



QAD Adaptive Applications
Enterprise Edition

Installation Guide

QAD Enterprise Edition

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QAD Enterprise Edition 2019
September 2019

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Contents

Enterprise Edition Installation Change Summary	vii
---	------------

Chapter 1	Installation Summary and Requirements	1
------------------	--	----------

Overview	2
Installation Summary	2
YAB	2
System Components	2
Supported Installations	3
Sizing and Capacity Planning	3
General Prerequisites	3
Software and Hardware Prerequisites	3
OpenEdge 11.7.4.012	3
Java SE Development Kit 8	4
Python 2: 2.4 or Higher	4
OpenSSL Libraries	4
Operating System Account	5
Pre-Installation Configuration Considerations	5
Delayed Installation	6
Upgrading QAD Enterprise Edition	6

Chapter 2	Installing QAD Enterprise Edition	7
------------------	--	----------

Overview	8
Prepare the Installation Environment	8
Enterprise Edition Installation	8
Installing with a Downloaded Zip File	8
Installing from DVD	8
Start the Enterprise Edition Installer	9
Verify Your Installation	14
Add YAB Client to the PATH Variable	15
Install the Latest Version of YAB	15
Registering QAD Enterprise Edition	15

Chapter 3	Installing the QAD .NET UI	19
------------------	-----------------------------------	-----------

Overview	20
----------	----

QAD .NET UI Installation	20
Find the QAD Home URL	20
Run the QAD .NET UI Executable	20
Install the QAD Enterprise Edition QAD .NET UI	21
Start the QAD .NET UI	22
Chapter 4 Installing QAD Add-ons and Updates	23
Overview	24
Installing a QAD Add-on Product	24
Installing an Enterprise Edition Update	24
Installing a YAB Update	25
Chapter 5 Setting Up the Reporting Service	27
Overview	28
Prerequisites	28
Installation	28
Configuration	35
QAD Reporting Service	35
Application Server	35
Testing	36
Monitoring	36
QAD Reporting Service Does Not Start	37
QAD Reporting Service is Not Communicating with the Application Server 38	
Reporting Service Cannot Connect to SMTP Server	40
Invalid E-mail Addresses	40
QAD Reporting Service Scripts	41
create-instance.bat Script	41
register-instance.bat Script	41
Chapter 6 Troubleshooting	43
Overview	44
General	44
Diagnosis	44
Errors	44
Installation	45
Diagnosis	45
Install Failed	46
Appendix A Operating System-Dependent Settings.	47
Dependent Settings	48
Configuring Server Prompt	48
Install.conf File	48

Configuration.properties File	48
Configuring Login and Password Prompts	48
Appendix B SSH and Telnet Protocols	49
SSH	50
Telnet	50
Appendix C Customized Database Structure Files.....	51
Generate Standard Structure Files	52
Customize Standard Structure Files	52
Configure Customized Structure Files	53
Resume Enterprise Edition Creation	53
Product Information Resources	55

Enterprise Edition Installation Change Summary

Product Name Change

Starting in September 2019, the new name for QAD's complete portfolio of products is QAD Adaptive Applications. Additionally, QAD Adaptive ERP is the new name for QAD's flagship ERP solution. QAD Adaptive ERP includes the functionality previously associated with QAD Cloud ERP and QAD Enterprise Applications - Enterprise Edition, plus the QAD Enterprise Platform and Adaptive UX which resulted from the Channel Islands program. Going forward, the terms QAD Enterprise Applications, QAD Cloud ERP, and Channel Islands will be deprecated but will remain in previous documentation and training materials. QAD's intention is to—as soon as possible—eliminate the use of the deprecated terms going forward.

Change Summary

The following table summarizes significant differences between this document and previous versions.

Date/Version	Description	Reference
September 2019/2019EE	Updated software prerequisites.	page 3
	Update installer prompts, adding new prompts for Namespace and Default App.	page 8
	Removed requirements for installing on a Windows server.	---
October 2018/2018EE	Updated installation steps to reflect occasional need to extract the Enterprise Edition zip file twice.	page 8
September 2018/2018EE	Updated the required version of OpenEdge to 11.7.3.	page 3
	Updated the required version of Java SE Development Toolkit to 8.	page 4
	Added information about updating Tomcat-specific parameters for Windows installations.	--
March 2018/2017EE-Rev 1	Updated Appendix B to remove Routrek Granados and clarify the default SSH settings.	page 49
September 2017/2017EE	Updated software prerequisites.	page 3
	Added OpenSSL requirements.	page 4
	Combined Linux and Windows installations into one chapter.	page 7
	Combined the Reporting Service chapter with the Reporting Service scripts appendix.	page 27
	General editing throughout to clarify procedures.	---
August 2017/2016 EE-Rev5	Included information that YAB 1.5 is restricted to Windows-only installations.	--

Date/Version	Description	Reference
April 2017/2016 EE-Rev 4	Added new requirements for installing on a Windows server.	page 5
	Added a new chapter detailing how to install Enterprise Edition on a Windows server.	page 17
	Updated the process for installing an add-on product.	page 23
September 2016/2016 EE-Rev3	Added Appendix C to explain how to customize database structure files.	page 51
July 2016/2016 EE-Rev2	Updated information on the operating system account.	page 5
	Added more detail to pre-installation configuration information.	page 5
	Added Appendix A about settings dependent on operating systems.	page 47
	Added Appendix B to describe SSH and Telnet Protocols.	page 49
	Added Chapter 5 and Appendix C to describe installation and use of the QAD Reporting Service.	page 27 and page 61
May 2016/2016 EE-Rev1	Updated Planning and Sizing topic	page 3
March 2016/2016 EE	Changed the name of the book to <i>QAD Enterprise Edition Installation Guide</i> .	
	Introduced the Enterprise Edition installer for installing QAD Enterprise Edition and removed the QDT install instructions.	
	Updated the installation process for the QAD .NET UI.	page 20
	Added high-level instructions for add-on products that use YAB for installation.	page 24
September 2015/2015 EE-Rev2	Numerous editorial changes	---
	Revised the Korn Shell section	page 5
	Added the Red Hat Enterprise Linux 7 (64-bit) section	page 5
March 2015/2015 EE-Rev 1	Documented 2015 EE Progress OpenEdge 11.4 hotfix requirements	page 7
	Updated database server requirements	page 7
	Updated applications server requirements	page 8
March 2015/2015 EE	Numerous editorial changes	---
	Documented Korn shell considerations	page 5
	Documented AIX maximum file size considerations	page 6
	Removed Red Hat 6 considerations section	page 5
	Documented that use of 2015 EE with Progress OpenEdge 11.4 requires HotFix 10 for OpenEdge 11.4	page 7
	Updated database server requirements	page 7
	Documented a functionality change that affects the selection of components for installation	page 21
	Revised the procedure for enabling AIA compression	page 36
	Revised the QXtend Configuration section	page 36
	Added text to Next Steps section to back up environment installation and configuration settings	page 39
	Removed references to Windows Vista	page 52, 55

Date/Version	Description	Reference
September 2014/2014 EE-Rev 1	Numerous editorial changes	---
	Revised Installing QDT	page 12
	Revised Configure Telnet Connection Settings	page 48
	Revised Setting Up the Reporting Service to mention setting up multiple Reporting Service instances	page 55
	Revised the procedure in create-instance.bat Script to better describe how to set up multiple Reporting Service instances	page 71
March 2014/2014 EE	Numerous editorial changes	---
	Added information on starting QDT in AIX environments	page 6, page 24
	Updated OpenEdge requirements	page 7
	Updated supported Java versions	page 7
	Updated the Tomcat Web server information	page 8
	Editing Database Locations section added	page 33
	Revised Bulk Data Load procedure	page 35
	Revised Set Up the Reporting Service	page 55
September 2013/2013.1 EE	Numerous editorial changes	---
	Revised Figure 1.1	page 2
	Added section for Supported Installation	page 3
	Updated Database Server and Application Server OpenEdge requirements	page 7 page 8
	Documented Data Bulk Load feature	page 35
	Added section for Adding Custom Databases	page 36 page 70
	Added section for Citrix Configuration	page 54
March 2013/2013 EE	Documented that QAD UI Process Maps are deployed as a separate WebApp and the related QDT Process Navigation field in System Default Settings GUI	page 16 page 29
	Described the Connection Method field in the Update UI Configuration screen	page 24
	Documented configuration required to use QXtend with Tomcat 6.0.30 and later and Tomcat 7	page 36
	Revised the Set Up SSH section	page 50
January 2013/2012.1 EE	Revised Web Server Tomcat requirements	page 8
September 2012/2012.1 EE	Documented Database Type pull-down menu	page 21
	Reorganized Environment Configuration chapter	page 23
	Documented RAM Disk support	page 30
	Revised QXtend installation and configuration section	page 36
March 2012/2012 EE	Described ability to specify <qadhome> and <qadui> WebApp names	page 16
	Documented Thai language support	page 70
	New customization scripts documented	page 70

Date/Version	Description	Reference
September 2011/2011.1 EE	Documented Red Hat 6 installation considerations	page 6 page 14
	Documented a consideration for configuring Enterprise Edition installation on Windows	page 24
	Documented the Advanced Database Configuration screens	page 33
	Documented considerations for cloning an Enterprise Edition Windows installation	page 29
	Documented a new requirement to enter port values when installing QXtend in Windows environments	page 37

Installation Summary and Requirements

This chapter describes the QAD Enterprise Edition installation process, system requirements, and software prerequisites.

Overview 2

Installation Summary 2

System Components 2

Supported Installations 3

Sizing and Capacity Planning 3

General Prerequisites 3

Software and Hardware Prerequisites 3

Pre-Installation Configuration Considerations 5

Upgrading QAD Enterprise Edition 6

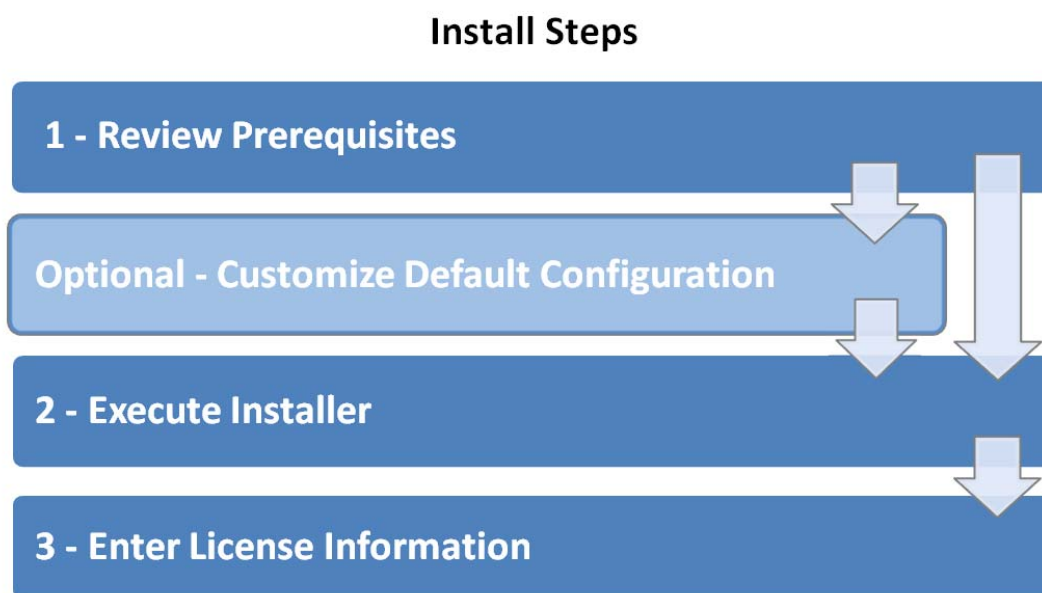
Overview

The following sections describe the QAD Enterprise Edition installation prerequisites and configuration considerations.

Installation Summary

This installation guide describes the installation process in a standard Linux environment. Configuration settings can vary across different operating systems. Appendix A, “Operating System-Dependent Settings,” on page 47 outlines some of these settings and explains how to define them.

Fig. 1.1
QAD Enterprise Edition Installation Process



YAB

QAD Enterprise Edition is installed using the QAD Enterprise Edition installer and is managed using the QAD YAB console. YAB is the deployment and management toolset that covers all products installed into an Enterprise Edition environment. It is updated independently of QAD Enterprise Edition. When you install QAD Enterprise Edition, the YAB client is installed into the `build/client` directory and the Enterprise Edition installer creates a shell script named `yab` in the installation directory to run the client. You do not need to take any steps to install the YAB client. For detailed information, see [QAD Enterprise Edition Configuration and Administration Guide](#).

System Components

A QAD Enterprise Edition system consists of server components installed on a UNIX host and the QAD .NET UI client installed on Windows hosts.

Supported Installations

YAB supports installing all server components on a single host. It currently does not support a distributed solution.

Sizing and Capacity Planning

The server contains QAD Enterprise Edition and Progress server software, as well as your production data. Before you begin an installation, estimate the eventual size of your production database and the demands expected of the different database components.

QAD Enterprise Edition needs a minimum of 4 GB system memory and 20 GB of disk space for installation testing and training. Production environments require more hardware capacity. For assistance with hardware sizing and capacity planning, contact QAD Services.

General Prerequisites

Before installing QAD Enterprise Edition, you should have:

- The QAD Enterprise Edition media or product download
- A valid QAD product license key for each module you have purchased
- A Progress database administrator who can manage Progress client processes
- A UNIX administrator for UNIX/Linux installs
- A 100 Mbps or faster network
- Easy access to this guide

Software and Hardware Prerequisites

The following sections describe the software and hardware prerequisites for installing QAD Enterprise Edition.

Refer to the Product Compatibility Guide in the QAD Store for up-to-date requirements and compatibility information:

<https://store.qad.com/content/compatibility-guide>

OpenEdge 11.7.4.012

QAD Enterprise Edition requires hotfix 12 for OpenEdge 11.7. Consult the Progress documentation for the complete requirements for Progress components. When you install Progress components, always select a Complete installation, not a Typical or Custom installation.

Note It is recommended that you disable OpenEdge Fathom to avoid conflicts if multiple instances of an EE environment are installed on the same host. In the directory where Progress is installed, open the `fathom.init.params` file and change the value of the “`fathomEnabled`” property to `false`:

```
fathomEnabled=false
```

Java SE Development Kit 8

QAD Enterprise Edition requires JDK 1.8.0.202 or higher. Install Java using the documentation provided by your Java vendor.

Note QAD Enterprise Edition installations require a JDK and cannot run with a JRE.

Python 2: 2.4 or Higher

QAD Enterprise Edition supports Python 2, versions 2.4 and higher, but QAD recommends version 2.7. Install Python using documentation provided by your operating system vendor or download the software from <https://www.python.org>.

OpenSSL Libraries

For enhanced security, QAD Enterprise Edition generates an access token during login. The token is signed using the OpenSSL library to verify its authenticity.

Note The Enterprise Edition installer validates your system's OpenSSL library during installation. If you do not have the appropriate OpenSSL library, the install will fail and you will be directed to this section of the installation guide. You can choose to validate your OpenSSL library prior to launching the Enterprise Edition installer by following the steps for your OS outlined in this section, or you can return here if the installer identifies OpenSSL as the reason your install failed.

Follow the steps for your OS to install or update OpenSSL.

Linux/UNIX

- 1 Check if OpenSSL is installed. Enter:

```
openssl version
```

- a If OpenSSL is installed, you will see something similar to:

```
OpenSSL 1.0.1h5 Jun 2014
```

You must have at least the following minimum version installed:

```
OpenSSL 0.9.8e
```

- b If OpenSSL is not installed, download and install it. See your OS vendor for the most up-to-date version.

Note Ensure that you download the appropriate OpenSSL version for your OpenEdge installation. If you have 32-bit OpenEdge, you must install 32-bit OpenSSL, and if you have 64-bit OpenEdge, you must install 64-bit OpenSSL.

- 2 Once OpenSSL is installed, find the `libcrypto.so` file. It is recommended that you begin your search in `/usr/lib` or `/usr/lib64`, depending on your OpenEdge installation. The file name may be a variation of `libcrypto.so`, with, for example, the version number added to the file name: `libcrypto.so.0.9.3e`.

Note You may have to extract `libcrypto.so` from the `libcrypto.a` archive.

3 Create a symbolic link, using the location you determined in step 2.

a Go to `$DLC/lib`

b Enter:

```
ln -s /FileLocation/libcrypto.so libcrypto.so
```

For example, for 32-bit OpenEdge: `ln -s /usr/lib/libcrypto.so libcrypto.so`

Or for 64-bit OpenEdge: `ln -s /usr/lib64/libcrypto.so libcrypto.so`

Note The file you create in `$DLC/lib` must be called `libcrypto.so`, regardless of the file's name in its original directory.

Operating System Account

An operating system account is required to install, administer, and start the environment. It is also required by certain application components that start terminal sessions. You can use the same operating system account in both cases or you can choose to use a separate account for each. It is recommended that the account should not be the root account (for security reasons) and that it should be created specifically to support the environment. All administrative YAB processes (yab update, yab start, yab stop, and so on) should be run as the user who executed the installation.

If you assign a separate account for the application components, that account must be granted read, write, and execute permissions on the following directories:

- build/work/connmgr
- build/work/telnet
- build/work/qxtend
- build/work/qxtend/qgen
- build/work/client-chui
- build/work/client-aim
- build/logs/client

Pre-Installation Configuration Considerations

Before you begin your installation, you can choose to define certain configuration settings found in the `install.conf` file. You can find this file on your QAD physical media or as one of the files you extracted from the zip file from QAD Fulfillment. This file contains the default settings for your installation and the prompts you will see as you progress through the installation. If you decide to make changes to the file, you have two options:

- You can edit the file directly, if you have write access, and your settings will automatically load when you run the installer.
- You can copy the file, edit the copy, and then point the installer to your edited version.

```
./install.py -install-conf:FILE|URL
```

This choice preserves the original file while allowing customized configurations for different instances of Enterprise Edition.

You should consider the following settings before you begin your installation:

- Log file location. The installation writes log messages to a file in the temporary directory by default. The default location is `/tmp/install.[USER].log`. To configure a different log file, set the `INSTALL_LOG_FILE` environment variable. To configure a different location, enter `export INSTALL_LOG_FILE=[FILE]`.
- Operating system-dependent settings. See Appendix A, “Operating System-Dependent Settings,” on page 47.
- Secure Shell (SSH) and Telnet protocols. See Appendix B, “SSH and Telnet Protocols,” on page 49.
- Customized database structure files. See Appendix C, “Customized Database Structure Files,” on page 51.

Delayed Installation

A delayed installation provides an opportunity to review and adjust your system configuration using YAB before creating Enterprise Edition. You include the argument `-install-update:false` when executing the `install` script to initialize the environment but postpone the creation of Enterprise Edition.

```
> ./install.py -install-update:false
```

After you review and adjust your system configuration, complete the Enterprise Edition creation by entering:

```
yab update
```

Upgrading QAD Enterprise Edition

For information on upgrading from a previous Enterprise Edition release, see [QAD Enterprise Edition Conversion Guide](#).

Installing QAD Enterprise Edition

This chapter describes how to install QAD Enterprise Edition.

Overview 8

Prepare the Installation Environment 8

Enterprise Edition Installation 8

Registering QAD Enterprise Edition 15

Overview

QAD Enterprise Edition is installed using the Enterprise Edition installer.

Prepare the Installation Environment

- 1 Shut down any anti-virus programs running on your system. A virus scanner could severely degrade performance.
- 2 Unset the environment variables. These environment variables can cause problems with web services and conflicts with Progress utilities. Enter:

```
unset DLC
unset PROMSGS
unset PROTERMCAP
```

You also should remove any references to Progress from the PATH.

- 3 Add the Java you installed for QAD Enterprise Edition to the PATH. Enter:

```
export PATH=[PATH TO JAVA]:$PATH
```

Enterprise Edition Installation

Determine if you are downloading the installation zip file or mounting the install image from DVD and follow the appropriate steps to install a new instance of Enterprise Edition.

Installing with a Downloaded Zip File

- 1 Download the zip file from QAD Fulfillment.
- 2 Unzip the file into a subdirectory.

```
unzip qad-ee-VERSION.zip -d directory
```
- 3 If the extracted zip file contains a `data.zip` file, extract that second zip file. If there is not a `data.zip` file in the subdirectory, continue with step 4.
- 4 Change to the directory where the zip file was extracted.
- 5 Continue with “Start the Enterprise Edition Installer.”

Installing from DVD

- 1 Create the directory where the image will be mounted.

```
mkdir directory
```
- 2 Mount the DVD.

```
mount qad-ee-VERSION.zip directory
```
- 3 Change to the directory where the image was mounted.



- 4 If the new directory contains a `data.zip` file, mount that second zip file. If there is not a `data.zip` file in the directory, take no action and continue with “Start the Enterprise Edition Installer.”

Start the Enterprise Edition Installer

You can run the Enterprise Edition installer in silent mode (without prompts) or interactive mode (with prompts). The installer defaults to interactive mode.

To show the help for the installer, enter:

```
./install.py --help
```

The following procedure describes installation using interactive mode.

- 1 Start the installer:

```
./install.py
```

Note If you customized the installation file as described in “Pre-Installation Configuration Considerations” on page 5, enter:

```
./install.py -install-conf:FILE|URL
```

- 2 The Enterprise Edition installer starts. Press Enter to proceed with the installation.

Note The installer has a command mode that allows you to go back to previous questions, proceed to the next question, quit the installation, or return to interactive mode. You can move to command mode at any prompt by entering an exclamation point, `!`.

Fig. 2.1
Installer Welcome

This installer will guide you through the process of installing QAD 2019 Enterprise Edition.

The installation is being recorded in the file:
/tmp/install.dvr.log

At the prompt the ENTER key submits a response and moves to the next question.
'!' will enter command mode to navigate through the questions.

Hit ENTER to continue
>

- 3 Read and accept the software license agreement to proceed. If you do not accept the license agreement, the installation stops.

Fig. 2.2
License Agreement

```
>
[License Agreement]

-----

IMPORTANT - Please read carefully BEFORE you install, copy or otherwise use the
software products in this package.
-----

The license to the software you are currently installing is granted under the
terms and conditions of a license agreement between a QAD company or a QAD
partner, on the one hand, and you or your direct or indirect parent company,
on the other hand. If no license agreement as indicated in the first sentence
exists or if you have obtained the software through another channel (i.e. it
was not shipped to you by a QAD company or a QAD partner), you are not
permitted to install the software. By installing the software without a
license agreement, you are infringing on the intellectual property rights of
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illegal copies of any QAD software.

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Fax: 61 2 9870 7340
-----

Do you accept all the terms of the License Agreement?
If you choose no, the installation will stop.

n - No
y - Yes

> █
```

4 Enter the Enterprise Edition install location.

Fig. 2.3
Enterprise Edition Install Location
[QAD 2019 Enterprise Edition]

```
Enter the location where QAD Enterprise Edition should be installed.
>
```

5 Specify the Progress OpenEdge location.

Fig. 2.4
Progress OpenEdge Location
[Progress OpenEdge 11.7]

```
Enter the location of Progress OpenEdge:
>
```

6 Specify the Java location.



Fig. 2.5

Java Location

[Java 1.8]

Enter the location of Java:

> █

7 Enter the Python interpreter location.**Fig. 2.6**

Python

[Python >= 2.4]

Enter the location of Python interpreter:

> █

8 Specify the OS account that should be used by application components that start terminal sessions. For more information, see “Operating System Account” on page 5.**Fig. 2.7**

OS Account

[OS Account Name]

Enter the OS account that should be used to execute internal application functions

.
> █**9** Enter the password for the OS account.**Fig. 2.8**

OS Account Password

[OS Account Password]

Enter the password of the OS account that should be used to execute internal application functions.

> ***** █

10 Enter the list of languages for your installation. You must enter at least one language before you can continue. English is “us.”

Table 2.1

Available Languages in Enterprise Edition

Language	Option
Chinese (simplified)	ch
Chinese (traditional)	tw
Czech	cz
Dutch	du
English	us
French	fr
German	ge
Italian	it
Japanese	jp
Korean	ko
Polish	pl
Portuguese	po
Spanish (Castilian)	cs
Spanish (Latin)	ls

Fig. 2.9

Optional Languages to Install

[Languages]

```
Enter a (comma-delimited) list of languages to install. Available: us,ch,cs,cz,du,fr
,ge,it,jp,ko,ls,pl,po,tw
> █
```

- 11 Enter the Namespace of the environment into which you are installing. This Namespace is used to distinguish between QAD data and customized data. Use the same Namespace when installing into multiple environments (for example Dev, Test, and Production).

Fig. 2.10

Namespace

[Environment Namespace]

Enter the namespace to associate with this environment:

The namespace identifies the organization using "Reverse Domain Notation" and is used to identify customized data.

Ex. com.[ORGANIZATION]
>

- 12 Enter the default app to create. This app will be used for future platform development when you install QAD Adaptive ERP.

Fig. 2.11
Default App

```
[Default App]
```

```
Enter the default app:
```

```
Configures the app that will be used by default for future platform extension development.
```

```
Ex. [ORGANIZATION]App  
>
```

- 13** Select the features to install. An X next to a feature indicates that it will be included in the installation. To add or remove an X, type the number that corresponds to the feature and press Enter.

Note Demo data is sample data you can install for use in a test environment. An installation with demo data takes considerably longer than an installation without the additional data.

Important Do not install demo data into an environment that is to be used for a conversion. If you have already installed demo data, you must remove it. See the “Using Demo Data” section of the *QAD Administration and Configuration Guide* for YAB 1.9 on the QAD Document Library.

Fig. 2.12
Features

```
[Feature Selection]
```

```
Choose the features to install:
```

```
[X] 1 - Enterprise Edition  
[X] 2 - QXtend  
[ ] 3 - Demo Data
```

```
Hit ENTER to move to the next question.
```

```
> █
```

- 14** The installer prompts you to start Enterprise Edition installation. Enter y to begin the install.

Fig. 2.13
Start Enterprise Edition Installation?

```
[Start Installation]
```

```
Start installing QAD 2019 Enterprise Edition?
```

```
n - No  
y - Yes
```

```
> y
```

- 15** The installation begins. Status messages appear that show the progress of the installation.

Note Some install actions take several minutes to complete.

- 16** Wait for the install to finish.

Note The installation could take more than 60 minutes. You can follow the installation’s progress on your screen or review the installation log file. See “Log File” on page 45 for more information.

- 17 The installation ends with either **INSTALL SUCCESSFUL** or **INSTALL FAILED**. If your install fails, see “Install Failed” on page 46 for details.

Fig. 2.14

Enterprise Edition Installation Successful

```

344/359 report-update           OK (39.766 s)
345/359 metadata-qracore-update OK (17.360 s)
346/359 metadata-customizations-update SKIPPED (0.008 s)
347/359 metadata-fincore-app-update OK (0.356 s)
348/359 metadata-fincore-translations-update OK (0.107 s)
349/359 metadata-fincore-update OK (0.208 s)
350/359 metadata-mfgcoreplus-app-update OK (0.128 s)
351/359 metadata-mfgcoreplus-translations-update OK (0.102 s)
352/359 metadata-mfgcoreplus-update OK (0.345 s)
353/359 metadata-qracore-app-update OK (0.435 s)
354/359 metadata-qracore-translations-update OK (0.253 s)
355/359 qra-sync                SKIPPED (0.001 s)
356/359 ldapinstance-openssl-create OK (0.226 s)
357/359 qxtend-application-id-update OK (0.044 s)
358/359 help-update             OK (3.962 s)
359/359 search-index-restart    OK (0.102 s)
-----
BUILD SUCCESSFUL (49:51 m)
Cleaning up                      OK

INSTALL SUCCESSFUL

```

Verify Your Installation

Use the status command to validate that all servers started correctly. Change into the directory where you installed Enterprise Edition and enter:

```
yab status
```

Fig. 2.15
Services Started

```

-----
                        status (30 tasks)
-----
1/30  adminserver-status          STARTED (0.795 s)
2/30  nameserver-status           STARTED (0.416 s)
3/30  database-qadadm-status      STOPPED (0.040 s)
4/30  database-qaddb-status       STOPPED (0.014 s)
5/30  database-qadhlp-status      STOPPED (0.014 s)
6/30  database-qxevents-status    STOPPED (0.012 s)
7/30  database-qxodb-status       STOPPED (0.022 s)
8/30  appserver-fin-status        STARTED (0.419 s)
9/30  appserver-mfg-status        STARTED (0.411 s)
10/30 appserver-gra-status        STARTED (0.410 s)
11/30 appserver-qxosi-status      STARTED (0.410 s)
12/30 appserver-qxoui-status      STARTED (0.360 s)
13/30 appserver-qxtnative-status  STARTED (0.408 s)
14/30 webspeed-default-status    STARTED (0.416 s)
15/30 tomcat-default-status      STARTED (0.051 s)
16/30 tomcat-qxtend-status       STARTED (0.008 s)
17/30 aia-default-status         STARTED (0.329 s)
18/30 daemon-xmldaemon-status    STOPPED (0.605 s)
19/30 daemon-balancedaemon-status STOPPED (0.561 s)
20/30 daemon-budgetdaemon-status STOPPED (0.561 s)
21/30 daemon-crosscompanydaemon-status STOPPED (0.717 s)
22/30 daemon-eventdaemon-status  STOPPED (0.548 s)
23/30 daemon-historydaemon-status STOPPED (0.528 s)
24/30 daemon-replicationdaemon-status STOPPED (0.532 s)
25/30 daemon-scandaemon-status   STOPPED (0.685 s)
26/30 daemon-timeoutdaemon-status STOPPED (0.582 s)
27/30 daemon-cubedaemon-status   STOPPED (0.593 s)
28/30 daemon-reportdaemon-status STOPPED (0.701 s)
29/30 daemon-status              OK (1.592 s)
30/30 qxo-services-status        STOPPED (0.025 s)
-----

BUILD SUCCESSFUL (14.500 s)
[mfg@plli07 client]$

```

Review the status list to ensure that required services display STARTED. Daemon processes read STOPPED after initial installation, as illustrated in Figure 2.15, and will remain stopped until they are configured. Daemon setup is described in the *QAD System Administration User Guide*. If other services are stopped or for more information, see “Troubleshooting” on page 43.

Add YAB Client to the PATH Variable

For convenience, you can add the YAB client to the PATH variable, which will allow you to execute YAB commands without returning to the installation directory. Enter:

```
> export PATH=/dr01/qadapps/qea/build/client:$PATH
```

Install the Latest Version of YAB

YAB is used to administer Enterprise Edition and is updated separately from Enterprise Edition. To ensure that your system has the most up-to-date functionality, install the latest YAB update available from QAD.

```
yab install yab-ee-image-VERSION.zip
```

Registering QAD Enterprise Edition

You must register your QAD Enterprise Edition license the first time you log in. These steps require that you have the license code sheet included with your release media.

Note If you chose to install demo data, the installer automatically included evaluation licenses. You can skip this section and go directly to Chapter 3, “Installing the QAD .NET UI,” on page 19.

To register QAD Enterprise Edition, do the following:

- 1 Change to the directory where you installed Enterprise Edition.

```
cd directory
```

- 2 Launch the character client by executing:

```
scripts/client - lang
```

where *lang* is the language for your system. For example,

```
scripts/client -us
```

- 3 At the Login screen, enter mfg and press Enter. Leave the password field blank.
- 4 In the License Details screen, select Register.

Fig. 2.16
License Details screen

The License Details screen displays the following information:

- Product: MFG/PRO
- License Code: [Empty field]
- Product Not Registered
- Status: [Empty field]
- Buttons: < Register > OK >

- 5 In the Registered Products screen, highlight Add and press enter.

Fig. 2.17
Registered Products

The Registered Products screen displays a table with the following columns:

Name	Description
>	

Buttons: < Add > < Edit > < Remove > < OK > < Cancel >

- 6 In the Add Product screen, complete the License Code fields by entering the codes from the license code sheet included with your release media. Select OK.

Fig. 2.18
Add Product

The Add Product screen displays the following information:

- Product: [Empty field]
- Description: [Empty field]
- License type: [Empty field]
- Version: [Empty field]
- Licensed Count: 0
- License Code: QADQA_ DQADQ_ ADQAD_ QADQA_ DQADQ_ ADQAD
- Buttons: < OK > < Cancel >

- 7 In the Add Authorized Users screen, enter All for User and press enter.

Fig. 2.19
Add Authorized Users

- 8 In the User Selector screen, press the <F1> key. At the “Is all information correct” prompt, enter y for yes and press enter.

Fig. 2.20
User Selector

- 9 The Registered Products screen reappears with a list of the license codes you have added.

Fig. 2.21
Registered Products

- 10 Repeat step 5 through step 9 for additional license codes. Select OK when all codes have been entered.
- 11 Reload the character client as described in step 2 to verify that license setup was successful.



Installing the QAD .NET UI

This chapter describes how to install the QAD .NET UI client for Enterprise Edition.

Overview 20

QAD .NET UI Installation 20

Overview

Once you have installed Enterprise Edition on a UNIX machine, you can install the QAD .NET UI on multiple Windows computers.

QAD .NET UI Installation

Follow these steps to install the QAD .NET UI.

Find the QAD Home URL

Use the following steps to find the location of the qadhome URL:

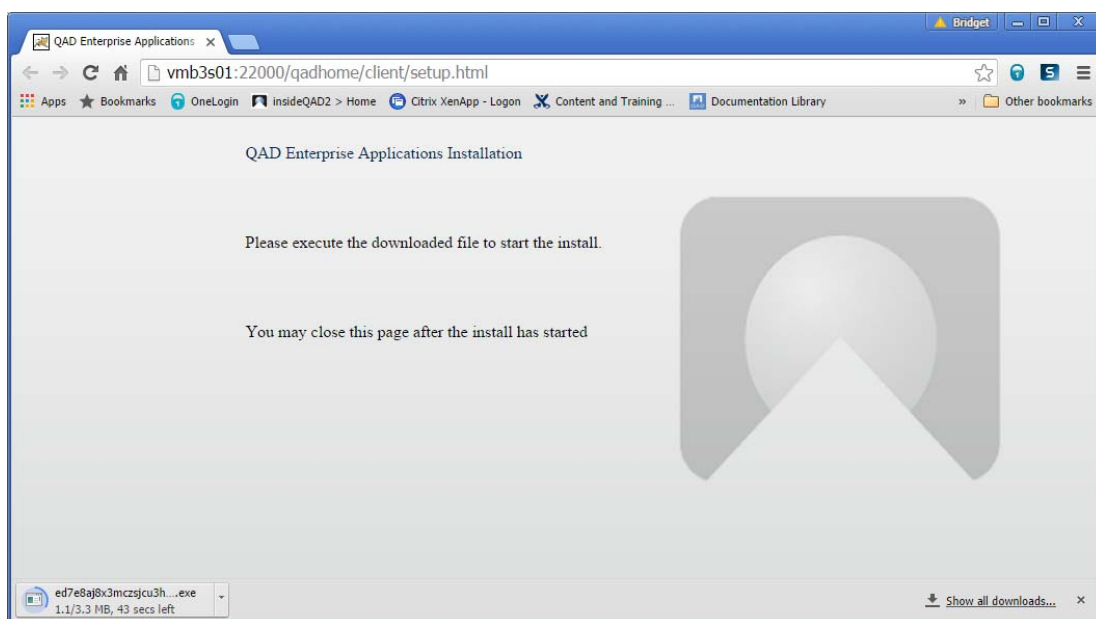
- 1 Go to the Enterprise Edition install directory.
- 2 Enter the following command:
`yab env-info`
- 3 Go to the Client listing and note the QAD Home location. For example:

Client	QAD Home	<code>http://hostname:port/qadhome</code>
--------	----------	---

Run the QAD .NET UI Executable

- 1 Open your web browser.
- 2 Paste or enter the QAD Home URL into the browser's address bar and press Enter.
- 3 The QAD Enterprise Applications Installation page appears and the executable file automatically downloads to your machine.

Fig. 3.1
QAD Enterprise Application Client Download



- 4 The .exe file may launch automatically after the download is complete or you may need to click the downloaded file.

Install the QAD Enterprise Edition QAD .NET UI

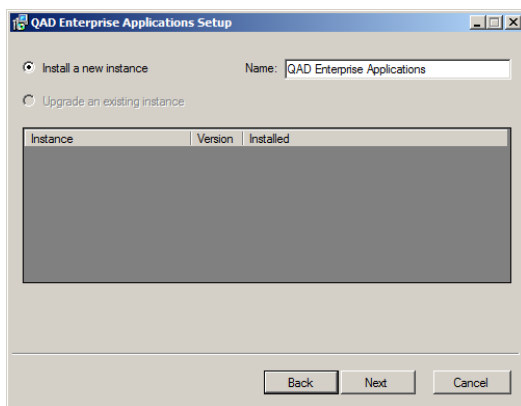
- 1 The QAD Enterprise Applications Setup Wizard appears. Click Next to begin the QAD .NET UI client installation.

Fig. 3.2
Setup Wizard



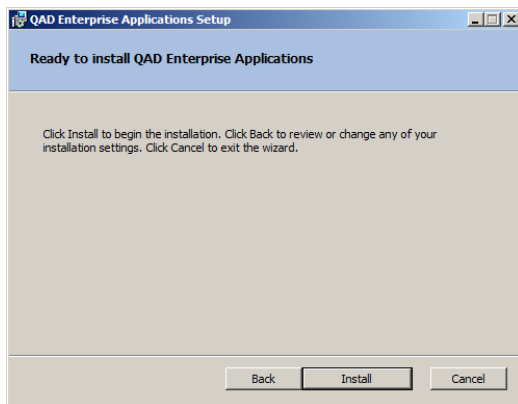
- 2 Choose whether to install a new instance of the QAD .NET UI or upgrade an existing instance. Click Next.

Fig. 3.3
Install an Instance



- 3 You are now ready to install an instance of the QAD .NET UI. Click Install.

Fig. 3.4
Ready to Install



- 4 The setup wizard displays the installation progress, and then the Setup Wizard Complete screen appears. Click Finish.
- 5 The QAD Enterprise Applications shortcut appears on your desktop and is ready to launch.

Start the QAD .NET UI

- 1 Double-click the QAD Enterprise Applications icon on your desktop. The login window appears.

Fig. 3.5
QAD Enterprise Applications Login Window



Make the following entries:

- User: mfg
- Password: leave blank

- 2 Click OK.
- 3 The QAD .NET UI appears, indicating that the install was successful.

Installing QAD Add-ons and Updates

This chapter describes how to install QAD add-on products into Enterprise Edition and how to update Enterprise Edition and YAB.

Overview 24

Installing a QAD Add-on Product 24

Installing an Enterprise Edition Update 24

Installing a YAB Update 25

Overview

Enterprise Edition supports multiple add-on products to expand and enhance your ERP environment. For additional information on which add-on products are compatible with this release of Enterprise Edition, refer to the Product Compatibility Guide in the QAD Store and to the individual add-on installation guides.

For detailed pre-installation requirements, see the installation guide for your specific add-on product. Ensure that those requirements are met before proceeding with the installation.

Installing a QAD Add-on Product

Follow these general steps to install additional QAD add-on products.

- 1 Download the add-on file from the QAD Store or from QAD Release Fulfillment.
- 2 Move the file to the root directory of your Enterprise Edition installation.
- 3 Change to the directory where Enterprise Edition is installed.

```
cd directory
```

- 4 Enter:

```
yab install zip file
```

For example:

```
yab install i19-br-bundle-installer-4.0.0.14.zip
```

- 5 For post-installation requirements and configuration information, see the installation guide for your specific add-on product.

Installing an Enterprise Edition Update

Follow these steps to install an update to Enterprise Edition.

- 1 Download the update from the QAD Store or from QAD Release Fulfillment.
- 2 Move the file to the root directory of your Enterprise Edition installation.
- 3 Change to the directory where Enterprise Edition is installed.

```
cd directory
```

- 4 Enter:

```
yab install zip file
```

where *zip file* is the name of the file you received from QAD. For example:

```
yab install enterprise-financials-app-2019.1.0.2.zip
```

- 5 The update installs.



Installing a YAB Update

Follow these steps to install an update to YAB.

- 1 Download the latest YAB version from the QAD Store or from QAD Release Fulfillment.
- 2 Move the file to the root directory of your Enterprise Edition installation.
- 3 Enter:
`yab install yab-ee-image-VERSION.zip`



Setting Up the Reporting Service

This chapter describes how to install, configure, and troubleshoot the QAD Reporting Service.

Overview 28

Prerequisites 28

Installation 28

Configuration 35

Monitoring 36

QAD Reporting Service Scripts 41

Overview

QAD Enterprise Edition uses the QAD Reporting Service to distribute financial reports to application users. The QAD Reporting Service is installed on a Windows machine.

If your users want to submit batch jobs to generate Financials reports, you must install and configure the QAD Reporting Service. This service invokes a Crystal Reports generator.

You can configure the QAD Reporting Service installation location. The default location is Program Files or Program Files (x86), depending on your Windows machine's operating system.

The server reporting service must run on a Windows Server machine. The service connects to the Financials AppServer (qadfin<environment_name>) by obtaining the AppServer URL from the configuration for the environment held under QAD Home. After connecting to the AppServer, the AppServer spawns a reporting service daemon that connects back to the Windows Reporting Service using the configuration in the following configuration file:

```
c:\Program Files\QAD\QAD.CBFReportingService\  
QAD.CBFReportingService.exe.config
```

You can only install the QAD Reporting Service once. By default, it creates one Windows service to run the QAD Reporting Service. For information on how to configure multiple Reporting Service instances, refer to “QAD Reporting Service Scripts” on page 41.

The required setup steps are:

- Ensure you have the correct version of Microsoft .NET Framework.
- Download and install the reporting service.
- Configure the service for your environment.
- Verify that the service is working correctly.

Prerequisites

The QAD Reporting Service requires Microsoft .NET Framework Version 4.5.x. If Microsoft .NET Framework 4.5.x is not installed, you must install it on the target computer before running the QAD Reporting Service installer.

To download the framework, go to:

<https://www.microsoft.com/net/download/framework>

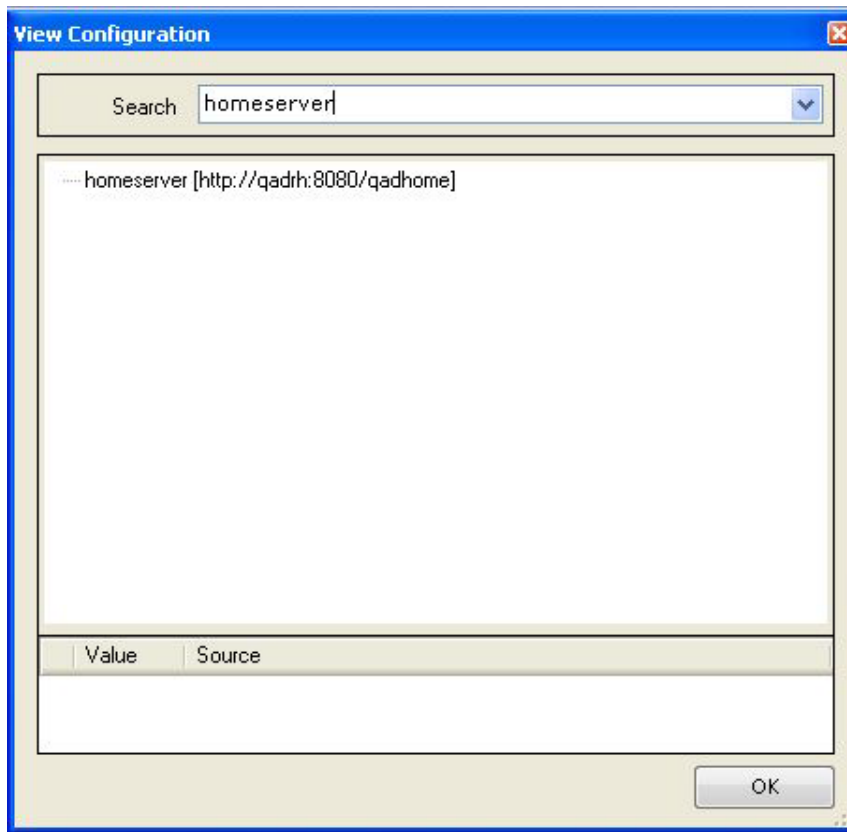
Installation

The Reporting Service is installed with an installer hosted by the QAD Applications Home Server.

- 1 You can display the location of the QAD Applications Home Server from the QAD Applications Client by choosing Help|View Configuration in the client and entering homeserver in the search text box.



Fig. 5.1
QAD Applications Home Server

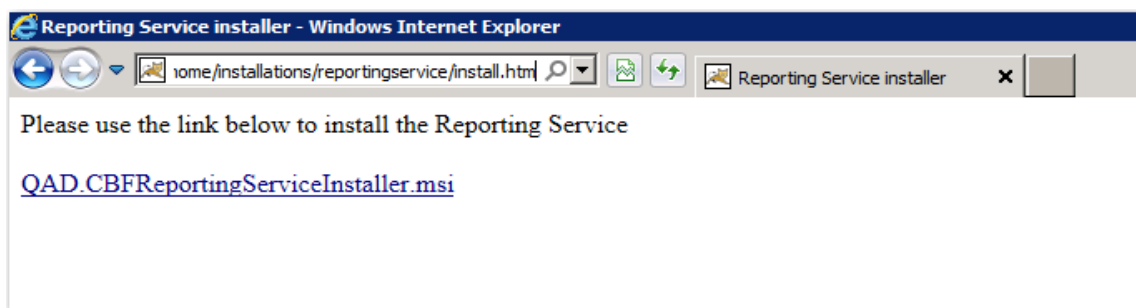


- 2 Go to the Windows server where you want to install the QAD Reporting Service. Use Internet Explorer to connect to the setup. Navigate to:

`<home_server>/installations/reportingservice/install.htm`

- 3 Click the Install button.

Fig. 5.2
QAD Reporting Service Installation



- 4 You may see one of the following security dialog boxes, depending on how Internet Explorer is configured.

Fig. 5.3
Internet Explorer Security Warning

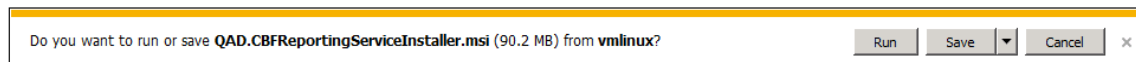
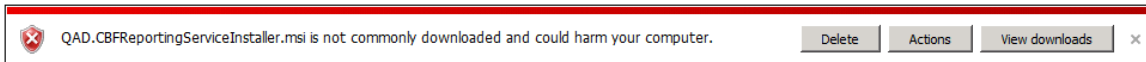


Fig. 5.4
Internet Explorer Security Warning



If you see either dialog box, click Run to continue.

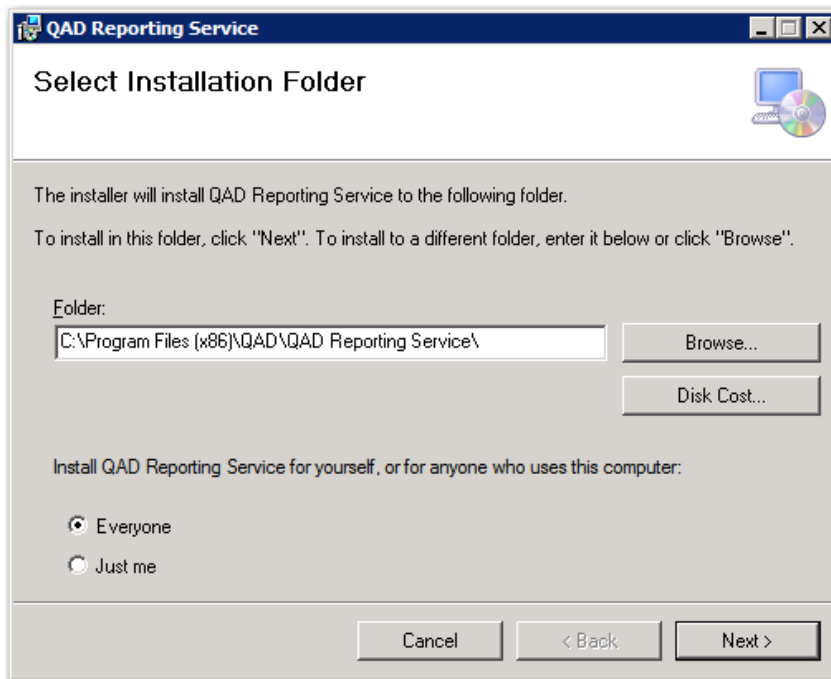
5 The QAD Reporting Service Setup Wizard begins.

Fig. 5.5
QAD Reporting Service Setup Wizard



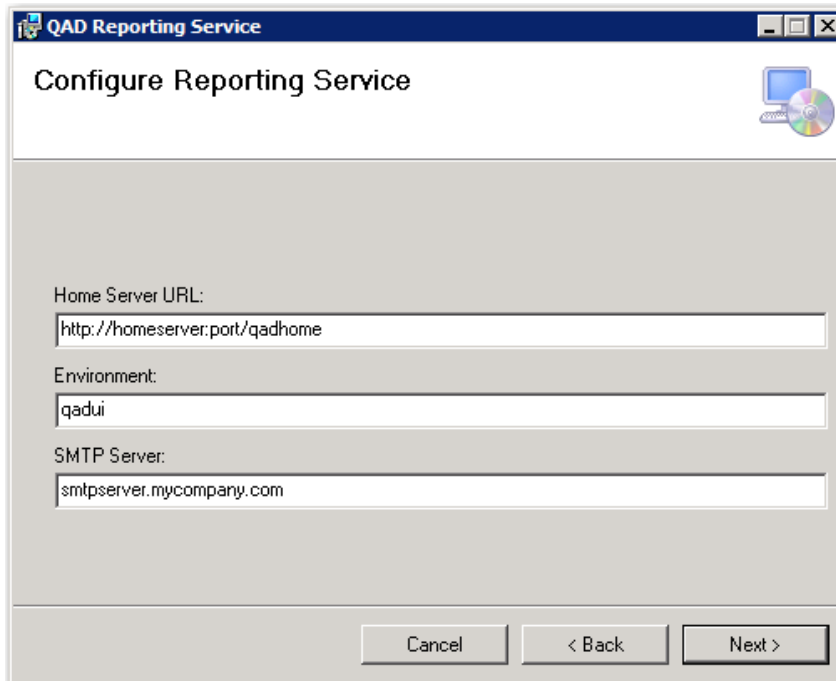
6 Click Next.

Fig. 5.6
Select Installation Folder Screen



- 7 Enter an installation folder or accept the default location. Click Next.

Fig. 5.7
Configure Reporting Service Screen



- 8 Enter the configuration parameters listed in the following table. Then click Next.

Table 5.1
Reporting Service Configuration Settings

Parameter	Description
Home Server URL	The URL to the QAD Applications Home Server.
Environment	The name of the Home Server environment for which this instance provides reporting services. The environment name displays in the title of the QAD Applications Client. It is the value to the left of the colon (:).
SMTP Server	The IP address or host name of the server supporting the Simple Mail Transfer Protocol on port 25.

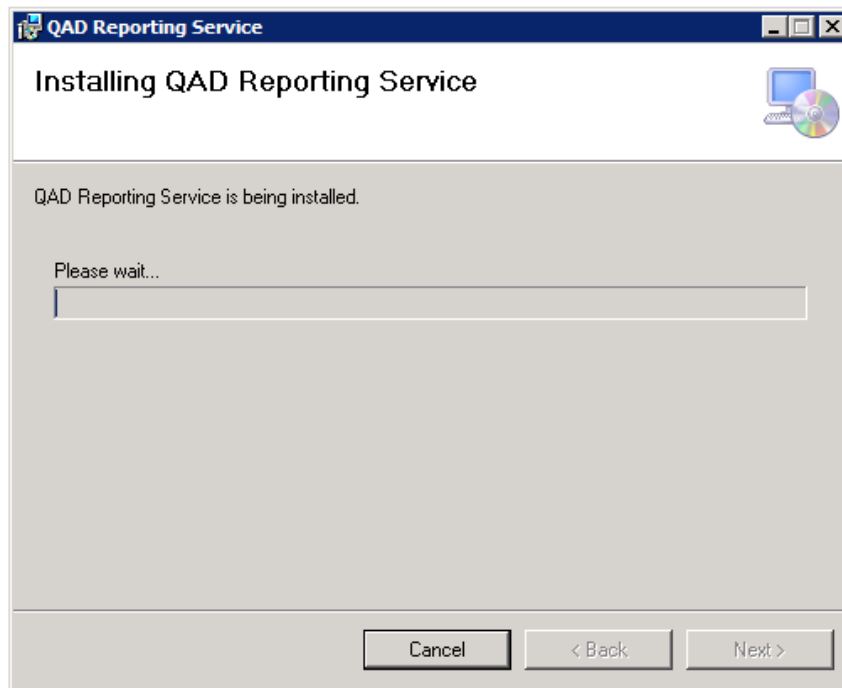
Fig. 5.8
Configure Reporting Service Screen

9 Enter the configuration parameters listed in the following table. Then click Next.

Table 5.2
Reporting Service Configuration Settings

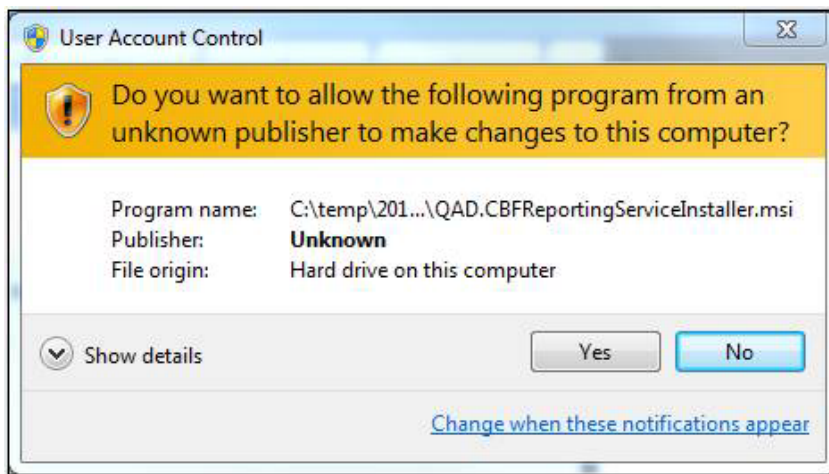
Parameter	Description
Application User	The QAD user account the service uses to connect to other QAD services.
Password	The password associated with the application user account.

Fig. 5.9
Confirm Installation Screen



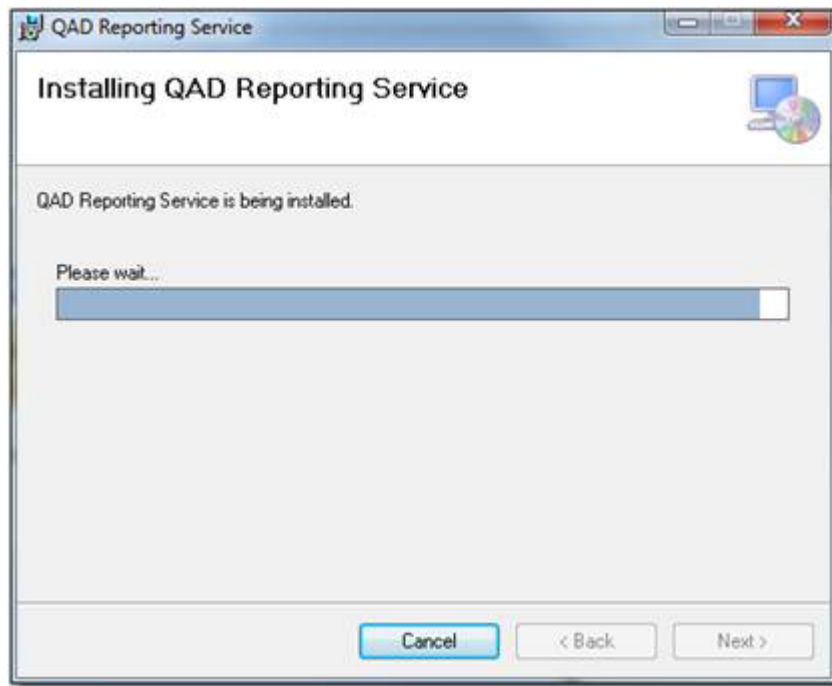
- 10 Click Next to begin the installation.

Fig. 5.10
User Account Control Screen



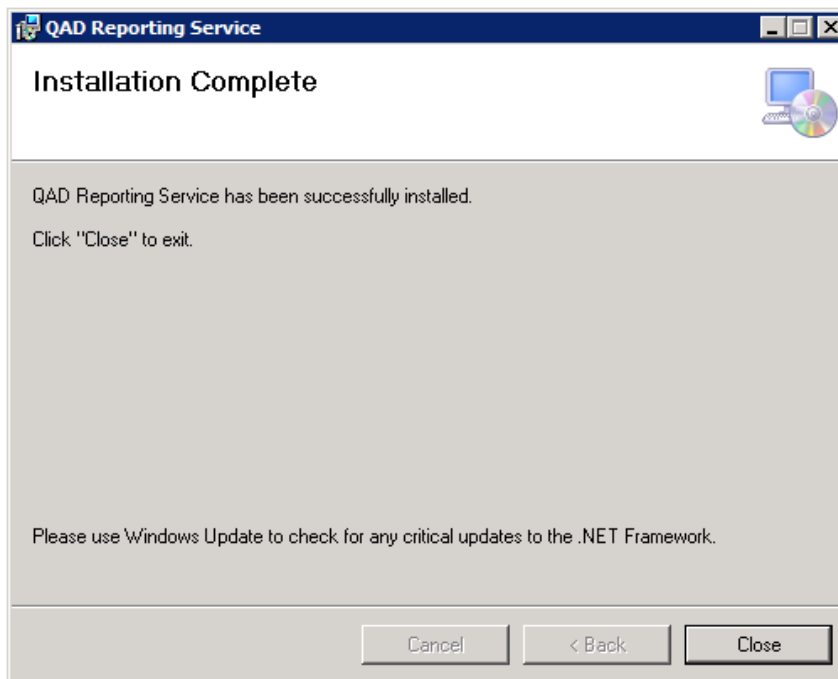
- 11 Click Yes to continue with the installation. You can monitor the installation with the progress bar on the Installing QAD Reporting Service screen.

Fig. 5.11
Installation Progress Screen



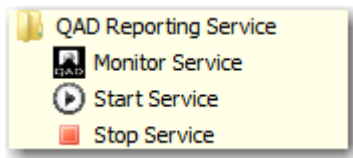
12 Click Close.

Fig. 5.12
Installation Complete Screen



The installer configures the Reporting Service as a Windows Service named “QAD Reporting Service” running on TCP/IP port 4331 and creates shortcuts to start, stop, and monitor the service.

Fig. 5.13
Reporting Service Shortcuts



Configuration

QAD Reporting Service

You can change the configuration values defined during the installation by editing the file:

`<ReportingService>\ QAD.CBFReportingService.exe.config`

where `<ReportingService>` is the location where the service was installed. The default location is:

`C:\Program Files\QAD\QAD Reporting Service`

To change the configuration value:

- 1 Edit the Reporting Service configuration file.
- 2 Save the changes.
- 3 Stop and restart the service using the shortcuts.

Application Server

The application server manages a pool of report daemons (background processes) that send Financials reports to the QAD Reporting Service for distribution. By default, the application server is configured with an empty pool. To support sending reports through the QAD Reporting Service, set the number of instances in the pool to a value greater than 0.

To increase the number of report daemon instances in the pool:

- 1 Start a QAD Applications Client that is connected to the same Home Server and environment as the QAD Reporting service being configured.
- 2 Run the program Report Daemon Configure.
- 3 Change the number of instances from 0 to 1.
- 4 Save the changes.

Testing

To test the Reporting Service, use the following steps:

- 1 Start a QAD Applications Client that is connected to the Home Server and environment for which the QAD Reporting service you are testing provides reporting services.
- 2 In the client, select the menu item that corresponds to a Financials report (for example, a GL Transaction Report).
- 3 At the bottom of the report, click the down arrow associated with the Server Output Processing section to expand the section.
- 4 Enter a suitable e-mail address and subject for the test.

Fig. 5.14
Server Output Processing Configuration

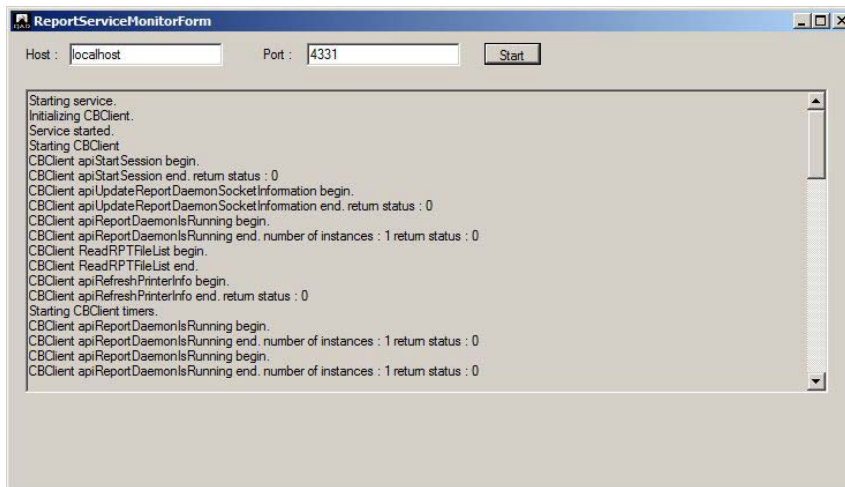
- 5 Click Execute to use the QAD Reporting Service to send the report to the configured e-mail account.

Monitoring

The QAD Reporting Service is distributed with a utility to monitor the service. To start the utility:

- 1 Click the Monitor Service shortcut.
- 2 Enter localhost in the Host text box.
- 3 Click the Start button to begin monitoring the local service.

Fig. 5.15
Reporting Service Monitor



QAD Reporting Service Does Not Start

The QAD Reporting Service is designed to run as an unattended Windows Service. After the Reporting Service is installed, you must start it manually. It is not automatically started during installation. To determine if the service is running, check the QAD Reporting Service entry in the Windows Services application.

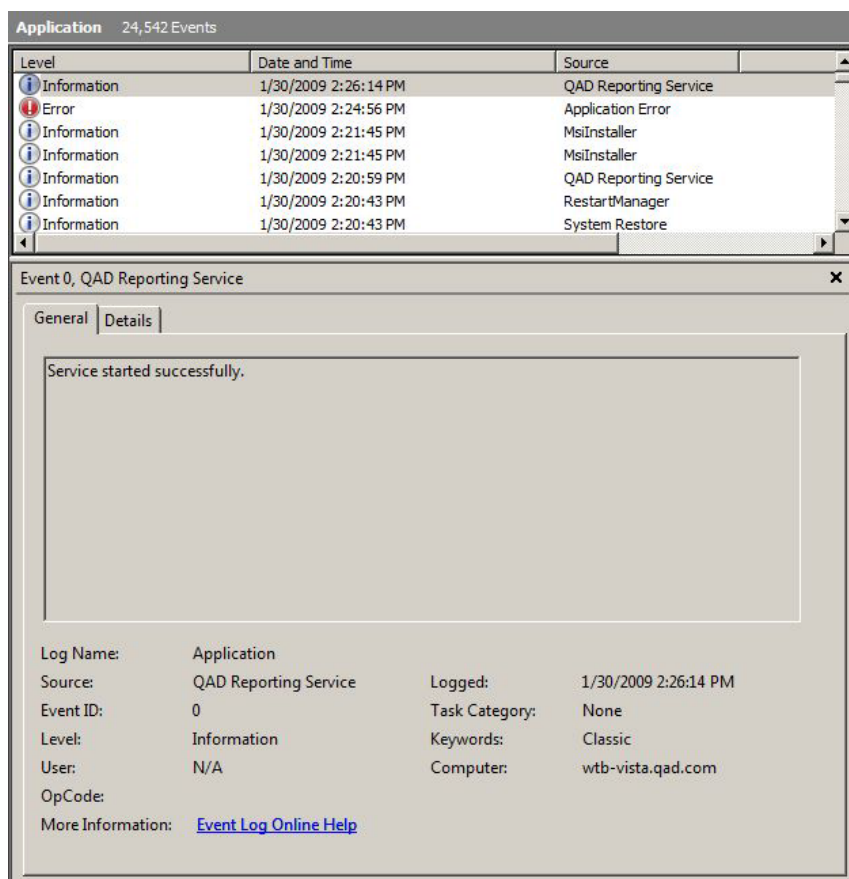
Note Press function key F5 within the Windows Services application to ensure that you are presented with up-to-date information.

Fig. 5.16
Windows Service Entry for Reporting Service

Name	Description	Status	Startup Type	Log On As
 QAD Reporting Service			Automatic	Local System

Errors that occur while running the service are recorded in the Windows Event Log, which you can view with the Windows Event Viewer.

Fig. 5.17
Windows Event Log



You can run the service as a stand-alone console application to bypass the Windows service layer while testing. To run the QAD Reporting Service from the console:

- 1 Start a command prompt.
- 2 Enter:


```
cd <ReportingService>\
```
- 3 Enter:


```
QAD.CBFReportingService.exe -configfile
QAD.CBFReportingService.exe.config -noservice
```
- 4 To stop the service, press CTRL+c.

QAD Reporting Service is Not Communicating with the Application Server

One way to determine if the reporting service is communicating with the application server is to attempt to send a test report (see “Testing” on page 36). If you receive warning message QADFC-610, it indicates that the reporting service and the application server cannot communicate. After a short time, you can review the Windows Event Log on the server where the QAD Reporting Service is installed for a more detailed explanation of the failure.

QAD Reporting Service to Application Server

The QAD Reporting Service obtains the address of the application server from the configuration associated with the Home Server environment with which it is associated. In a typical deployment, an XML document specifies this configuration as:

```
<home_server>/configurations/<environment_name>/client-session.xml
```

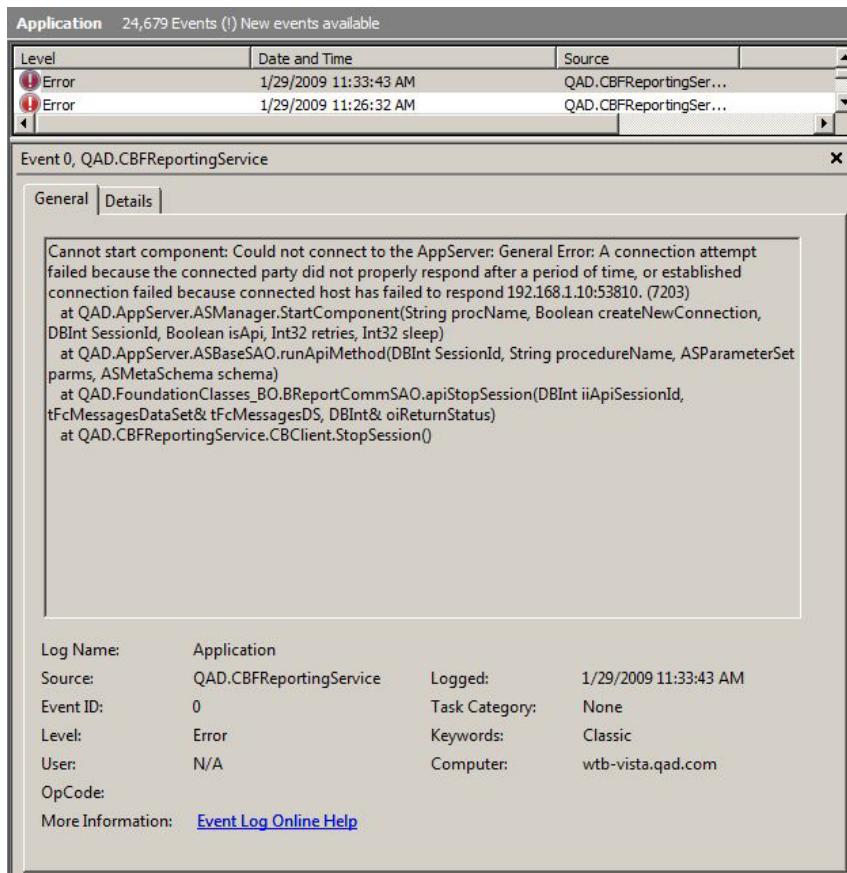
In this document, the following fragment defines the application server address:

```
<qad.appserver url="appserverdc://qadrh.qad.com/pilot"/>
```

Note If a host name is specified (for example, qadrh) instead of an IP address, the Windows server on which the QAD Reporting Service is installed must be able to resolve the host name.

In some network deployments, the Progress NameServer can return an IP address that cannot be routed.

Fig. 5.18
Progress Server Error Listings



As a test, you can change the configuration to bypass the Progress NameServer using a direct connection to the application server.

For example:

```
<qad.appserver url="appserverdc://qadrh.qad.com/pilot"/>
```

Application Server to QAD Reporting Service

By default, the QAD Reporting Service is configured to send the name of the Windows server to the application server. The host where the application server is installed must be able to resolve this name, or the QAD Reporting Service must be configured to send its IP address. To send the IP address rather than the host name, edit the QAD Reporting Service configuration file by setting the value of the key `ExternalHostName` to the Windows server IP address, as described in “Configuration” on page 35. Then stop and start the service to activate the change.

For example:

```
<add key="ExternalHostName" value="nnn.nnn.nnn.nnn"></add>
```

Reporting Service Cannot Connect to SMTP Server

If a host name identifies the SMTP server, the Windows server containing the QAD Reporting Service installation must be able to resolve the host name and the SMTP server must be listening on TCP/IP port 25.

Note Many anti-virus programs block TCP/IP port 25 to protect against malicious programs that use e-mail as part of their attack strategy. For example, McAfee blocks Port 25 for all processes, except those processes specified in a configurable list of exclusions. You can configure programs like McAfee to allow outgoing mail by using the process name `QAD.CBFReportingService.exe`.

Invalid E-mail Addresses

If a report request contains an invalid sender (From) or recipient (To) address, the detailed error is logged in the Windows Event Log. The application server is informed that the request failed. You can review the failure from the QAD Applications Client using the Report Daemon Monitor.

Note The sender e-mail address is the address associated with the user account that is executing or scheduling the report. The e-mail address for a user account is specified with the User Maintenance program.

QAD Reporting Service Scripts

QAD Enterprise Edition includes the following scripts to make QAD Reporting Service installation and use easier:

- `create-instance.bat`
- `register-instance.bat`

The scripts are automatically placed in `$<install_directory>\utilities` during QAD Enterprise Edition installation.

Example:

```
C:\Program Files\QAD\QAD Reporting Service\utilities\create-
instance.bat
C:\Program Files\QAD\QAD Reporting Service\utilities\register-
instance.bat
```

create-instance.bat Script

The QAD Reporting Service installer can only install a single instance of the service on a target computer. You can create additional QAD Reporting Service instances by using the `create-instance.bat` script to copy an existing instance.

To create additional QAD Reporting Service instances:

- 1 Use the QAD Reporting Service installer to install the first instance of the service on the target computer.
- 2 To create the instance, start the `create-instance.bat` script by right-clicking on the script and selecting **Run as Administrator**. You can also open a command window as the administrator, go to the directory, and run the script from the command line. After `create-instance.bat` starts, respond to the script prompts.
- 3 Edit the configuration file:
`<install_directory>\QAD.CBFReportingService.exe.config`
- 4 Change the `TCPPort` value to an available TCP/IP port.
- 5 Edit the `homeserver` and `environment` settings to specify the environment the instance will service.

After you edit the configuration file, you can start the service through the Windows Services control panel applet.

register-instance.bat Script

This script is used to register or unregister a QAD Reporting Service instance as a Windows service.



Troubleshooting

This chapter addresses troubleshooting topics.

Overview 44

General 44

Installation 45

Overview

This chapter introduces troubleshooting techniques to use during Enterprise Edition installation. The information is divided into two sections.

- General – Information you can use during both installation and administration.
- Installation – Information specific to installation.

General

The troubleshooting techniques detailed in this section can apply to both installation and administration questions.

Diagnosis

Log Threshold

The default log threshold is DEBUG, which records detailed information in the install and administration log files. You can change the logging level to TRACE using the `-log-level` option, which will print more verbose information to help diagnose a problem.

```
-log-level: [OFF|FATAL|ERROR|INFO|DEBUG|TRACE]
```

Temporary Files

Temporary files are files that are created while servicing a request and deleted after the request is serviced. In some cases, the key to diagnosing a problem is to be in a position to view these files.

To retain temporary files created in subsequent requests, define the following environment variable:

```
> export KEEP_TEMP_FILES=true
```

To resume cleaning up the files, unset the variable:

```
> unset KEEP_TEMP_FILES
```

By default temporary files are written into the `/tmp` directory. YAB can be configured to write temporary files into a different directory by configuring the `YAB_JAVA_OPTS` environment variable:

```
> export YAB_JAVA_OPTS=-Djava.io.tmpdir=PATH
```

Errors

Java Command Not Found

If you do not have a Java Runtime configured you will see the following error when you execute the installer:

```
> ./install.py
/qad/sandbox/user/2019/image/packages/yab-client/1/9/1/1/yab: line 38: java:
command not found
```



Unsupported Class Version

If you have an incorrect version of the Java Runtime configured, you will see the following error when you execute the installer:

```
> ./install.py
Exception in thread "main" java.lang.UnsupportedClassVersionError: Bad version
number in .class file
```

Enterprise Edition requires Java 1.8, which is also supported by the YAB administration tool and the installer.

The following command prints the version of the Java Runtime resolved from the PATH.

```
> java -version
java version "1.8.0_202"
Java(TM) SE Runtime Environment (build 1.8.0_202-b08)
Java HotSpot(TM) 64-Bit Server VM (build 25.202-b08, mixed mode)
```

If the JAVA_HOME environment variable is set, it will take precedence over the Java Runtime located by the PATH environment. You can check the setting of the JAVA_HOME environment variable and unset it if necessary.

```
> echo $JAVA_HOME
/usr/java/jdk1.5
> unset JAVA_HOME
> echo $JAVA_HOME
```

Installation

The troubleshooting techniques detailed in this section are specific to the installation process.

Diagnosis

Log File

The Enterprise Edition installer records detailed information in the log file. The default log file location is:

```
/tmp/install.[USER].log
```

If an error occurs while installing the product, you should review the log file. It may contain information that was not displayed on the console.

If the installation fails before the update command has started (Starting update... in the following code text), the install should be executed again after the problem has been resolved.

```
Validating OK
Initializing instance OK
Reconfiguring instance OK
Resolving and copying packages OK
Starting update...

                        update (282 tasks)
-----
1/282   qad-rd-permissions-mkdirs      OK (0.032 s)
2/282   qxtend-stage                   OK (54.844 s)
3/282   adminserver-script             OK (0.023 s)
4/282   nameserver-script              OK (0.017 s)
...
```

If the installation fails during the update command, it will be more efficient to diagnose the problem using the techniques outlined in the [QAD Enterprise Edition Configuration and Administration Guide](#) and to execute the update command directly when the problem is resolved.

```
> yab update
```

Install Failed

If the install fails, it displays INSTALL FAILED, with limited information on the cause of the failure. Review the log files and contact QAD Support if further guidance is required.

Operating System-Dependent Settings

This appendix addresses operating system-dependent settings.

Dependent Settings **48**

Configuring Server Prompt **48**

Configuring Login and Password Prompts **48**

Dependent Settings

The following settings can differ depending on the operating system:

```
netui.connmgr.loginprompt
netui.connmgr.passwordprompt
netui.connmgr.serverprompt
```

These settings can be defined in the `install.conf` file before installing QAD Enterprise Edition or by editing the `configuration.properties` file in an existing environment.

The following example outlines how to define the server prompt setting. This process also can be followed to define the login and password prompts.

Configuring Server Prompt

The default prompt displayed for the server depends on the default shell and can vary based on user configuration and operating system. By default, the server prompt used for the `netui.connmgr.user` is set to `$`.

This example changes the server prompt from the default `$` to `>`.

Install.conf File

To set the server prompt before installing, add the following to the `install.conf` file:

```
netui.connmgr.serverprompt=>
```

Configuration.properties File

To determine the server prompt used in an existing environment, use `yab config`:

```
> yab config netui.connmgr.serverprompt
netui.connmgr.serverprompt=$
```

Define the setting in `configuration.properties`

```
netui.connmgr.serverprompt=>
```

To apply the configuration change execute:

```
> yab reconfigure
```

Configuring Login and Password Prompts

The login and password prompt settings can also vary depending on the user profile and operating system defaults.

In a standard Linux operating system, the default settings are:

```
netui.connmgr.loginprompt=login:
netui.connmgr.passwordprompt=Password:
```

Depending on the default shell, these settings also may need to be changed.



SSH and Telnet Protocols

This appendix addresses configuration settings for Secure Shell (SSH) and telnet protocols.

SSH 50

Telnet 50

SSH

By default, a QAD Enterprise Edition environment is configured to use SSH protocol for Connection Manager and terminal sessions. The default settings in `configuration.properties` are:

```
netui.connmgr.protocol=ssh
netui.telnet.protocol=ssh
netui.connmgr.port=22
netui.telnet.port=22
```

Telnet

The environment can be switched to use the Telnet protocol by configuring the following settings in `configuration.properties`:

```
netui.connmgr.protocol=telnet
netui.telnet.protocol=telnet
netui.connmgr.port=23
netui.telnet.port=23
```

To apply the change, execute:

```
> yab reconfigure restart
```

Customized Database Structure Files

This appendix describes how to install QAD Enterprise Edition using database structure files that are different than the standard structure files used by the installer.

Generate Standard Structure Files 52

Customize Standard Structure Files 52

Configure Customized Structure Files 53

Resume Enterprise Edition Creation 53

Generate Standard Structure Files

To access the QAD standard structure files before creating the Enterprise Edition databases, you must perform a delayed installation as described in “Delayed Installation” on page 6.

Run the following command to generate the standard structure files for all databases into build/work/st-files.

```
> yab qxtend-stage database-structure-file-update
```

This creates structure files for eight databases.

```
> ll build/work/st-files/
total 32
-rw-rw-r--. 1 mfg mfg 420 May 20 10:24 admdb.st
-rw-rw-r--. 1 mfg mfg 827 May 20 10:24 cpldb.st
-rw-rw-r--. 1 mfg mfg 301 May 20 10:24 hlpdb.st
-rw-rw-r--. 1 mfg mfg 833 May 20 10:24 mfgdb.st
-rw-rw-r--. 1 mfg mfg 316 May 20 10:24 module-partial.st
-rw-rw-r--. 1 mfg mfg 75 May 20 10:24 qxevents.st
-rw-rw-r--. 1 mfg mfg 414 May 20 10:24 qxodb.st
-rw-rw-r--. 1 mfg mfg 91 May 20 10:24 rcddb.st
```

Note One database, arcdb, is not associated with a database structure file.

Customize Standard Structure Files

Create a new directory to hold the customized structure files. This directory can be located anywhere.

```
> mkdir -p customizations/st-files
```

Copy the standard structure files into the new directory and create files for the database that is not associated with a database structure file.

```
> cp build/work/st-files/*.st customizations/st-files
> cp customizations/st-files/rcddb.st customizations/st-files/arcdb.st
```

Customize the structure files.

```
> vi customizations/st-files/*.st
```

Note The names of the data areas in the structure files, such as MFG and MFG_IDX, are important because they correspond to the schema files that you will load into the databases when you create the environment.

Configure Customized Structure Files

Edit the `build/config/configuration.properties` file and add the following settings. You must set the `st.dir` setting to locate your customized structure files if you chose an alternate location:

```
st.dir=${customizations.dir}/st-files
db.qadadm.structurefile=${st.dir}/admdb.st
db.qadcpl.structurefile=${st.dir}/cpldb.st
db.qaddb.structurefile=${st.dir}/mfgdb.st,${st.dir}/module-partial.st
db.qadhlp.structurefile=${st.dir}/hlpdb.st
db.qadrcode.structurefile=${st.dir}/rcddb.st
db.qxevents.structurefile=${st.dir}/qxedb.st
db.qadarc.structurefile=${st.dir}/arcdb.st
db.qxodb.structurefile=${st.dir}/qxodb.st
```

Resume Enterprise Edition Creation

Execute the update command:

```
> yab update
```



Product Information Resources

QAD offers a number of online resources to help you get more information about using QAD products.

[QAD Forums \(community.qad.com\)](https://community.qad.com)

Ask questions and share information with other members of the user community, including QAD experts. The YAB Installations forum can be found under the Technology heading in the Forum menu.

[QAD Knowledgebase \(knowledgebase.qad.com\)*](https://knowledgebase.qad.com)

Search for answers, tips, or solutions related to any QAD product or topic.

[QAD Document Library \(documentlibrary.qad.com\)](https://documentlibrary.qad.com)

Get browser-based access to user guides, release notes, training guides, and so on; use powerful search features to find the document you want, then read online, or download and print PDF.

[QAD Learning Center \(learning.qad.com\)*](https://learning.qad.com)

Visit QAD's one-stop destination for all courses and training materials.

*Log-in required

