giant Software QWS3270 Secure[™] v4.8. You must have QWS3270 Secure installed prior to these steps.

- **To configure QWS3270 Secure emulator session:**
- 1 Click Start > All Programs > QWS3270 Secure> QWS3270s > Connect.

QWS3270 Secure emulator opens.

2 From the QWS3270 menu, select **Edit > Options**.

The Session Options dialog box opens.

E- 🚑 Connection	Host Settings		
Host Settings	Script File:		Browse
Copy/Paste Copy/Paste Copy/Paste Custom Toolbar Custom Toolbar Custom Toolbar Custom Toolbar Custom Toolbar Custom Toolbar	Mainframe Codepage: Custom Language File:	037 English-US English(U.S.)	
	Keyboard Mapping File: C:\Program Files (x86)\QWS327(D Secure\QWS32705.key	Browse
	DDE Topic: A	Stop Associated Prin	ter Session

- 3 In the right Navigation pane, select **Connection > Host Settings**.
- 4 In the Host Settings section, replace **SESSIONA** with **A** in the DDE Topic field.
- 5 In the right Navigation pane, select **Connection**.

6 In the Connection section, select **A** in the HLLAPI Session ID drop-down list.

Host Settings	Connection	
File Transfer Graphics Graphics Security Security Display Display Tab Options Colours Graphics Miscelancous Miscelancous Mouse Custom Toolbar Printer Environment	Host Name or 3.15.4.4 Port Number: 392 Session Identification HLLAPI Session ID: Keep Alive Options Keep Alive Options Keep Alive Interval: Terminal Type (Screen Size) Custom Screen Size Primary Rows Primary Columns Alternate Rows Alternate Column 24 2 80 2 2 2 80 2 Vise 3270 Enhanced Protocol (if supported)	*

7 Click OK.

Your session is now configured.

Configuring Certify for Execution

You must apply edits to the Mainframe LT configuration file for execution and using Certify LiveTouch.

To configure Certify for execution:

1 Open the following directory:

C:\Program Files(x86)\Worksoft\Certify\Interface Client\Worksoft\Mainframe-LT

- 2 Open the **EmulatorConfiguration.xml** file in a text editor.
- **3** In the EmulatorConfiguration.xml file, edit the text by adding one of the supported emulators in which you plan to use.

<EMULATORS>

<DEFAULT name="QWS3270 "></DEFAULT>

<EMULATOR name="QWS3270">

<DLLNAME>WHLLAPI.D11</DLLNAME>

<DLLPATH>C:\Program Files (x86)\QWS3270 Secure</DLLPATH>

<SESSION>A</SESSION>

</EMULATOR>

</EMULATOR>

- 4 Verify that the session name is always set as **A**.
- **5** Verify that the emulator is configured to always use **HLLAPI**. If there is an option to enable HLLAPI during start up, select it.
- **6** Save your changes to the configuration file.
- 7 Once the steps above have been completed, shut down your emulator.

Appendix F Configuring Java Runtime Environment

Installing the Java Interface JAR files

If you install the Certify client on a computer that does not have the Java Runtime Environment (JRE) installed, the Java Interface JAR files will not install during installation, and the Java interface will not work. You will need to install the supported version of the JRE, and then install the Java Interface JAR files into the JRE directory using the Java Interface's JAR Installer tool.

You will also need to run the Java Interface's JAR Installer tool if your application uses its own JRE copy or uses a different JRE version other than the one registered on your computer.

To run the JAR installer, you need to be an administrator on the local machine. You can open the installer from the Start menu on your desktop or from the following directory:

C:\Program Files (x86)\Worksoft\Certify\Interface Client\Worksoft\wsTest\Java\Installer

To install the Java Interface JAR files with the installed JRE:

1 From the Start menu on your desktop, select **All Programs > Worksoft > JAR Installer**.

The Certify Java Installer opens.

Joieur Desuriduori Java		_

2 Click Find Installed JREs.

In the Select Destination Java Runtime Environments (JREs) field, the available JREs are listed.

👗 Certify Java Installer	-		×	
Select Destination Java				
C:\Program Files (x86)\J C:\Program Files (x86)\J	<mark>sva`\jro1.8.0_202</mark> ava`\jdk1.8.0_202			
	La			
Find Running JREs	Find Installed JREs	Browse for JRE	s	
	Back	Next	Ext	

- **3** From the list, select a JRE.
- 4 Click Next.

The Select Interfaces to Install field opens.

- 5 Select Java.
- 6 Click Install.

The Java Interface JAR files are installed in the selected folder.

- 7 When the Confirmation message appears, click **OK**.
- 8 Close the Certify Java Installer.

• To install the Java Interface JAR files to an application's JRE:

- **1** Open the Java application.
- 2 From the Start menu on your desktop, select **All Programs > Worksoft > JAR Installer**. The Certify Java Installer opens.
- **3** Click **Browse for JREs** to browse to the JRE directory where you want to install the Java Interface JAR files.
- 4 Select an application and click **OK**. To select multiple applications, use the **<Shift>** key.

In the Select Destination Java Runtime Environments (JREs) field, the JREs used by the selected application are listed.

- **5** From the list, select a JRE.
- 6 Click Install.

The Java Interface JAR files are installed in the selected folder.

- 7 When the Confirmation message appears, click **OK**.
- 8 Close the Certify Java Installer.

• To install the Java Interface JAR files by browsing to the JRE directory:

- **1** Open the Java application.
- 2 From the Start menu on your desktop, select **All Programs > Worksoft > JAR Installer**. The Certify Java Installer opens.

3 Click Running JREs

4 Select an application and click **OK**. To select multiple applications, use the **<Shift>** key.

In the Select Destination Java Runtime Environments (JREs) field, the JREs used by the selected application are listed.

5 From the JREs list, select a JRE. To select multiple applications, use the **<Shift>** key.

6 Click Install.

The Java Interface JAR files are installed in the selected folder.

- 7 When the Confirmation message appears, click **OK**.
- 8 Close the Certify Java Installer.

Appendix GCompressing Images in Your Database

In the Worksoft Certify v12.0.2112 release, step screenshots are stored in the database in a more efficient way. With this version, Certify compresses images without affecting the readability of the image content.

Duplicate images are only saved once in the database. By storing only one copy of an image, lower storage space is used, and performance degradation is prevented.

New tables are created to store images, and they are mapped to the test step results. The existing LogImageData rows are changed to LogFileStream rows after you have upgraded your database.

For existing customers, there is no change to the upgrade Certify database process if you have less than 500,000 LogImageData rows. For information on upgrading your database, see Chapter 5 "Upgrading Your Worksoft Certify Client Version".

Upgrading Your Database with over 500K LogImageData Rows

If you have over 500,000 LogImageData rows in your database, you need to use the upgrade and migration executables in the **UpdateDatabase - Post Upgrade Migration** directory.

To upgrade your large database:

1 Locate the Apply.exe utilities within your Certify distribution package:

...\Worksoft Certify Site Prep\Site Prep\Database Scripts\UpdateDatabase - Post Upgrade Migration

- **2** Before you install the Certify upgrade on your production server, you need to test and verify the upgrade release. For more information, see "Testing the Worksoft Certify Upgrade Release" on page 31.
- **3** Use the Apply.exe tool in the **1. Upgrade** directory to upgrade your database:

...\Worksoft Certify Site Prep\Site Prep\Database Scripts\UpdateDatabase - Post Upgrade Migration\1.Upgrade

4 After you have upgraded your database, use the Apply.exe tool in the **2. Migration** directory:

...\Worksoft Certify Site Prep\Site Prep\Database Scripts\UpdateDatabase - Post Upgrade Migration\2. Migration.

After running the Post-Upgrade Migration scripts, screenshots can be viewed.