# Installation Guide
# QAD Workflow Alerts

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# Contents

Chapter 1

# System Overview

This section contains basic topics that you should understand before attempting a QAD Workflow Alerts installation.

# System Overview

The QAD Workflow Alerts framework provides a way to monitor core business data for particular exceptional conditions and occurrence-based situations. Messages are sent to relevant business owners in response to data activity; they can then act on the messages accordingly.

The framework consists of two main components:

- Events represent triggers, or occurrences of data movement/activity. For example, a customer's order is modified.
- Alerts are customized responses/messages to events that are sent to individuals; for example, a line manager receives an alert about an order being added.

For details about configuring and implementing QAD Workflow Alerts, refer to the *QAD Workflow User Guide*.

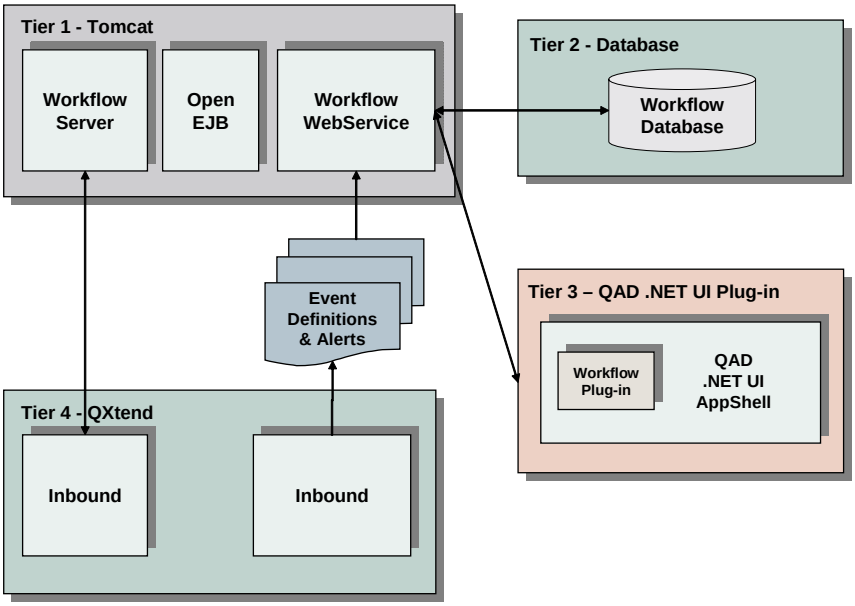
# Deployment Overview

The QAD Workflow Alerts application comprises several components. These components can be deployed in various ways on different hosts, platforms, and architectures.

## Workflow Alerts Deployment Tiers

Figure 1.1 shows the QXI deployment tiers and their relationships as they relate to QAD Workflow Alerts.

**Fig. 1.1**
QAD Workflow Alerts in QXI Deployment Tiers




***Note*** This deployment description uses tiers for explanatory purposes. While the grouping of components is significant, the numbering of the tiers is not.

Tier 1 consists of the Workflow WebService, server, and supporting infrastructure, OpenEJB. These are WebApplications that are deployed to a Tomcat Application server.

Tier 2 consists of the database that stores the configuration for alerts. Alerts are also posted here and subsequently sent out in a separate service to avoid holding up the processing in QXtend.

Tier 3 consists of the .NET UI plug-in. This piece gets added to the AppShell, which must already be installed. It is just a container to view the Alerts Configuration UI; here you can set up new alerts and set up subscriptions to them.

Tier 4 consists of QXtend, which is a prerequisite and is not installed with the Workflow product. During the configuration stage you will point to the QXtend install. And Workflow uses QXtend Inbound for authentication and getting users/groups from the QAD Enterprise Application database. QXtend Outbound can be used to raise event definitions and alerts, which are then sent to the Workflow system via a Web service, though you could configure any system to use the Workflow Web-services available. Event definitions are loaded into Workflow when registering a Workflow profile to a workflow subscriber in QXtend Outbound. Alerts are sent when triggered by the configured events in QXtend Outbound (refer to the *QAD Workflow User Guide* for more information).

### Deployment Options

The various components of QAD Enterprise Applications and QAD Workflow can be deployed in several configurations:

- On a single host in a unified deployment (single-tier deployment)
- On multiple hosts in a distributed deployment (multi-tier deployment)

In a single-host environment, all logical tiers are on the same host, and hence can be run at once. In a multiple-host environment, the logical tiers can be separated physically by host. You must run the installer on each hosts involved in the installation. Tiers can be combined, but not split.

## QAD Deployment Configuration Service

When installing QAD Workflow Alerts, it is recommended that you use the QAD Deployment Configuration Service (QDCS) to facilitate the installation process.

***Note*** Before starting an installation, collate your settings information and record it in the worksheet provided on page 12 for easy reference.

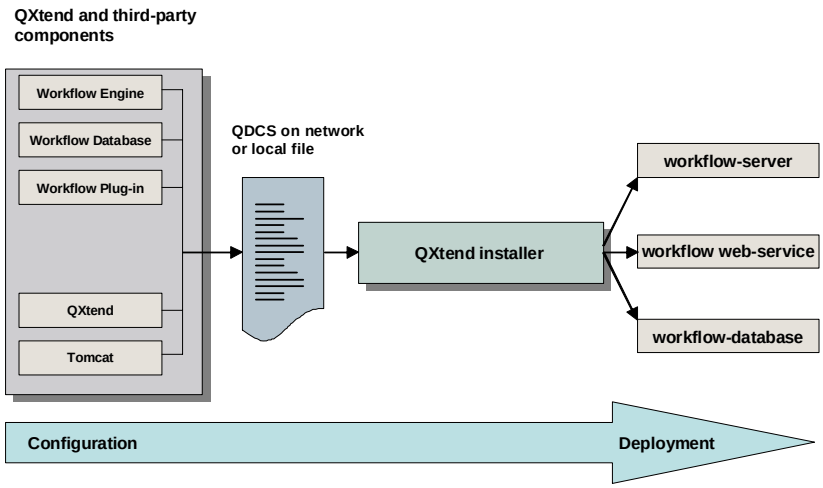
The QDCS is a repository that stores all your deployment settings for QAD Workflow Alerts and its supporting third-party applications (Tomcat, for example) in a single place. Typically, the QDCS is stored on a network for easy access, but it also can be stored in a portable file. The QDCS is populated using the GUI installer. Therefore, access to a GUI environment is a prerequisite.

***Note*** If you are installing in a UNIX environment and X-Windows is not available—or you are installing QAD Workflow Alerts in a character environment—you must first run the installer on Windows to collect the installation information.

There is only a single-repository QDCS regardless of the number of environments and/or hosts you plan to use in your deployment. *You only have to enter your deployment settings once into the QDCS for a particular configuration*. The service can be reused later to, for example, move a QAD Workflow Alerts deployment from a test environment into a production environment. See “QDCS Information Hierarchy” on page 4 for details about the structure of the QDCS.

Figure 1.2 illustrates how the QDCS works. The diagram assumes that all the QAD Workflow Alerts components and supporting third-party applications are being installed on the same host.

**Fig. 1.2**
QDCS Information Flow




During an installation using the QDCS:

1. Specify the location of the QDCS: network or local host.
2. Specify the name of the configuration file and the name of the environment for the installation.
3. For each module you select to install—Workflow Alerts Engine, Workflow Alerts Database—provide the deployment configuration settings required by the installer; these settings are stored in the QDCS.
4. After you provide all settings for the selected components, review the installation summary before you run the installation process. The information stored in the QDCS guides the automated installation.

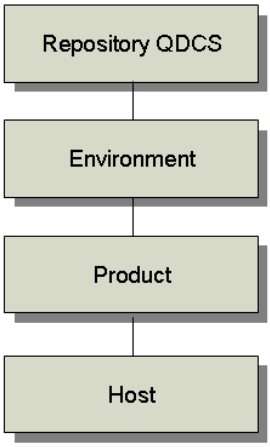
Installing QAD Workflow Alerts using the QDCS has the following advantages:

- For QAD Workflow Alerts components that share installation parameters—the location of the Progress AppServer, for example—the QDCS allows these settings to be passed between hosts, reducing the potential for error when entering configuration information.
- The QDCS preserves deployment data across sessions. If the installation fails, you can resume the installation from the point where it stopped without re-entering settings.
- Reinstallations need no further input.

## QDCS Information Hierarchy

The QDCS stores information in XML format in a hierarchy, as shown in Figure 1.3.

**Fig. 1.3**
QDCS Information Hierarchy




The repository QDCS hierarchy consists of the following elements:

- The repository QDCS element is at the top of the hierarchy. There is only one repository, regardless of the number of subordinate environments, products, and hosts.
- Typically, organizations have more than one environment. For example, your organization may have a test environment for verifying deployments, and a production environment that accommodates the live system. The position of the environment element at the secondary level in the QDCS hierarchy enables product and host deployments to be moved easily between environments.
- In the current release, there is only one product element—for the QAD Workflow Alerts product. In the future, it is envisioned that the QDCS will store deployment settings for all QAD applications in your environment.
- Typically, there will be many host elements, enabling deployment of QAD Workflow Alerts in various configurations. Each host typically contains one or more QAD Workflow Alerts components determined by component dependencies and organizational deployment requirements.

## Installation Overview

Installing and configuring QAD Workflow Alerts requires several prerequisite programs. This guide describes the installation and configuration of the QAD Workflow Alerts application on these programs.

***Note*** See Chapter 2, “System Requirements,” on page 7 for additional information on requirements.

The steps are:

1. Install prerequisite components.
2. Complete the QDCS worksheet (optional).
3. Install QAD Workflow Alerts using the installer.

Chapter 2

# System Requirements

This section contains component and version information for a QAD Workflow Alerts environment.

# Overview

This section provides the software, client, operating system, and other requirements for QAD Workflow Alerts.

***Note*** For the most current requirements information, refer to the Product Availability Guide on the QAD Online Support Center at:

http://support.qad.com

# Software Requirements

This section describes the prerequisite requirements to install, configure, and use QAD Workflow Alerts.

## Third-Party Components

- Additional Progress Components

  In addition to the Progress software required for QAD Enterprise Applications, QXI requires the Progress AppServer, NameServer, and AdminServer if you use the code APIs.
- Apache Tomcat Application Server 5.5.20 or higher

  This is available from:

  http://tomcat.apache.org/
- Java 1.5.0 JDK (for Tomcat 5)

  For Linux, Sun, and Windows versions:

  http://java.sun.com

  For Hewlett-Packard systems:

  http://www.hp.com/products1/unix/java/index.html

  For AIX systems:

  http://www.ibm.com/developerworks/java/jdk/aix/service.html
- Microsoft Silverlight 3

  This is available from:

  http://www.silverlight.net/getstarted/silverlight3/

### Supporting Technologies

QAD Workflow Alerts incorporates various Web-based technologies to support its features. These technologies are included with the product and are transparent to you. They are listed here to give credit to the open-source projects that created them.

- Struts is an open-source framework for building Web applications, part of the Jakarta Project, sponsored by the Apache Software Foundation.

  http://struts.apache.org/index.html
- Apache AXIS is an implementation of the SOAP (Simple Object Access Protocol) submission to W3C.

http://ws.apache.org/axis/

- All QDoc requests and responses are logged using Log4j from Apache, a reliable, fast, and flexible logging framework for Java.

  http://logging.apache.org/log4j/docs/index.html

## Client Requirements

QAD Workflow Alerts client systems are browser based and require only Internet Explorer, version 6.0+.

## Operating Systems

The QXI and QXO servers support the following platforms:

- Linux (Redhat and SuSE)
- HP-UX
- HP-Tru64
- Sun Solaris (SPARC)
- Compaq UNIX (Tru64)
- IBM AIX
- Windows (including Windows 2000, 2002 Server, 2003 Server, XP, and 64-bit variations of these platforms)

## Installation User Account

The user accounts used to install Workflow Alerts and the start environment must be carefully selected to avoid potential access permission problems. An easy and effective way to prevent permission issues is to use an administrator (rather than root) account to perform the entire installation. This includes starting Tomcat, installing Workflow Alerts, performing post-install activities, and starting the whole environment (QAD Enterprise Applications and Workflow Alerts).

Chapter 3

# Prerequisites

This section describes the prerequisites that must be performed before QAD Workflow Alerts installation.

# Overview

Several tasks must be performed before QAD Workflow Alerts installation. They are as follows:

- Install the Tomcat Application Server.
- Install QAD QXtend 1.7+.
- Prepare the environment.
- “Complete the QDCS Worksheet” on page 12.

# Install the Tomcat Application Server

Install the Tomcat application server using the installation instructions provided in the *Tomcat User Guide* on the Apache Tomcat Web site.

# Install QXtend

Install QAD QXtend using the instruction in the *QXtend Installation Guide*.

# Prepare the Environment

Prepare the environment as follows:

1. Ensure that the `JDKHOME` and `JREHOME` variables are set in non-Windows environments.
2. Create a server for SQL connections to the qaddb.

   Start qaddb by entering:

   ```
   $DLC/bin/proserve /dr01/mfgpro/eB21sp10/db/dbname -L 8000 -S
   db-service-name -c 350 -B 1000
   ```

# Complete the QDCS Worksheet

Use the worksheet in Table 3.1 to record installation-related information such as server names and locations, port numbers, and other settings. You enter these parameter settings into the QDCS; for details, see “Installing QAD Workflow Alerts in a GUI Environment” on page 16.

***Note*** Use of this worksheet is recommended. QAD suggests that you research this information before starting your installation.

**Table 3.1**
QDCS Worksheet

| Group | Description | Setting |
|---|---|---|
| Tomcat | Tomcat Home | |
| | Tomcat Admin User | |
| | Tomcat Admin Password | |
| | Tomcat Port | |
| Server WebApp | WebApp Name | |

Table 3.1 — *QDCS Worksheet* ( (Page 1 of 3)

| Group | Description | Setting |
|---|---|---|
| Web Service | WebApp Name | |
| SMTP Server | SMTP Server | |
| | SMTP Port | |
| | Sender E-mail Address | |
| | E-mail Authentication | |
| | E-mail Username | |
| | E-mail Password | |
| QAD ERP Database | Name | |
| | Host | |
| | Service Name | |
| | .db File Holder | |
| | QAD Client Username | |
| | QAD Client Password | |
| | QAD Version | |
| | QAD Service Pack | |
| QXtend Configuration | Host | |
| | Port | |
| | WebApp Name | |
| | Username | |
| | Password | |
| | Receiver Name | |
| | Source Application | |
| | Subscriber | |
| | Message Sender | |
| | Message Publisher | |
| Alert Delivery Service | Polling Frequency | |
| | Delivery Agents | |
| Wokflow Database | Physical name | |
| | Directory | |
| | Progress Directory | |
| | Port | |
| | Use Service Name | |
| | Service Name | |
| | Update Services File | |
| | Admin User | |
| | Admin Password | |
| | Workflow User | |
| | Workflow Password | |

Table 3.1 — *QDCS Worksheet* ( (Page 2 of 3)

| Group | Description | Setting |
|---|---|---|
| .NET UI Plug-in | Version | |
| | WebApp Name | |
| | Tomcat Port | |
| | Tomcat Home | |
| | Tomcat Username | |
| | Tomcat Password | |
| | Configuration Name | |
| Workflow Alerts Toolkit | Workflow Toolkit Directory | |

Table 3.1 — *QDCS Worksheet* ( (Page 3 of 3)

Chapter 4

# Installing QAD Workflow Alerts

This section describes how to install QAD Workflow Alerts in a GUI or character environment.

# Overview

The QAD Workflow Alerts installation disk contains the QAD Workflow Alerts installer. The installer supports both GUI and character-based installations.

The following are the options for installing QAD Workflow Alerts:

- Install in a GUI environment using the QDCS.
- Install in a character environment using the QDCS. You first run the installer in a GUI environment to populate the QDCS with the required settings. See “Installing QAD Workflow Alerts in a Character Environment” on page 24.

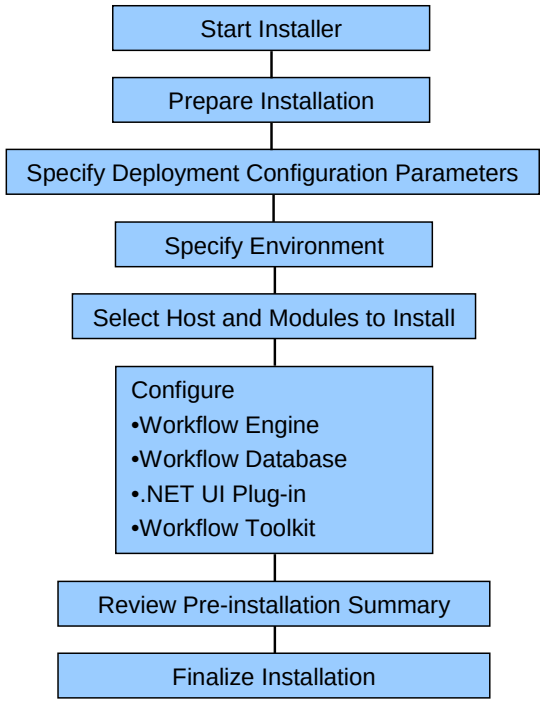
# Installing QAD Workflow Alerts in a GUI Environment

This section describes installing QAD Workflow Alerts using the QDCS on the same host in a Windows GUI environment.

Figure 4.1 summarizes the QAD Workflow Alerts installation workflow.

***Note*** The sequence below applies when all components are installed on a single host. The sequence of deployment may vary, depending upon your configuration.

**Fig. 4.1**
Workflow Alerts Install Workflow




Before installing QAD Workflow, ensure that Tomcat is running. You should also ensure that you have the appropriate folder permissions to perform an installation.

***Note*** In a UNIX environment, before launching the GUI installer from an X-Windows session, you must first set the `DISPLAY` variable using the following command:

```
export DISPLAY=HOST_NAME:0.0
```

For example:

```
export DISPLAY=plli13:0.0
```

## Start the Installer

1 Insert the CD-ROM into the CD-ROM drive or mount the CD image on your file system.

2 The executable files for each environment type can be found under `Disk1/InstData/<env type>/[No]VM/QADWorkflow.[bin|exe]`.

***Note*** If you choose to copy the files from the CD, make sure the directory structure remains the same, including the folder called `Disk 1`. If this is changed, the installer will not run. The directory structure should be as follows:

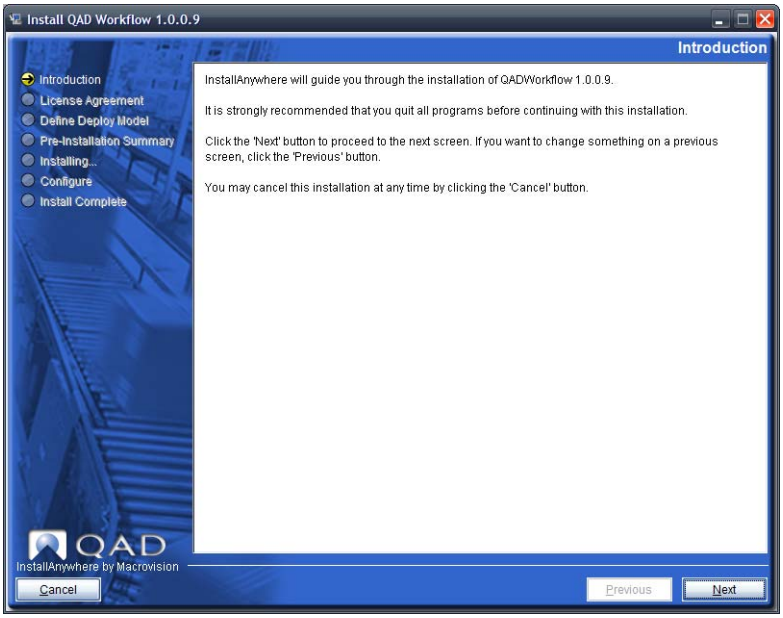
```
<CD MEDIA>
    +Disk1
        +InstData
            -Resource1.zip
            -MediaId.properties
            +{environment type}
                +NoVM
                    QXtend.[bin|exe]
                +VM
                    QXtend.[bin|exe]
```

## Prepare the Installation

3 If you have downloaded the installer, double-click `QADWorkflow.exe`.

The installer is extracted and the Introduction screen displays.

**Fig. 4.2**
Introduction Screen



4 Click Next. The License Agreement screen displays.

5 Scroll to the end of the license agreement.

6 Select the “I accept the terms of the License Agreement” option, then click Next.

***Note*** The option to accept the license agreement is enabled only when you scroll to the bottom of the agreement.

The Log File Directory screen displays.

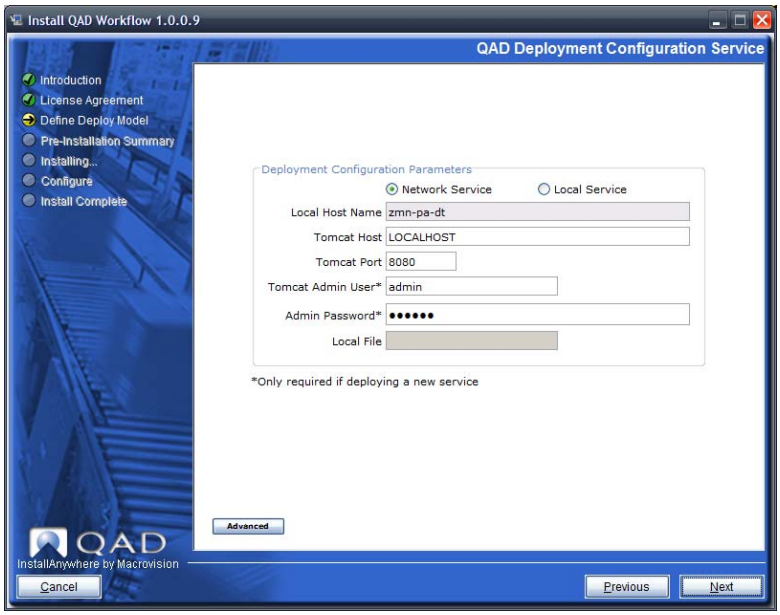
7 Accept the default location for the install log files (`C:\instlog`), or enter a different path.

8 Click Next. The QAD Deployment Configuration Service screen displays.

## Specify Deployment Configuration Parameters

For details about the QDCS, see “QAD Deployment Configuration Service” on page 3.

**Fig. 4.3**
Specify Deployment Configuration Parameters




*Network Service.* Select this option to use a QDCS located on your network.

***Note*** Tomcat must be installed and running to use Network Service.

*Local Service.* Select this option to use a QDCS file located on your local machine. If you select this option, all fields are disabled, except Local File.

*Local Host Name.* Displays the name of the current machine (read-only).

*Tomcat Host.* Enter the name of the Tomcat server (for Network Service only).

*Tomcat Port.* Enter the number of the Tomcat port (for Network Service only).

*Tomcat Admin User.* Enter the user name for the Tomcat manager role (for Network Service only).

*Admin Password.* Enter the password of the user with the manager role (for Network Service only).

*Local File.* Enter the filename on the local machine that contains the parameter settings (for Local Service only).

*Advanced.* Click this button to display a dialog that allows you to specify the name of a new QDCS.

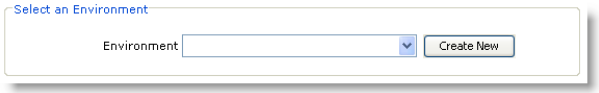
9 A pop-up window may display that says a QAD Deployment Configuration Service (QDCS) was not detected on a host. This means the QDCS is not deployed on the Tomcat server just specified or the wrong server was specified. Click Yes if you want the installer to deploy the QDCS.

10 Click Next. The Environment Selection screen displays.

## Specify Environment

11 In the Select an Environment panel, specify the environment to use. To create a new environment, click Create New and enter the name of the environment you want to create.

**Fig. 4.4**
Select an Environment

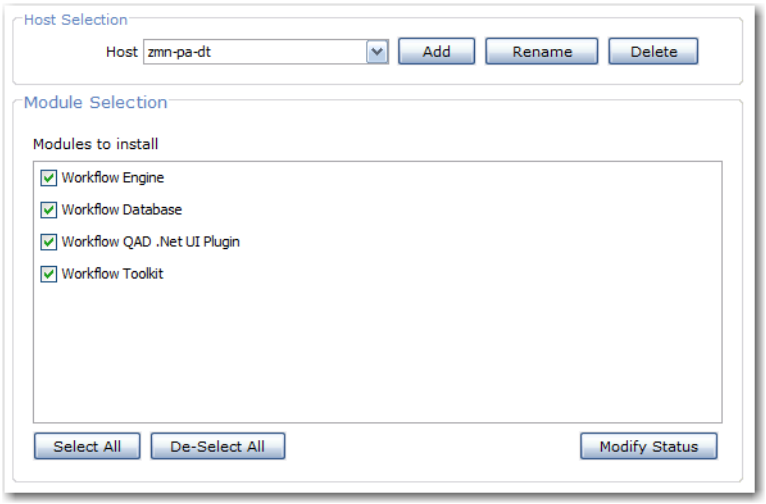



12 Click Next. The Select an Installation Option screen displays.

# Workflow Alerts Installation

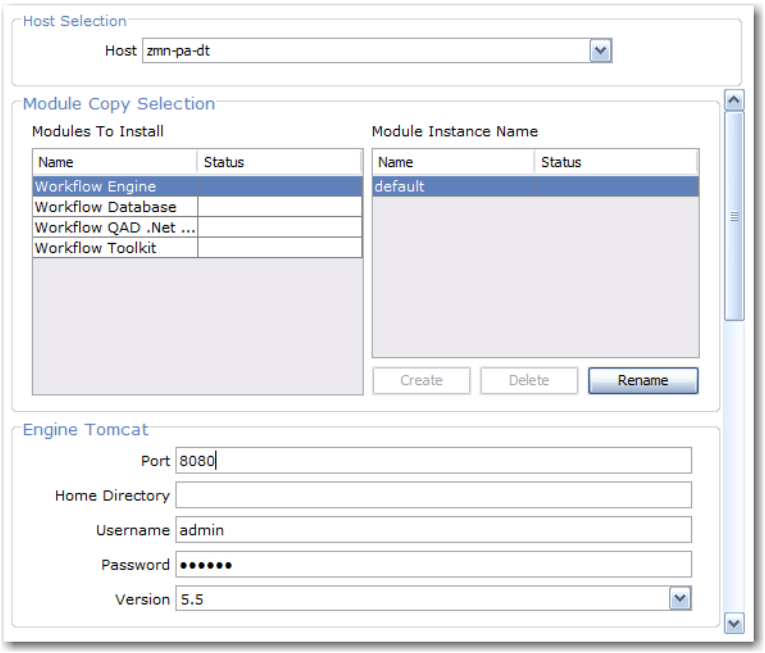
## Select the Host and Modules to Install

**Fig. 4.5**
Choose the Host and Install Set




1. In the Host Selection panel, enter the host on which to install the components.
2. Use the Add and Delete buttons to create and delete hosts as required.
3. In the Module Selection panel, select the components to install on the specified host. Under each environment (“QDCS Information Hierarchy” on page 4 and “Specify Environment” on page 19), you can select each component once across all hosts that make up the configuration.
4. Click Next to display the Module Copy Selection screen.

**Fig. 4.6**
Module Copy Selection




The component list on the left shows the components available for installation. The Status column to the right indicates the installation status for each component. The first time the installer is run, the Status column is blank. After an installation, the Status column shows Incomplete—indicating the component has not been installed successfully—or Complete, indicating the component was installed successfully.

5 For each selected component, enter all required parameter settings as described in the following sections.

***Note*** You cannot select a different component until you have finished entering all the required configuration information for the currently selected component. Fields that must be completed are highlighted in orange.

## Configure the Workflow Engine

6 In the Engine Tomcat panel, complete the required fields.

*Port.* Enter the Tomcat port.

*Home Directory.* Enter the location of the home directory where Tomcat is installed.

*Username.* Enter the user name for the Tomcat manager role.

*Password.* Enter the password of the user with the manager role.

*Version.* Select the version of Tomcat being installed to.

7 In the Server Webapp panel, complete the required fields.

*WebApp Name.* Enter the name of the Webapp for the main server engine.

8 In the Webservice Webapp panel, complete the required fields.

*WebApp Name.* Enter the name of the webapp that will be exposed as a webservice for the system.

9 In the QAD ERP Database panel, complete the required fields.

*Name.* Enter the physical name of the database.

*Host.* Enter the host for the database.

*Service Name.* Enter the service name that is accessible through a SQL connection.

*.db File Owner.* Enter the user name that owns the `.db` file. This restricts access to the appropriate tables in the database.

*QAD Client Username.* Enter the name the system can use to log in to the QAD ERP application to acquire user and groups information.

*QAD Client Password.* Enter the password the System can use to log in to the QAD ERP application to acquire user and groups information.

*QAD Version.* Select the version of the software.

*QAD Service Pack.* Select the service pack of the software.

10 In the Installed QXtend Inbound panel, complete the required fields.

*Host.* Enter the host of the QXtend Inbound installation

*Port.* Enter the Tomcat port of the QXtend Inbound installation.

*WebApp Name.* Enter the name of the QXtend Inbound WebApp.

*Receiver Name.* Enter the name of the receiver to use for the authentication and directory services.

*Source Application.* Enter the name of the source application to receive events from.

*Subscriber.* Enter the name of the subscriber that will register the profiles to the Alerts System.

*Message Sender.* Enter the message sender that the subscriber will be added to.

*Message Publisher.* Enter the message publisher that will publish the BOs.

*Username.* Enter the username for the Tomcat security.

*Password.* Enter the password for the Tomcat security.

11 In the SMTP Server panel, complete the required fields.

*SMTP Server.* Enter the SMTP server used to send alerts via e-mail.

*SMTP Port.* Enter the SMTP port to send alerts via e-mail.

*Sender Email Address.* Enter the address that messages will display as from.

*Email Authentication.* Enable or disable e-mail authentication.

*Email Username.* Enter the user name for e-mail authentication.

*Email Password.* Enter the password for e-mail authentication.

12 In the Alert Delivery Service panel, complete the required fields.

*Polling Frequency.* Enter the time (seconds) to wait idle before checking to see if there are new alerts to sent.

*Delivery Agents.* Enter the number of agents that can send messages simultaneously.

### Configure the Workflow Database

**13** In the Workflow Database panel, complete the required fields.

*Physical Name.* Enter the physical name of the database.

*Directory.* Enter the directory for the database.

*Progress Home.* Enter the location of the Progress installation.

*Port.* Enter the port that will be used to communicate with the database.

*Use Service Name.* Enable or disable the use of a service name.

*Service Name.* Enter the service name.

*Update Services File.* Enable or disable the ability to modify the services file through the installer (must have appropriate permissions).

*Admin Username.* Enter the user name for the database administrator; this is used to create and modify the schema.

*Admin Password.* Enter the password for the database administrator; this is used to create and modify the schema.

*Workflow Username.* Enter the user name the system will use to create transactions in the database.

*Workflow Password.* Enter the password the system will use to create transactions in the database.

### Configure the .NET UI Plug-in

**14** In the .NET UI Plug-in panel, complete the required fields.

*Version.* Select the version of the AppShell.

*Webapp Name.* Enter the WebApp name of the qad home.

*Tomcat Port.* Enter the port to access Tomcat.

*Tomcat Home.* Enter the home directory where the Tomcat server is installed.

*Configuration Name.* Enter the configuration name that the plug-in will be installed to.

### Configure the Workflow Toolkit

**15** In the Workflow Toolkit panel, complete the required fields.

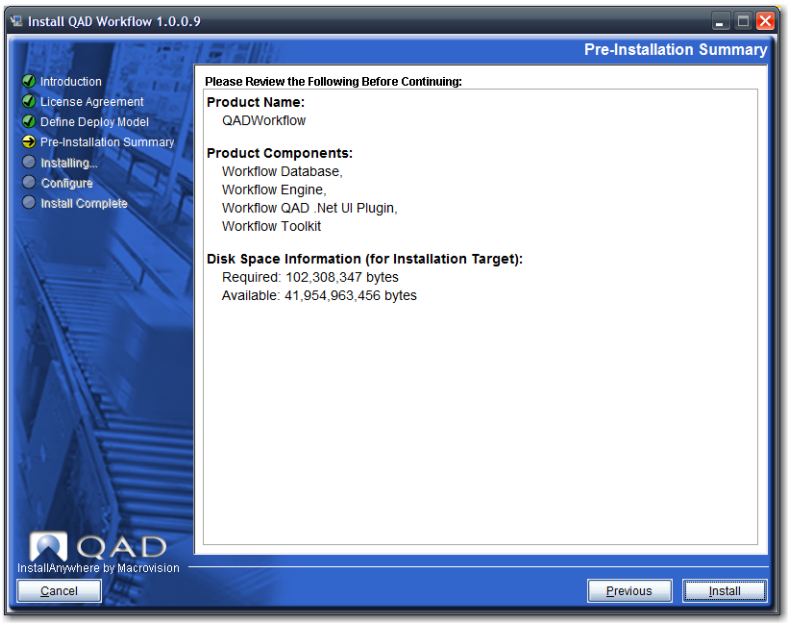
*Directory.* Enter the directory to install the tools to.

### Review the Pre-installation Summary

The Pre-installation Summary screen displays the components selected for install and disk space information.

***Note*** If no components were selected for installation on the host you are currently running, a message appears. Move to each host that is part of the installation and point to the configuration you have just created.

**Fig. 4.7**
Pre-installation Summary




Review the information and click Install to continue with the installation.

***Note*** If an error is encountered during installation, the installer pauses to allow you to correct the problem. Refer to Appendix B, “Process Control,” on page 39 for more information. If you have difficulty resolving a problem, refer to Chapter 5, “Troubleshooting QAD Workflow Alerts Installs,” on page 27.

1 After reviewing the success of the install, click Next. The Install Complete screen appears.

2 Press Done.

## Installing QAD Workflow Alerts in a Character Environment

Before installing QAD Workflow Alerts, ensure that Tomcat is running. You also should ensure that you have access permissions to the relevant folders. This procedure assumes you are performing a character installation in a Windows environment.

1 Run the GUI installer to populate the QDCS with the required parameter settings.

2 Specify an environment and host, select the components to install, and specify the required parameters.

***Note*** For information about the QDCS, see “QAD Deployment Configuration Service” on page 3.

3 Move to the host you created in Step 2.

4 Mount the CD-ROM.

5 Open an appropriate console application for your environment:

   a For Windows: Choose Start|All Programs|Accessories|Command Prompt.

   b For Linux: Any appropriate terminal. If you are running an X11 display, `xterm`, `gnome-terminal`, or `konsole` (for example) is suitable, or `bash`/`sh` for TTY displays.

6 Navigate to the `InstData` directory on the CD-ROM.

7 Navigate to the appropriate directory for your environment. For example, if in a Linux environment, navigate to the Linux directory.

8 Navigate to the `VM` directory.

9 Start the executable by entering one of the following commands:

   - On Windows: `QADWorkflow.exe -i console`
   - On AIX, Linux, or HP-UX: `sh ./QADWorkflow.bin -i console`

10 The Introduction text displays. Press Enter to continue. The first page of the License Agreement text displays.

11 Press Enter to move through and read the pages.

12 On the final page of the License Agreement, press Y to accept the terms, and then press Enter. The Log File Directory text displays.

13 Press Enter to accept the default location of the log file directory, or enter a different directory.

14 Select the Parameter Service type. Enter Y for network (the default) or N for local file.

15 The Get User Input text displays. These settings permit the use of the settings you defined using the QDCS in the GUI installer.

16 Enter the following:

   - Local parameter settings file name
   - Environment name

   ***Note*** All of the above entries are case sensitive.

17 Choose to perform an install.

18 The list of components being installed displays. Review the list and press Enter to continue.

   The installation begins, using the parameter settings stored in the QDCS.

19 The Install Complete screen appears.

***Note*** If an error is encountered during installation, the installer pauses to allow you to correct the problem. Refer to Appendix B, “Process Control,” on page 39 for more information. If you have difficulty resolving a problem, refer to Chapter 5, “Troubleshooting QAD Workflow Alerts Installs,” on page 27.

**20** After reviewing the success of the install, press Enter.

***Note*** After installing QAD Workflow Alerts, you must restart the Tomcat AppServer and start QAD Enterprise Applications.

Chapter 5

# Troubleshooting QAD Workflow Alerts Installs

This section describes how to resolve QAD Workflow Alerts installation problems.

# Overview

This section describes how to resolve any issues encountered during or after installation.

# Diagnosing the Problem

The Installation Summary screen displays three types of information about the installation:

- Status
- Detailed Messages
- Detailed Errors

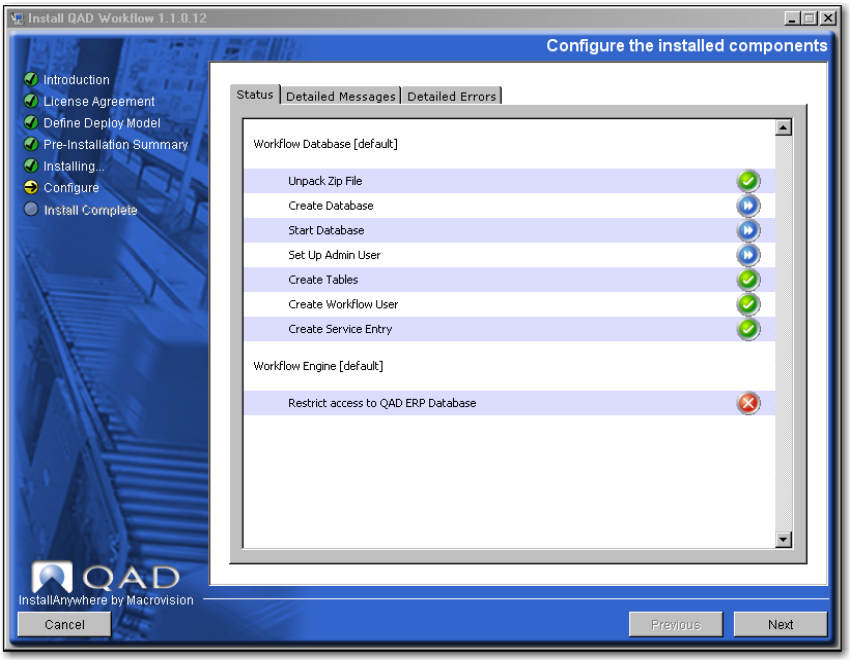
All system messages generated during installation are recorded in the install log.

## Status

The Status screen uses colored symbols to indicate the status of each component:

- A green check mark indicates the operation was completed successfully (success status).
- A red cross indicates non-fatal and fatal errors occurred (failure status).
- A blue double arrow indicates a task you can skip (previously completed or irrelevant).

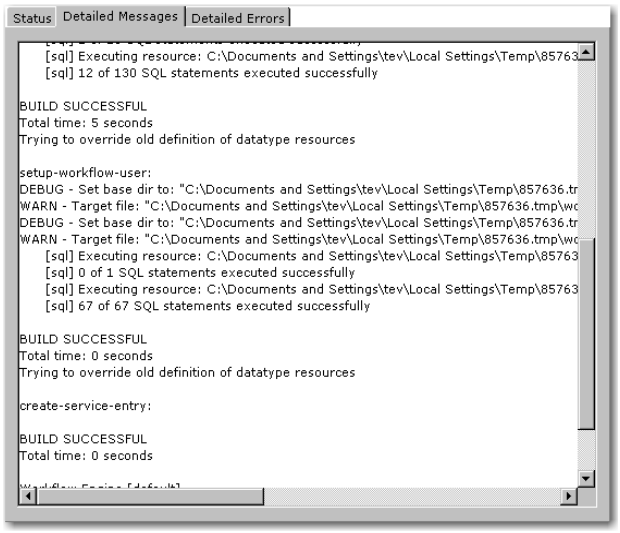
**Fig. 5.1**
Installation Status Screen




## Detailed Messages

The Detailed Messages screen displays a record of all status messages generated during the installation process. All the messages displayed are logged in the install log file.

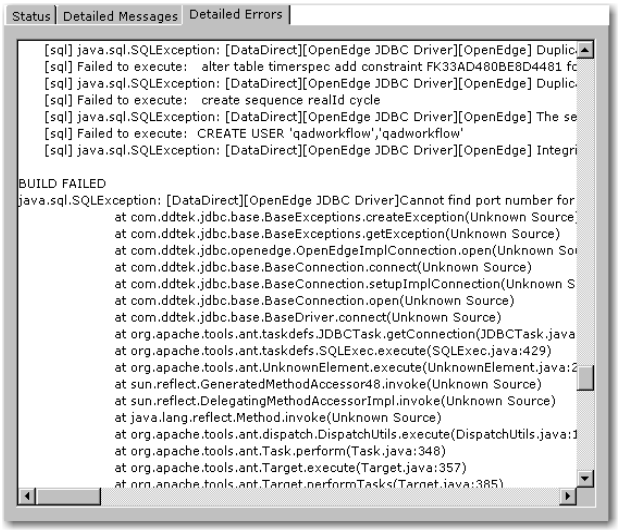
**Fig. 5.2**
Installation Detailed Messages Screen




## Detailed Errors

The Detailed Errors screen shows a log of any fatal system errors encountered during the installation. These system errors are typically out of your control and will display, for example, if the Java or Progress executable is corrupted. These messages indicate a serious problem with the system. Some of these errors are recorded in the install log file.

**Fig. 5.3**
Installation Detailed Errors Screen




## Checking repository.xml

The installer keeps the installation configuration and status of all install-related tasks in the install `repository.xml` file.

***Note*** Do not modify this file manually. Instead, modify it through the GUI installer (refer to “Installing QAD Workflow Alerts in a GUI Environment” on page 16). You are also able to modify the status of routines and modules. For more information refer to “Using Process Control” on page 40.

The `repository.xml` file can give you a high-level view of the success of an install, particularly when doing a console install, which presents less information.

Figure 5.4 shows the contents of a typical `repository.xml` file.

**Fig. 5.4**
repository.xml File


```
<?xml version="1.0" encoding="UTF-8"?>

<repository>
  <environment name="wftest" createDate="2010-07-07 16:00:45 +1000">
    <product name="QADWorkflow" version="1.0.0" servicePack="IR">
      <global>
        ...
      </global>
      <defaultconfig/>
      <host hostname="xxx">
        <component name="Workflow Database" copy="default">
          <install status="Complete" moduleStatus="Complete">
            ...
          </install>
          <parameters>
            ...
          </parameters>
        </component>
        <component name="Workflow Toolkit" copy="default">
          <install status="Complete" moduleStatus="Complete">
            <routines>
              <routine name="install" status="Done"/>
            </routines>
          </install>
          <parameters>
            ...
          </parameters>
        </component>
      </host>
    </product>
  </environment>
</repository>
```

A `repository.xml` file has the following features:

1. Environment: The name attribute is the environment set during the installation.
2. Product: There may be more than one product in the environment. You need to verify that the name and version match the targeted install.
3. Host: There can be multiple hosts in an installation. Verify that this is the correct one.
4. Routine: These are granular tasks that the installer performs. A group of routines make up a component. Routines can have a status of Done, Skipped, Error, or Pending.

5 Component: The component node is the parent to the status and the parameters. Check the component name and proceed to observe the install nodes.

   a Status: The status of that particular component instance (indicated by the copy attribute). It can be:

      - Complete if all routines are marked as Done
      - Forced Complete if any routine is marked as Skipped
      - Incomplete if any routine is marked as Pending or Error

   b ModuleStatus: The status of all the instances of a component. If there are three instances (indicated by copy), all three must have a status of Complete or Forced Complete before the ModuleStatus is marked as Complete.

Checking the status of a component (more specifically a routine) will lead you to the installation step that failed. This makes the installation log easier to navigate because you know what to look for.

The `repository.xml` file is located under the `data` directory in the QADDeployService servlet in the `tomcat/webapps` directory. If you are using a local file, `repository.xml` is in the location specified during the install.

## Reading the Installation Log

The Workflow Alerts installation log, named `QXTEND-InstallLog-<TimeStamp>.log`, resides in the configured directory that was chosen when running the installer. The log file captures all of the standard output from the JVM during the install. If you are running the GUI installer, this is the same as the Detailed Messages tab.

If an error occurred, you can read the log file during or after the install. If the pause occurred during installation (see Appendix B, “Process Control,” on page 39), you can look at the file without exiting the installer. In some cases, you can fix the problem and rerun the routine that failed.

If the installation process completed with a non-fatal error, you can identify the error by looking in the `repository.xml` file (see “Checking repository.xml” on page 29). To find the problem, look for the component that owns the failed routine. Then search the log file for the beginning of that component by finding the name followed by the instance in square brackets:

```
QXtend Inbound Servlet [default]
================================================
```

The failed routine will have a corresponding ant task you can find by looking for a similarly named ant task to the failed routine:

```
add-tomcat-users:
   [copy] Copying 1 file to /qad/tomcat-164-8110/conf
   [xslt] Processing /qad/tomcat-164-8110/conf/tomcat-users.xml.bak
   to /qad/tomcat-164-8110/conf/tomcat-users.xml
   [xslt] Loading stylesheet
   /tmp/656641.tmp/resources/Transformations/tomcat-users.xsl
```

If the routine is successful, you will see a message similar to this:

```
BUILD SUCCESSFUL
Total time: 1 second
Trying to override old definition of datatype resources
```

If the routine is unsuccessful, you will see a message similar to this:

```
BUILD FAILED
java.net.ConnectException: Connection refused
```

The failure message will include a Java stack trace of the error. Stack traces are sometimes hard to understand. Thus, QAD provides Helpful Hints when the installer pauses for an error.

Reading the steps around the error may provide clues about its cause.

# Environment Issues and Common Mistakes

This section describes problems that may occur during Workflow Alerts installation. For more detailed information regarding potential installation issues, refer to the QAD Knowledge Base or contact QAD support.

## No X11 DISPLAY variable was set

This error appears when trying to run the install in a console that does not have GUI capabilities. To run the installer in console mode, add the `-i console` option to the command.

## Unable to Deploy

If the Web applications do not deploy properly, it may be caused by Tomcat failing to fully start during the install. Verify that the Tomcat server is fully operational. A good test is to access the Manager application in your browser. If it is running, but produces out-of-memory exceptions, you can increase the maximum and default Tomcat heap size (`-Xmx` and `-Xms`). Refer to the documentation for your operating system.

## Cannot Connect to Database

The install log may report that the database cannot be reached, or that the user is not authorized to access those tables. In either case, verify the database setup and connection parameters. You can use `sqlexp` to verify that a connection is possible.

## Default Configuration

The QAD Workflow Alerts installation loads some configuration information to QXtend, as well as its own configuration database. These requests and responses can be found in the logs directory.

## No Features to Install on this Host

The following message may appear during Workflow Alerts installation:

> The information stored in the QAD Deployment Configuration Service indicates that there are no features to install on this host (xxx). If this is unexpected, you may wish to re-run the installer on a Windows or X-Platform and update the configuration. If this is correct, then continue the installer on the next host. The installer will now exit.

This message is simply an indication there are no installs to do on the machine on which you are running the install. You can continue the install on the servers you are using.

This message can display for a number of reasons:

- In a multi-tier install, when you first run the installer on a PC, it builds the QAD Deployment Service (QADDeployService.V1), interrogates the user for configuration values (data gathering), and then attempts to see if it should also deploy on the same PC. Generally the answer is no because you are just building the configuration data through a GUI interface, but you plan to deploy the components on a different server or servers. In this case you can safely ignore the message and proceed.
- During `QXtend.bin -i console`, you were prompted for an environment to install and entered an invalid environment name. Most likely, when you ran the installer, you provided an environment name like Test, Prod, and so on. If your answer was not valid, the installer looks in the `respository.xml` file for an environment tag called *<what you entered>*. The tag will not be there, resulting in “nothing to install on this Host” message. If you forgot your environment name, you can check the `respository.xml` file for the name you provided. You can alternately run a GUI installer and observe the option at the environment selection screen. Then rerun the installer.
- To determine if an incorrect host name was entered, compare `xxx` from the error message with the result of `hostname` or equivalent command in a console window. When using the QXtend installer, you should always use the shortened host name (do not include the domain).

## IATEMPDIR Space

The installer needs to self-extract a number of files before it can run. This can cause an error before the installer finishes loading, particularly when using the bundled Java VM. This occurs because there is not enough space in the default extract location. To resolve this, you can set the environment variable `IATEMPDIR` to a storage area with sufficient space for the extracted installer.

## Java Memory

If you experience out-of-memory errors during installation before the installer finishes initializing, do the following:

1. Create a directory called `bin` under `$HOME` as user `mfg`.
2. Create a file named `java` under the `bin` directory and add following parameters in the file:
   - `- /opt/java1.5/bin/java -verbose -Djava.awt.headless=true -XX:HeapDumpOnOutOfMemoryError -client`
   - `-Xms1024M -Xmx2048M $@`
   - Set `JAVA_HOME` to `$HOME/bin`.
   - Add `$HOME/bin` in the beginning of the `PATH`.

The installer should now be able to complete the installation process.

Appendix A

# Typical Installation Parameters

This section describes the typical parameters provided for basic QAD Workflow Alerts installations.

# Overview

QAD Workflow Alerts provides a simplified installation process using a default Workflow Alerts configuration bundled with the product to automatically populate the various installer fields.

If you want to modify any of default configuration parameters, use the Workflow Alerts advanced installation mode.

# Tokens

Tokens enable you to reference parameters from other fields dynamically. Any parameter name can be used as a token by encasing the parameter name in @ symbols. The tokens also work recursively.

For example, to resolve `QXODB_DIR`:

```
QXODB_DIR = @QXOSERVER_DIR@/db
QXOSERVER_DIR = @GLOBAL_QXTEND_DIR@/qxoserver
GLOBAL_QXTEND_DIR = /qad/qxtend
```

The result is:

```
QXODB_DIR = /qad/qxtend/qxoserver/db
```

Values are stored as tokens in the repository and resolved at runtime during configuration in the UI, or at runtime as ant properties.

***Note*** During configuration, hovering over a field label shows you the corresponding parameter name. If you hover over the field itself, the fully resolved parameter is shown as a tool tip.

# Parameters

The following table describes the parameters provided with the default Workflow Alerts configuration.

**Table A.1** Default Workflow Alerts Installation Parameters

| Group | Description | Setting |
|---|---|---|
| Tomcat | Tomcat Home | <mandatory field> |
| | Tomcat Admin User | admin |
| | Tomcat Admin Password | mfgpro |
| | Tomcat Port | 8080 |
| Server WebApp | WebApp Name | workflow-server |
| Web Service | WebApp Name | workflow-webservice |

Table A.1 — *Default Workflow Alerts Installation Parameters* ( (Page 1 of 3)

| Group | Description | Setting |
|---|---|---|
| SMTP Server | SMTP Server | <mandatory field> |
| | SMTP Port | 25 |
| | Sender E-mail Address | "QAD Alerts" <alerts@qad.com> |
| | E-mail Authentication | False |
| | E-mail Username | |
| | E-mail Password | |
| QAD ERP Database | Name | <mandatory field> |
| | Host | localhost |
| | Service Name | <mandatory field> |
| | .db File Owner | mfg |
| | QAD Client Username | mfg |
| | QAD Client Password | |
| | QAD Version | QADSE |
| | QAD Service Pack | 2010+ |
| QXtend Configuration | Host | localhost |
| | Port | 8080 |
| | WebApp Name | Qxi |
| | Username | admin |
| | Password | mfgpro |
| | Receiver Name | QADERP |
| | Source Application | QADERP |
| | Subscriber | AlertSub |
| | Message Sender | MS1 |
| | Message Publisher | MP1 |
| Alert Delivery Service | Polling Frequency | 30 |
| | Delivery Agents | 2 |
| Wokflow Database | Physical name | qadworkflow |
| | Directory | <mandatory field> |
| | Progress Directory | <mandatory field> |
| | Port | 3390 |
| | Use Service Name | false |
| | Service Name | qadworkflow-service |
| | Update Services File | false |
| | Admin User | admin |
| | Admin Password | mfgpro |
| | Workflow User | qadworkflow |
| | Workflow Password | qadworkflow |

Table A.1 — *Default Workflow Alerts Installation Parameters* ( (Page 2 of 3)

| Group | Description | Setting |
|---|---|---|
| .NET UI Plug-in | Version | 2.9.1 |
| | WebApp Name | qadhome |
| | Tomcat Port | 8080 |
| | Tomcat Home | <mandatory field> |
| | Tomcat Username | admin |
| | Tomcat Password | mfgpro |
| | Configuration Name | qadui |
| Workflow Alerts Toolkit | Workflow Toolkit Directory | <mandatory field> |

Table A.1 — *Default Workflow Alerts Installation Parameters* ( (Page 3 of 3)

Appendix B

# Process Control

This section describes QAD Workflow Alerts installation process control.

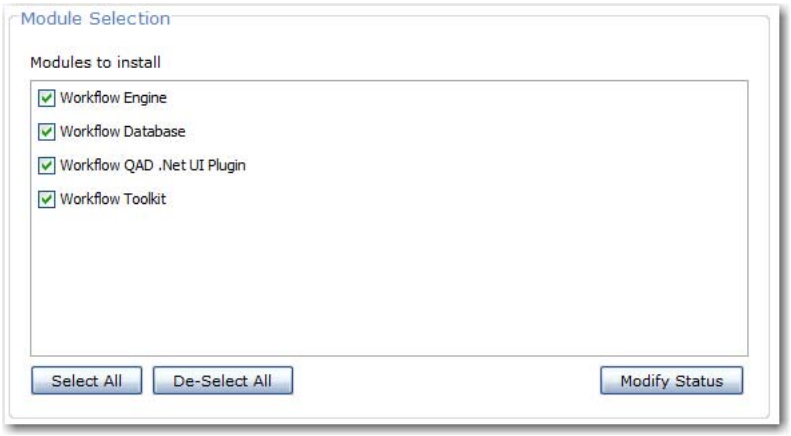
# Overview

Process Control provides a higher level of control of the installation that can greatly enhance the efficiency of performing an install.

# Using Process Control

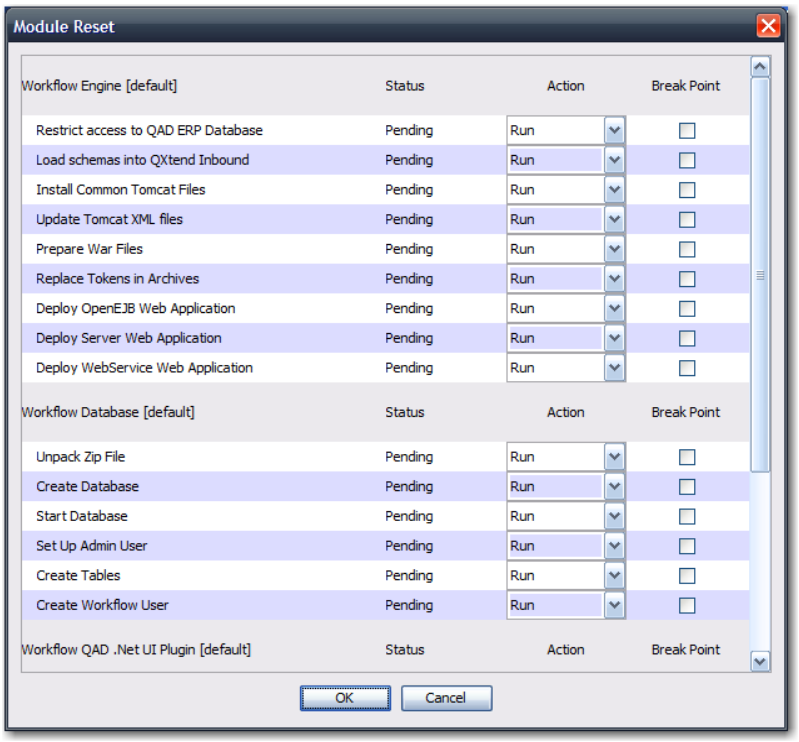
Click the Modify Status button on the Module Selection Screen.

**Fig. B.1**
Module Selection Screen




The Modify Status pop-up appears.

**Fig. B.2**
Modify Status Pop-up



Changing the action via the selection lists enables you to run, rerun, or skip each of the routines. This may be useful to skip redundant tasks that were run in previous installs, such as installing the common Tomcat files, or to rerun a specific routine such as creating the Workflow Alerts database tables.

***Note*** All routines are included for a reason; skipping a routine means an install is potentially incomplete and may not work. Only skip routines that are definitely not needed.

Checking the breakpoint boxes enables you to preemptively pause the installer before the routine runs if you want to pay particular attention to a part of the install.

If the installer encounters an error while running, it will pause, allowing you to fix environment problems on the fly. For example, if Tomcat is not running when it tries to deploy the servlets, the installer will pause. You have the chance to investigate through the log file (see Appendix A), see that Tomcat was not started, and start-up Tomcat. The installation continues as if nothing happened.

**Fig. B.3**
Console Prompt After an Error

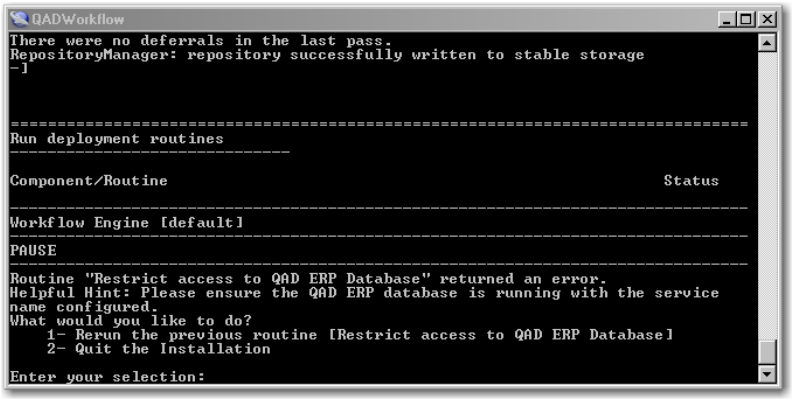
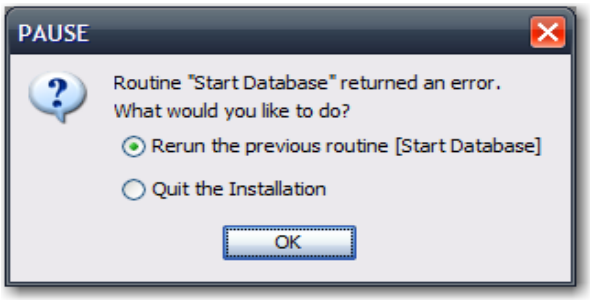



**Fig. B.4**
GUI Prompt After an Error




***Note*** Errors that you cannot fix are configuration mistakes inside the repository file. For instance, if you forgot to add a custom element to the compile PROPATH, you cannot add it after the installer starts installing and rerun the routine after it fails. You must restart the installer and let it pick up the new value.

# Index