

Entire Net-Work

Entire Net-Work Server Installation and Administration

Version 7.9.1

October 2022

This document applies to Entire Net-Work Version 7.9.1 and all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

Copyright © 2022 Software AG, Darmstadt, Germany and/or Software AG USA, Inc., Reston, VA, USA, and/or its subsidiaries and/or its affiliates and/or their licensors.

The name Software AG and all Software AG product names are either trademarks or registered trademarks of Software AG and/or Software AG USA, Inc. and/or its subsidiaries and/or its affiliates and/or their licensors. Other company and product names mentioned herein may be trademarks of their respective owners.

Detailed information on trademarks and patents owned by Software AG and/or its subsidiaries is located at <http://softwareag.com/licenses>.

Use of this software is subject to adherence to Software AG's licensing conditions and terms. These terms are part of the product documentation, located at <http://softwareag.com/licenses/> and/or in the root installation directory of the licensed product(s).

This software may include portions of third-party products. For third-party copyright notices, license terms, additional rights or restrictions, please refer to "License Texts, Copyright Notices and Disclaimers of Third-Party Products". For certain specific third-party license restrictions, please refer to section E of the Legal Notices available under "License Terms and Conditions for Use of Software AG Products / Copyright and Trademark Notices of Software AG Products". These documents are part of the product documentation, located at <http://softwareag.com/licenses> and/or in the root installation directory of the licensed product(s).

Use, reproduction, transfer, publication or disclosure is prohibited except as specifically provided for in your License Agreement with Software AG.

Document ID: WCPOS-OWCPSRVDOC-791-20220924

Table of Contents

1 About this Documentation	1
Document Conventions	2
Online Information and Support	2
Data Protection	3
I Installing and Uninstalling Entire Net-Work Server	5
2 Installing and Uninstalling Entire Net-Work Server	7
Installation Overview	8
The License Key	9
System Requirements	10
Configuration Considerations	12
Before You Begin	13
Installation Steps	14
Configuring Product Components for Windows Personal Firewall	16
Uninstallation Steps	17
Installing Fixes Using Software AG Update Manager	17
Uninstalling Fixes Using Software AG Update Manager	18
II Starting and Stopping Entire Net-Work Server	19
3 Starting and Stopping Entire Net-Work Server	21
Automatically Starting Entire Net-Work Server	22
Manually Starting Entire Net-Work Server	22
Stopping Entire Net-Work Server	23
III Entire Net-Work Server Administration	25
4 Managing Entire Net-Work Servers	27
5 Listing, Selecting, and Reviewing Installed Entire Net-Work Server	29
6 Adding Kernel Configuration Definitions	33
7 Migrating Kernel Configurations	39
8 Setting Entire Net-Work Server Parameters	41
9 Setting the Trace Level for an Entire Net-Work Server	45
10 Managing Entire Net-Work Server Log Files	47
Viewing the Entire Net-Work Server Log File	48
Starting a New Entire Net-Work Server Log File	48
Specifying the Entire Net-Work Server Log File Location	50
11 Changing the Adabas Directory Server	53
12 Shutting Down the Entire Net-Work Server	55
13 Managing Kernels	57
14 Listing, Selecting, and Reviewing Kernel Definitions	59
Listing, Selecting, and Reviewing Permanent Definitions	60
Listing, Selecting, and Reviewing Dynamic Definitions	62
15 Reviewing the Kernel Parameter Summary	65
16 Starting a Kernel	67
17 Shutting Down a Kernel	69
Shutting Down a Kernel Using Its Permanent Definition	70
Shutting Down a Kernel Using Its Dynamic Definition	71

18 Deleting a Kernel	73
19 Setting Basic Kernel Parameters	75
20 Setting Advanced Kernel Parameters	81
21 Specifying Kernel Scalability	85
22 Maintaining Kernel Filters	87
23 Changing the Adabas Directory Server	91
24 Maintaining Access Definitions	93
Listing Access Definitions	94
Adding Access Definitions	95
Modifying Access Definitions	99
Deleting Access Definition	100
25 Reviewing Kernel Access Status	103
26 Maintaining Connection Definitions	105
Listing Connection Definitions	106
Adding Connection Definitions	107
Modifying Connection Entries	113
Deleting Connection Entries	114
27 Reviewing Kernel Outgoing Connection Status	115
28 Reviewing Kernel Statistics	117
29 Dynamically Collecting Detailed Statistics	119
30 Generate a Kernel Configuration Dump	121
31 Checking Kernel Databases	123
32 Pinging Databases and Classic Nodes	125
Pinging Databases	126
Pinging Classic Nodes	127
33 Dynamically Connecting and Disconnecting a Connection	129
Dynamically Connecting	130
Dynamically Disconnecting	131
34 Dynamically Managing Kernel Clients and Adabas Contexts	133
Listing Kernel Clients and Adabas Contexts	134
Viewing Kernel Client and Adabas Context Statistics	135
Dynamically Disconnecting Kernel Clients	136
Dynamically Deleting Adabas Contexts	137
35 Dynamically Managing Kernel Client Hosts	139
Listing Client Hosts	140
Viewing Client Host Statistics	140
Dynamically Disconnecting All Clients and Contexts of a Client Host	141
36 Reviewing Kernel Status	143
37 Managing Kernel Log Files	145
Viewing the Kernel Log File	146
Starting a New Kernel Log File	146
Specifying the Kernel Log File Location	148
38 Tracing Kernel Processing	151
Managing Kernel Tracing	152
Managing Software AG Transport Services Tracing	156

Managing Software AG Communications Tracing	158
39 Entire Net-Work Service Function Utility (wcpadmin)	161
Syntax	162
Special Character Use	166
Creating a Kernel Using wcpadmin	166
General Examples	167
40 Port Number Reference	175
Port Overview and General Assignments	176
Changing the Adabas Directory Server Port Number	177
IV Entire Net-Work Utility Functions for the Directory Server (checkadi and setadi)	179
41 Entire Net-Work Utility Functions for the Directory Server (checkadi and setadi)	181
The checkadi Utility	182
The setadi Utility	183
Index	185

1 **About this Documentation**

■ Document Conventions	2
■ Online Information and Support	2
■ Data Protection	3

Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
Monospace font	Identifies service names and locations in the format <i>folder.subfolder.service</i> , APIs, Java classes, methods, properties.
<i>Italic</i>	Identifies: Variables for which you must supply values specific to your own situation or environment. New terms the first time they occur in the text. References to other documentation sources.
Monospace font	Identifies: Text you must type in. Messages displayed by the system. Program code.
{ }	Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.
	Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the symbol.
[]	Indicates one or more options. Type only the information inside the square brackets. Do not type the [] symbols.
...	Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).

Online Information and Support

Product Documentation

You can find the product documentation on our documentation website at <https://documentation.softwareag.com>.

In addition, you can also access the cloud product documentation via <https://www.software-ag.cloud>. Navigate to the desired product and then, depending on your solution, go to “Developer Center”, “User Center” or “Documentation”.

Product Training

You can find helpful product training material on our Learning Portal at <https://knowledge.softwareag.com>.

Tech Community

You can collaborate with Software AG experts on our Tech Community website at <https://tech-community.softwareag.com>. From here you can, for example:

- Browse through our vast knowledge base.
- Ask questions and find answers in our discussion forums.
- Get the latest Software AG news and announcements.
- Explore our communities.
- Go to our public GitHub and Docker repositories at <https://github.com/softwareag> and <https://hub.docker.com/publishers/softwareag> and discover additional Software AG resources.

Product Support

Support for Software AG products is provided to licensed customers via our Empower Portal at <https://empower.softwareag.com>. Many services on this portal require that you have an account. If you do not yet have one, you can request it at <https://empower.softwareag.com/register>. Once you have an account, you can, for example:

- Download products, updates and fixes.
- Search the Knowledge Center for technical information and tips.
- Subscribe to early warnings and critical alerts.
- Open and update support incidents.
- Add product feature requests.

Data Protection

Software AG products provide functionality with respect to processing of personal data according to the EU General Data Protection Regulation (GDPR). Where applicable, appropriate steps are documented in the respective administration documentation.

I Installing and Uninstalling Entire Net-Work Server

2 Installing and Uninstalling Entire Net-Work Server

■ Installation Overview	8
■ The License Key	9
■ System Requirements	10
■ Configuration Considerations	12
■ Before You Begin	13
■ Installation Steps	14
■ Configuring Product Components for Windows Personal Firewall	16
■ Uninstallation Steps	17
■ Installing Fixes Using Software AG Update Manager	17
■ Uninstalling Fixes Using Software AG Update Manager	18

Entire Net-Work Server is installed using the Software AG Installer. It requires a license key. For more information, read *The License Key*, elsewhere in this chapter.

You can download the Software AG Installer from the Software AG Empower website at <https://empower.softwareag.com/>.

More than one Entire Net-Work Server can exist in your enterprise, however, only one Entire Net-Work Server can be installed per computer. An Entire Net-Work Server must be installed on each machine in your enterprise where an Entire Net-Work Kernel is required to:

- Provide access to local Adabas databases
- Act as a migration bridge between Adabas databases on classic Entire Net-Work nodes and those on the new Entire Net-Work 7 e-business nodes.

Once the Entire Net-Work Server is installed, one or more Kernels can be defined.

This chapter provides product-specific instructions for installing Entire Net-Work Server. It is intended for use with *Using the Software AG Installer*, which explains how to prepare your machine to use the Software AG Installer and how to use the Software AG Installer and Software AG Uninstaller to install and uninstall your products. The most up-to-date version of *Using the Software AG Installer* is always available in the webMethods product documentation located on the Software AG Empower website (<https://empower.softwareag.com/>).

This chapter covers the following topics:

Installation Overview

This product is installed using the Software AG Installer, which you can download from the Software AG Empower website at <https://empower.softwareag.com/>.

Installation of Entire Net-Work requires the presence of an Adabas Directory Server in your enterprise.

If you have a Directory Server already installed at your site from an earlier release of Software AG products, you do not need to install it again; your new products can use the existing installation instead.

The Directory Server must be installed on a machine in your network that can be accessed by all machines where Entire Net-Work will be installed (both Entire Net-Work Server and Entire Net-Work Client). It should be installed on a dedicated system that is operational 24 hours a day, with a UPS.

We recommend that you install one Directory Server for use with all the Software AG products that require it.

The License Key

A permanent license is required in order to run this product. Every time its software starts, the license key file is read and the validity of the license key is checked. So, you will be required to specify the location of a license key file that contains your license key during the installation procedure.

Entire Net-Work Server licenses include a setting for the maximum number of clients that can be installed for your site. This setting is established when you purchase Entire Net-Work.

This section contains the following information on license keys for Entire Net-Work Server.

- [License Key File Location and Use](#)
- [The License Key File](#)



Important: If you uninstall Entire Net-Work Server on Windows systems, the license file will be deleted. Management of the license file is, therefore, your responsibility. Make sure that you have a copy of the file before doing the uninstall.

License Key File Location and Use

The Entire Net-Work Server license key file is generally distributed on distribution media, although, in special cases, it may be shipped via e-mail. The file name is in the following format, where *vr* is the version and release number of the product: *wcpvr.xml*.

Be sure that the file containing the license key is in a location that will be accessible during the Entire Net-Work Server installation, such as on the file system or in a disk drive. During the installation of Entire Net-Work Server, you are asked to locate the license file. Once it is located, the license file will be copied into a Software AG common area.

If you are installing Entire Net-Work Server on a laptop and you have received your license file via distribution media, note that some laptop configurations do not allow you access to the CD-ROM drive and a diskette drive simultaneously. In such cases you must copy the license file to a location that is accessible while the CD-ROM drive is in use, such as your laptop's hard disk, before you start the installation procedure. In general, Software AG recommends that you place the license file on the file system before starting the installation procedure.



Note: The license file is sometimes transmitted via e-mail. If you received the file via e-mail, copy it to a directory on your hard drive.

The License Key File

The license key file is provided as an XML document. This document can be viewed, using a browsing tool or text editor. It contains text representing the licensing information and a digital signature. It displays Software AG legal notices, copyright information, as well as the product license information.



Caution: Any modification of the license key file will invalidate the digital signature and the license key check will fail. If the check fails, you will not be able to install or run the product. In the event of a check failure, please contact your Software AG Support representative.

System Requirements

This section describes the system requirements of Entire Net-Work Client.

- [Supported Operating System Platforms](#)
- [Supported Hardware](#)
- [Supported Browsers](#)
- [Space Requirements](#)
- [Firewall Requirements](#)

Supported Operating System Platforms

Software AG generally provides support for the operating system platform versions supported by their respective manufacturers; when an operating system platform provider stops supporting a version of an operating system, Software AG will stop supporting that version.

For information regarding Software AG product compatibility with IBM platforms and any IBM requirements for Software AG products, please review the [Product Compatibility for IBM Platforms](#) web page.

Before attempting to install this product, ensure that your host operating system is at the minimum required level. For information on the operating system platform versions supported by Software AG products, complete the following steps.

1. Access Software AG's Empower web site at <https://empower.softwareag.com>.
2. Log into Empower. Once you have logged in, you can expand **Products & Documentation** in the left menu of the web page and select **Product Version Availability** to access the Product Version Availability screen.
3. Use the fields on the top of this screen to filter its results for your Software AG product. When you click the **Search** button, the supported Software AG products that meet the filter criteria are listed in the table below the filter criteria.

This list provides, by supported operating system platform:

- the Software AG general availability (GA) date of the Software AG product;
- the date the operating system platform is scheduled for retirement (OS Retirement);
- the Software AG end-of-maintenance (EOM) date for the product; and
- the Software AG end-of-sustained-support (EOSS) date for the product.



Note: Although it may be technically possible to run a new version of your Software AG product on an older operating system, Software AG cannot continue to support operating system versions that are no longer supported by the system's provider. If you have questions about support, or if you plan to install this product on a release, version, or type of operating system other than one listed on the Product Version Availability screen described above, consult Software AG technical support to determine whether support is possible, and under what circumstances.

Supported Hardware

For general information regarding Software AG product compatibility with other platforms and their requirements for Software AG products, visit Software AG's [Hardware Supported](#) web page.

Supported Browsers

The Adabas Manager requires an Internet browser. For information on supported browsers, see the *webMethods System Requirements* documentation on the Empower web site.

Space Requirements

The following table displays the minimum disk space requirements on Windows and Linux systems for various Adabas LUW and Entire Net-Work LUW products, including the Adabas Directory Server:

Product	Space Requirement
Entire Net-Work Client	25 MB
Entire Net-Work Server	30 MB
Adabas Directory Server	20 MB

Firewall Requirements

If you attempt to install and use this software in a system with a firewall in place, be sure that your system administrator has set up the firewall so that the component applications can access the ports they need (including the Adabas Directory Server port and any ports Entire Net-Work dynamically assigns during its own processing). For more information about port usage, read the *Port Number Reference* found elsewhere in this documentation.

Configuration Considerations

Before you install this product, you must decide how you are going to configure it. To assist you in these decisions, the following table provides some questions you should answer for the installation of this product in your enterprise. Corresponding considerations for the questions are also provided.

Category	Question	Considerations
Adabas Directory Server and this product	Do you want to direct specific clients or Kernels to specific databases by department or other organizational grouping?	You can create multiple Kernels and use Directory Server partitioning and client and Kernel filtering in SMH to control which clients and Kernels have access to which databases.
Partitioning	Do you want to implement partitioning?	Partitioning allows you to direct specific clients or Kernels to specific databases. Partitions are defined for the clients and Kernels in the Adabas Manager. For more information, read <i>Understanding Partitioning in Entire Net-Work LUW Concepts Manual</i> .
Entire Net-Work Servers	On which machines must an Entire Net-Work Server be installed?	One Entire Net-Work Server must be installed on each machine where you wish to define Kernels. Only one server can be installed on a machine.
Kernels	On which machines do your open system databases reside?	At least one Kernel must be defined on each of these machines if you want your clients to be able to access the open system databases.
	Will your Entire Net-Work Clients need to communicate with databases on the mainframe or with databases managed by classic Entire Net-Work 2 Kernels?	One Entire Net-Work Kernel must be used as a bridge to access these databases. This Kernel will translate and direct requests as appropriate. The Entire Net-Work Kernel used can be one already defined on a system with a local database. It can also be a Kernel that is defined standalone on a machine without a local database. You will need to evaluate your network traffic to determine which configuration works best for your site.
	Will you want to install and run an Entire Net-Work 7 Kernel and an Entire Net-Work 2 Kernel on the same machine?	Software AG recommends that you install either the Entire Net-Work 7 or the Entire Net-Work 2 Kernel on a machine -- but not both. Instead, when you are ready to migrate a system to Entire Net-Work 7, stop the classic Entire

Category	Question	Considerations
		Net-Work 2 Kernel and install the Entire Net-Work 7 Kernel. The migration will happen smoothly, without complications, and you can use Entire Net-Work 7 to access the same databases you accessed using classic Entire Net-Work. While it is possible to install and run an Entire Net-Work 7 Kernel on a system where an Entire Net-Work 2 Kernel is installed and running, choosing to do so is an advanced option. We recommend that you contact your Software AG technical support representative for assistance in doing this.
	If you are implementing partitioning, which Kernels will be part of which partition?	Partitioning allows you to direct specific Kernels to specific databases. For more information, read <i>Understanding Partitioning</i> , in the <i>Entire Net-Work LUW Concepts Manual</i> .
	Are you implementing filtering?	Filtering allows you to direct specific Kernels to specific databases. For more information, read <i>Understanding Filtering</i> , in the <i>Entire Net-Work LUW Concepts Manual</i> .
Entire Net-Work Clients	How many Entire Net-Work Clients will you need and on which machines will they be needed?	One Entire Net-Work Client must be installed on each machine that needs to communicate with an Adabas database or that needs to access other Software AG product servers (such as those for EntireX Communicator, Tamino, or Adabas SQL Gateway).
	If you are implementing partitioning, which clients will be part of which partition?	Partitioning allows you to direct specific clients to specific databases. For more information, read <i>Understanding Partitioning</i> , in the <i>Entire Net-Work LUW Concepts Manual</i> .
	Are you implementing filtering?	Filtering allows you to direct specific clients to specific databases. For more information, read <i>Understanding Filtering</i> , in the <i>Entire Net-Work LUW Concepts Manual</i> .
	Will any of the machines be used to run both databases and Entire Net-Work Clients?	At least one Entire Net-Work 7 Kernel must be defined and one Entire Net-Work 7 client must be installed on any machine on which a local database is installed and from which access to other databases is required.

Before You Begin

Before you begin installing this product, ensure that the following prerequisites have been met:

1. Software AG strongly recommends that you create an installation image of your existing Software products and store the image on your internal network. You should create an image for each operating system on which you plan to run the installation (for example, 32-bit, 64-bit, or both). This will help you reduce WAN traffic and speed up installation and will ensure consistency across installations over time, since the Software AG Installer provides only the latest release of each product.

2. Close (stop) all open applications, especially those applications interacting with or depending on your Adabas databases. This includes Natural, Adabas Manager, the Adabas DBA Workbench, and prior releases of any other Adabas products. To be on the safe side, also shut down all Software AG services.



Important: For some Software AG products, the Software AG Uninstaller will not be able to remove key files that are locked by the operating system if the associated Software AG products are not shut down.

3. Disable any antivirus software.
4. Ensure the target computer is connected to the network.
5. If this product requires a license key file, verify the license key file is copied somewhere in your environment. Products requiring license key files will not run without valid license keys. For more information, read *The License Key*, elsewhere in this section.
6. Verify your environment supports the system requirements for this product, as described in *System Requirements*, elsewhere in this section.

Installation Steps

Entire Net-Work Server is installed using the Software AG Installer. This installation documentation provides a brief description on how to install the Entire Net-Work Server directly on the target machine using the installer wizard. For detailed information on the installer wizard, read *Using the Software AG Installer*.



Note: Read *Using the Software AG Installer* also if you want to use console mode, or if you want to install using an installation script or installation image.

➤ To install Entire Net-Work Server, complete the following steps:

Software AG provides a license file for Entire Net-Work Server; the installer requires it during installation. Copy the license file to the machine on which you want to install Entire Net-Work Server. You can copy it to any temporary location. The installer will ask for the location of your license file and will then copy it to the appropriate location.

- 1 Start the Software AG Installer as described in *Using the Software AG Installer*.
- 2 When the first page of the Software AG Installer wizard (the Welcome panel) appears, choose the **Next** button repeatedly, specifying all required information on the displayed panels, until the panel containing the product selection tree appears.

All Adabas-related products (including Adabas Directory Server) can be selected for installation within the **Adabas Family** product selection tree.



Note: The Infrastructure tree and required components therein is automatically selected for all Software AG product installations.

- 3 To install Entire Net-Work Server, select (check) the Entire Net-Work Server entry from the **Adabas Family** product selection tree.



Note: You can opt to install other Software AG products from this list at the same time. This section just describes the installation of Entire Net-Work Server.

The selection of Entire Net-Work Server by default also selects the Platform Manager under **Infrastructure > Platform Manager** and the Entire Net-Work Plug-in for Platform manager under **Infrastructure > Platform Manager Plug-ins > Entire Net-Work Plug-in**. If you choose not to use Platform Manager, you can deselect these items before proceeding with the installation.

- 4 On the License panel, read the license agreement and select the check box to agree to the terms of the license agreement and then click **Next** to continue. If you do not accept the license agreement, the installation will stop.
- 5 When the **Configure** panel appears, enter the full path to the Entire Net-Work Server license file (or use the **Browse** button to select it from a dialog box).

During the installation, the installer will copy the Entire Net-Work Server license file to the `<common/conf>` directory of your Entire Net-Work Server installation.

- 6 Remain on the **Configure** panel and specify the URL and port number for the Directory Server that should be used for this installation. The default is `tcpip://localhost:4952`. For complete information on the port used by the Directory Server, read *Port Number Reference*, in the *Entire Net-Work LUW Installation Guide*, in the *Entire Net-Work LUW Installation Guide*, elsewhere in this guide.

In addition, on Linux systems, select the radio button indicating whether Entire Net-Work Server should be installed as an application or a Daemon. You can only select one. By default, it is installed as a Daemon (recommended). If installed as an Application, the user must manually start and stop the Entire Net-Work Server service.

Click **Next** to continue.

- 7 On the last panel, review the items you have selected for installation. If the list is correct, choose the **Next** button to start the installation process.

After Entire Net-Work Server has been installed, it will start automatically on Windows, and on Linux only, if it has been installed as a Daemon.

Configuring Product Components for Windows Personal Firewall

If you have the default Microsoft Windows personal firewall enabled on a PC and you would like to install and run Adabas and Entire Net-Work components on that PC, you will need to allow communications through the firewall on certain ports. You can do this in one of two ways: you can allow ports for a specific executable program or you can open specific ports.

- [Allow Ports for a Specific Executable Program](#)
- [Open a Specific Port](#)



Note: If you attempt to install Adabas or Entire Net-Work in a system with a firewall in place, be sure that your system administrator has opened the firewall for the Adabas Directory Server port or the installation may not complete successfully.

Allow Ports for a Specific Executable Program

You can allow a specific executable program to open a port. To do so, issue the following command:

```
C:\>netsh firewall add allowedprogram program="<path and file name>"
name="<component-name>" profile=ALL
```

where *<path and file name>* is the path and file name of the file you want to allow and *<component-name>* is a user-specified name to identify the file you are allowing. The following table lists the common Adabas and Entire Net-Work component files that might need to be allowed if Windows personal firewall is enabled:

Component Name	Path and File Name
Entire Net-Work Client Service	<i><your-installation-location>\EntireNetWorkClient\bin\wclservice.exe</i>
Entire Net-Work Kernel program	<i><your-installation-location>\EntireNetWorkServer\bin\wcpkernel.exe</i>
Entire Net-Work Server Service	<i><your-installation-location>\EntireNetWorkServer\bin\wcpservice.exe</i>
Adabas Directory Server Service	<i><your-installation-location>\SoftwareAG\SoftwareAgDirectoryServer\bin\xtsdssvcadi.exe</i>

To remove the Adabas or Entire Net-Work component as an allowed program, issue the following command:

```
C:\>netsh firewall delete allowedprogram program="<path and file name>"
profile=ALL
```

where *<path and file name>* is the path and file name of the file you want to disallow.

Open a Specific Port

To open a specific port for use by an Adabas or Entire Net-Work component in the firewall, issue the following command:

```
C:\>netsh firewall add portopening protocol=TCP port=nnnn  
name="<component-name>" profile=ALL
```

where *nnnn* is the port number you want to open and *<component-name>* is a user-specified name to identify the port you are allowing.

To avoid port number conflicts, read [Port Number Reference](#), later in this guide, for a general list of the ports used by Software AG products.

To close a specific port in the firewall, issue the following command:

```
C:\>netsh firewall delete portopening protocol=TCP port=nnnn profile=ALL
```

where *nnnn* is the port number you want to close.

Uninstallation Steps

You uninstall this product using the Software AG Uninstaller. For information on how to use the uninstaller, read the *Using the Software AG Installer* guide.

Installing Fixes Using Software AG Update Manager

Entire Net-Work Server is updated using the Software AG Update Manager (SUM).

You can download the Software AG Update Manager from the Software AG Empower website at <https://empower.softwareag.com/>.

This SUM installation documentation on Empower provides a brief description on how to update Software AG products directly on the target machine using the Update Manager wizard. The SUM documentation also includes instructions on how to apply updates in console mode or using scripts.

➤ **To update Entire Net-Work Server, complete the following steps:**

- 1 Download and install Software AG Update Manager for your platform from Empower.
- 2 Shut down any running instances of the product. Updates cannot successfully apply if the application is active.

- 3 From a console prompt in the SUM */bin* directory, enter `UpdateManagerGUI.bat` (`UpdateManagerGUI.sh` on Linux).
- 4 On the opening page of the SUM tool, select **Install Fixes from Empower**, enter your SAG product directory root location and provide your Empower User ID and password. Click **Next**.
- 5 Expand through the **Adabas Family** product selection tree to find the entry for this product.



Tip: If the product is not shown in the tree, there is either no update available or the product is not installed in the location you specified.

- 6 Select (check) the **Entire Net-Work Server** entry in the product selection tree. Click **Next**.



Tip: You can select more than one product to update before proceeding.

- 7 The next screen presents a summary of products that are about to be updated. If any of them require manual pre-installation steps, they will be highlighted in red and you will be directed to read the update readme file for that product before proceeding.

Complete any pre-installation steps outlined in the readme file and check the box next to **Pre-installation steps have been completed**. Click **Next**.



Note: If any pre-installation steps are required, the **Next** button will be unavailable until you confirm these steps have been completed.

- 8 The tool will apply updates to all selected products and present you with a final screen confirming updates have been applied. Click **Close** to exit SUM or **Home** to return to the tool's starting panel.

Uninstalling Fixes Using Software AG Update Manager

➤ To remove an installed update, complete the following steps:

- 1 Shut down any running instances of the product.
- 2 Start Software AG Update Manager.
- 3 On the opening page, select **Uninstall Fixes** from the selection panel. Click **Next**.
- 4 If any product selected for uninstall requires manual steps, you will be directed to review the update readme and confirm you have performed any pre-uninstallation steps. Click **Next**.
- 5 The fix(es) you selected for uninstall will be removed and the product(s) returned to their previous state. Click **Close** to exit SUM or **Home** to return to the tool's starting panel.

II

Starting and Stopping Entire Net-Work Server

3

Starting and Stopping Entire Net-Work Server

■ Automatically Starting Entire Net-Work Server	22
■ Manually Starting Entire Net-Work Server	22
■ Stopping Entire Net-Work Server	23

This chapter describes what you need to do to start and stop the Entire Net-Work Server.

During installation of Entire Net-Work Server, the Entire Net-Work Server service or daemon is started automatically when the computer is started.



Note: The Entire Net-Work Server service is for the Entire Net-Work Server alone and is named "Entire Net-Work Server Service". If a given system does not have a Entire Net-Work Server installed, no service will be available in Windows. The Entire Net-Work Server daemon is for the Entire Net-Work Server alone and is named "Entire Net-Work Server Service". If a given system does not have a Entire Net-Work Server installed, no daemon will be available in Linux.

Automatically Starting Entire Net-Work Server

If, during installation of the Entire Net-Work Server, you elected to have its service or daemon started automatically at system startup, you need do nothing to start the server. It will start up automatically when the system starts.



Note: You must manually stop the Entire Net-Work Server service or daemon before you can uninstall Entire Net-Work Server.

Manually Starting Entire Net-Work Server

If, for some reason, the Entire Net-Work Server service or daemon is manually stopped, you will need to manually start it before Entire Net-Work can function correctly.

➤ To manually start the Entire Net-Work Server service on Windows systems:

- Start it from the Windows Services window (usually located under Administrative Tools on the Control Panel). For more information on the Windows Services window, refer to the documentation for your Windows system.



Note: You must manually stop the Entire Net-Work Server service before you can uninstall Entire Net-Work Server.

The Entire Net-Work Server service is started.

➤ To start the Entire Net-Work Server daemon in Linux environments:

- Run the shell script *wcpstart.sh*.

The Entire Net-Work Server daemon is started.

Stopping Entire Net-Work Server

You can shut down (stop) the Entire Net-Work Server Windows service using Adabas Manager or using the Windows Services window. You can shut down (stop) the Entire Net-Work Server Linux daemon using Adabas Manager or using a shell script. This section describes all methods.

➤ **To stop the Entire Net-Work Server Windows service from the Windows Services window:**

- Stop it from the Windows Services window (usually located under Administrative Tools on the Control Panel). For more information on the Services window, refer to the documentation for your Windows system.

The Entire Net-Work Server service is stopped.

➤ **To stop the Entire Net-Work Server daemon in Linux environments:**

- Run the shell script `wcpstop.sh`.

The Entire Net-Work Server daemon is stopped.

➤ **To stop the Entire Net-Work Server Windows service or daemon from the Adabas Manager (AMN):**

- Refer to the section *Entire Net-Work Administration* in the *Adabas Manager* documentation.

To subsequently restart it, follow the procedures described in [Manually Starting Entire Net-Work Server](#), elsewhere in this section, or reboot your machine if you have elected to have the Entire Net-Work Server service or daemon automatically started when the machine is started.

III

Entire Net-Work Server Administration

Entire Net-Work Server administration tasks are largely performed using the Adabas Manager (AMN).

For all subsequent sections, it is assumed that you are familiar with the basic concept of the Adabas Manager graphical user interface as described in section *The Adabas Manager Graphical User Interface* under *Using Adabas Manager*

This chapter describes the administration tasks you can perform for the Entire Net-Work Server using AMN. It is organized as follows:

<i>Managing Entire Net-Work Servers</i>	Describes management tasks for Entire Net-Work servers.
<i>Managing Kernels</i>	Describes management tasks for Entire Net-Work Kernels.
<i>Entire Net-Work Service Function Utility (wcpadmin)</i>	Describes how to use the Entire Net-Work Service Function Utility (wcpadmin) to perform some of the Entire Net-Work service functions in batch mode.
<i>Entire Net-Work Directory Server Utility Functions (checkadi and setadi)</i>	Describes how to use the Entire Net-Work checkadi and setadi utility functions to check for the existence of a Adabas Directory Server and to set Directory Server access parameters for Entire Net-Work and Entire Net-Work Client.

4 Managing Entire Net-Work Servers

This chapter describes the administration tasks you can perform for Entire Net-Work Server using the System Management Hub.

This information is organized under the following headings:

Listing, Selecting, and Reviewing Installed Entire Net-Work Server

Adding Kernel Configuration Definitions

Migrating Kernel Configurations

Setting Entire Net-Work Server Parameters

Setting the Trace Level for an Entire Net-Work Server

Managing Entire Net-Work Server Log Files

Changing the Adabas Directory Server

Shutting Down the Entire Net-Work Server

5

Listing, Selecting, and Reviewing Installed Entire Net-Work Server

Selecting and expanding **Entire Net-Work Server** in the navigation area shows the servers that are attached to it, and displays a list of the servers in the display area, together with the following information: status, server name, version, TCPIP protocol and status description. Selecting an individual server in the navigation area displays information about it in the display area, where you can also display/modify the kernel list, parameters, trace options, and the log file.

➤ To display the list of servers

- Click on **Entire Net-Work Server** in the navigation area.

The list of servers is displayed in the display area.

➤ To display/modify the server configuration

- 1 Click on **Entire Net-Work Server** and then on the server that you want to use in the navigation area.

The server configuration/kernel list is displayed in the display area.

- 2 Click on the button **Add Kernel** in the display area if you want to add a new kernel to the server. The pop-up **Add kernel** dialog box is displayed. Define the new kernel by entering values in the text boxes or selecting them from the drop-down lists. Click on the button **Add** to add the new kernel.

- 3 If you want to stop a running kernel, click on the stop icon  in the column **Start/Stop** next to its name.

The pop-up **Stop Net-Work kernel** dialog box is displayed.

Click on the button **Stop** to stop the kernel.

- 4 If you want to start a Net-Work kernel that is offline, click on the start icon  in the column **Start/Stop** next to its name

The pop-up **Start Net-Work kernel** dialog box is displayed.

Click on the button **Start** to start the kernel.

- 5 If you want to delete a kernel from the server configuration, click on the waste bin icon  next to its name.

The pop-up **Delete Net-Work kernel** dialog box is displayed.

Click on the button **Delete** to delete the kernel from the server configuration.



Note: You can only delete kernels that are offline.

- 6 Click on the link **Parameters** in the display area to display the parameter settings for the for the server.

The parameters settings for the server are displayed in the display area.

Click on the button **Edit** if you want to modify any of the current parameter settings.

Make the changes that you want by entering new values in the text boxes or selecting them from the drop-down lists.

Select the check box **Update all kernels** if the changes are to be applied to all kernels.

Click on the button **Save** to save the new parameter settings.

- 7 Click on the link **Trace Option** in the display area to display the trace options for the server.

The trace options for the server are displayed in the display area.

Click on the button **Edit** if you want to modify any of the current trace options.



Note: Software AG recommends that you perform this function only on the advice of your Software AG support representative.

Modify the trace level parameters as requested by your Software AG support representative.

Click on the button **Save** to save the new trace option settings.

- 8 Click on the link **Log File** in the display area to display the contents of the console log file for the server.

The contents of the console log file for the server are displayed in the display area.

Click on the button **New Log** if you want to close the current log file and start a new one.

The pop-up **Start New Log File** dialog box is displayed.

Click on the button **Start New Log** to start a new log file.

6 Adding Kernel Configuration Definitions

When you define a Kernel, a configuration file containing all of its access and connection definitions as well as all of its parameters is created. By default, *Kernel configuration files* are stored in one of the following locations:

- In Windows 7 environments: `ProgramData\Software AG\Entire Net-Work Server\`
- In Linux environments: `$SAG\wcp\`.

Kernel configuration files have names in the format *name.KERNEL*, where *name* is the name you assign the Kernel definition when you add it.

» To add a Kernel definition to an Entire Net-Work Server:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 In tree-view, right-click on the name of the server on which you want to add a Kernel and select **Add Kernel** command from the resulting drop-down menu.

The **Add Net-Work Kernel** panel appears in detail-view.

Add Net-Work Kernel

Enter the Net-Work Kernel Name: *

☒ E-Business Access. Enter Port Value: 0 *

Additional Parameters:

☐ E-Business SSL Access. Enter Port Value: 0 *

Additional Parameters:

☒ E-Business Client Access. Enter Port Value: 0 *

Additional Parameters:

☐ E-Business SSL Client Access. Enter Port Value: 0 *

Additional Parameters:

☐ Classic Access. Enter Port Value: 7869 *

Additional Parameters:

OK Cancel Help

6 Fill in the fields on this panel, as described in the following table:

Field	Description	Required?
Enter the Net-Work Kernel Name	The name of this Kernel definition. The Kernel name will be used as the node name for the Kernel in Entire Net-Work processing. Remember that node names for Entire Net-Work Version 7 Kernels are case-sensitive and must be one to eight characters long. In addition, Kernel node names should be unique, especially if they use the same Adabas Directory Server.	Yes
E-Business Access parameters	Select e-business access if you want this Kernel definition to include an e-business access specification for another Kernel or for a mainframe Entire Net-Work node. The e-business access parameters include parameters that indicate that this is an e-business Kernel access definition and identifies the port number and additional parameters that should be used for this e-business access. - Click in the E-Business Access checkbox (a checkmark should appear) to define an e-business Kernel access definition. - Specify the port number that should be used for e-business server access. A value of zero (0) indicates that Entire Net-Work should search for an available port and dynamically assign it. For more information about port numbers, read <i>Port Number Reference</i>, in <i>Entire Net-Work LUW Installation Guide</i>. - Optionally, specify any Adabas Directory Server additional parameters needed for this e-business Kernel access definition. Additional parameters you specify are described in <i>Parameters</i>, in the chapter entitled <i>Directory Server Target Entries</i> of the <i>Software AG Directory Server Installation and Administration Guide</i>. Separate	If e-business server access is required, the E-Business Access checkbox must be checked. No other parameters are required.

Field	Description	Required?
	parameters in this field with ampersand (&) symbols. Note that not all Directory Server parameters apply to all access types.	
E-Business SSL Access parameters	Select e-business SSL access if you want this Kernel definition to include an e-business access specification for another Kernel using Secure Sockets Layer (SSL). The e-business SSL access parameters include parameters that indicate that this is an e-business SSL Kernel access definition and identify the port number and additional parameters that should be used for this e-business SSL Kernel access. ■ Click in the E-Business SSL Access checkbox (a checkmark should appear) to define an e-business Kernel access definition using SSL. ■ Specify the port number that should be used for e-business server SSL access. A value of zero (0) indicates that Entire Net-Work should search for an available port and dynamically assign it. For more information about port numbers, read <i>Port Number Reference</i>, in <i>Entire Net-Work LUW Installation Guide</i>. ■ Optionally, specify any Adabas Directory Server additional parameters needed for this e-business Kernel access definition. Additional parameters you specify are described in <i>Parameters</i>, in the chapter entitled <i>Directory Server Target Entries</i> of the <i>Software AG Directory Server Installation and Administration Guide</i>. Separate parameters in this field with ampersand (&) symbols. Note that not all Directory Server parameters apply to all access types. For assistance in setting up SSL support in Entire Net-Work, read <i>Using the SSL Toolkit</i> in the <i>Encryption for Entire Net-Work User Guide</i>, available from your Software AG support representative. Note: Due to export restrictions, the SSL Toolkit is not included on the installation CD. If you plan to use SSL in your enterprise and want to use the SSL Toolkit, please contact your Software AG support representative.	If e-business server SSL access is required, the E-Business SSL Access checkbox must be checked. No other parameters are required.
E-Business Client Access parameters	Select e-business client access if you want this Kernel definition to include an e-business access specification for an Entire Net-Work Client. The e-business client access parameters include parameters that indicate that this is an e-business Entire Net-Work Client access definition and identify the port number and additional parameters that should be used for this Entire Net-Work Client e-business access. ■ Click in the E-Business Client Access checkbox (a checkmark should appear) to define an e-business Entire Net-Work Client access definition.	If e-business Entire Net-Work Client access is required, the E-Business Client Access checkbox must be checked. No other parameters are required.

Field	Description	Required?
	- Specify the port number that should be used for e-business Entire Net-Work Client access. A value of zero (0) indicates that Entire Net-Work should search for an available port and dynamically assign it. For more information about port numbers, read <i>Port Number Reference</i>, in <i>Entire Net-Work LUW Installation Guide</i>. - Optionally, specify any Adabas Directory Server additional parameters needed for this e-business Kernel access definition. Additional parameters you specify are described in <i>Parameters</i>, in the chapter entitled <i>Directory Server Target Entries</i> of the <i>Software AG Directory Server Installation and Administration Guide</i>. Separate parameters in this field with ampersand (&) symbols. Note that not all Directory Server parameters apply to all access types.	
E-Business SSL Client Access parameters	Select e-business Entire Net-Work Client SSL access if you want this Kernel definition to include an e-business access specification for an Entire Net-Work Client using Secure Sockets Layer (SSL). The e-business client SSL access parameters include parameters that indicate that this is an e-business Entire Net-Work Client SSL access definition and identify the port number and additional parameters that should be used for this e-business client SSL access. - Click in the E-Business SSL Client Access checkbox (a checkmark should appear) to define an e-business Entire Net-Work Client access definition using SSL. - Specify the port number that should be used for e-business Entire Net-Work Client SSL access. A value of zero (0) indicates that Entire Net-Work should search for an available port and dynamically assign it. For more information about port numbers, read <i>Port Number Reference</i>, in <i>Entire Net-Work LUW Installation Guide</i>. - Optionally, specify any Adabas Directory Server additional parameters needed for this e-business Kernel access definition. Additional parameters you specify are described in <i>Parameters</i>, in the chapter entitled <i>Directory Server Target Entries</i> of the <i>Software AG Directory Server Installation and Administration Guide</i>. Separate parameters in this field with ampersand (&) symbols. Note that not all Directory Server parameters apply to all access types. For assistance in setting up SSL support in Entire Net-Work, read <i>Using the SSL Toolkit</i> in the <i>Encryption for Entire Net-Work User Guide</i>, available from your Software AG support representative. Note: Due to export restrictions, the SSL Toolkit is not included on the installation CD. If you plan to use SSL in your enterprise and want to use the SSL Toolkit, please contact your Software AG support representative.	If e-business Entire Net-Work Client SSL access is required, the E-Business SSL Client Access checkbox must be checked. No other parameters are required.

Field	Description	Required?
Classic Access parameters	Select classic access if you want this Kernel definition to include an access definition to a classic Entire Net-Work (Entire Net-Work 2) node. Classic access provides access with an Entire Net-Work 2 for open systems node, an Entire Net-Work 3 for OpenVMS node or with an Entire Net-Work 6 (mainframe) node that does not have the Simple Connection Line Driver installed. The classic access parameters include parameters that indicate that this is a classic access definition to an Entire Net-Work Version 2 node and identifies the port number, node ID, and additional parameters that should be used for this classic Entire Net-Work access. ■ Click in the Classic Access checkbox (a checkmark should appear) to define an access definition to a classic Entire Net-Work node. ■ Specify the port number that should be used for classic Entire Net-Work access. The default port number for this type of access is 7869. For more information about port numbers, read <i>Port Number Reference</i>, in <i>Entire Net-Work LUW Installation Guide</i>. ■ Specify the ID of the classic Entire Net-Work node to which this Kernel will allow access. ■ Optionally, specify any Adabas Directory Server additional parameters needed for this e-business Kernel access definition. Additional parameters you specify are described in <i>Parameters</i>, in the chapter entitled <i>Directory Server Target Entries</i> of the <i>Software AG Directory Server Installation and Administration Guide</i>. Separate parameters in this field with ampersand (&) symbols. Note that not all Directory Server parameters apply to all access types.	If classic Entire Net-Work access is required, the Classic Access checkbox must be checked and a port number and node ID must be specified. No additional parameters are required.

7 Click **OK**.

The Kernel configuration definition is added to the server.

7

Migrating Kernel Configurations

If you want to use your Kernel configuration definitions from earlier versions of Entire Net-Work Server in this version, you must convert them to current Entire Net-Work Server Kernel configurations. This chapter describes how to do this.



Caution: Once a Kernel configuration has been migrated to the most recent version of Entire Net-Work Server, it cannot be migrated back to an earlier Entire Net-Work Server version. If you really need to do so, contact your Software AG technical support representative for assistance.

➤ **To convert Entire Net-Work Server configurations to the configuration used by the current version of Entire Net-Work Server:**

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 In tree-view, right-click on the name of the server on which you want to add a Kernel and select the **Migrate Kernel** command from the resulting drop-down menu.

The **Migrate Net-Work Kernel** panel appears in detail-view.

Migrate Net-Work Kernel

Enter the Net-Work Kernel Name:....

Enter the Net-Work Kernel Location:..

☒ Version 7.3
☐ Version 7.4
☐ Version 7.5

OK Cancel Help

- 6 In the **Enter the Net-Work Kernel Name** field, specify the name of the older Kernel configuration definition you want to migrate.
- 7 In the **Enter the Net-Work Kernel Location** field, specify the fully qualified path name of the location of the older Kernel configuration definition you want to migrate.
- 8 Select (click on) the radio button associated with version number of the older Kernel configuration definition you want to migrate.
- 9 When all fields been specified, click **OK** to convert the older Kernel configuration to a current Kernel configuration.

The configuration is converted.

8

Setting Entire Net-Work Server Parameters

You can set parameters for the Entire Net-Work Server, including the default Adabas Directory Server used by the server, as well as the server name, host name, and port number.

➤ **To set parameters for the Entire Net-Work Server:**

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Select and right-click on the server. Then select the **Set Service Parameters** option from the resulting drop-down menu.

The **Server Parameters** panel appears in detail-view.

Server Parameters

SAGXTSDSHOST MCUSASASW04.eur.ad.sag

SAGXTSDSPORT 4952

SERVER_NAME <not defined>

SERVER_HOST <not defined>

SERVER_PORT <not defined>

LOGDIR C:\ProgramData\Software AG\Entire Net-Work Server\logsvc75\

☐ Update all Kernels

OK Cancel Help

- 6 Modify the parameters on the **Server Parameters** panel, as described in the following table.

Parameter	Description
SAGXTSDSHOST	Specify the Adabas Directory Server host name you want to use for this server.
SAGXTSDSPORT	Specify the port number of the Adabas Directory Server you specified in the SAGXTSDSHOST parameter.
SERVER_NAME	Normally, the server name is the machine name. However, for cosmetic reasons only, you can change the server name. If a name is specified in this parameter, the new name is changed in the access entries in the local Entire Net-Work Server configuration file.
SERVER_HOST	Normally, the host name for an Entire Net-Work Server is the machine name. However, you may want to select a different host name for the server. For example, you might want to specify the fully qualified host name (such as, "user.aaa.com") or physical address (such as, "10.124.221.36") of the machine instead. If a host name is specified in this parameter, the new host name is changed in the access entries in the local Entire Net-Work Server configuration file.
SERVER_PORT	Normally, port numbers are dynamically assigned by Entire Net-Work when the server is started, as follows: Entire Net-Work searches for the first available port starting from port 49152 through 65535. (The starting search port number, 49152, is the IANA-recommended value from which to start.).

Parameter	Description
	■ Once an available port number is found, it is assigned to the server in its Adabas Directory Server entry. You can optionally assign a port number to an Entire Net-Work server using this parameter. If you do, the new port number is changed in the access entries in the local Entire Net-Work Server configuration file.
LOGDIR	Specify the fully-qualified path of the directory where server log files should be written. For more information, read Specifying the Entire Net-Work Server Log File Location , elsewhere in this chapter.

- 7 Optionally, select the **Update all Kernels** checkbox if you want all of the Kernel definitions defined for this server to have these parameters applied to them. If you do not select the **Update all Kernels** checkbox, only new Kernel definitions will have these parameters applied.
- 8 When all parameters are set as you want, click **OK**.

The Entire Net-Work Server parameters are updated.

9 Setting the Trace Level for an Entire Net-Work Server

Tracing should be used only for problem analysis. When you specify trace levels, large trace files will be stored on your disks and performance will be affected.



Caution: While you can set the trace level for an Entire Net-Work server using SMH, we recommend that you perform this function only under the advisement of your Software AG support representative.

» To set the trace level for the server:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

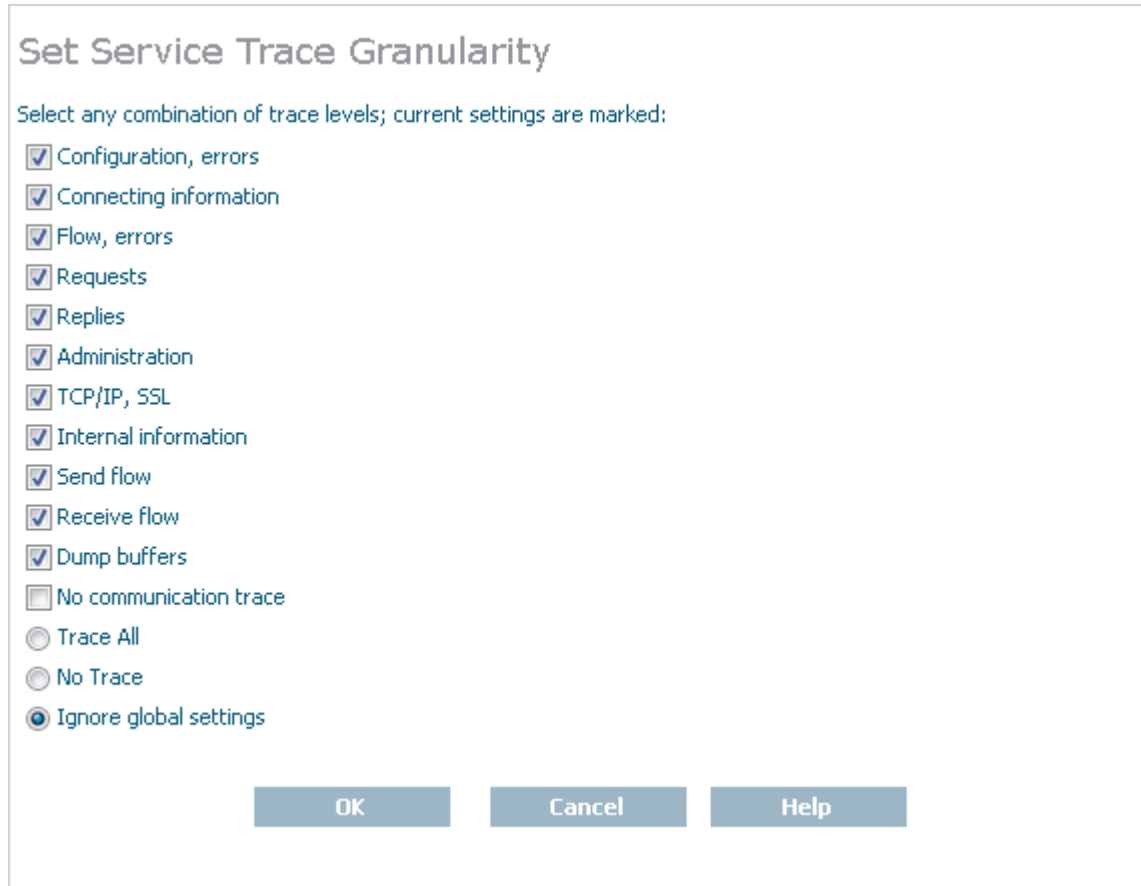
The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 In tree-view, right-click on the name of the server for which you want to set the trace level and select **Set Service Trace Granularity** command from the resulting drop-down menu.

The **Set Service Trace Granularity** panel appears in detail-view.



Set Service Trace Granularity

Select any combination of trace levels; current settings are marked:

- ☒ Configuration, errors
- ☒ Connecting information
- ☒ Flow, errors
- ☒ Requests
- ☒ Replies
- ☒ Administration
- ☒ TCP/IP, SSL
- ☒ Internal information
- ☒ Send flow
- ☒ Receive flow
- ☒ Dump buffers
- ☐ No communication trace
- ☐ Trace All
- ☐ No Trace
- ☒ Ignore global settings

OK Cancel Help

- 6 Select appropriate trace levels as requested by your Software AG support representative.

The **Trace All**, **No Trace**, and **Ignore global settings** radio buttons are mutually exclusive selections. The **Trace All** and **No Trace** radio buttons are provided as *global* trace settings.

- If you select **Trace All**, data is collected for all of the trace levels listed on the panel, regardless of what you have selected (checked).
- If you select the **No Trace** radio button, data is collected for *none* of the trace levels listed on the panel, regardless of what you have selected (checked).
- The **Ignore global settings** radio button *must* be selected if you want to collect trace data for only some of the trace levels listed on the panel. This ensures that neither the **Trace All** and **No Trace** radio buttons are selected and indicates to Entire Net-Work that specific trace level data collection is requested.

- 7 Click **OK**.

The trace level is set. You must stop and restart the server in order for these settings to take effect.

10

Managing Entire Net-Work Server Log Files

■ Viewing the Entire Net-Work Server Log File	48
■ Starting a New Entire Net-Work Server Log File	48
■ Specifying the Entire Net-Work Server Log File Location	50

You can view the current Entire Net-Work Server log file or start a new one. This chapter describes both processes.

Viewing the Entire Net-Work Server Log File

➤ To view the log file for the Entire Net-Work Server:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 In tree-view, right-click on the name of the server whose log file you want to view and select **View Log File** command from the resulting drop-down menu.

The console log for the Entire Net-Work Server appears in detail-view.

Starting a New Entire Net-Work Server Log File

You can close the current log file for an Entire Net-Work Server and start a new one at any time. When you do this, the current log file (*wcp-svc.log*) is saved under a new name and is cleared of all log entries. The name of the renamed log file is assigned in the format *wcpnnnnn.log*, where *nnnnn* is an incremental number determined by the number of the most recent log file that was renamed and saved. The log file with the name that includes the highest number is the most recently saved log file.

By default, Entire Net-Work Server log files are stored in the *logsvc* directory in one of the following locations:

- In Windows 7 environments: ProgramData\Software AG\Entire Net-Work Server\logsvc75
- In Linux environments: \$SAG\wcp\.

If you would like to specify the location in which server log files should be stored, read [Specifying the Entire Net-Work Server Log File Location](#), elsewhere in this section.

➤ **To start a new log file for the Entire Net-Work Server:**

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

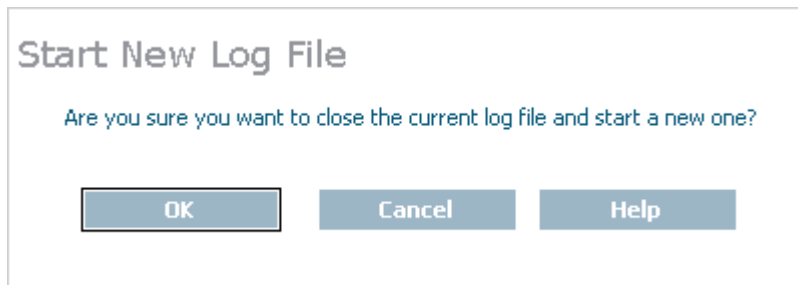
The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 In tree-view, right-click on the name of the server for which you want to start a new log file and select **New Log File** command from the resulting drop-down menu.

The **Start New Log File** panel appears in detail-view.



- 6 Click **OK**.

A new log file is started for the Entire Net-Work Server and the old one is closed.

Specifying the Entire Net-Work Server Log File Location

You can specify the fully-qualified path of the directory in which log files should be stored. If you do not specify a log file location, the default location for server log files (the *logsvc* directory) will be used. This directory will be stored in one of the following locations:

- In Windows 7 environments: `ProgramData\Software AG\Entire Net-Work Server\logsvc75`
- In Linux environments: `$SAG\wcp\`.



Note: If you want to put your Entire Net-Work log files on a shared server, read *Directing Log Files to a Shared Server*, in the *Entire Net-Work LUW Administration Guide*. However, please be sure that the directory name you specify for the log files for each server is unique.

> To specify the log file location:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Select and right-click on the server. Then select the **Set Service Parameters** option from the resulting drop-down menu.

The **Server Parameters** panel appears in detail-view.

Server Parameters

SAGXTSDSHOST MCUSASASW04.eur.ad.sag

SAGXTSDSPORT 4952

SERVER_NAME <not defined>

SERVER_HOST <not defined>

SERVER_PORT <not defined>

LOGDIR C:\ProgramData\Software AG\Entire Net-Work Server\logsvc75\

☐ Update all Kernels

OK Cancel Help

- 6 Specify the fully-qualified path of the directory in which you want log files stored in the **LOGDIR** parameter.
- 7 Optionally, select the **Update all Kernels** checkbox if you want all of the Kernel definitions defined for this server to have these parameters applied to them. If you do not select the **Update all Kernels** checkbox, only new Kernel definitions will have these parameters applied.
- 8 When all parameters are set as you want, click **OK**.

The Entire Net-Work Server parameters are updated.

11

Changing the Adabas Directory Server

While you can specify that different Directory Servers be used by an Entire Net-Work Server and by its Kernel definitions, this is not recommended. The ability to do this is useful for testing only, but when your network testing is complete, we recommend that the same Directory Server be used for both.

➤ **To change the Directory Server for the Entire Net-Work Server:**

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 In tree-view, right-click on the name of the server for which you want to change the Directory Server and select **Set Service Parameters** command from the resulting drop-down menu.

The **Server Parameters** panel appears in detail-view.

Server Parameters

SAGXTSDSHOST MCUSASASW04.eur.ad.sag

SAGXTSDSPORT 4952

SERVER_NAME <not defined>

SERVER_HOST <not defined>

SERVER_PORT <not defined>

LOGDIR C:\ProgramData\Software AG\Entire Net-Work Server\logsvc75\

☐ Update all Kernels

OK Cancel Help

- 6 Fill in the **SAGXTSDSHOST** and **SAGXTSDSPORT** fields on this panel, as described in the following table:

Field	Description	Required?	Default
SAGXTSDSHOST	The host name on which the Directory Server is installed.	Yes	—
SAGXTSDSPORT	The port number assigned the Directory Server. If this field is set to zero (0) or left blank, the default will be used.	No	4952

- 7 Click **OK**.

The Directory Server is changed for the Entire Net-Work Server. You must stop and restart the server in order for these changes to take effect.

12

Shutting Down the Entire Net-Work Server

➤ To shut down the Entire Net-Work Server:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 In tree-view, right-click on the name of the server you want to shut down and select **Shutdown** command from the resulting drop-down menu.

A request to confirm that you want to shut down the server appears in detail-view.

- 6 Click **OK**.

The Entire Net-Work Server is shut down.

13

Managing Kernels

This chapter describes the administration tasks you can perform for Entire Net-Work Kernels using the System Management Hub.

This information is organized under the following headings:

Listing, Selecting, and Reviewing Kernel Definitions

Reviewing the Kernel Parameter Summary

Starting a Kernel

Shutting Down a Kernel

Adding Kernel Definitions

Deleting a Kernel

Setting Basic Kernel Parameters

Setting Advanced Kernel Parameters

Specifying Kernel Scalability

Maintaining Kernel Filters

Changing the Adabas Directory Server

Maintaining Access Definitions

Reviewing Kernel Access Status

Maintaining Connection Definitions

Reviewing Kernel Outgoing Connection Status

Reviewing Kernel Statistics

Setting Detailed Statistics Online

Generate a Kernel Configuration Dump

Checking Kernel Databases

Pinging Databases and Classic Nodes

Dynamically Connecting and Disconnecting a Connection

Dynamically Managing Kernel Clients and Adabas Contexts

Dynamically Managing Kernel Client Hosts

Reviewing Kernel Status

Managing Kernel Log Files

Tracing Kernel Processing

14

Listing, Selecting, and Reviewing Kernel Definitions

- Listing, Selecting, and Reviewing Permanent Definitions 60
- Listing, Selecting, and Reviewing Dynamic Definitions 62

You can list, select, and review Kernel definitions that are managed by SMH. These definitions are listed in two areas:

- The *permanent* definition for a Kernel is listed in the **Servers** section of the Entire Net-Work Server SMH administration area. You can maintain the definitions in this area and the changes you make are permanent (until the next time you make a change).
- The *dynamic* definition for a started Kernel is listed in the **Kernels** section of the Entire Net-Work Server SMH administration area. Statistics for the active Kernel as well as some of its parameters can be reviewed and maintained in this area. Any maintenance performed to parameters in the dynamic definition are preserved only temporarily. Once the Kernel is stopped, the changes made to the dynamic definition are lost and, if the Kernel is restarted, it starts using its permanent definition. Therefore, if you want to change the definition of a Kernel so it remains the same every time you start it, be sure to make the change to the permanent definition, not the dynamic definition.



Note: A Kernel must be started in the **Servers** section of the Entire Net-Work Server SMH administration area before you can see it in the **Kernels** section.

Listing, Selecting, and Reviewing Permanent Definitions

➤ To list and review the permanent Kernel definitions managed by SMH:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 Select and expand the Kernel definition you want from the list.

The permanent Kernel definition section becomes available in tree-view.

The following commands are available for each Kernel:



Note: You must have a Kernel selected in the tree-view frame to see these commands.

Command	Use this command to:
Add Connection	Add a connection to other e-business Kernels or to classic Entire Net-Work installations in a Kernel definition. For more information, read Maintaining Connection Definitions , elsewhere in this section.
Add Kernel Access	Add Kernel access entries to a Kernel definition. For more information, read Maintaining Access Definitions , elsewhere in this section.
Add to Browser Favorites	Add a node in tree-view to your browser favorites.
Add to View	Add a node in tree-view to System Management View. For more information about System Management View, read your System Management Hub documentation.
Delete Kernel	Delete a Kernel definition. For more information, read Deleting a Kernel , elsewhere in this section.
Help	Link to help for your use of SMH as it pertains to the Kernel administration area.
Kernel Filters	Apply a filter to the Kernels, databases, and hosts that can interact with this Kernel. For more information, read Maintaining Kernel Filters , elsewhere in this section.
Parameters Summary	Review a summary of the most important parameters for the Kernel. When you select this command, the most important Kernel parameters are listed in detail-view. For more information, read Reviewing the Kernel Parameter Summary , elsewhere in this section.
Refresh	Refresh the screen.
Remove from View	Remove a node in tree-view from System Management View. For more information about System Management View, read your System Management Hub documentation.
Set Advanced Parameters	Set advanced parameters for a Kernel. For more information, read Setting Advanced Parameters , elsewhere in this section.
Set Basic Parameters	Set basic parameters for a Kernel. For more information, read Setting Basic Parameters , elsewhere in this section.
Set Directory Server	Change the Directory Server used by the Kernel. For more information, read Changing the Adabas Directory Server , elsewhere in this section.
Set Kernel Scalability	Specify settings that adjust how the Kernel is used so its performance is improved. For more information, read Specifying Kernel Scalability , elsewhere in this section.
Set Kernel Trace Granularity	Set the Kernel trace level. For more information, read Tracing Kernel Processing , elsewhere in this section.
Shutdown	Shut down the Entire Net-Work Server service. For more information, read Shutting Down a Kernel , elsewhere in this section.

Command	Use this command to:
Start Kernel	Start a Kernel maintained by SMH. For more information, read Starting a Kernel , elsewhere in this section.
Status	Review the status of a Kernel. For more information, read Reviewing Kernel Status , elsewhere in this section.

Listing, Selecting, and Reviewing Dynamic Definitions

➤ To list and review the dynamic Kernel definitions managed by SMH:

Make sure you have accessed the System Management Hub and verify that the Kernel has been started. For more information, read [Starting a Kernel](#), elsewhere in this guide.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed and started Kernels appears in detail-view.

- 5 Select and expand the Kernel definition you want from the list.

The dynamic Kernel definition section becomes available in tree-view.

The following commands are available for each Kernel:



Note: You must have a Kernel selected in the tree-view frame to see these commands.

Command	Use this command to:
Access Status	Review the status of a Kernel's access definitions. For more information, read Reviewing Kernel Access Status , elsewhere in this section.
Add Connection Online	Add a dynamic outgoing connection for the Kernel. For more information, read Dynamically Adding a Connection , elsewhere in this section.
Add to Browser Favorites	Add a node in tree-view to your browser favorites.
Add to View	Add a node in tree-view to System Management View. For more information about System Management View, read your System Management Hub documentation.

Command	Use this command to:
Dump Configuration	Generate a kernel configuration dump in the log file. For more information, read Generate a Kernel Configuration Dump , elsewhere in this section.
Help	Link to help for your use of SMH as it pertains to the dynamic Kernel administration area.
New Log File	Close the current Kernel log file and start a new one. For more information, read Managing Kernel Log Files , elsewhere in this section.
Outgoing Connections Status	Review the status of Kernel connections, as defined by its connection definitions. For more information, read Reviewing Kernel Outgoing Connection Status , elsewhere in this section.
Refresh	Refresh the screen.
Remove from View	Remove a node in tree-view from System Management View. For more information about System Management View, read your System Management Hub documentation.
Set Detailed Statistics Online	Dynamically start collecting detailed statistics for the Kernel. For more information, read Dynamically Collecting Detailed Statistics , elsewhere in this section.
Set Trace Level Online	Dynamically set the Kernel trace level. For more information, read Tracing Kernel Processing , elsewhere in this section.
Shutdown	Shut down the Entire Net-Work Server service. For more information, read Shutting Down a Kernel , elsewhere in this section.
Statistics	Review statistics for the running Kernel. When you select this command, the Kernel statistics are listed in detail-view. For more information, read Reviewing Kernel Statistics , elsewhere in this section.
View Log File	View the Kernel log file. For more information, read Managing Kernel Log Files , elsewhere in this section.

15

Reviewing the Kernel Parameter Summary

➤ To review a summary of Kernel parameters:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, right-click on the name of the Kernel for which you want to review the parameter summary and select the **Parameters Summary** command from the resulting drop-down menu.

A summary of the Kernel definition parameters appears in detail-view.

MYKERNEL

□	Parameter	□	Value	□
✓	SAGXTSDSHOST		localhost	
✓	SAGXTSDSPORT		4952	
✓	WCPARTITION			
✓	ACCEPTED_DBIDS			
✓	REJECTED_DBIDS			
✓	RELAY_TRAFFIC		YES	
✓	NODEID		1234	
✓	WCPTRACE		0	
✓	XTSTRACE		0	
✓	LNKTRACE		0	
✓	USER_EXITS			

16

Starting a Kernel

➤ To start a Kernel:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

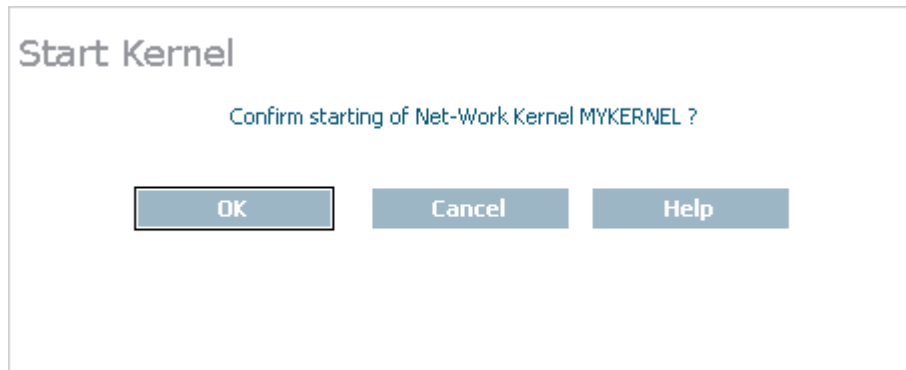
The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, right-click on the name of the Kernel you want to start and select the **Start Kernel** command from the resulting drop-down menu.

The **Start Kernel** panel appears in detail-view.



- 7 Click **OK**.

The Kernel is started.

17

Shutting Down a Kernel

- Shutting Down a Kernel Using Its Permanent Definition 70
- Shutting Down a Kernel Using Its Dynamic Definition 71

You can shut down a Kernel from the server or from the Kernel list in SMH. There is no difference between the two methods; both methods are provided for your convenience.

Shutting Down a Kernel Using Its Permanent Definition

➤ To shut down a Kernel from its permanent definition in the Entire Net-Work Server list in SMH:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

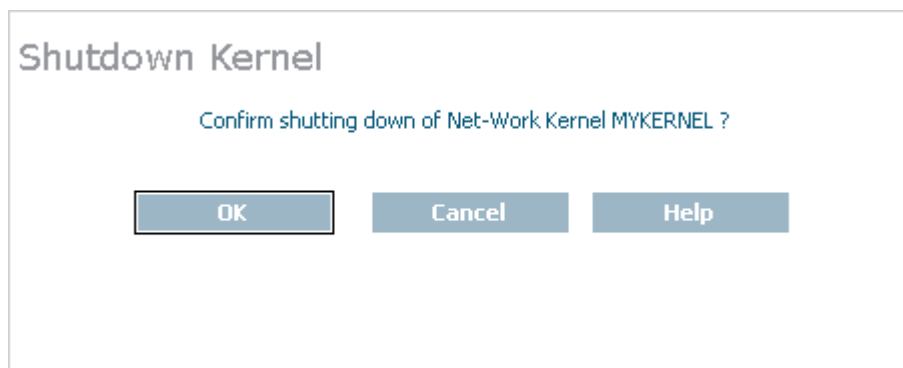
The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, right-click on the name of the Kernel you want to shut down and select the **Shutdown** command from the resulting drop-down menu.

The **Shutdown Kernel** panel appears in detail-view.



- 7 Click **OK**.

The Kernel is shut down.

Shutting Down a Kernel Using Its Dynamic Definition

➤ To shut down a Kernel from its dynamic definition in the Kernel list in SMH:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

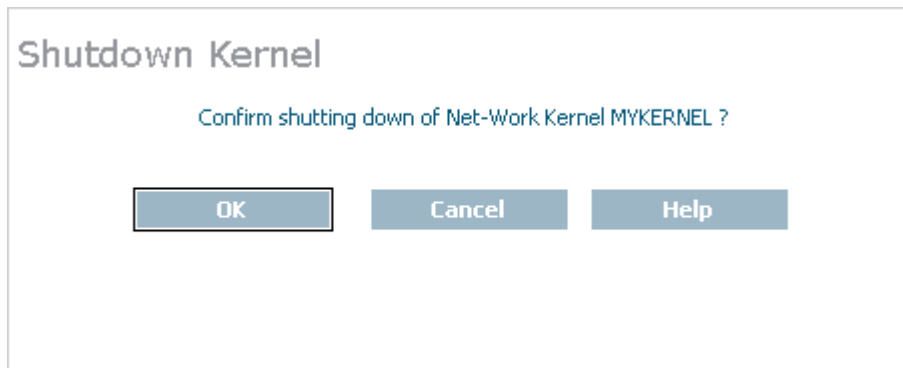
The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of Kernels that have been started appears.

- 5 In tree-view, right-click on the name of the Kernel you want to shut down and select the **Shutdown** command from the resulting drop-down menu.

The **Shutdown Kernel** panel appears in detail-view.



- 6 Click **OK**.

The Kernel is shut down.

18

Deleting a Kernel

You cannot delete a Kernel that is started. Before you can delete a Kernel, make sure you have shut it down, as described in [Shutting Down a Kernel](#), elsewhere in this guide.

➤ **To delete a Kernel definition:**

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

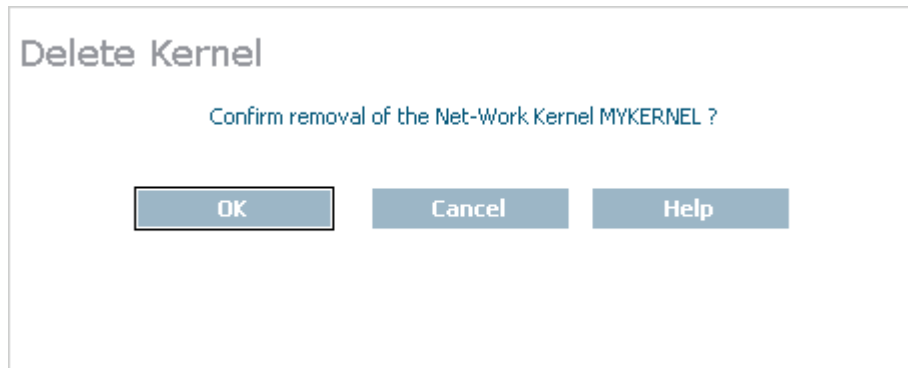
The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, right-click on the name of the Kernel you want to delete and select the **Delete Kernel** command from the resulting drop-down menu.

The **Delete Kernel** panel appears in detail-view.



- 7 Click **OK**.

The Kernel is deleted.

19

Setting Basic Kernel Parameters

➤ To set basic Kernel definition parameters:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, right-click on the name of the Kernel for which you want to set basic parameters and select the **Set Basic Parameters** command from the resulting drop-down menu.

The **Kernel Basic Parameters** panel appears in detail-view.

Kernel Basic Parameters

WCPARTITION..... <not defined>

NODEID..... 1234 *

AUTOSTART..... <not defined>

AUTOSTOP..... <not defined>

WCPTRACE..... 0 *

☐ Full WCP Trace

XTSTRACE..... 0 *

☐ Full XTS Trace

LNKTRACE..... 0 *

☐ Full LNK Trace

LOGDIR..... C:\ProgramData\Software AG\Entire Net-Work Server\MYKERNEL\

LOGSIZE..... 100

DATE_STAMP..... <not defined>

OK Cancel Help

- 7 Modify the parameters on the **Kernel Basic Parameters** panel, as described in the following table. When all parameters are set as you want, click **OK** to save them.

Parameter	Description
WCPARTITION	Specify the partition in which the Kernel is assigned, if any. For more information, read <i>Understanding Partitioning</i> , in the <i>Entire Net-Work LUW Concepts Manual</i> .
NODEID	Optionally, specify a unique node ID for the Kernel definition. Node IDs are required for connections between mainframe and open systems nodes, but if you do not specify one for the Kernel in this parameter, Entire Net-Work will generate one for you. In fact, whenever a new Kernel is defined, a random node ID is automatically generated for it. Any previously defined Kernels (those defined before Entire Net-Work 7.5) for which a node ID does not yet exist will be assigned the node ID "1234". Note: Node IDs must be unique across the system. If two Kernels have the same node ID, network connections obtained through those Kernels may not be handled accurately. We therefore recommend that you keep a list of your node IDs and ensure that any generated (or manually specified) node IDs are unique. The following issues with node IDs should be considered: ■ Entire Net-Work generates a random node ID for a new Kernel. However, there is a small risk that a duplicate node ID might be generated with a Kernel that is

Parameter	Description
	not started. You will want to check any generated node IDs against your node ID list to ensure the generated node ID is unique. ■ Because Kernels defined in Entire Net-Work versions earlier than version 7.5 may have the node ID "1234", you should manually alter these node IDs so they are unique. You can alter them on this screen.
AUTOSTART	Indicate whether or not the Kernel should automatically be started when its associated Entire Net-Work Server is started. A value of "YES", indicates that it should be automatically started; a value of "NO" indicates that it should <i>not</i> be automatically started.
AUTOSTOP	Indicate whether or not the Kernel should automatically be stopped when its associated Entire Net-Work Server is stopped. A value of "YES", indicates that it should be automatically stopped; a value of "NO" indicates that it should <i>not</i> be automatically stopped.
WCPTRACE	Set the hexadecimal Kernel trace level using this parameter. Valid values are any of the following hexadecimal values: ■ 0x1 - produce trace snapshot on any error code ■ 0x2 - trace error paths only ■ 0x4 - trace flow control only ■ 0x8 - produce full dumps of all activity ■ 0x10 - trace SMH-related activity ■ 0x100 - trace ADALNKX (Adabas calls) ■ 0x200 - trace XTS (Software AG transport services) Do not specify full tracing unless specifically instructed to do so by a Software AG Customer Support representative. If you do, your installation could be overrun with trace messages that would be meaningless to you and would likely affect system performance. For more information about Kernel tracing, read Tracing Kernel Processing, elsewhere in this guide.
Full WCP Trace	Click in this checkbox to set the WCPTRACE value to obtain full tracing of this Kernel's processing. Do not check this checkbox unless specifically instructed to do so by a Software AG Customer Support representative. If you do, your installation could be overrun with trace messages that would be meaningless to you and would likely affect system performance.
XTSTRACE	Set the hexadecimal XTS trace level using this parameter. This is the trace level for Software AG transport services. Valid values are any of the following hexadecimal values: ■ 0x1 - buffer the log messages ■ 0x2 - connect calls trace ■ 0x4 - listen calls trace

Parameter	Description
	■ 0x8 - send calls trace ■ 0x10 - receive calls trace ■ 0x20 - dump send/receive buffers ■ 0x40 - directory service trace ■ 0x80 - miscellaneous code ■ 0x100 - internal interface trace ■ 0x200 - TCP driver trace ■ 0x400 - SMP trace ■ 0x800 - Directory Server trace ■ 0x1000 - trace statistics Do not specify full tracing unless specifically instructed to do so by a Software AG Customer Support representative. If you do, your installation could be overrun with trace messages that would be meaningless to you and would likely affect system performance. For more information about Kernel tracing, read Tracing Kernel Processing, elsewhere in this guide.
Full XTS Trace	Click in this checkbox to set the XTSTRACE value to obtain full tracing of Software AG transport services processing. Do not check this checkbox unless specifically instructed to do so by a Software AG Customer Support representative. If you do, your installation could be overrun with trace messages that would be meaningless to you and would likely affect system performance.
LNKTRACE	Set the hexadecimal ADALNK trace level using this parameter. This is the trace level for Adabas calls. Valid values are the hexadecimal values "00" (no tracing) or "0x1F" (full tracing). At this time, there is no granularity to ADALNK trace levels. Do not specify full tracing unless specifically instructed to do so by a Software AG Customer Support representative. If you do, your installation could be overrun with trace messages that would be meaningless to you and would likely affect system performance. For more information about Kernel tracing, read Tracing Kernel Processing, elsewhere in this guide.
Full LNK Trace	Click in this checkbox to set the LNKTRACE value to obtain full tracing of ADALNK processing. Do not check this checkbox unless specifically instructed to do so by a Software AG Customer Support representative. If you do, your installation could be overrun with trace messages that would be meaningless to you and would likely affect system performance.
LOGDIR	Specify the fully-qualified path of the directory where Kernel log files should be written. For more information, read Specifying the Kernel Log File Location , elsewhere in this chapter.
LOGSIZE	Specify the number of megabytes (MB) to which a Kernel log file can grow before it is automatically closed and a new log file is started. The default is 500 MB. For

Parameter	Description
	more information about Kernel log files, read Managing Kernel Log Files , elsewhere in this guide.
DATE_STAMP	Indicate whether or not you want the date and time stamp to be added to every Entire Net-Work trace statement written. Valid values are "YES" (include the date and time stamp) or "NO" (do not include the date and time stamp). The default is "NO".

The Kernel basic parameters are updated in the appropriate Kernel definition file. You must restart the Kernel in order for these parameter changes to take effect.

20

Setting Advanced Kernel Parameters

➤ To set advanced Kernel definition parameters:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, right-click on the name of the Kernel for which you want to set advanced parameters and select the **Set Advanced Parameters** command from the resulting drop-down menu.

The **Kernel Advanced Parameters** panel appears in detail-view.

Kernel Advanced Parameters

ADABAS_TIMEOUT 50

TIMER_TIMEOUT 6

STATISTICS_DETAILS NO

STATISTICS_INTERVAL 60

PING_DB_INTERVAL 0

CHECK_DBS_INTERVAL 20

GATEWAY_THREADS <not defined>

USER_EXITS <not defined>

CHECK_CXT_INTERVAL <not defined>

Protocol Family

☒ Unspecified

☐ IPV4 Only

☐ IPV6 Only

OK Cancel Help

- 7 Modify the parameters on the **Kernel Advanced Parameters** panel, as described in the following table. When all parameters are set as you want, click **OK** to save them.

Parameter	Description
ADABAS_TIMEOUT	Specify the number of seconds the Kernel should wait for a response from either a local or remote Adabas call before it times out. The default is 60 seconds; the minimum value you can specify is 5 seconds.
TIMER_TIMEOUT	Specify the frequency (in seconds) at which the Kernel should check to see if it needs to run the STATISTICS_INTERVAL, PING_DB_INTERVAL, or CHECK_DBS_INTERVAL processing. The default is 6 seconds.
STATISTICS_DETAILS	Indicate whether detail statistics should be collected and displayed for clients and client hosts. Valid values for this parameter are "YES" and "NO"; the default is "NO". Note that there is the performance of your system could be affected when statistic details are collected.
STATISTICS_INTERVAL	Specify the frequency at which statistics are collected for the Kernel, in minutes. The default is 60 minutes.
PING_DB_INTERVAL	Specify the frequency at which remote databases should be pinged to determine their status, in minutes. The default is zero (0) minutes (no pinging).
CHECK_DBS_INTERVAL	Specify the frequency at which local databases should be pinged to determine their status, in seconds. The default is 20 seconds.

Parameter	Description
GATEWAY_THREADS	Specify the number of threads available for a network node. When this limit is exceeded, service requests will wait until a thread becomes available. Use this parameter to tune how your network processes requests. The default (and minimum) is 5 threads; the maximum is 1024 threads.
USER_EXITS	This field is supplied only to support compatibility with Entire Net-Work 2 releases. We recommend that user exits be used applied in Entire Net-Work Client rather than in Entire Net-Work Kernels. However, if you have a Kernel user exit that you used with Entire Net-Work Version 2.6, specify the name of the user exit DLL file that should be used with this Kernel in this field.
CHECK_CXT_INTERVAL	Specify how old the Adabas contexts that are created by Entire Net-Work clients can be, in seconds. Valid values are zero (0) or an integer between 60 and 86400 seconds (24 hours). The default value is 3600 seconds (1 hour). Anytime a client connects with Entire Net-Work, a context (a memory table with client information) for that specific client is created. When a client disconnects, the context is deleted. In situations when clients are disconnected abnormally (for example, they crash) or they are not disconnected for a long time (for example, when navigating on a web page), the size of Entire Net-Work unused memory increases significantly, which can affect Entire Net-Work performance. To avoid such situations, you can use this parameter to indicate how long contexts should be allowed to remain. If CHECK_CXT_INTERVAL is not zero, an Entire Net-Work thread periodically (every minute) checks the Adabas contexts created by clients connected to Entire Net-Work. Contexts older than the time set by this parameter are deleted.
Protocol Family	Select the TCP/IP protocol family used for the Kernel. Click (check) Unspecified, IPV4 Only, or IPV6 Only. If you select IPV4 Only or IPV6 Only, only the selected protocol is used for communications with this Kernel. If you select Unspecified, the domain name server (DNS) will determine which protocol is used; Unspecified is the default. Caution: We recommend that you use the default value (Unspecified) for this parameter, allowing the DNS to determine which communication protocol is appropriate. If you do specify a specific protocol, calls to Entire Net-Work via the other protocol type are ignored.

The Kernel advanced parameters are updated in the appropriate Kernel definition file. You must restart the Kernel in order for these parameter changes to take effect.

21

Specifying Kernel Scalability

Use Kernel scalability settings to adjust the amount in which the Kernel is used as a way of improving the performance of your system.

➤ **To specify Kernel scalability settings:**

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, right-click on the name of the Kernel for which you want to specify the Kernel filter list and select the **Set Kernel Scalability** command from the resulting drop-down menu.

The **Kernel Scalability** panel appears in detail-view.

Kernel Scalability

MAX_CLIENTS..... 123

MAX_CPU_THRESHOLD..... <not defined>

OK Cancel Help

- 7 Modify the parameters on the **Kernel Scalability** panel, as described in the following table. When all parameters are set as you want, click **OK** to save them.

Parameter	Description
MAX_CLIENTS	Specify the maximum number of client requests that can be processed concurrently by this Kernel, as determined by your Entire Net-Work license. When this limit is exceeded, client requests are rejected. The minimum value you can specify is "5"; the maximum value you can specify is "65535" or the number of clients allowed by your product license, whichever is lower. You can specify a value that is less than or equal to the number of clients defined by your Entire Net-Work license. The default is the number defined by your license.
MAX_CPU_THRESHOLD	Specify the maximum CPU usage (the threshold) for this Kernel that can be used by clients of this Kernel. When this CPU usage is exceeded, new clients are not accepted by the Kernel. Valid CPU usage thresholds are expressed as percentages. The minimum value you can specify is "10"; the maximum value you can specify is "99".

The Kernel scalability settings are updated in the appropriate Kernel definition file. You must restart the Kernel in order for these Kernel settings to take effect.

22 Maintaining Kernel Filters

» To maintain the Kernel filter list:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, right-click on the name of the Kernel for which you want to specify the Kernel filter list and select the **Kernel Filters** command from the resulting drop-down menu.

The **Kernel Filters** panel appears in detail-view.

Kernel Filters

ACCEPTED_DBIDS.....	<not defined>
REJECTED_DBIDS.....	<not defined>
ACCEPTED_KERNELS.....	<not defined>
REJECTED_KERNELS.....	<not defined>
ACCEPTED_HOSTS.....	<not defined>
REJECTED_HOSTS.....	<not defined>
ACCEPTED_CLIENTS.....	<not defined>
REJECTED_CLIENTS.....	<not defined>
USE_LOCAL_ADABASES.....	<not defined>
UNSOLICITED.....	YES
RELAY_TRAFFIC.....	YES

OK
Cancel
Help

- Modify the parameters on the **Kernel Filters** panel, as described in the following table. When all parameters are set as you want, click **OK** to save them.

Parameter	Description
ACCEPTED_DBIDS	Specify the database IDs for which service requests should be processed by this Kernel. If more than one database ID is needed, separate them with commas. If a range of database numbers is needed, separate them with a dash. For example, "4,12-15,62" indicates that the Kernel should process service requests to databases 4, 62, and any databases with numbers between 12 and 15 (inclusive). For more information, read <i>Understanding Filtering</i>, in the <i>Entire Net-Work LUW Concepts Manual</i>. If no databases are listed in the ACCEPTED_DBIDS field, the Kernel will process all requests to all databases defined in the Adabas Directory Server, except those listed in the REJECTED_DBIDS field.
REJECTED_DBIDS	Specify the database IDs for which service requests should <i>not</i> be processed by this Kernel. If more than one database ID is needed, separate them with commas. If a range of database numbers is needed, separate them with a dash. For example, "4,12-15,62" indicates that the Kernel should <i>not</i> process service requests to databases 4, 62, and any databases with numbers between 12 and 15 (inclusive). For more information, read <i>Understanding Filtering</i>, in the <i>Entire Net-Work LUW Concepts Manual</i>.

Parameter	Description
	If no databases are listed in the REJECTED_DBIDS field, the Kernel will process all requests to all databases defined in the Adabas Directory Server, unless a specific list is provided in the ACCEPTED_DBIDS field.
ACCEPTED_KERNELS	Specify the Kernel names for which service requests should be processed by this Kernel. If more than one Kernel name is needed, separate them with commas. For more information, read <i>Understanding Filtering</i>, in the <i>Entire Net-Work LUW Concepts Manual</i>. If the UNSOLICITED advanced Kernel parameter is set to "YES", any Kernel can submit service requests to this Kernel, except Kernels listed in the REJECTED_KERNELS filter parameter on the Kernel filter list. If the UNSOLICITED advanced Kernel parameter is set to "NO", all unsolicited Kernel service requests are ignored, except for the Kernels listed in the ACCEPTED_KERNELS filter parameter on the Kernel filter list. For complete information about the Kernel filter list, read <i>Maintaining the Kernel Filter List</i>, elsewhere in this guide.
REJECTED_KERNELS	Specify the Kernel names for which service requests should <i>not</i> be processed by this Kernel. If more than one Kernel name is needed, separate them with commas. For more information, read <i>Understanding Filtering</i>, in the <i>Entire Net-Work LUW Concepts Manual</i>. If the UNSOLICITED advanced Kernel parameter is set to "YES", any Kernel can submit service requests to this Kernel, except Kernels listed in the REJECTED_KERNELS filter parameter on the Kernel filter list. If the UNSOLICITED advanced Kernel parameter is set to "NO", all unsolicited Kernel service requests are ignored, except for the Kernels listed in the ACCEPTED_KERNELS filter parameter on the Kernel filter list. For complete information about the Kernel filter list, read <i>Maintaining the Kernel Filter List</i>, elsewhere in this guide.
ACCEPTED_HOSTS	Specify the host machine names from and to which service requests should be processed by this Kernel. If more than host machine name is needed, separate them with commas. For more information, read <i>Understanding Filtering</i> , in the <i>Entire Net-Work LUW Concepts Manual</i> .
REJECTED_HOSTS	Specify the host machine names from and to which service requests should <i>not</i> be processed by this Kernel. If more than host machine name is needed, separate them with commas. For more information, read <i>Understanding Filtering</i> , in the <i>Entire Net-Work LUW Concepts Manual</i> .
ACCEPTED_CLIENTS	Specify the Entire Net-Work Client names from which service requests should be processed by this Kernel. If more than Entire Net-Work Client name is needed, separate them with commas. For more information, read <i>Understanding Filtering</i> , in the <i>Entire Net-Work LUW Concepts Manual</i> .
REJECTED_CLIENTS	Specify the Entire Net-Work Client names from which service requests should <i>not</i> be processed by this Kernel. If more than Entire Net-Work Client name is needed, separate them with commas. For more information, read <i>Understanding Filtering</i> , in the <i>Entire Net-Work LUW Concepts Manual</i> .

Parameter	Description
USE_LOCAL_ADABASES	Indicate whether local Adabas databases should be used for this Kernel. Valid values are "YES" and "NO"; the default is "YES". If you only wanted this Kernel to relay calls to other Kernels on other machines and ignore the databases on the local machine, you would set this parameter to "NO". This might be useful in a test situation.
UNSOLICITED	Indicate whether or not this Kernel will process service requests from other Kernels it has not included in its Kernel filter list. Valid values are "YES" and "NO", with "YES" being the default. If "YES" is specified, any Kernel can submit service requests to this Kernel, except Kernels listed in the REJECTED_KERNELS filter parameter on the Kernel filter list. If "NO" is specified, all unsolicited Kernel service requests are ignored, except for the Kernels listed in the ACCEPTED_KERNELS filter parameter on the Kernel filter list. For complete information about the Kernel filter list, read Maintaining the Kernel Filter List, elsewhere in this guide.
RELAY_TRAFFIC	Indicate whether this Kernel should relay requests to other Kernels in the network. If the value of the RELAY_TRAFFIC field is "YES", requests to other Kernels in the network are relayed. If RELAY_TRAFFIC is set to "NO", requests are not relayed. The default is "YES". For more information, read <i>Understanding Filtering</i>, in the <i>Entire Net-Work LUW Concepts Manual</i>.

The Kernel filters are updated in the appropriate Kernel definition file. You must restart the Kernel in order for these Kernel filter changes to take effect.

23 Changing the Adabas Directory Server

While you can specify that different Directory Servers be used by an Entire Net-Work Server and by its Kernel definitions, this is not recommended. The ability to do this is useful for testing only, but when your network testing is complete, we recommend that the same Directory Server be used for both.

➤ To change the Directory Server for the Kernel:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, right-click on the name of the Kernel for which you want to change the Directory Server and select **Set Directory Server** command from the resulting drop-down menu.

The **Directory Server Parameters** panel appears in detail-view.

Directory Server Parameters

SAGXTSDSHOST..... localhost

SAGXTSDSPORT..... 4952

OK Cancel Help

- 7 Fill in the fields on this panel, as described in the following table:

Field	Description	Required?
SAGXTSDSHOST	The host name on which the Directory Server is installed.	Yes
SAGXTSDSPORT	The port number assigned the Directory Server. The default is 4952. If this field is set to zero (0) or left blank, the default will be used.	No

- 8 Click **OK**.

The Directory Server is changed for the Kernel. You must restart the Kernel in order for this Directory Server change to take effect.

24

Maintaining Access Definitions

■ Listing Access Definitions	94
■ Adding Access Definitions	95
■ Modifying Access Definitions	99
■ Deleting Access Definition	100

Kernel access definitions specify how other Kernels and clients can access this Kernel definition. Ordinarily, these are specified when the Kernel is defined, but you can add additional Kernel access definitions later, as needed.

Kernel access definitions are stored as access entries in the Kernel configuration file, along with its other access and connection definitions as well as all of its parameters. The Kernel configuration file is located in the directory wherever you installed Entire Net-Work Server and has a name in the format *name.KERNEL*, where *name* is the name you assigned the Kernel definition when you added it.

This chapter describes how to maintain Kernel access definitions.

Listing Access Definitions

➤ To review and list the access definitions of a Kernel:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, expand the name of the Kernel for which you want to review access definitions by clicking on the plus sign (+) to the left of its label.

The access and connection definition categories are listed beneath the Kernel name in tree-view.

- +  E-Business Access
- +  E-Business Client Access
- +  Classic Net-Work Access
- +  System Management Hub Access
- +  E-Business connections
- +  Classic Net-Work connections

The Kernel access definitions are listed under the category names **E-Business Access**, **E-Business Client Access** and **Classic Net-Work Access**.

Category	Description
E-Business Access	Lists the e-business (SSL and non-SSL) Kernel access definitions specified for the Kernel.
E-Business Client Access	Lists the e-business (SSL and non-SSL) client access definitions specified for the Kernel.
Classic Net-Work Access	Lists the classic access definitions specified for the Kernel. Classic access provides access with an Entire Net-Work 2 for Open Systems node, an Entire Net-Work 3 for OpenVMS node or with an Entire Net-Work 6 (mainframe) node that does not have the Simple Connection Line Driver installed.
System Management Hub Access	Lists the System Management Hub (SMH) access definition, which uses a dynamic port number. Ordinarily, this should not be changed.

Adding Access Definitions

➤ To add access definitions to a Kernel:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, right-click on the name of the Kernel to which you want to add access definitions and select the **Add Kernel Access** command from the resulting drop-down menu.

The **Add Kernel Access** panel appears in detail-view.

Add Kernel Access

☐ E-Business Access, Enter Port Value: 0 *

Additional Parameters:

☐ E-Business SSL Access, Enter Port Value: 0 *

Additional Parameters:

☐ E-Business Client Access, Enter Port Value: 0 *

Additional Parameters:

☐ E-Business SSL Client Access, Enter Port Value: 0 *

Additional Parameters:

☐ Classic Access, Enter port number: 7869 *

Additional Parameters:

OK Cancel Help

- 7 Fill in the fields on this panel, as described in the following table:

Field	Description	Required?
E-Business Access parameters	Select e-business access if you want to add an e-business Kernel access definition. ■ Click in the E-Business Access checkbox (a checkmark should appear) to add a definition for e-business Kernel access. ■ Specify the port number that should be used for this e-business Kernel access definition. A value of zero (0) indicates that Entire Net-Work should search for an available port and dynamically assign it. For more information about port numbers, read <i>Port Number Reference</i>, in <i>Entire Net-Work LUW Installation Guide</i>. ■ Optionally, specify any Adabas Directory Server additional parameters needed for this e-business Kernel access definition. Additional parameters you specify are described in <i>Parameters</i>, in the chapter entitled <i>Directory Server Target Entries</i> of the <i>Software AG Directory Server Installation and Administration Guide</i>.	If e-business server access is required, the E-Business Access checkbox must be checked. No other parameters are required.

Field	Description	Required?
	Separate parameters in this field with ampersand (&) symbols. Note that not all Directory Server parameters apply to all access types.	
E-Business SSL Access parameters	Select e-business SSL access if you to add an e-business Kernel access definition that uses Secure Sockets Layer (SSL). ■ Click in the E-Business SSL Access checkbox (a checkmark should appear) to add a definition for e-business Kernel access via SSL. ■ Specify the port number that should be used for this e-business Kernel SSL access definition. A value of zero (0) indicates that Entire Net-Work should search for an available port and dynamically assign it. For more information about port numbers, read <i>Port Number Reference</i>, in <i>Entire Net-Work LUW Installation Guide</i>. ■ Optionally, specify any Adabas Directory Server additional parameters needed for this e-business Kernel access definition. Additional parameters you specify are described in <i>Parameters</i>, in the chapter entitled <i>Directory Server Target Entries</i> of the <i>Software AG Directory Server Installation and Administration Guide</i>. Separate parameters in this field with ampersand (&) symbols. Note that not all Directory Server parameters apply to all access types. For assistance in setting up SSL support in Entire Net-Work, read <i>Using the SSL Toolkit</i> in the <i>Encryption for Entire Net-Work User Guide</i>, available from your Software AG support representative. Note: Due to export restrictions, the SSL Toolkit is not included on the installation CD. If you plan to use SSL in your enterprise and want to use the SSL Toolkit, please contact your Software AG support representative.	If e-business server SSL access is required, the E-Business SSL Access checkbox must be checked. No other parameters are required.
E-Business Client Access parameters	Select e-business client access if you want to add an e-business client access definition. ■ Click in the E-Business Client Access checkbox (a checkmark should appear) to add a definition for e-business client access. ■ Specify the port number that should be used for this e-business client access definition. A value of zero (0) indicates that Entire Net-Work should search for an available port and dynamically assign it. For more information about port numbers, read <i>Port Number Reference</i>, in <i>Entire Net-Work LUW Installation Guide</i>. ■ Optionally, specify any Adabas Directory Server additional parameters needed for this e-business Kernel access definition. Additional parameters you specify are described in <i>Parameters</i>,	If e-business Entire Net-Work Client access is required, the E-Business Client Access checkbox must be checked. No other parameters are required.

Field	Description	Required?
	in the chapter entitled <i>Directory Server Target Entries</i> of the <i>Software AG Directory Server Installation and Administration Guide</i>. Separate parameters in this field with ampersand (&) symbols. Note that not all Directory Server parameters apply to all access types.	
E-Business SSL Client Access parameters	Select e-business client SSL access if you want to set up an e-business client access definition that uses Secure Sockets Layer (SSL). - Click in the E-Business SSL Client Access checkbox (a checkmark should appear) to add a definition for e-business client access via SSL. - Specify the port number that should be used for this e-business client SSL access definition. A value of zero (0) indicates that Entire Net-Work should search for an available port and dynamically assign it. For more information about port numbers, read <i>Port Number Reference</i>, in <i>Entire Net-Work LUW Installation Guide</i>. - Optionally, specify any Adabas Directory Server additional parameters needed for this e-business Kernel access definition. Additional parameters you specify are described in <i>Parameters</i>, in the chapter entitled <i>Directory Server Target Entries</i> of the <i>Software AG Directory Server Installation and Administration Guide</i>. Separate parameters in this field with ampersand (&) symbols. Note that not all Directory Server parameters apply to all access types. For assistance in setting up SSL support in Entire Net-Work, read <i>Using the SSL Toolkit</i> in the <i>Encryption for Entire Net-Work User Guide</i>, available from your Software AG support representative. Note: Due to export restrictions, the SSL Toolkit is not included on the installation CD. If you plan to use SSL in your enterprise and want to use the SSL Toolkit, please contact your Software AG support representative.	If e-business Entire Net-Work Client SSL access is required, the E-Business SSL Client Access checkbox must be checked. No other parameters are required.
Classic Access parameters	Select classic access if you want to add an access definition for classic Entire Net-Work nodes. Classic access provides access with an Entire Net-Work 2 for open systems node, an Entire Net-Work 3 for OpenVMS node or with an Entire Net-Work 6 (mainframe) node that does not have the Simple Connection Line Driver installed. The classic access parameters include parameters that indicate whether this Kernel supports communication with access to Entire Net-Work Version 2 (classic) systems and, if so, the port number,	If classic Entire Net-Work access is required, the Classic Access checkbox must be checked and a port number and node ID must be specified. No additional parameters are required.

Field	Description	Required?
	node ID, and additional parameters that should be used for classic Entire Net-Work access. ■ Click in the Classic Access checkbox (a checkmark should appear) to add a definition for a classic Entire Net-Work node. ■ Specify the port number that should be used for this classic Entire Net-Work access definition. The default port number for this type of access is 7869. For more information about port numbers, read <i>Port Number Reference</i>, in <i>Entire Net-Work LUW Installation Guide</i>. ■ Specify the ID of the classic Entire Net-Work node for this classic access definition. ■ Optionally, specify any Adabas Directory Server additional parameters needed for this e-business Kernel access definition. Additional parameters you specify are described in <i>Parameters</i>, in the chapter entitled <i>Directory Server Target Entries</i> of the <i>Software AG Directory Server Installation and Administration Guide</i>. Separate parameters in this field with ampersand (&) symbols. Note that not all Directory Server parameters apply to all access types.	

- 8 Click **OK**.

The Kernel access definitions are added to the Kernel configuration file. These definitions only become available to the Kernel after it is restarted.

Modifying Access Definitions

➤ To modify access definitions of a Kernel:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 Expand the name of the Kernel containing the access definition you want to modify by clicking on the plus sign (+) to the left of its label.

The access and connection definition categories are listed beneath the Kernel name in tree-view.

The access definitions are listed under the category names **E-Business Access**, **E-Business Client Access**, and **Classic Net-Work Access**.

- 7 Expand the category name containing the access definition you want to modify.

The access definitions in that category are listed in tree-view.

- 8 Right-click on the access definition you want to modify and select **Modify Entry** from the resulting drop-down menu.

A modification panel appears in detail-view, allowing you to modify the entry. For complete information about access definition parameters, read [Adding Access Definitions](#), elsewhere in this section

- 9 When all updates have been made, click **OK**.

The Kernel access definitions are modified to the Kernel configuration file. Updates to the definitions only become available to the Kernel after it is restarted.

Deleting Access Definition

➤ To delete an access definition of a Kernel:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 Expand the name of the Kernel containing the access definition you want to delete by clicking on the plus sign (+) to the left of its label.

The access and connection definition categories are listed beneath the Kernel name in tree-view.

The access definitions are listed under the category names **E-Business Access**, **E-Business Client Access**, and **Classic Net-Work Access**.

- 7 Expand the category name containing the access definition you want to delete.

The access definitions in that category are listed in tree-view.

- 8 Right-click on the access definition you want to delete and select **Delete Entry** from the resulting drop-down menu.

A panel appears in detail-view verifying that you want to delete the access definition (entry) from the Kernel definition.

- 9 Click **OK** to confirm the deletion.

The Kernel access definition is deleted from the Kernel configuration file. Updates to the definitions only become available to the Kernel after it is restarted.

25 Reviewing Kernel Access Status

» To review the status of a Kernel's access definitions:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.

- 5 In tree-view, right-click on the name of the Kernel for which you want to review access definition status, and select **Access Status**.

The status of the Kernel's access definitions appears in detail-view. For example:

MYKERNEL on TEST-PC

	Name	Protocol	Port	Status
	Client Access	TCPIP	49162	Running
	E-Business Access	TCPIP	49161	Running
	SMH Server	TCPIP	49160	Running

The following information about each type of access definition is listed.

Field	Description
Name	The type of access definition.
Protocol	The protocol used for access attempts defined by the access definition.
Port	The port number used for the access definition.
Status	The status of the access definition.

26

Maintaining Connection Definitions

■ Listing Connection Definitions	106
■ Adding Connection Definitions	107
■ Modifying Connection Entries	113
■ Deleting Connection Entries	114

Kernel connection definitions specify connection information for connections to other e-business Kernels or to classic Entire Net-Work installations. Classic connections are connections with an Entire Net-Work 2 for open systems node, an Entire Net-Work 3 for OpenVMS node or with an Entire Net-Work 6 (mainframe) node that does not have the Simple Connection Line Driver installed. You can only add e-business connection definitions for Entire Net-Work 7 Kernels or for Entire Net-Work 6 nodes with the Simple Connection Line Driver installed.

Each connection definition adds a connection entry to the Kernel configuration file. The Kernel configuration file is stored in the directory wherever you installed Entire Net-Work Server and has a name in the format *name.KERNEL*, where *name* is the name you assigned the Kernel definition when you added it.

This chapter describes how to maintain Kernel connection definitions.

Listing Connection Definitions

➤ To review and list the connection definitions of a Kernel:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, expand the name of the Kernel for which you want to review connection definitions by clicking on the plus sign (+) to the left of its label.

The access and connection definition categories are listed beneath the Kernel name in tree-view.

- +  E-Business Access
- +  E-Business Client Access
- +  Classic Net-Work Access
- +  System Management Hub Access
- +  E-Business connections
- +  Classic Net-Work connections

The Kernel connection definitions are listed under the category names **E-Business connections** and **Classic Net-Work connections**.

Category	Description
E-Business connections	Lists the e-business (SSL and non-SSL) connection definitions specified for the Kernel.
Classic Net-Work connections	Lists the classic connection definitions specified for the Kernel. Classic connections provides connection to an Entire Net-Work 2 for open systems node, an Entire Net-Work 3 for OpenVMS node or with an Entire Net-Work 6 (mainframe) node that does not have the Simple Connection Line Driver installed.

Adding Connection Definitions

You can add connection definitions dynamically (immediately and for only this execution of the Kernel) or permanently (for future executions of the Kernel). A dynamic connection occurs immediately, but if the Kernel is restarted, the connection is lost. A permanent connection occurs in the Kernel definition and takes effect only when the Kernel is restarted.

This section covers the following topics:

- [Permanently Adding a Connection Definition](#)
- [Dynamically Adding a Connection](#)

Permanently Adding a Connection Definition

➤ To permanently add a connection definition for the Kernel:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, right-click on the name of the Kernel to which you want to add a connection and select the **Add Connection** command from the resulting drop-down menu.

The **Add Connection** panel appears in detail-view.

- 7 Fill in the fields on this panel, as described in the following table:

Field	Description	Required?
Entire Net-Work Kernel Name	The name of the Kernel to which you want to connect.	Yes
Protocol Type	The type of connection you want to make ■ E-Business: Select this protocol type if you want to make an e-business connection available to the Kernel. You can only add e-business	Yes

Field	Description	Required?
	connections for Entire Net-Work 7 Kernels or for Entire Net-Work 6 nodes with the Simple Connection Line Driver installed. ■ E-Business SSL: Select this protocol type if you want to make an e-business connection available to the Kernel using Secure Sockets Layer (SSL). You can only add e-business connections of any kind for Entire Net-Work 7 Kernels or for Entire Net-Work 6 nodes with the Simple Connection Line Driver installed. For assistance in setting up SSL support in Entire Net-Work, read <i>Using the SSL Toolkit</i> in the <i>Encryption for Entire Net-Work User Guide</i>, available from your Software AG support representative. Note: Due to export restrictions, the SSL Toolkit is not included on the installation CD. If you plan to use SSL in your enterprise and want to use the SSL Toolkit, please contact your Software AG support representative. ■ Classic: Select this protocol type if you want to make a classic connection available to the Kernel for an Entire Net-Work 2 for open systems node, an Entire Net-Work 3 for OpenVMS node or with an Entire Net-Work 6 (mainframe) node that does not have the Simple Connection Line Driver installed.	
Host Address	The name of the host machine on which the Kernel to which you are connecting is installed.	Yes
Port Value	The port number of the Kernel to which you are connecting.	Yes
Reconnect	Click in the checkbox if you want reconnection attempts to occur if the database connection is disconnected due to some failure in the system. If this check box is not checked, no reconnection attempt is made.	No
Retry Count	Specify the number of times reconnection should be attempted. The valid range is "0" through "2147483648". A value should only be specified for this parameter if the Reconnect parameter is turned on (checked). If no value is specified, reconnection attempts do not occur.	No
Retry Interval	Specify the number of seconds to wait between reconnection attempts. The valid range is "0" through "2147483648". A value should only be specified for this parameter if the Reconnect parameter is turned on (checked). If no value is specified, reconnection attempts do not occur.	No
Additional Parameters	Optionally, specify any Adabas Directory Server additional parameters needed for this e-business Kernel access definition. Additional parameters you specify are described in <i>Parameters</i> , in the chapter entitled <i>Directory Server Target Entries</i> of the <i>Software AG Directory Server Installation and Administration Guide</i> . Separate parameters in this field with ampersand (&) symbols. Note that not all Directory Server parameters apply to all access types.	No
Manual Connection	Select this checkbox if you always want to manually connect to this connection.	No

- 8 Click **OK**.

The connection definition is added to the Adabas Directory Server for this Kernel. The connection definition is only available to the Kernel after the Kernel is restarted.

Dynamically Adding a Connection

➤ To dynamically add a connection for the Kernel:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of Kernels that have been started appears.

- 5 In tree-view, right-click on the name of the Kernel to which you want to add a connection and select the **Add Connection Online** command from the resulting drop-down menu.

The **Add Connection Online** panel appears in detail-view.

Add Connection Online

Enter Entire Net-Work Kernel Name:

Protocol Type

☒ E-Business
☐ E-Business SSL
☐ Classic

Enter Host Address:

Enter Port Value:

Reconnect ☐ Retry Count: Retry Interval:

Enter Additional Parameters:

☐ Manual Connection

OK Cancel Help

- 6 Fill in the fields on this panel, as described in the following table:

Field	Description	Required?
Entire Net-Work Kernel Name	The name of the Kernel to which you want to connect.	Yes
Protocol Type	The type of connection you want to make ■ E-Business: Select this protocol type if you want to make an e-business connection available to the Kernel. You can only add e-business connections for Entire Net-Work 7 Kernels or for Entire Net-Work 6 nodes with the Simple Connection Line Driver installed. ■ E-Business SSL: Select this protocol type if you want to make an e-business connection available to the Kernel using Secure Sockets Layer (SSL). You can only add e-business connections of any kind for Entire Net-Work 7 Kernels or for Entire Net-Work 6 nodes with the Simple Connection Line Driver installed. For assistance in setting up SSL support in Entire Net-Work, read <i>Using the SSL Toolkit</i> in the <i>Encryption for Entire Net-Work User Guide</i>, available from your Software AG support representative. Note: Due to export restrictions, the SSL Toolkit is not included on the installation CD. If you plan to use SSL in your enterprise and want to use the SSL Toolkit, please contact your Software AG support representative.	Yes

Field	Description	Required?
	Classic: Select this protocol type if you want to make a classic connection available to the Kernel for an Entire Net-Work 2 for open systems node, an Entire Net-Work 3 for OpenVMS node or with an Entire Net-Work 6 (mainframe) node that does not have the Simple Connection Line Driver installed.	
Host Address	The name of the host machine on which the Kernel to which you are connecting is installed.	Yes
Port Value	The port number of the Kernel to which you are connecting.	Yes
Reconnect	Click in the checkbox if you want reconnection attempts to occur if the database connection is disconnected due to some failure in the system. If this check box is not checked, no reconnection attempt is made.	No
Retry Count	Specify the number of times reconnection should be attempted. The valid range is "0" through "2147483648". A value should only be specified for this parameter if the Reconnect parameter is turned on (checked). If no value is specified, reconnection attempts do not occur.	No
Retry Interval	Specify the number of seconds to wait between reconnection attempts. The valid range is "0" through "2147483648". A value should only be specified for this parameter if the Reconnect parameter is turned on (checked). If no value is specified, reconnection attempts do not occur.	No
Additional Parameters	Optionally, specify any Adabas Directory Server additional parameters needed for this e-business Kernel access definition. Additional parameters you specify are described in <i>Parameters</i> , in the chapter entitled <i>Directory Server Target Entries of the Software AG Directory Server Installation and Administration Guide</i> . Separate parameters in this field with ampersand (&) symbols. Note that not all Directory Server parameters apply to all access types.	No
Manual Connection	Select this checkbox if you always want to manually connect to this connection.	No

7 Click OK.

The connection definition is temporarily added for this Kernel. Once the Kernel definition is restarted, this temporary connection definition will no longer be available; you will have to define it again if you need it.

Modifying Connection Entries

➤ To modify connection definitions of a Kernel:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 Expand the name of the Kernel containing the connection definition you want to modify by clicking on the plus sign (+) to the left of its label.

The access and connection definition categories are listed beneath the Kernel name in tree-view.

The Kernel connection definitions are listed under the category names **E-Business connections** and **Classic Net-Work connections**.

- 7 Expand the category name containing the connection definition you want to modify.

The connection definitions in that category are listed in tree-view.

- 8 Right-click on the connection definition you want to modify and select **Modify Entry** from the resulting drop-down menu.

A modification panel appears in detail-view, allowing you to modify the entry. For complete information about connection definition parameters, read [Adding Connection Definitions](#), elsewhere in this section

- 9 When all updates have been made, click **OK**.

The Kernel connection definitions are modified to the Kernel configuration file. Updates to the definitions only become available to the Kernel after it is restarted.

Deleting Connection Entries

➤ **To delete a connection definition of a Kernel:**

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 Expand the name of the Kernel containing the connection definition you want to delete by clicking on the plus sign (+) to the left of its label.

The access and connection definition categories are listed beneath the Kernel name in tree-view.

The Kernel connection definitions are listed under the category names **E-Business connections** and **Classic Net-Work connections**.

- 7 Expand the category name containing the connection definition you want to delete.

The connection definitions in that category are listed in tree-view.

- 8 Right-click on the connection definition you want to delete and select **Delete Entry** from the resulting drop-down menu.

A panel appears in detail-view verifying that you want to delete the connection definition (entry) from the Kernel definition.

- 9 Click **OK** to confirm the deletion.

The Kernel connection definition is deleted from the Kernel configuration file. Updates to the definitions only become available to the Kernel after it is restarted.

27 Reviewing Kernel Outgoing Connection Status

➤ To review the status of a Kernel's outgoing connection definitions:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.

- 5 In tree-view, right-click on the name of the Kernel for which you want to review the outgoing connection status, and select **Outgoing Connections Status**.

The status of the Kernel's outgoing connection definitions appears in detail-view. For example:

□	Target □	Type □	Protocol □	Port □	A/M □	Status □
↓	MYKERN2	E-business	TCPIP	49158	Auto	Connection defined

The following information about each outgoing connection is listed.

Field	Description
Target	The name of the target Kernel definition.
Type	The type of connection definition.
Protocol	The protocol used for connection attempts defined by the connection definition.
Port	The port number used for the connection.
A/M	Whether the connection was automatic or manual.
Status	The status of the connect.

28 Reviewing Kernel Statistics

➤ To review the statistics for a Kernel:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.

- 5 In tree-view, right-click on the name of the Kernel for which you want to review statistics, and select **Statistics**.

Statistics for the Kernel appears in detail-view. For example:

MYKERNEL on TEST-PC

Statistics for Kernel MIHAI75	Count
Nodes	2
Connections	0
Clients	0
Relay Clients	0
Databases	1
Adabas Contexts	0
Adabas Calls	11101
RDA Messages	0
Ebz Messages	0
Total Requests	0
Total Replies	0
Bytes Received	0
Bytes Sent	0
Relayed Messages	0
Admin Messages	0
Errors	0

29 Dynamically Collecting Detailed Statistics

Collecting detailed statistics for a Kernel can provide useful data in resolving problems. However, we do not recommend that you collect detailed statistics all the time as the performance of your system may be affected by their collection.

» **To dynamically turn on the collection of detailed statistics for a Kernel:**

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

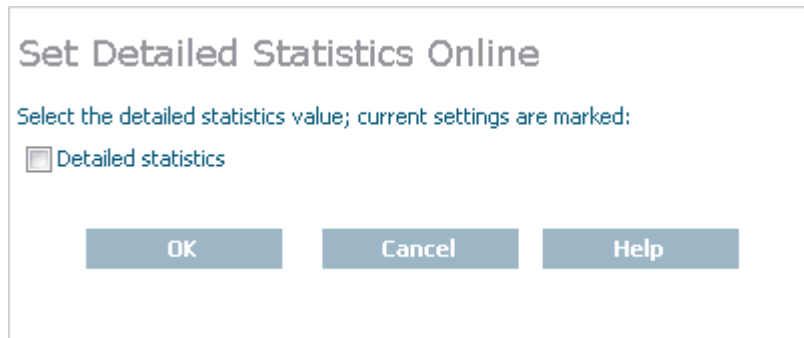
The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.

- 5 In tree-view, right-click on the name of the Kernel for which you want to set detailed statistics, and select **Set Detailed Statistics On Line**.

The **Set Detailed Statistics Online** panel appears in detail-view. For example:



- 6 Click **OK** to turn on the collection of detailed statistics.

Detailed statistic collection for the Kernel is started.

30

Generate a Kernel Configuration Dump

You can request that a Kernel configuration dump be written to the log file. This dump information includes the servers, database IDs, connections, clients, host machines, and Adabas contexts associated with the Kernel.

➤ **To generate a Kernel configuration dump in the log file:**

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

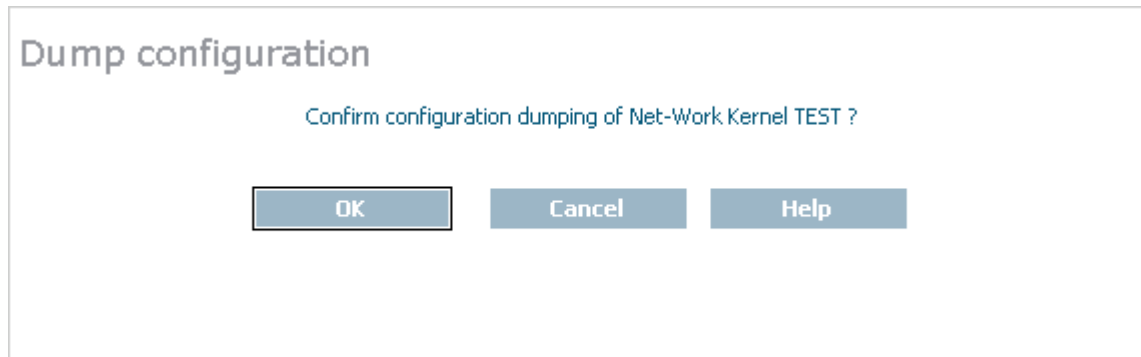
The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.

- 5 In tree-view, right-click on the name of the Kernel for which you want to generate a kernel configuration dump, and select **Dump Configuration**.

The **Dump Configuration** panel appears in detail-view. For example:



- 6 Click **OK** to dump the kernel configuration.

The dump is generated

31

Checking Kernel Databases

You can check the databases managed by a Kernel. Checking the databases causes Entire Net-Work to search for any Adabas databases that were started recently and to refresh its internal table and corresponding SMH information. This is useful, for example, when you want to obtain the latest status of the databases that a specific Kernel manages.

➤ **To check the databases managed by a Kernel:**

Make sure you have accessed the System Management Hub and that the Kernel is started. For complete information about starting Kernels, read [Starting a Kernel](#), elsewhere in this guide.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.



Note: If the Kernel you need is not listed, it is not started. You must start the Kernel before you can proceed with these instructions. Read [Starting a Kernel](#), elsewhere in this guide, for more information.

- 5 Right-click on **Databases** in tree-view and select **Check Databases** from the resulting drop-down menu.

A **Check Databases** panel appears in detail-view.

Check Databases

Confirm the checking of Net-Work Kernel MYKERNEL databases?

OK

Cancel

Help

- 6 Click **OK** to check the Kernel databases.

The databases are checked and the list and status of the databases is refreshed.

32

Pinging Databases and Classic Nodes

■ Pinging Databases	126
■ Pinging Classic Nodes	127

You can ping the databases managed by a Kernel and any classic nodes specified in classic connection definitions for the Kernel. Pinging allows you to determine if the database or classic nodes are active.



Note: Classic connections are connections to an Entire Net-Work 2 for open systems node, an Entire Net-Work 3 for OpenVMS node or with an Entire Net-Work 6 (mainframe) node that does not have the Simple Connection Line Driver installed.

Pinging Databases

➤ To ping a database managed by a Kernel:

Make sure you have accessed the System Management Hub and that the Kernel is started. For complete information about starting Kernels, read [Starting a Kernel](#), elsewhere in this guide.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.



Note: If the Kernel you need is not listed, it is not started. You must start the Kernel before you can proceed with these instructions. Read [Starting a Kernel](#), elsewhere in this guide, for more information.

- 5 Expand **Databases** in tree-view, by clicking on the plus sign (+) to the left of its label.

The databases managed by the Kernel are listed in tree-view.

- 6 Right-click on the database you want to ping and select **Ping** from the resulting drop-down menu.

A Ping panel appears in detail-view.



Ping database 1 e-Business from Kernel TEST

Number of Ping messages:

1 *

OK Cancel Help

- 7 Specify the number of ping messages that should be sent from the Kernel to the database in the **Number of Ping messages** box.
- 8 Click **OK** to start pinging.

The results of the ping attempts appears in detail-view, indicating whether or not the database is active.

Pinging Classic Nodes

➤ To ping a classic node managed by a Kernel:

Make sure you have accessed the System Management Hub and that the Kernel is started. For complete information about starting Kernels, read [Starting a Kernel](#), elsewhere in this guide.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.



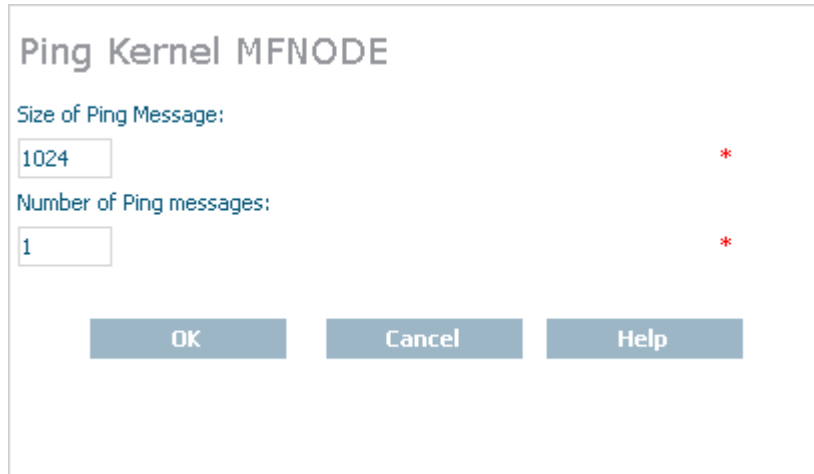
Note: If the Kernel you need is not listed, it is not started. You must start the Kernel before you can proceed with these instructions. Read [Starting a Kernel](#), elsewhere in this guide, for more information.

- 5 Expand **Connections** in tree-view, by clicking on the plus sign (+) to the left of its label.

The connection definitions for the Kernel are listed in **Outgoing** and **Incoming** categories in tree-view.

- 6 Expand the **Outgoing** category to see the list of outgoing connection definitions. Connections to classic nodes are always outgoing from Entire Net-Work Server nodes.
- 7 Right-click the classic connection for the classic node you want to ping and select **Ping** from the resulting drop-down menu.

A Ping panel appears in detail-view.



Ping Kernel MFNODE

Size of Ping Message:
1024 *

Number of Ping messages:
1 *

OK Cancel Help

- 8 Specify the size and number of ping messages that should be sent from the Kernel to the classic node in the **Size of Ping Message** and **Number of Ping messages** boxes.
- 9 Click **OK** to start pinging.

The results of the ping attempts appears in detail-view, indicating whether or not the classic node is active.

33

Dynamically Connecting and Disconnecting a Connection

■ Dynamically Connecting	130
■ Dynamically Disconnecting	131

You can dynamically connect to or disconnect from any node for which a Kernel connection definition has been specified.

Dynamically Connecting

» To dynamically connect to a node specified in a connection definition of a Kernel:

Make sure you have accessed the System Management Hub and that the Kernel is started. For complete information about starting Kernels, read [Starting a Kernel](#), elsewhere in this guide.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.



Note: If the Kernel you need is not listed, it is not started. You must start the Kernel before you can proceed with these instructions. Read [Starting a Kernel](#), elsewhere in this guide, for more information.

- 5 Expand **Connections** in tree-view, by clicking on the plus sign (+) to the left of its label.

The connection definitions for the Kernel are listed in **Outgoing** and **Incoming** categories in tree-view.

- 6 Locate the connection to which you wish to connect in either category.
- 7 Right-click the connection and select **Connect** from the resulting drop-down menu.

A panel appears in detail-view verifying that you want to make the connection.

- 8 Click **OK** to make the connection.

The results of the connection attempt appear in detail-view, indicating whether or not the connection was successful.

Dynamically Disconnecting

➤ **To dynamically disconnect to a node specified in a connection definition of a Kernel:**

Make sure you have accessed the System Management Hub and that the Kernel is started. For complete information about starting Kernels, read [Starting a Kernel](#), elsewhere in this guide.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.



Note: If the Kernel you need is not listed, it is not started. You must start the Kernel before you can proceed with these instructions. Read [Starting a Kernel](#), elsewhere in this guide, for more information.

- 5 Expand **Connections** in tree-view, by clicking on the plus sign (+) to the left of its label.

The connection definitions for the Kernel are listed in **Outgoing** and **Incoming** categories in tree-view.

- 6 Locate the connection to which you wish to disconnect in either category.
- 7 Right-click the connection and select **Disconnect** from the resulting drop-down menu.

A panel appears in detail-view verifying that you want to disconnect from the node.

- 8 Click **OK** to process the disconnection request.

The results of the disconnection attempt appear in detail-view, indicating whether or not the disconnection was successful.

34 Dynamically Managing Kernel Clients and Adabas

Contexts

■ Listing Kernel Clients and Adabas Contexts	134
■ Viewing Kernel Client and Adabas Context Statistics	135
■ Dynamically Disconnecting Kernel Clients	136
■ Dynamically Deleting Adabas Contexts	137

Direct clients are clients that process Adabas calls on the current Kernel. Relay clients are clients that relay to other Kernels to process Adabas calls on those Kernels. Using Entire Net-Work you can dynamically manage the direct and relay clients of a Kernel. You can also view statistical information about clients and contexts.

Adabas contexts are memory tokens that associate clients and Adabas databases and are used for Adabas session identification and statistics purposes.

This chapter covers the following topics:

Listing Kernel Clients and Adabas Contexts

➤ To dynamically list the clients and Adabas contexts of a Kernel:

Make sure you have accessed the System Management Hub and that the Kernel is started. For complete information about starting Kernels, read [Starting a Kernel](#), elsewhere in this guide.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.



Note: If the Kernel you need is not listed, it is not started. You must start the Kernel before you can proceed with these instructions. Read [Starting a Kernel](#), elsewhere in this guide, for more information.

- 5 Expand **Clients** in tree-view, by clicking on the plus sign (+) to the left of its label.

The client and Adabas context definitions for the Kernel are listed in categories in tree-view. Three categories are listed: **Direct Clients**, **Adabas Contexts**, and **Relay Clients**.

- 6 Expand the appropriate category (**Direct Clients**, **Adabas Contexts**, or **Relay Clients**) in tree-view, by clicking on the plus sign (+) to the left of its label.

The client or Adabas context definitions for the category you selected are listed in tree-view.

Viewing Kernel Client and Adabas Context Statistics

To activate this feature, set the `STATISTICS_DETAILS` parameter to "YES" on the [Kernel Advanced Parameters](#) screen.

➤ To dynamically view statistics for a Kernel client or Adabas context:

Make sure you have accessed the System Management Hub and that the Kernel is started. For complete information about starting Kernels, read [Starting a Kernel](#), elsewhere in this guide.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.



Note: If the Kernel you need is not listed, it is not started. You must start the Kernel before you can proceed with these instructions. Read [Starting a Kernel](#), elsewhere in this guide, for more information.

- 5 Expand **Clients** in tree-view, by clicking on the plus sign (+) to the left of its label.

The client and Adabas context definitions for the Kernel are listed in categories in tree-view. Three categories are listed: **Direct Clients**, **Adabas Contexts**, and **Relay Clients**.

- **Direct Clients:** Direct clients are clients directly connected to this node. These clients are included in Entire Net-Work counts for currently active clients and are the clients covered by the license agreement (so they *are* counted against the maximum number of clients that can be used by this Kernel).
- **Adabas Contexts:** Adabas contexts are memory tokens that associate clients and Adabas databases and are used for Adabas session identification and statistics purposes.
- **Relay Clients:** Relay clients are clients connected through another node. These clients are included in Entire Net-Work counts for currently active clients, but are *not* counted against the maximum number of clients that can be used by this Kernel.

- 6 Expand the appropriate category (**Direct Clients**, **Adabas Contexts**, or **Relay Clients**) in tree-view, by clicking on the plus sign (+) to the left of its label.

The client or Adabas context definitions for the category you selected are listed in tree-view.

- 7 Click on the client or Adabas context name whose statistics you wish to view.

A panel appears in detail-view listing statistics about the client or Adabas context.

Dynamically Disconnecting Kernel Clients

➤ To dynamically disconnect a direct or relay client of a Kernel:

Make sure you have accessed the System Management Hub and that the Kernel is started. For complete information about starting Kernels, read [Starting a Kernel](#), elsewhere in this guide.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.



Note: If the Kernel you need is not listed, it is not started. You must start the Kernel before you can proceed with these instructions. Read [Starting a Kernel](#), elsewhere in this guide, for more information.

- 5 Expand **Clients** in tree-view, by clicking on the plus sign (+) to the left of its label.

The client and Adabas context definitions for the Kernel are listed in categories in tree-view. Three categories are listed: **Direct Clients**, **Adabas Contexts**, and **Relay Clients**.

- 6 Expand either the **Direct Clients** or **Relay Clients** category in tree-view, by clicking on the plus sign (+) to the left of its label.

The client definitions for the category you selected are listed in tree-view.

- 7 Right-click on the name of the client you wish to disconnect and select **Disconnect** from the resulting drop-down menu.

A panel appears in detail-view requesting confirmation of the disconnect request.

- 8 Click **OK** to disconnect the selected client.

The client is disconnected.

Dynamically Deleting Adabas Contexts

➤ To dynamically delete an Adabas context of a Kernel:

Make sure you have accessed the System Management Hub and that the Kernel is started. For complete information about starting Kernels, read [Starting a Kernel](#), elsewhere in this guide.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.



Note: If the Kernel you need is not listed, it is not started. You must start the Kernel before you can proceed with these instructions. Read [Starting a Kernel](#), elsewhere in this guide, for more information.

- 5 Expand **Clients** in tree-view, by clicking on the plus sign (+) to the left of its label.

The client and Adabas context definitions for the Kernel are listed in categories in tree-view. Three categories are listed: **Direct Clients**, **Adabas Contexts**, and **Relay Clients**.

- 6 Expand **Adabas Contexts** category in tree-view, by clicking on the plus sign (+) to the left of its label.

The Adabas context definitions for the Kernel are listed in tree-view.

- 7 Right-click on the name of the Adabas context you wish to delete and select **Delete** from the resulting drop-down menu.

A panel appears in detail-view requesting confirmation of the deletion request.

- 8 Click **OK** to delete the selected Adabas context.

The Adabas context is deleted.

35

Dynamically Managing Kernel Client Hosts

■ Listing Client Hosts	140
■ Viewing Client Host Statistics	140
■ Dynamically Disconnecting All Clients and Contexts of a Client Host	141

Client hosts are the host machines from which client requests are sent to the Kernel. Entire Net-Work lets you dynamically manage your Kernel's interaction with client hosts.

This chapter covers the following topics:

Listing Client Hosts

➤ To dynamically list the client hosts of a Kernel:

Make sure you have accessed the System Management Hub and that the Kernel is started. For complete information about starting Kernels, read [Starting a Kernel](#), elsewhere in this guide.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.



Note: If the Kernel you need is not listed, it is not started. You must start the Kernel before you can proceed with these instructions. Read [Starting a Kernel](#), elsewhere in this guide, for more information.

- 5 Expand **Client Hosts** in tree-view, by clicking on the plus sign (+) to the left of its label.

The client host definitions for the Kernel are listed in tree-view.

Viewing Client Host Statistics

➤ To dynamically view statistics for a Kernel client host:

Make sure you have accessed the System Management Hub and that the Kernel is started. For complete information about starting Kernels, read [Starting a Kernel](#), elsewhere in this guide.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.

- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.

- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.



Note: If the Kernel you need is not listed, it is not started. You must start the Kernel before you can proceed with these instructions. Read [Starting a Kernel](#), elsewhere in this guide, for more information.

- 5 Expand **Client Hosts** in tree-view, by clicking on the plus sign (+) to the left of its label.

The client host definitions for the Kernel are listed in tree-view.

- 6 Click on the client host name whose statistics you wish to view.

A panel appears in detail-view listing statistics about the client host.

Dynamically Disconnecting All Clients and Contexts of a Client Host

➤ To dynamically disconnect all the clients and context of a Kernel client host:

Make sure you have accessed the System Management Hub and that the Kernel is started. For complete information about starting Kernels, read [Starting a Kernel](#), elsewhere in this guide.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.

- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.



Note: If the Kernel you need is not listed, it is not started. You must start the Kernel before you can proceed with these instructions. Read [Starting a Kernel](#), elsewhere in this guide, for more information.

- 5 Expand **Client Hosts** in tree-view, by clicking on the plus sign (+) to the left of its label.

The client host definitions for the Kernel are listed in tree-view.

- 6 Right-click on the name of the client host whose clients and Adabas contexts you wish to disconnect and select **Disconnect all clients** from the resulting drop-down menu.

A panel appears in detail-view requesting confirmation of the disconnect request.

- 7 Click **OK** to disconnect all of the clients on the selected client host.

The clients and Adabas contexts are disconnected.

36

Reviewing Kernel Status

You can review the status of a Kernel service and of a Kernel. This chapter describes both methods.

➤ To view the status of a Kernel service:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Expand **Entire Net-Work Server** in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of servers that have been defined appears.

- 5 Expand an Entire Net-Work name in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of Kernels that have been defined for that server appears.

- 6 In tree-view, right-click on the name of the Kernel whose status you want to view and select the **Status** command from the resulting drop-down menu.

The status of the Kernel service appears in detail-view.

➤ To view the status of a Kernel:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.

- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.

- 3 Expand **Entire Net-Work Server** in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of started Kernels appears.



Note: If the Kernel you need is not listed, it is not started. You must start the Kernel before you can proceed with these instructions. Read [Starting a Kernel](#), elsewhere in this guide, for more information.

- 5 In tree-view, click on the name of the Kernel whose status you want to view.

The status of the Kernel appears in detail-view.

MYKERNEL on TEST-PC										
Kernel	NodeId	Version	Tcpip	Active Clients	Max Clients	Age	Total CPU	CPU Share	Current CPU	
MIHA175	3399	7.5.0	Undefined	0	1000	42h:32m:15s	0h:0m:19s	0.1%	0.0%	

This status also provides the following statistical information:

- The number of clients currently using the Kernel (**Active Clients**) includes direct clients, relay clients, and Adabas context clients.
- The maximum number of clients allowed to use the Kernel (**Max Clients**) is based on the license provided by Software AG when Entire Net-Work was purchased. This count includes direct clients only; relay clients and Adabas context clients are not included in this count.
- The length of time the Kernel has been running (**Age**) is shown.
- The total CPU used (Total CPU) is provided.
- The percentage of CPU (**CPU Share**) the Kernel has used since it started is listed.
- The Kernel's current CPU consumption (**Current CPU**) is shown.

37

Managing Kernel Log Files

■ Viewing the Kernel Log File	146
■ Starting a New Kernel Log File	146
■ Specifying the Kernel Log File Location	148

You can view the current Kernel log file or start a new one.

Viewing the Kernel Log File

➤ To view the log file for a Kernel:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of Kernels that have been started appears.

- 5 In tree-view, right-click on the name of the Kernel whose log file you want to view and select **View Log File** command from the resulting drop-down menu.

The console log for the Kernel appears in detail-view.

Starting a New Kernel Log File

You can close the current log file for an Entire Net-Work Kernel and start a new one at any time. When you do this, the current log file (with a name in the format *kernel-name.log*) is saved under a new name and is cleared of all log entries. The name of the renamed log file is assigned in the format *kkknnnnn.log*, where *kkk* is the first three characters of the Kernel name and *nnnnn* is an incremental number determined by the number of the most recent log file that was renamed and saved. The log file with the name that includes the highest number is the most recently saved log file.

By default, Kernel log files are stored in one of the following locations:

- In Windows XP environments (up to XP Server 2003): Documents and Settings\All Users\Application Data\Software AG\Entire Net-Work Server\
- In Windows 7 environments: ProgramData\Software AG\Entire Net-Work Server\logsvc75
- In Linux environments: \$SAG\wcp\.

If you would like to specify the location in which Kernel log files should be stored, read [Specifying the Kernel Log File Location](#), elsewhere in this section.



Note: The LOGSIZE parameter for the Kernel defines the number of megabytes (MB) to which a Kernel log file can grow before it is automatically closed and a new log file is started. For more information on setting this parameter, read [Setting Advanced Parameters](#), elsewhere in this guide.

➤ **To start a new log file for the Kernel:**

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

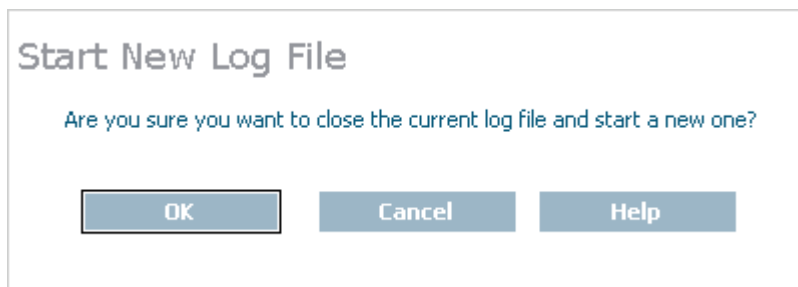
The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of Kernels that have been started appears.

- 5 In tree-view, right-click on the name of the Kernel for which you want to start a new log file and select **New Log File** command from the resulting drop-down menu.

The **Start New Log File** panel appears in detail-view.



- 6 Click **OK**.

A new log file is started for the Kernel and the old one is closed.

Specifying the Kernel Log File Location

You can specify the fully-qualified path of the directory in which log files should be stored. If you do not specify a log file location, the default location for Kernel log files (the subdirectory named for the Kernel) will be used. By default, the Kernel log file directories are stored in one of the following locations:

- In Windows XP environments (up to XP Server 2003): `Documents and Settings\All Users\Application Data\Software AG\Entire Net-Work Server\`
- In Windows 7 environments: `ProgramData\Software AG\Entire Net-Work Server\logsvc75`
- In Linux environments: `$SAG\wcp\`.



Note: If you want to put your Entire Net-Work log files on a shared server, read *Directing Log Files to a Shared Server*, in the *Entire Net-Work LUW Administration Guide*. However, please be sure that the directory name you specify for the log files for each Kernel is unique.

➤ To specify the log file location:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, right-click on the name of the Kernel for which you want to set advanced parameters and select the **Set Basic Parameters** command from the resulting drop-down menu.

The **Kernel Basic Parameters** panel appears in detail-view.

Kernel Basic Parameters

WCPARTITION..... <not defined>

NODEID..... 1234 *

AUTOSTART..... <not defined>

AUTOSTOP..... <not defined>

WCPTRACE..... 0 *

☐ Full WCP Trace

XTSTRACE..... 0 *

☐ Full XTS Trace

LNKTRACE..... 0 *

☐ Full LNK Trace

LOGDIR..... C:\ProgramData\Software AG\Entire Net-Work Server\MYKERNEL\

LOGSIZE..... 100

DATE_STAMP..... <not defined>

OK Cancel Help

- 7 Specify the fully-qualified path of the directory in which you want log files stored in the `LOGDIR` parameter. When all changes are made, click **OK** to save the setting.

The Kernel parameters are updated in the appropriate Kernel definition file. You must restart the Kernel in order for these parameter changes to take effect.

38

Tracing Kernel Processing

■ Managing Kernel Tracing	152
■ Managing Software AG Transport Services Tracing	156
■ Managing Software AG Communications Tracing	158

There are three kinds of trace processing that can occur when using Kernels:

- Traces can be performed for individual Kernel processing.
- Traces can be performed for Software AG transport services processing (XTSTRACE).
- Traces can be performed for Software AG communications processing (ADALNK).

Tracing should be used only for problem analysis. When you specify trace levels, large trace files will be stored on your disks and performance will be affected. Therefore, we recommend that you perform this function only under the advisement of your Software AG technical support representative.

Managing Kernel Tracing

Tracing should be used only for problem analysis. When you specify trace levels, large trace files will be stored on your disks and performance will be affected.



Caution: While you can set the trace level for a Kernel using SMH, we recommend that you perform this function only under the advisement of your Software AG support representative.

You can set the trace level for a Kernel dynamically (immediately and for only this execution of the Kernel) or permanently (for future executions of the Kernel). The dynamic trace level setting occurs immediately, but if the Kernel is restarted, it is reset to the trace level specified in the Kernel definition. The permanent trace level setting occurs in the Kernel definition and takes effect only when the Kernel is restarted.

This section covers the following topics:

- [Permanently Setting the Trace Level](#)
- [Dynamically Setting the Trace Level](#)

Permanently Setting the Trace Level

➤ **To set the trace level offline in SMH for the Kernel:**

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

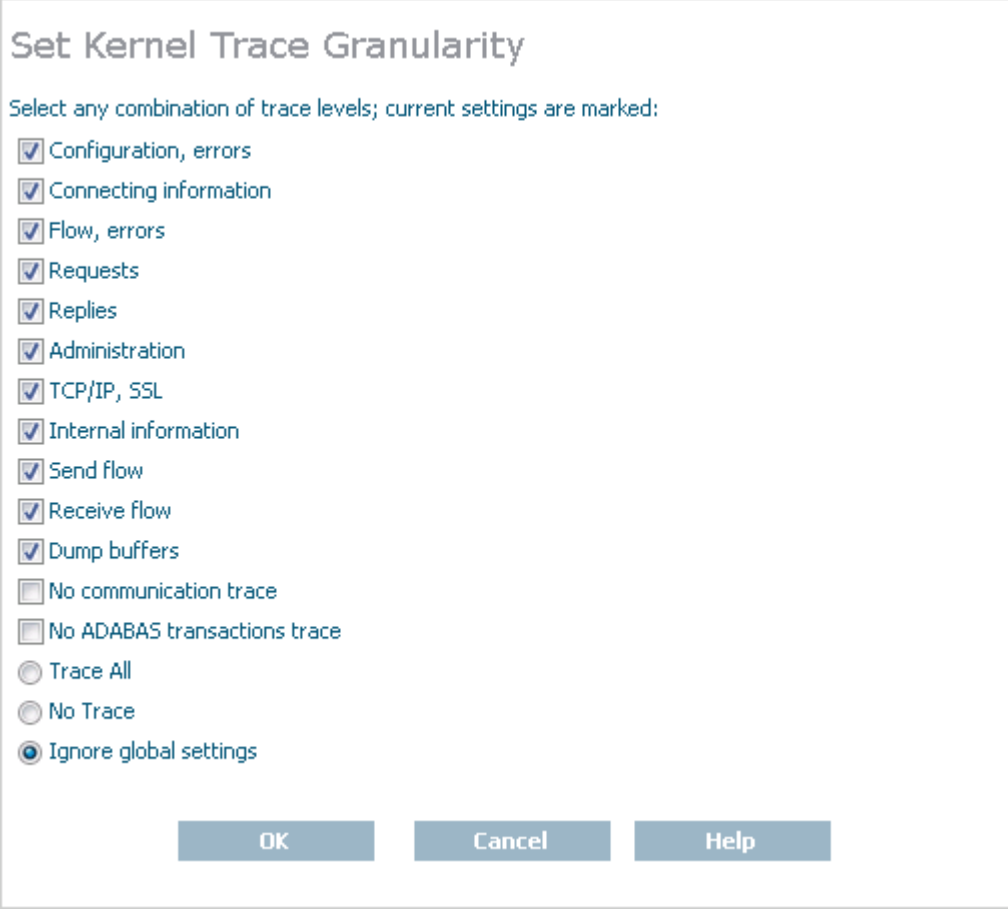
The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, right-click on the name of the Kernel for which you want to set the trace level and select **Set Kernel Trace Granularity** command from the resulting drop-down menu.

The **Set Kernel Trace Granularity** panel appears in detail-view.



Set Kernel Trace Granularity

Select any combination of trace levels; current settings are marked:

- ☒ Configuration, errors
- ☒ Connecting information
- ☒ Flow, errors
- ☒ Requests
- ☒ Replies
- ☒ Administration
- ☒ TCP/IP, SSL
- ☒ Internal information
- ☒ Send flow
- ☒ Receive flow
- ☒ Dump buffers
- ☐ No communication trace
- ☐ No ADABAS transactions trace
- ☐ Trace All
- ☐ No Trace
- ☒ Ignore global settings

OK Cancel Help

- 7 Select appropriate trace levels as requested by your Software AG support representative.

The **Trace All**, **No Trace**, and **Ignore global settings** radio buttons are mutually exclusive selections. The **Trace All** and **No Trace** radio buttons are provided as *global* trace settings.

- If you select **Trace All**, data is collected for all of the trace levels listed on the panel, regardless of what you have selected (checked).
- If you select the **No Trace** radio button, data is collected for *none* of the trace levels listed on the panel, regardless of what you have selected (checked).
- The **Ignore global settings** radio button *must* be selected if you want to collect trace data for only some of the trace levels listed on the panel. This ensures that neither the **Trace All** and **No Trace** radio buttons are selected and indicates to Entire Net-Work that specific trace level data collection is requested.

8 Click **OK**.

The trace level is set. You must restart the Kernel in order for these trace level changes to take effect.

Dynamically Setting the Trace Level

➤ To set the trace level offline in SMH for the Kernel:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

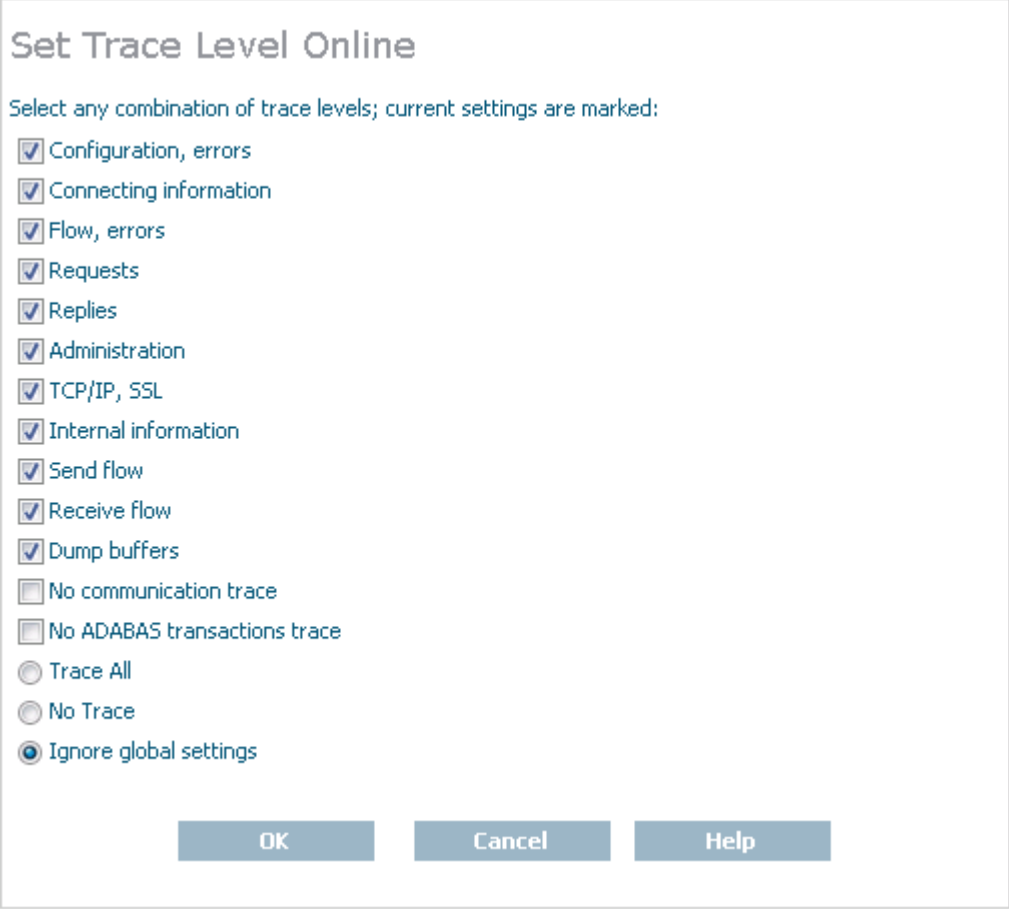
The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Kernels** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of Kernels that have been started appears.

- 5 In tree-view, right-click on the name of the Kernel for which you want to set the trace level and select **Set Trace Level Online** command from the resulting drop-down menu.

The **Set Trace Level Online** panel appears in detail-view.



Set Trace Level Online

Select any combination of trace levels; current settings are marked:

- ☒ Configuration, errors
- ☒ Connecting information
- ☒ Flow, errors
- ☒ Requests
- ☒ Replies
- ☒ Administration
- ☒ TCP/IP, SSL
- ☒ Internal information
- ☒ Send flow
- ☒ Receive flow
- ☒ Dump buffers
- ☐ No communication trace
- ☐ No ADABAS transactions trace
- ☐ Trace All
- ☐ No Trace
- ☒ Ignore global settings

OK Cancel Help

- 6 Select appropriate trace levels as requested by your Software AG support representative.

The **Trace All**, **No Trace**, and **Ignore global settings** radio buttons are mutually exclusive selections. The **Trace All** and **No Trace** radio buttons are provided as *global* trace settings.

- If you select **Trace All**, data is collected for all of the trace levels listed on the panel, regardless of what you have selected (checked).
- If you select the **No Trace** radio button, data is collected for *none* of the trace levels listed on the panel, regardless of what you have selected (checked).
- The **Ignore global settings** radio button *must* be selected if you want to collect trace data for only some of the trace levels listed on the panel. This ensures that neither the **Trace All** and **No Trace** radio buttons are selected and indicates to Entire Net-Work that specific trace level data collection is requested.

- 7 Click **OK**.

The trace level is temporarily set. Once the Kernel is restarted, it will revert to using its original trace settings.

Managing Software AG Transport Services Tracing

Tracing should be used only for problem analysis. When you specify trace levels, large trace files will be stored on your disks and performance will be affected.



Caution: We recommend that you perform this function only under the advisement of your Software AG support representative.

Once Software AG transport services tracing is activated, the trace messages are written to the Entire Net-Work Client log file. For more information about the Entire Net-Work Client log file, read [Managing Kernel Log Files](#), elsewhere in this guide.

➤ To set the Software AG transport services trace level and activate transport services tracing:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, right-click on the name of the Kernel for which you want to set the trace level and select **Set Basic Parameters** command from the resulting drop-down menu.

The **Kernel Basic Parameters** panel appears in detail-view.

Kernel Basic Parameters

WCPARTITION..... <not defined>

NODEID..... 1234 *

AUTOSTART..... <not defined>

AUTOSTOP..... <not defined>

WCPTRACE..... 0 *

☐ Full WCP Trace

XTSTRACE..... 0 *

☐ Full XTS Trace

LNKTRACE..... 0 *

☐ Full LNK Trace

LOGDIR..... C:\ProgramData\Software AG\Entire Net-Work Server\MYKERNEL\

LOGSIZE..... 100

DATE_STAMP..... <not defined>

OK Cancel Help

- 7 Modify the **XTSTRACE** parameter and **Full XTS Trace** checkbox on the **Kernel Basic Parameters** panel, as requested by your Software AG technical support representative. These parameters are described in the following table. When all parameters are set as you want, click **OK** to save them.

Parameter	Description
XTSTRACE	Set the XTS trace level using this parameter.
Full XTS Trace	Click in this checkbox to set the XTSTRACE value to obtain full tracing of Software AG transport services processing. Do not check this checkbox unless specifically instructed to do so by a Software AG Customer Support representative. If you do, your installation could be overrun with trace messages that would be meaningless to you and would likely affect system performance.

The transport services trace levels are set and activated.

Managing Software AG Communications Tracing

Tracing should be used only for problem analysis. When you specify trace levels, large trace files will be stored on your disks and performance will be affected.



Caution: We recommend that you perform this function only under the advisement of your Software AG support representative.

Once Software AG communications tracing is activated, the trace messages are written to the Entire Net-Work Client log file. For more information about the Entire Net-Work Client log file, read [Managing Kernel Log Files](#), elsewhere in this guide.

➤ To set the Software AG communications trace level and activate communications tracing:

Make sure you have accessed the System Management Hub.

- 1 Select the name of the managed host on which Entire Net-Work Server is installed.
- 2 Expand the tree-view frame for the managed host by clicking on the plus sign (+) to the left of its name.
- 3 Select "Entire Net-Work Server" in the tree-view under the managed host.

The Entire Net-Work Server administration area of the System Management Hub becomes available to you.

- 4 Expand **Servers** in tree-view, by clicking on the plus sign (+) to the left of its label.

The list of installed servers appears.

- 5 Expand the name of the server in the server list in tree-view, by clicking on the plus sign (+) to the left of its label.

A list of Kernels defined to the server appears.

- 6 In tree-view, right-click on the name of the Kernel for which you want to set the trace level and select **Set Basic Parameters** command from the resulting drop-down menu.

The **Kernel Basic Parameters** panel appears in detail-view.

Kernel Basic Parameters

WCPARTITION.....<not defined>

NODEID.....1234 *

AUTOSTART.....<not defined>

AUTOSTOP.....<not defined>

WCPTRACE.....0 *

☐ Full WCP Trace

XTSTRACE.....0 *

☐ Full XTS Trace

LNKTRACE.....0 *

☐ Full LNK Trace

LOGDIR.....C:\ProgramData\Software AG\Entire Net-Work Server\MYKERNEL\

LOGSIZE.....100

DATE_STAMP.....<not defined>

OK Cancel Help

- 7 Modify the **LNKTRACE** parameter and **Full LNK Trace** checkbox on the **Kernel Basic Parameters** panel, as requested by your Software AG technical support representative. These parameters are described in the following table. When all parameters are set as you want, click **OK** to save them.

Parameter	Description
LNKTRACE	Set the ADALNK trace level using this parameter.
Full LNK Trace	Click in this checkbox to set the LNKTRACE value to obtain full tracing of ADALNK processing. Do not check this checkbox unless specifically instructed to do so by a Software AG Customer Support representative. If you do, your installation could be overrun with trace messages that would be meaningless to you and would likely affect system performance.

The communications trace levels are set and activated.

39

Entire Net-Work Service Function Utility (wcpadmin)

■ Syntax	162
■ Special Character Use	166
■ Creating a Kernel Using wcpadmin	166
■ General Examples	167

The Entire Net-Work Service Function Utility allows you to perform some of the Entire Net-Work service functions in batch mode.

Syntax

The syntax of the wcpadmin function is:

```
wcpadmin {kernel-name| *} [function]
```

Specify one of the service functions (*function*) using the syntax listed in the following table.



Note: Please review the information on special character use with the wcpadmin function on Windows and Linux systems. This is described in [Special Character Use](#), elsewhere in this section.

Function Name	Syntax	This function...
*	wcpadmin *	Displays the Entire Net-Work configuration on the machine.
add	wcpadmin kernel-name add node-name url	Allows you to add a connection to the Kernel. The name of the Kernel, the node and the node's associated URL must be specified for this function.
addconnection	wcpadmin kernel-name addconnection {online offline} tgt-kernelurl	Allows you to add a connection URL for a target Kernel (<i>tgt-kernel</i>) to the selected Kernel (<i>kernel-name</i>). You can specify whether the connection is online or offline. For example, wcpadmin krnl addconnection online test4 tcpip://localhost:8000 adds an online connection for Kernel "test4" to Kernel "krnl".
addlisten	wcpadmin kernel-name addlisten {server client classic smh} url	Allows you to add a "listen" to a Kernel definition. Using this function, you can specify the URL (and port) for various incoming connections of the Kernel. You must specify the kind of connection using these keywords: ■ Use "server" to define the URL and port number of an incoming Kernel connection. For example, wcpadmin krnl addlisten server tcpip://localhost:8000. ■ Use "client" to define the URL and port number of an incoming client connection. For example, wcpadmin krnl addlisten client tcpip://localhost:8080. ■ Use "classic" to define the URL and port number of an incoming RDA connection. For example,

Function Name	Syntax	This function...
		wcpadmin krnl addlisten classic rda://localhost:8088. ■ Use "smh" to define the URL and port number of an incoming System Management Hub (SMH) connection. For example, wcpadmin krnl addlisten smh tcpip://localhost:8050.
connect	wcpadmin <i>kernel-name</i> connect <i>node-name</i>	Allows you to connect a node to the Kernel. The name of the Kernel and the node name must be specified for this function.
create	wcpadmin <i>kernel-name</i> create	Creates a new Kernel definition that is not fully complete. The Kernel configuration file is created and an entry is added to the service. To complete the Kernel definition, you must also call the following subsequent functions: 1. Set Kernel parameter values using the setparm function of wcpadmin utility. 2. Add "listen" connections for servers, clients, RDA, and SMH connections to the Kernel using the addlisten function of the wcpadmin utility. 3. Add connections for the Kernel using the addconnection function of the wcpadmin utility.
delete	wcpadmin <i>kernel-name</i> delete	Deletes the Kernel from the service and deletes the Kernel configuration file. This function only works if the Kernel is offline.
disconnect	wcpadmin <i>kernel-name</i> disconnect <i>node-name</i>	Allows you to disconnect a node from the Kernel. The name of the Kernel and the node name must be specified for this function.
getparm	wcpadmin <i>kernel-name</i> getparm <i>parm-name</i>	Allows you to view the value of a specific parameter of the selected Kernel. Possible parameter names that can be specified (<i>parm-name</i>) are: ACCEPTED_DBIDS, ACCEPTED_HOSTS, ACCEPTED_KERNELS, ADABAS_TIMEOUT, AUTOSTART, AUTOSTOP, CHECK_CXT_INTERVAL, CHECK_DBS_INTERVAL, DATE_STAMP, GATEWAY_THREADS, LNKTRACE, LOGSIZE, MAX_CLIENTS, MAX_CPU_THRESHOLD, NODEID, PING_DB_INTERVAL, REJECTED_DBIDS, REJECTED_HOSTS, REJECTED_KERNELS, RELAY_TRAFFIC, SAGXTSDSHOST, SAGXTSDSPORT, STATISTICS_DETAILS, STATISTICS_INTERVAL, TCP_AF, TIMER_TIMEOUT, WCPPARTITION,

Function Name	Syntax	This function...
		WCPTRACE, XTSLOGDIR, XTSTRACE. These parameters are described in <i>Managing Kernels</i> , in the <i>Entire Net-Work Server LUW Installation and Administration Guide</i> .
setparm	wcpadmin kernel-name setparm parm-name parm-value	Allows you to set the value of a specific parameter of the selected Kernel. Possible parameter names that can be specified (<i>parm-name</i>) are: ACCEPTED_DBIDS, ACCEPTED_HOSTS, ACCEPTED_KERNELS, ADABAS_TIMEOUT, AUTOSTART, AUTOSTOP, CHECK_CXT_INTERVAL, CHECK_DBS_INTERVAL, DATE_STAMP, GATEWAY_THREADS, LNKTRACE, LOGSIZE, MAX_CLIENTS, MAX_CPU_THRESHOLD, NODEID, PING_DB_INTERVAL, REJECTED_DBIDS, REJECTED_HOSTS, REJECTED_KERNELS, RELAY_TRAFFIC, SAGXTSDSHOST, SAGXTSDSPORT, STATISTICS_DETAILS, STATISTICS_INTERVAL, TCP_AF, TIMER_TIMEOUT, WCPPARTITION, WCPTRACE, XTSLOGDIR, XTSTRACE. These parameters are described in <i>Managing Kernels</i> , in the <i>Entire Net-Work Server LUW Installation and Administration Guide</i> .
showclients	wcpadmin kernel-name showclients [D R A [<i>id</i>]]	Allows you to view the clients on associated with the Kernel. The name of the Kernel must be supplied for this function. Optionally, supply one of the following: ■ D: Specify "D" to view the direct clients of the Kernel. ■ R: Specify "R" to view the relay clients of the Kernel. ■ A: Specify "A" to view the Adabas clients of the Kernel. When you specify "A", you can also specify a client ID (<i>id</i>) to view the details of a specific Adabas client.
showconnections	wcpadmin kernel-name showconnections	Allows you to view the existing connections of the Kernel and the connection status. The name of the Kernel must be specified for this function.
showdb	wcpadmin kernel-name showdb {* <i>dbid</i> }	Allows you to view all the databases on the Kernel or details about a specific database on the Kernel. The name of the Kernel must be supplied for this function. In addition, either an asterisk (*) or a specific database ID (<i>dbid</i>) must be specified.

Function Name	Syntax	This function...
showhosts	wcpadmin <i>kernel-name</i> showhosts [<i>hostname</i>]	Allows you to view the host names of known to the Kernel or statistics about a specific host. The name of the Kernel must be supplied for this function. Optionally, you can specify a specific host name (<i>hostname</i>) to view statistics about a specific host.
showlistens	wcpadmin <i>kernel-name</i> showlistens	Allows you to view the listen ports for the Kernel. The name of the Kernel must be supplied for this function. This function only shows the active listens, not the listens listed in the configuration file. So this function only works if the Kernel is active.
shownodes	wcpadmin <i>kernel-name</i> shownodes [I O]	Allows you to view the Kernel's connections to nodes. The name of the Kernel must be supplied for this function. Optionally, specify "I" to view only incoming connections or "O" to view only outgoing connections. If you specify neither "I" nor "O", all connections are shown.
shownodestats	wcpadmin <i>kernel-name</i> shownodestats <i>node-name</i> {I O}	Allows you to view the Kernel connection statistics for a specific node. The name of the Kernel and the name of the node must be supplied for this function. In addition, you must specify "I" to view the statistics for the incoming connections of a node or "O" to view the statistics for the outgoing connections of a node.
showparms	wcpadmin <i>kernel-name</i> showparms	Allows you to view all parameters in a Kernel configuration file.
showstats	wcpadmin <i>kernel-name</i> showstats	Allows you to view statistics for the Kernel. The name of the Kernel must be supplied for this function.
showstatus	wcpadmin { <i>kernel-name</i> *} showstatus	Allows you to view the status of a specific Kernel or of all Kernels. Specify either: ■ The name of a specific Kernel to review the status of that specific Kernel. ■ An asterisk (*) to review the status of all Kernels.
shutdown	wcpadmin { <i>kernel-name</i> *} shutdown	Shuts down (stops) a specific Kernel or all Kernels. Specify either: ■ The name of a specific Kernel to shut down. ■ An asterisk (*) to shut down all Kernels.
start	wcpadmin { <i>kernel-name</i> *} start	Starts a specific Kernel or all Kernels. Specify either: ■ The name of a specific Kernel to start. ■ An asterisk (*) to start all Kernels.

Function Name	Syntax	This function...
stopclients	<code>wcpadmin kernel-name stopclients {D R A [<i>id</i>]}</code>	Stops the clients of a Kernel based on type (direct clients, relay clients or Adabas clients). The name of the Kernel must be supplied for this function. In addition, supply one of the following: ■ D: Specify "D" to stop the direct clients of the Kernel. ■ R: Specify "R" to stop the relay clients of the Kernel. ■ A: Specify "A" to stop the Adabas clients of the Kernel. When you specify "A", you can optionally specify a client ID (<i>id</i>) to stop a specific Adabas client.
stophosts	<code>wcpadmin kernel-name stophosts hostname</code>	Stops all clients of a Kernel coming from a specific host. The name of the Kernel and the name of the host must be supplied for this function.

Special Character Use

In Windows environments, the ampersand [&], pipe [|] and parentheses [()] are special characters that must be preceded by the escape character [^] or passed within quotation marks [""] when they are used in arguments of the wcpadmin function.

In Linux environments, characters that have special meaning to the shell (such as the greater than [>], less than [<], asterisk [*], question mark [?], pipe [|], and ampersand [&] symbols) are called *metacharacters*. The list of metacharacters varies depending on the Linux shell in use. When used in arguments of the wcpadmin function, metacharacters should be passed within single quotes or preceded by a forward slash [/]. For example, `wcpadmin '*' start` or `wcpadmin /* start` are examples of the correct use of metacharacters in wcpadmin Linux environment processing.

Creating a Kernel Using wcpadmin

The wcpadmin create function does not create a fully functional Kernel. After kernel creation, other functions must be invoked as well.

➤ To create a fully functional Kernel using the wcpadmin utility, complete the following steps:

- 1 Create the initial Kernel definition using the wcpadmin create function. The Kernel configuration file is created and an entry is added to the service. The following example creates a Kernel definition for the Kernel named "test1".

```
wcpadmin test1 create
```

- Specify Kernel parameter values using the `setparam` function of `wcpadmin` utility. The following examples set Kernel parameters for the "test1" Kernel.

```
wcpadmin test1 setparam XTSTRACEX 0xfffe
wcpadmin test1 setparam LNKTRACEX 0xff
wcpadmin test1 setparam NODEID 1000
wcpadmin test1 setparam MAX_CLIENTS 1000
```

- Add "listen" connections for servers, clients, RDA, and SMH connections to the Kernel using the `addlisten` function of the `wcpadmin` utility. The following examples add server, client, and SMH connections for the "test1" Kernel.

```
wcpadmin test1 addlisten server tcpip://localhost:8000
wcpadmin test1 addlisten client tcpip://localhost:8080
wcpadmin test1 addlisten smh tcpip://localhost:8088
```

- Add connections for the Kernel using the `addconnection` function of the `wcpadmin` utility. The following examples add connections for the "test1" Kernel to "test2" and "test3".

```
wcpadmin test1 addconnection online test2 tcpip://localhost:3000?MANUAL=NO
wcpadmin test1 addconnection online test3 tcpip://localhost:4000?MANUAL=NO
```

Only when you have completed all of these steps have you created a fully functional Kernel definition.

General Examples

Examples for each of the `wcpadmin` functions are given in the following table.

Function Name	Example	Sample Output
*	wcpadmin *	Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG SERVICE=USAXXX2 SAGXTSDSHOST=localhost SAGXTSDSPORT=12731 Kernels Available ===== FRIED XXXXX SECOND V733VIS

Function Name	Example	Sample Output
		<pre>===== WCPadmin exiting ...</pre>
add	wcpadmin XXXXX add FRIED TCPIP://localhost:8000	<pre>Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG Add Connection to FRIED on Kernel=XXXXX WCPadmin exiting ...</pre>
connect	wcpadmin XXXXX connect SECOND	<pre>Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG Connect Node=SECOND on Kernel=XXXXX WCP0628I Connect procedure has been initiated WCPadmin exiting ...</pre>
disconnect	wcpadmin XXXXX disconnect SECOND	<pre>Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG Disconnect Node=SECOND on Kernel=XXXXX WCP0629I Disconnect procedure has been ↵ initiated WCPadmin exiting ...</pre>
showclients	wcpadmin XXXXX showclients	<pre>Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG Show number of clients on Kernel=XXXXX Direct Clients 2 Adabas Contexts 2 Relay Clients 0 WCPadmin exiting ...</pre>
	wcpadmin XXXXX showclients D	<pre>Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG Direct Clients ClientId Host Port ↵ Dbid Elapsed Time 21 usaxxx2.YYY.ww.zzz 49155 ↵ 1 0h:1m:3s WCPadmin exiting ...</pre>
	wcpadmin XXXXX showclients A	<pre>Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG Adabas Contexts ContextId Dbid Host Port ↵ Port Elapsed Time 7 1 usaxxx2.YYY.WW.ZZZ 49155 ↵ 49155 0h:1m:15s WCPadmin exiting ...</pre>

Function Name	Example	Sample Output
	wcpadmin XXXXX showclients A 7	Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG Adabas context Dbid 1 ClientId 21 NodeName usaxxx2 User usaxxx Pid 0x86868cc4 Host usaxxx2.YYY.WW.ZZZ Port 49155 Requests 16 Replies 15 Bytes In 1468 Bytes Out 1380 Elapsed Time 0h:2m:17s WCPadmin exiting ...
showconnections	wcpadmin XXXXX showconnections	Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG Show connections for Kernel=XXXXX TargNode Type Protocol Port ↵ A/M Status FRIED E-business TCPIP 8000 ↵ Auto Connection defined TEST E-business TCPIP 7000 ↵ Manual Connection defined SECOND E-business TCPIP 9000 ↵ Manual Disconnected RDHP1 Classic RDA 0 ↵ Manual Connected WCPadmin exiting ...
showdb	wcpadmin XXXXX showdb *	Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG Show DBIDs for Kernel=XXXXX DBID Node Type Status 168 RDHP1 Classic Active 159 RDHP1 Classic Active 158 RDHP1 Classic Active 140 RDHP1 Classic Active 86 RDHP1 Classic Active 59 RDHP1 Classic Active 1 XXXXX Local Active WCPadmin exiting ...

Function Name	Example	Sample Output
	wcpadmin XXXXX showdb 168	<pre> Software AG Entire Net-Work Server, Copyright ©) 1997-2011 by Software AG Show DBID=168 on Kernel=XXXXX XXXXX Current Since startup Bytes in Requests 0 0 Bytes in Replies 0 0 Number of Requests 0 0 Number of Replies 0 0 Connections 1 WCPadmin exiting ... </pre>
showhosts	wcpadmin XXXXX showhosts	<pre> Software AG Entire Net-Work Server, Copyright ©) 1997-2011 by Software AG Host Connections Disconnections Elapsed Time usamih2.YYY.WW.ZZZ 10 10 0h:46m:1s WCPadmin exiting ... </pre>
	wcpadmin XXXXX showhosts usaxxx2.YYY.WW.ZZZ	<pre> Software AG Entire Net-Work Server, Copyright ©) 1997-2011 by Software AG Host usamih2.YYY.WW.ZZZ Count 0 Connections 10 Disconnections 10 Requests 122 Replies 102 Bytes In 11225 Bytes Out 9384 Elapsed Time 0h:46m:20s WCPadmin exiting ... </pre>
showlistens	wcpadmin XXXXX showlistens	<pre> Software AG Entire Net-Work Server, Copyright ©) 1997-2011 by Software AG Show listens for Kernel=XXXXX Name Protocol Port Status Client Access TCPIP 49155 Running E-Business Access TCPIP 8000 Running SMH Server TCPIP 49154 Running WCPadmin exiting ... </pre>

Function Name	Example	Sample Output
shownodes	wcpadmin XXXXX shownodes	<pre> Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG Show nodes on Kernel=XXXXX Target Type 0/I Status SECOND E-Business I Active FRIED E-Business 0 Inactive TEST E-Business 0 Inactive SECOND E-Business 0 Inactive RDHP1 Classic 0 Inactive WCPadmin exiting ... </pre>
shownodestats	wcpadmin XXXXX shownodestats RDHP1 0	<pre> Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG XXXXX Current ↵ Since Startup Bytes received 128 ↵ 0 Bytes sent 128 ↵ 0 Requests received 3 ↵ 0 Requests sent 2 ↵ 0 Incoming connections N/A ↵ 0 Outgoing connections N/A ↵ 1 Admin msgs received 3 ↵ 0 Admin msgs sent 2 ↵ 0 Errors 0 ↵ 0 WCPadmin exiting ... </pre>
showstats	wcpadmin XXXXX showstats	<pre> Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG Get statistics for Kernel=XXXXX Statistics for Kernel XXXXX Accumulated Node Count 4 Databases 1 Adabas Calls Processed 102 Classic Nodes 1 Classic Messages 0 e-Business Messages 122 e-Business Contexts 10 Active Clients 0 Relay Messages 0 Memory Allocations 64 </pre>

Function Name	Example	Sample Output
		Memory Frees 20 WCPadmin exiting ...
showstatus	wcpadmin XXXXX showstatus	Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG XXXXX Active WCPadmin exiting ...
	wcpadmin * showstatus	Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2010 by Software AG Kernels Status FRIED Inactive XXXXX Active SECOND Inactive V733VIS Inactive =====
shutdown	wcpadmin SECOND shutdown	Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG Shutdown Kernel=SECOND for WCP Service=USAXXX2 Shutdown Kernel=SECOND Service=USAXXX2 has ↵ been submitted WCPadmin exiting ...
start	wcpadmin SECOND start	Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG Start Kernel=SECOND for WCP Service=USAXXX2 WCPadmin exiting ...
stopclients	wcpadmin XXXXX showclients D	Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG Direct Clients ClientId Host Port ↵ Dbid Elapsed Time 47 usamih2.XXX.ww.zzz 49155 1 ↵ 0h:0m:46s WCPadmin exiting ...
	wcpadmin XXXXX stopclients D 47	Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG Stop direct client=47 WCPadmin exiting ...

Function Name	Example	Sample Output
stophosts	wcpadmin XXXXX stophosts usaxxx2.XXX.WW.ZZZ	Software AG Entire Net-Work Server, Copyright ↵ ©) 1997-2011 by Software AG WCPadmin exiting ...

40

Port Number Reference

■ Port Overview and General Assignments	176
■ Changing the Adabas Directory Server Port Number	177

This chapter describes the ports that are needed by Adabas LUW and Entire Net-Work LUW products to perform its processing and how they can be assigned.

Port Overview and General Assignments

The following table describes the ports that are needed by Entire Net-Work to perform its processing and any default ports assumed by Entire Net-Work. You should consider avoiding the use of these default port numbers for other applications.

Software AG Product Component	Ports Needed	Default Port Number
Adabas Manager Communicator	One port is needed.	4980
Adabas Directory Server	One port is needed for Entire Net-Work requests to the Directory Server	4952 (IANA port) Note: If older versions of Entire Net-Work (older than 7.3) are in use, this port number may need to be changed to 12731.
Adabas Manager	One port is needed for Adabas Manager administration tasks	dynamically assigned
Entire Net-Work Kernel	A port is needed for Kernel access by clients	dynamically assigned
	A port is needed for Kernel access via connections (Entire Net-Work 7 or later)	dynamically assigned
	A port is needed for Kernel access via RDA connections (Entire Net-Work 2)	7869
	A port is needed for Adabas Manager administration of Kernels	dynamically assigned

Software AG has registered port number 4952 with the Internet Assigned Numbers Authority (IANA) for use by the Adabas Directory Server. For more information about Directory Server port number specifications, read *The Directory Server Port Number* in the *Software AG Directory Server Installation and Administration Guide*. For information on changing the Directory Server port number for an Entire Net-Work installation, read [Changing the Adabas Directory Server Port Number](#).

In general, there are no default port numbers assigned to Entire Net-Work Kernels or clients. These are dynamically assigned by Entire Net-Work when the Kernel or client is started, unless you specify a specific port or range of ports to use when you define the Kernel or client. If you set the port number to "0", the Entire Net-Work will dynamically assign a port.

Port numbers are dynamically assigned by Entire Net-Work when the Kernel or client is started, as follows:

- Entire Net-Work searches for the first available port starting from port 49152 through 65535. (The starting search port number, 49152, is the IANA-recommended value from which to start.).
- Once an available port number is found, it is assigned to the Kernel or client in its Adabas Directory Server entry.

While defining Entire Net-Work Kernels, you can also select a specific port or specify a range or list of port numbers that Entire Net-Work should search during the process in which it dynamically assigns a port to the Kernel:

- To specify a specific port number, enter the number in the port number field when you define the Kernel.
- To specify a range of port numbers that Entire Net-Work should search to dynamically assign a port, list the starting and ending ports in the port number field when you define the Kernel, separated by a dash (-). For example, a specification of "9010-9019" would cause Entire Net-Work to search for the first available port between and including port numbers 9010 and 9019.
- To specify a list of port numbers that Entire Net-Work should search to dynamically assign a port, list the port numbers in the port number field when you define the Kernel, separated by commas (.). For example, a specification of "9010,9013,9015,9017,9019" would cause Entire Net-Work to search for the first available port from this list of ports, starting with port 9010 and working from left to right through the list.
- You can, of course, combine search ranges and lists in a port number field. For example, a specification of "9010-9019,10020,10050-10059" would cause Entire Net-Work to search for the first available port first in the 9010-9019 range (inclusive), then port 10020, and finally in the 10050-10059 range (inclusive). The first available port that Entire Net-Work encounters would be used for the Kernel.

If no available port is found in a specified range or list, an error occurs.

For more information about adding Kernels, read *Adding Kernel Configuration Definitions* in the *Entire Net-Work Server LUW Installation and Administration Guide*.

Changing the Adabas Directory Server Port Number

➤ If you need to change the Directory Server port number for your installation, follow these steps:

- 1 Within the settings for Entire Net-Work Client and any client configurations definitions, change all specifications for the Directory Server port number to the new port number you want to use. Directory Server port numbers can be changed for Entire Net-Work Client and the client configurations using the Adabas Manager by changing the SAGXTSDSPORT parameter. See the *Adabas Manager* documentation for details.
- 2 Within the settings for Entire Net-Work Server and any Kernels definitions, change all specifications for the Directory Server port number to the new port number you want to use.

These port numbers can be changed using the Adabas Manager by changing the SAGXTSDSPORT parameter. See the *Adabas Manager* documentation for details.

- 3 Shut down the Entire Net-Work Client service or daemon and the Entire Net-Work Server service or daemon, as appropriate. Be sure to shut down every Kernel associated with the server as well.

For information on shutting down the Entire Net-Work Client service or daemon, read *Stopping Entire Net-Work Client* in the *Entire Net-Work Client Installation and Administration Guide*. For information on shutting down the Entire Net-Work Server service or daemon, read *Stopping Entire Net-Work Server* in the *Entire Net-Work Server LUW Installation and Administration Guide*.

- 4 Shut down the Directory Server service or daemon.

For information on shutting down the Directory Server service or daemon, read *Starting and Stopping the Adabas Directory Server*, in the *Software AG Directory Server Installation and Administration Guide*.

- 5 Modify the Directory Server installation, as appropriate for the operating system. When prompted, change the Directory Server port number to the new port number you want to use.
- 6 Start up the Directory Server service or daemon, if it is not automatically started after its installation was modified.

For information on starting up the Directory Server service or daemon, read *Starting and Stopping the Adabas Directory Server*, in the *Software AG Directory Server Installation and Administration Guide*.

- 7 Start up the Entire Net-Work Client service or daemon and the Entire Net-Work Server service or daemon.

For information on starting up the Entire Net-Work Client service or daemon, read *Manually Starting Entire Net-Work Client* in the *Entire Net-Work Client Installation and Administration Guide*. For information on starting up the Entire Net-Work Server service or daemon, read *Manually Starting Entire Net-Work Server* in the *Entire Net-Work Server LUW Installation and Administration Guide*.

IV

Entire Net-Work Utility Functions for the Directory Server (checkadi and setadi)

41

Entire Net-Work Utility Functions for the Directory Server (checkadi and setadi)

- The checkadi Utility 182
- The setadi Utility 183

Two Entire Net-Work utility functions with focus on the Adabas Directory Server availability and settings are provided for you to use in batch mode:

- Use the checkadi utility function to check for a Directory Server.
- Use the setadi utility function to set Directory Server access parameters for Entire Net-Work and Entire Net-Work Client.

This chapter describes both of these utilities.

The checkadi Utility

Use the checkadi utility to check for the existence of a Directory Server. The syntax of the checkadi function is:

```
checkadi [host=host-name] [[port=]port-value]
```

Use the host or port arguments to check for the existence of a Directory Server on a specific host or port number. You can use both the host and port arguments to more specifically check for a Directory Server on a specific host and port.

Example 1

In the following example, a check is run for a Directory Server on the usaxxx2 host at port 12731:

```
checkadi host=usaxxx2 port=12731
```

The following sample output from such a check might appear:

```
Software AG Entire Net-Work, Copyright ©) 1997-2019 by Software AG
USAGE: checkadi [host=hostname] [port]=portvalue]
argv[1] host=usaxxx2
Check host=usaxxx2
argv[2] port=12731
Check port=12731
Port was set to 12731
Check Host=usaxxx2
Check Port=12731
Server is Active; check if this is a Directory Server
Select Data from Directory Server successful
Bytes ready to read=309
Response=0x010x33 0x760x310x090x720x650x730x700x6f0x6e0x730x650x090x09
Expected=          0x760x310x090x720x650x730x700x6f0x6e0x730x650x090x09
Directory Server is Active
Checkadi ending ...
```

Example 2

In the following example, a check is run to determine where a Directory Server exists:

```
checkadi
```

The following sample output from such a check might appear:

```

Software AG Entire Net-Work, Copyright ©) 1997-2019 by Software AG
USAGE: checkadi [host=hostname] [port]=portvalue]
Resolve SAGXTSDSHOST
Failure Resolve Host Name; use localhost
Port was not set, so we will use the default port=12731
Check Host=usaxxx2.YYY.ww.zzz
Check Port=12731
Server is Active; check if this is a Directory Server
Select Data from Directory Server successful
Bytes ready to read=309
Response=0x010x33  0x760x310x090x720x650x730x700x6f0x6e0x730x650x090x09
Expected=          0x760x310x090x720x650x730x700x6f0x6e0x730x650x090x09
Directory Server is Active
Checkadi ending ...

```

The setadi Utility

Use the setadi utility to set Directory Server access parameters for Entire Net-Work and Entire Net-Work Client. The syntax of the setadi function is:

```
setadi {WCP|WCL} host=host-name port=port-value [XTSTRACE={value|65534}]
```

You must specify either "WCP" (to set the access parameters for Entire Net-Work) or "WCL" (to set access parameters for Entire Net-Work Client). You should also specify the host name and port number parameters. The XTSTRACE parameter is optional; if you do not specify it, a default value of "65534" is used.



Note: While you can use setadi to change the Directory Server used, the changes only affect the configuration of the services and agents. It will not change the Directory Server assigned to any existing Kernels.

Example 1

In the following example, help for setadi is displayed, but no access parameters are set.

```
setadi
```

The following sample output from such a setadi request might appear:

```
Software AG Entire Net-Work, Copyright ©) 1997-2019 by Software AG
Usage: setadi <options...>
The following options are supported:
WCP|WCL
HOST=host name
PORT=port value
XTSTRACE=value (65534)
```

```
WCP|WCL - the user selects which product to set, WCP or WCL
```

Example 2

In the following example, an Entire Net-Work entry for host "localhost" at port "12731" is defined. The default XTSTRACE value of "65534" is used.

```
setadi WCP host=localhost port=12731
```

The following sample output from such a setadi request might appear:

```
Software AG Entire Net-Work, Copyright ©) 1997-2019 by Software AG
argv[2] host=localhost
argv[3] port=12731
Check Host=localhost
Check Port=12731
Server is Active; check if this is a Directory Server
Select Data from Directory Server successful
Bytes ready to read=309
Response=0x010x33 0x760x310x090x720x650x730x700x6f0x6e0x730x650x090x09
Expected=          0x760x310x090x720x650x730x700x6f0x6e0x730x650x090x09
Directory Server is Active
CODEPATH=C:\Program Files\Software AG\Entire Net-Work Server\v74\
DATAPATH=C:\Documents and Settings\All Users\Application Data\Software AG\Entire Net-Work Server\
Changing C:\Documents and Settings\All Users\Application Data\Software AG\Entire Net-Work Server\service74.config
Changing C:\Documents and Settings\All Users\Application Data\Software AG\Entire Net-Work Server\agents\xts.config
Configuration file change successful
Setadi exiting ...
```

Index

A

Adabas
 configuring components for Windows Personal Firewall, 16
adding
 Kernel configurations, 33

B

browsers, 11

C

checkadi utility, 182
configuration considerations, 12
configurations (see Kernel configurations and client configurations)
configuring
 Windows personal firewall, 16

D

Directory Server
 utility functions for, 181

E

Empower
 platform support, 10
Entire Net-Work
 configuration considerations, 12
 configuring components for Windows Personal Firewall, 16
 licensing, 9
 starting and stopping Entire Net-Work Server, 21
Entire Net-Work Server
 installing, 7

F

firewall requirements, 12

H

hardware support, 11

I

installation

 preinstallation steps, 13
installing
 Entire Net-Work Server, 7

K

Kernel configurations
 adding, 33
 migrating, 39
Kernels
 installing, 7

L

license key
 description, 9
 file description, 10
 location and use, 9
licensing, 9
Linux and Cloud
 supported platforms, 10

M

Microsoft Windows support, 10
migrating
 Kernel configurations, 39
 older Kernel configurations, 39

O

operating system coverage, 10

P

platform support, 10
port numbers, 175
preinstallation steps, 13
product support
 supported platforms, 10

R

requirements
 browsers, 11
 firewall, 12
 operating system coverage, 10
 space, 11
 system, 10

S

- setadi utility, 183
- space requirements, 11
- starting
 - Entire Net-Work Server, 21
- stopping
 - Entire Net-Work Server, 21
- support
 - platforms supported, 10
- supported browsers, 11
- supported hardware, 11
- supported operating systems, 10
- supported platforms, 10
- system requirements, 10

U

- utility functions
 - checkadi, 182
 - for the Directory Server, 181
 - setadi, 183

W

- Windows Personal Firewall, 16