



Installation Guide

QAD Customer Relationship

Management

Overview
Installation
Post-Installation Configuration
Upgrade
Compilation with Progress 64 Bit

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QAD CRM 6.4.3
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Overview

This chapter provides an overview of QAD Customer Relationship Management (QAD CRM) and its enterprise-wide deployment. It discusses the following topics:

Overview 2

Installation 3

Configuration 5

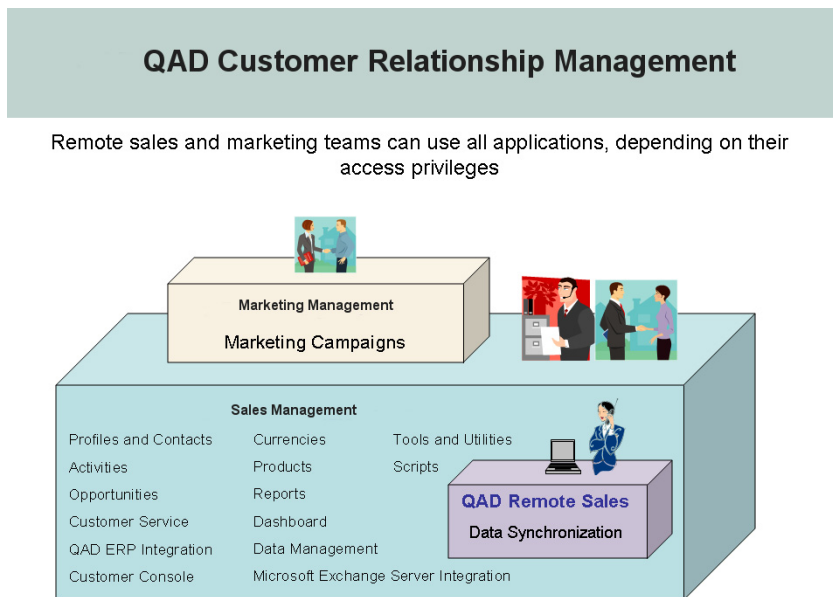
Integration 5

Overview

QAD CRM is a comprehensive business-generating system that consists of several applications:

- QAD Sales Force Automation (QAD SFA). This is the core of the system that is designed to help you streamline sales efforts by managing your contacts, activities, business opportunities, product details, and so on.
- QAD Remote Sales. This is an optional stand-alone version of QAD CRM that lets remote sales personnel synchronize their data with the host database.
- QAD Marketing Automation. This optional application provides comprehensive campaign management features designed to streamline marketing efforts. All modules available in QAD Sales Force Automation are included in QAD Marketing Automation.

Fig. 1.1
QAD CRM Functional Areas



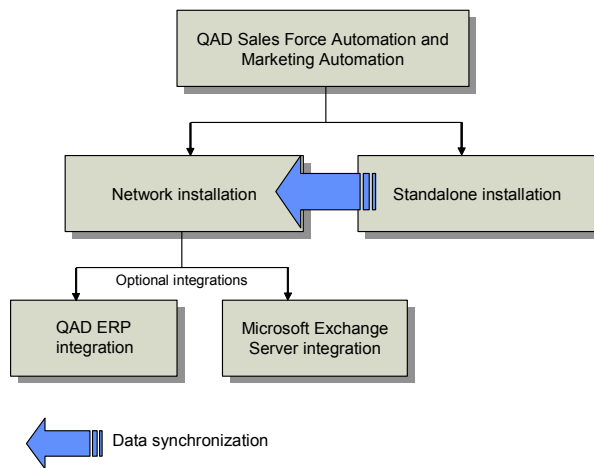
QAD CRM applications can communicate with each other to share information. For example, sales and marketing departments can share details of customers, prospects, partners, and suppliers through the application they use. The system ensures organizational and departmental data security by selectively restricting user access to data.

The system can integrate and synchronize data with different versions of QAD EE and QAD SE, as well as Microsoft Exchange Server 2003/2007.

When remote users synchronize data in their personal database with the host databases, they indirectly synchronize data with the integrated system.

You can install QAD CRM across the enterprise network as a client/server application. QAD Remote Sales is installed on remote computers as a stand-alone application.

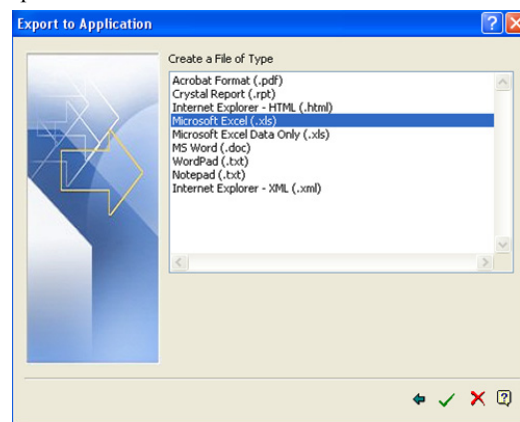
Fig. 1.2
Installation Overview



The system also integrates with other third-party applications—Microsoft Word 2003/2007, Microsoft Excel 2003/2007, Crystal Report XI, and Phone Dialer—to support various functions. For example, you can create business letters using Microsoft Word templates registered in the system.

Microsoft Word is required if you want to use the mail merge feature to create letters to contacts, send marketing literature to your targeted audience, or print quotes. One specific report—installed base report—requires Microsoft Excel integration. Both Word and Excel are required for integration with Crystal reports, which lets you export reports to a number of standard Microsoft Office document formats supported by QAD CRM.

Fig. 1.3
Crystal Report Export



The architecture, features, and functionality of the system meet enterprise requirements of reliability, scalability, flexibility, and maintainability.

Installation

You can install QAD CRM across the enterprise network as a client/server application. QAD Remote Sales is installed on remote computers as a stand-alone application.

To install the system you should be familiar with the following technologies and products:

- Progress
- TCP/IP networking
- QAD CRM
- QAD EE/SE
- Microsoft Exchange Server 2003/2007
- UNIX or Linux
- Text editors

Installing QAD CRM on a Network

- 1 Ensure that your hardware and software infrastructure meets the minimum requirement criteria for installation.
- 2 Plan the network installation.
- 3 Ensure that all required Progress components are installed.
- 4 Set up the system on the file and database servers:
 - a Install and configure program components on the file server.
 - b Set up the database server.
 - c Configure the servers to communicate with clients.
 - d Set up the system installation environment to integrate with QAD Enterprise Applications.
 - e Prepare the AppServer environment to support Microsoft Exchange Server 2003/2007 integration, QAD Enterprise Applications (Enterprise Edition) integration and Remote Sales data synchronization.
- 5 Set up the clients:
 - a Edit various files on the server to specify the correct information based on the network architecture.
 - b Install Progress on client computers.
 - c Install the clients.
- 6 Start the database and file servers. Then start the client sessions that connect to them.

Installing QAD Remote Sales

- 1 From QAD CRM:
 - a Create remote or regional nodes.
 - b Enable data synchronization.
 - c Create host database subset.

- 2 On the remote computer(s):
 - a Ensure that the hardware and software configuration of remote computers meet the minimum requirement criteria for installation.
 - b Install Progress Personal Database.
 - c Install QAD Remote Sales.
 - d Load the host node subset onto the Progress Personal Database.
 - e Enable data synchronization.

Configuration

You must configure QAD CRM according to the requirements of your company. Configuration tasks can be categorized as mandatory or functional.

- Mandatory tasks include setting up the system for enterprise-wide use by configuring business unit details, administrator profile, base currency, and so on. When you start the system after installation, you can configure it with mandatory information by using the Configuration Wizard.
- Functional tasks include configuring user profiles, teams, menus, reports, templates, system settings, and so on by using the system setup modules.

Integration

You can integrate the system with your QAD ERP application and Microsoft Exchange Server 2003/2007 to enhance its scope.

Integration with QAD Enterprise Applications

Various modules of your QAD ERP application can be integrated with QAD CRM through CIM, QXtend, database, and session triggers to provide efficient and fast online integration. QAD CRM supports integration with multiple domains of QAD ERP.

For integration purposes the databases must run in multi-user mode and must always be available. The file server that holds QAD ERP application programs must include certain QAD CRM programs. Similarly, the file server that holds QAD CRM programs must contain certain QAD ERP application programs.

After configuring the applications you can enable and configure the integration as required. You can then perform the initial data transfer between the integrated systems.

Integration with Microsoft Exchange Server

By integrating the system with Microsoft Exchange Server 2003/2007 you can:

- Send e-mail messages from the system using the Microsoft Outlook client.
- Maintain references to e-mail messages stored in Microsoft Outlook in the system.

- Synchronize activity and contact details between the system and Microsoft Exchange Server 2003/2007.
- Synchronize data sent using e-mail messages between the stand-alone version and network version of the system.

For the integration you must install QAD AdminService, which communicates with Microsoft Exchange Server 2003/2007 and its components for the integration. You must also install various components on QAD CRM File Server and QAD CRM client and register custom forms in Exchange organization library in order to enable integration with Exchange Server 2003/2007.

Installation

This chapter describes how to install QAD Customer Relationship Management (QAD CRM). It discusses the following topics:

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Planning an Installation

This section describes topics you should understand before installing QAD CRM.

If you have experience installing QAD CRM from previous versions, numerous changes have occurred to the installation process.

A QAD CRM installation can be one of three types:

- A new installation.
- A Service Pack installation.
- An installation to support a conversion from an earlier QAD CRM version to the current release (upgrade).

This section only describes how to perform a new installation. To perform a new install, you must plan for the following:

- 1 An installation addressing:
 - Test and production databases
 - QAD ERP application integration (optional)
 - Exchange Server integration (optional)
 - QAD Remote Sales (optional)
- 2 QAD CRM database configuration, including any custom and other side databases.
- 3 The resulting network, disk, and client layouts.

Security Plan

A successful QAD CRM installation requires a complete security plan. During installation, full permissions are required for system and application tools that are used to load, edit or delete data. In addition, to install the system on a network, you require administrator privileges as installation programs create registry entries and may update some system files that require administrator rights.

In addition, to integrate Exchange Server, you need to create one user, `qadsfama`, in Active directories with full administrative access.

A security plan typically consists of:

- 1 Operating-system-level security for tools such as:
 - Progress Editor
 - Progress Data Administrator
 - Progress Application Compiler
- 2 Operating-system login security.
- 3 Operating-system permissions and ownership set appropriately for:
 - Database files
 - Log files
 - Application source and compiled source files

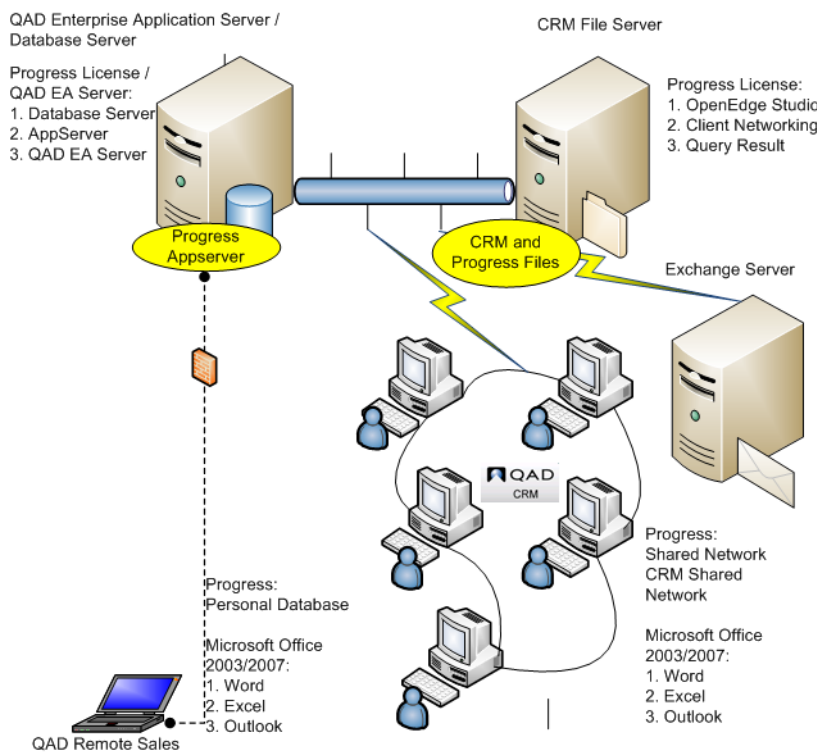
- Application startup and shutdown scripts
- Registry

Deployment

You can install QAD CRM on UNIX/Linux and Windows servers. QAD CRM has three components:

- Database server
- File server
- QAD CRM clients

Fig. 2.1
QAD CRM Deployment



Database Server

The database server consists of the QAD CRM databases. You build these databases as part of the installation. You first create empty databases, then use the empty databases as a template to build test, production, training, development and other databases. Clients connect to these databases directly or through a file server. QAD CRM stores information in the `bisgen`, `bisgmenu`, and `dataexch` databases.

File Server

The file server is the location of the QAD CRM encrypted code, compiled specifically for this machine. The resulting `.x` code is run by the connected clients.

QAD CRM Clients

QAD CRM has two types of clients:

- **Connected client.** A client setup is required for connecting to the database server and Windows file server. Client setup copies system files to the client PC and creates necessary icons. The resulting client runs the source code on the file server and accesses the databases on the database server.
- **QAD Remote Sales.** This is an optional stand-alone version of QAD CRM that lets remote sales personnel use the system in an offline mode and synchronize data with the host database. A client setup is required to install QAD Remote Sales and perform data synchronization.

QAD ERP Application Integration

You can integrate various modules of QAD Enterprise Applications with QAD CRM through QAD QXtend (in the case of QAD EE), CIM through Progress AppServer (sales order transfer), database and session triggers.

For the integration, QAD Enterprise Applications and QAD CRM databases must run in multi-user mode and always be available. The file server that holds QAD ERP application programs must include certain QAD CRM programs. Similarly, the file server that holds QAD CRM programs must contain certain QAD ERP application programs.

QAD recommends that you deploy:

- QAD CRM and QAD ERP application databases on the same database server.
- The Progress AppServer on the database server.

Exchange Server Integration

You can integrate various modules of Microsoft Exchange Server 2003/2007 (e-mails, appointments, tasks, and contacts) with QAD CRM. For integration you must install QAD AdminService. The QAD AdminService is a Windows service that communicates with Microsoft Exchange Server 2003/2007 and QAD CRM using Progress AppServer. QAD CRM runs QAD AdminService on the file server machine.

QAD recommends deployment of Progress AppServer on the database server.

Network, Disk, and Client Layout

The databases and program files can reside on the same Windows server. Using the same server enhances system performance. However, if there are many clients, you should use separate servers for resource sharing.

The servers must be easily accessible by clients running on workstations across the network. They must have sufficient free hard disk space to accommodate operations performed by system users.

At a machine level, QAD recommends deployment of QAD CRM databases on a database server and software on a file server separate from the database server.

System Requirements

This section describes hardware and software requirements for deploying QAD CRM.

General Requirements

The system administrator must be an experienced Progress database administrator with experience managing Progress client processes. Before installing QAD CRM, Progress must be installed following the instructions in the Progress installation guide. The Progress install for each platform may include UNIX kernel changes and patches.

Database Server

The database server contains QAD CRM and Progress server software, as well as your production data. You should estimate the final size of your production database and the demands placed on different components of the database before starting an installation so that you can lay out your disks appropriately.

Table 2.1
Hardware Requirements for Database Server

Hardware Component	Minimum Requirement
Processor	Pentium 4 2.80 GHz, dual processor or above
RAM	2 GB For better performance, use 4 GB RAM or more.
Hard disk	8 GB The hard disk requirement may be more, depending on the number of: • Environments you want to create. The environments are compilation, test, and production. • Users that will connect to the server.
Others	SVGA color monitor High-speed 100MB Ethernet card CD-ROM drive

Table 2.2
Software Requirements for Database Server

Software Component	License Type	Version
Progress	Enterprise Database Server	10.1C03, 10.2A02, 10.2B01
Progress	AppServer Enterprise	10.1C03, 10.2A02, 10.2B01
Operating System		UNIX/Linux/Windows 2008/Windows 2003

File Server

The file server requirements cover shared client requirements.

Table 2.3
Hardware Requirements for File Server

Hardware Component	Minimum Requirement
Processor	Pentium 4 2.80 GHz, dual processor or above
RAM	2 GB For better performance, use 4 GB RAM or more.
Hard disk	8 GB The hard disk requirement may be more, depending on the number of: • Environments you want to create. The environments are compilation, test, and production. • Users that will connect to the server.
Others	SVGA color monitor High-speed 100MB Ethernet card CD-ROM drive

Table 2.4
Software Requirements for File Server

Software Component	License Type	Version
Progress	OE Studio	10.1C03, 10.2A02, 10.2B01
Progress	Client networking	10.1C03, 10.2A02, 10.2B01
Progress	Query Result	10.1C03, 10.2A02, 10.2B01
Operating System		Windows 2008/Windows 2003

QAD CRM Connected Clients

The requirements for connected client PCs assume that all shared files are on a file server and all databases on a database server.

Table 2.5
Hardware Requirements for Client

Hardware Component	Minimum Requirement
Processor	Pentium 4 3.00 GHz processor
RAM	1 GB For better performance, use 1 GB RAM or more.
Hard disk	2 GB
Others	SVGA color monitor Network card Ethernet connection running TCP/IP protocol

Table 2.6
Software Requirements for Client

Software Component	License Type	Version
Operating System		Windows 2003/XP/Vista/2008/7

QAD ERP Application Integration

Table 2.7
Requirements for QAD ERP Application Integration

Technology Component	Server	Client
QAD ERP application	QAD 2007.1 SE, QAD 2008 SE, QAD 2008.1 SE, QAD 2009 SE, QAD 2009 EE, QAD 2009.1 EE, QAD 2010 SE, QAD 2010 EE, QAD 2010.1 EE	QAD 2007.1 SE, QAD 2008 SE, QAD 2008.1 SE, QAD 2009 SE, QAD 2009 EE, QAD 2009.1 EE, QAD 2010 SE, QAD 2010 EE, QAD 2010.1 EE

Technology Component	License Type	Version
QXtend		1.7.0.15, 1.6.3 NOTE: QXtend is required only if QAD CRM is to be integrated with QAD ERP Enterprise Edition (EE). It is NOT required for integration with QAD ERP Standard Edition (SE).

Technology Component	License Type	Version
AIM		3.0.6

Microsoft Exchange Integration

Table 2.8
Requirements for Microsoft Exchange Server 2003/2007 Integration

Technology Component	Server	Client
Microsoft	Microsoft Exchange Server 2003 / Microsoft Exchange 2007	Microsoft Outlook 2003, Microsoft Outlook 2007

QAD Remote Sales

Table 2.9
Hardware Requirements for QAD Remote Sales

Hardware Component	Minimum Requirement
Processor	Pentium 4 3.00 GHz processor
RAM	1 GB For better performance, use 1 GB RAM or more.
Hard disk	4 GB
Others	SVGA color monitor Network card Ethernet connection running TCP/IP protocol CD-ROM drive

Table 2.10
Software Requirements for QAD Remote Sales

Technology Component	License Type	Version
Progress	Personal database	10.1C03, 10.2A02, 10.2B01
Operating System		Windows Vista/XP/7

Users can synchronize data in QAD Remote Sales with data in the host database using Progress AppServer. VPN access to office network is required.

Table 2.11
Progress AppServer Synchronization Requirements

Method	Technology	Server	QAD Remote Sales Client
Progress AppServer	Progress	QAD CRM	VPN Client

Table 2.12
Microsoft Office Integration

Technology Component	License Type	Version
Microsoft Office		2003/2007

MS Office needs to be installed on CRM remote nodes and connected CRM clients. If you want to run CRM directly from the file server using Citrix or RDP, you need to install MS Office on the CRM file server as well. MS Word is used in CRM for sending letters, printing opportunity quotes, and so on; MS Excel is used to display CRM browser data in various modules and as an output channel for reporting purposes. MS Excel is also used by one specific report—Installed Base Report.

Network

Set up your network to support the Progress specifications. The minimum requirement is a 10 Megabit (Mb) Ethernet or faster network. For better maintenance and performance, QAD recommends the following:

- Install Progress Database and AppServer components on the database server.
- Install all Progress client components (Client Networking and Query result) on the file server.
- If you are integrating or planning to integrate with an QAD ERP application, use the same database server and Progress database and AppServer components used by QAD Enterprise Applications.

- 100 Megabit (Mb) Ethernet or faster network.

Installing Progress Components

The system requires various Progress components for deployment. If these components are not already installed, you must install them before system deployment.

Progress Components on the Database Server

The following Progress components must be on the database server:

- Progress Enterprise database server
- Progress AppServer

QAD recommends deployment of Progress AppServer on the database server.

Progress Components on the File Server

The following Progress components must be on the file server:

- Progress OE Studio, Client Networking, and Query Result. These licenses are shared by clients from a central location in the network. They can also be installed on individual workstations. Though installation on workstations is not recommended, it may be considered where the network traffic speed is slow. For increased efficiency, QAD recommends that you install the Client networking and Query Result components in the QAD CRM file server.
- Progress Query Result license. This license is required for the GDI module only (importing data from external sources into the system database).

Note For details on installing Progress components, refer to the Progress Software installation guides.

Setting Up the File Server

After planning the deployment and installing all Progress components, you can install the system from the installation CD. You can also download QAD CRM from QAD web site.

The first step is to set up the file server. The file server:

- Contains all program files
- Manages file sharing
- Manages system security
- Coordinates communication between workstations

Installing QAD CRM Program Files

To load the installation media, you must have Administrator privileges on the file server machine. Close all other applications before beginning the installation process.

Other applications or tasks might interfere with the installation or use files that CRM needs to complete the installation. Shut down any processes where the executable itself, or a file used by the executable, is located in the directory where you intend to install CRM.

Use the following steps to install QAD CRM components on the file server:

- 1 Launch the installation program from the installation medium you plan to use as described in the following table:

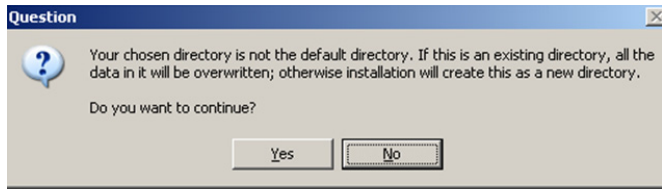
For this Installation medium...	Do the following...
CD	Insert the CD into the drive. If it does not run automatically, double click <code>setup.exe</code> in the root directory of the CD to start the installation.
DVD	Double click the <code>setup.exe</code> in the root directory to start the installation.
Software Distribution download	Download all the files to a folder (e.g <code>c:\qadcrmmedia</code>), double click <code>setup.exe</code> to start the installation.

- 2 On the QAD CRM Setup Wizard Welcome screen, click Next.

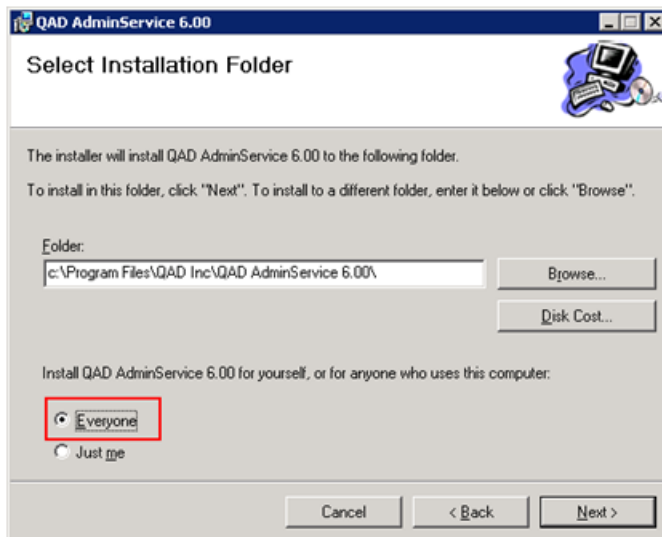
If QAD CRM 6.1, CRM 6.2 or CRM 6.3 is found on the system, a warning message asks you whether you want to continue with the installation. Click Yes to proceed or No to abort the setup.

Note QAD recommends that you uninstall any previous versions of QAD CRM prior to installing the latest release. However, this warning message only appears when CRM 6.1, CRM 6.2, or CRM 6.3 is installed on your computer.

- 3 Setup checks for supported versions of Progress on the computer.
 - If no compatible Progress version is found, Setup displays an error message and aborts the installation.
 - If more than one Progress versions are installed on the computer, Setup first checks for Progress 10.2B01. If it cannot find that version, it checks for 10.2A02 and then 10.1C03.
- 4 Setup checks for Microsoft .NET Framework 1.1 on the system.
 - If Microsoft .NET Framework 1.1 is already installed, skip to the next step.
 - If Microsoft .NET Framework 1.1 is not found, the installer will install it and MS .NET Framework 1.1SP1. Setup prompts you to install the component. Click Yes to install Microsoft .NET Framework 1.1. Setup Wizard will install the component.
- 5 Setup checks for Microsoft .NET Framework 3.5 SP1 on the system.
 - If Microsoft .NET Framework 3.5 SP1 is already installed, skip to the next step.
 - If Microsoft .NET Framework 3.5 SP1 is not found, Setup prompts you to install the component. Click Yes to install Microsoft .NET Framework 3.5 SP1. Setup Wizard will install the component.
- 6 The Destination Location screen appears. Accept the default installation directory and click Next. If you specify another directory other than the default location, you will see the following message:



- 7 In the Program Folder Name screen, specify the program folder name for QAD CRM and click Next.
- 8 In the QAD CRM Setup Confirmation screen, review the selected setup options. To change the options, click Back; click Install to start the installation process.
- 9 If the Crystal Distribution package is not installed on the computer, the Crystal Distribution Setup Wizard screen appears. Follow the on-screen instructions to complete the installation of this component.
 - a On the Crystal Distribution Setup Wizard Welcome screen, click Next.
 - b On the Select Installation Folder screen, click Next.
 - c On the Confirm Installation screen, click Next.
 - d When installation is complete, click Close.
- 10 If QAD AdminService is not installed, the AdminService Setup Wizard screen appears. Follow the on-screen instructions to complete the installation of this component.
 - a On the QAD AdminService Setup Wizard Welcome screen, click Next.
 - b On the Select Installation Folder screen, check the installation folder and change if required. Select "Everyone" from the installation option and click Next.



- c On the Confirm Installation screen, click Next.
- d Select English (United States) from the language list and then click OK.

- e When Installation is complete, click Close. The Installation Log screen appears.
 - f Select the “I would like to view the Installation Log file” check box and then click Finish. The log file is opened in Microsoft Windows Notepad.
 - g Check the log file for errors. Errors begin with two asterisks (**) in the log file. Contact QAD Support if errors are found.
- 11 When QAD CRM installation is complete, Setup creates the following QAD CRM shortcut icons in the QAD CRM program folder.
- QAD CRM Application Compiler: Compiles encrypted system programs.
 - QAD CRM Help: Launches QAD CRM online help.
 - QAD CRM Demo: Launches the QAD CRM demo environment. To log in to the demo environment, use the username demo and leave the password blank.
 - QAD CRM Upgrade Utility: Upgrades CRM to the most current build.

The installation process creates the following environments:

- `QADCRMInstallDir\compile`: the compilation environment for storing encrypted program files.
- `QADCRMInstallDir\test`: the testing environment for testing QAD CRM.
- `QADCRMInstallDir\prod`: the production environment for storing compiled program files used for enterprise-wide deployment.

Note It is useful to understand how files are organized in the installation directory for administration tasks, such as the system to integrate with QAD Enterprise Applications.

Testing the System

To test the installation on the file server:

- 1 Choose Start|All Programs|QAD CRM 6.4|QAD CRM Demo.
- 2 In the User ID field, type `demo`. Leave the Password field blank.
- 3 Test the system functionality.

If you encounter any errors, contact QAD Support.

Compiling Encrypted Files

Note If you are using Progress 10.2B01 and plan to configure QAD CRM with non-unicode databases, then skip the following section and go to “Setting Up the Database Server” on page 21.

A full compile of the server code is required after installation. You are not required to compile if you are using Progress 10.2B01 and plan to configure QAD CRM with non-unicode databases. Compiled programs with non-unicode databases (.x code) are shipped with the product. Setup copies the files to the installation folder as part of installation.

Compiling a source file creates an object file with the same name and a .x extension.

Depending on your system, the Application Compiler can take as much as two hours. You must compile encrypted files in the following directories under QAD CRM installation directory:

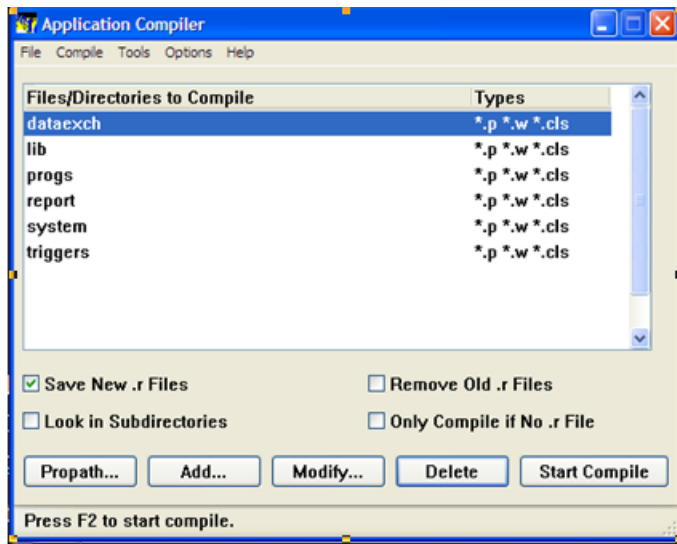
- compile\dataexch
- compile\lib
- compile\progs
- compile\report
- compile\triggers
- compile\system

To compile encrypted program files:

Non-Unicode Environment

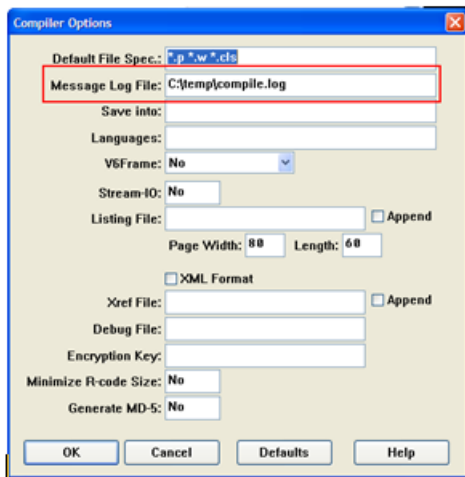
- 1 Choose Start|All Programs|QAD CRM 6.4|QAD CRM Application Compiler. The Application Compiler appears.

Fig. 2.2
Application Compiler



- 2 If the following directories do not appear, add them by clicking Add:
 - dataexch
 - lib
 - progs
 - report
 - system
 - triggers
- 3 Clear the Look in Subdirectories check box.
- 4 Click Start Compile to start the compilation.
- 5 The application compiler generates a log file during compilation. Check the log file to ensure that there are no errors. Errors begin with two asterisk characters (**). Contact QAD support in case of any errors.

Note If you are unsure about the location of the log file, check Options|Compiler.



- 6 Once compilation completes, copy the .r programs from the `compile` directory to the corresponding directories in `QADCRMInstallDir\prod`.

Errors encountered during compilation display in an editor. Note any errors and contact QAD Support.

Unicode Environment

All steps are similar to those described in the procedure for a non-Unicode environment above, with below modifications.

Before starting the compilation for the Unicode environment, do the following:

- 1 You must change some parameter values defined in `qadsfamacompile.pf` available in the `QADCRMInstallDir\compile` folder.

Update or add the following entries in the `qadsfamacompile.pf` file:

```
-cpinternal UTF-8
-cpstream UTF-8
-cpcoll ICU-UCA
-cpcase Basic
```

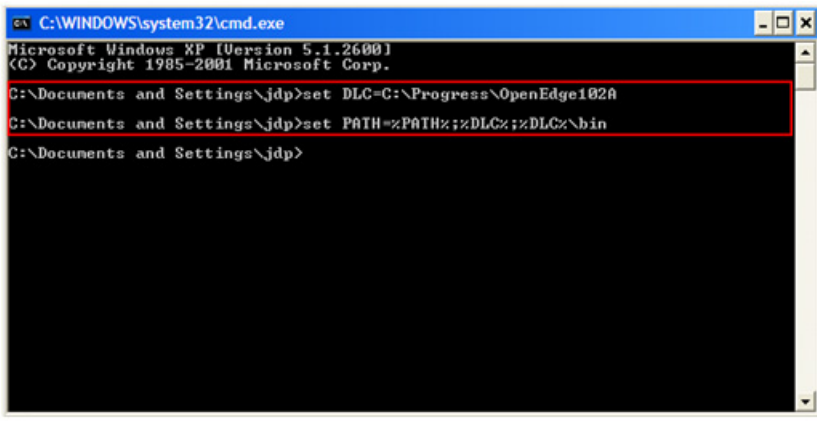
- 2 For performing Unicode compilation, modify the `qadsfamacompile.pf` file to connect to the Unicode databases in the `QADCRMInstallDir\compile\db\demo\unicode` folder; for example:

```
db\demo\unicode\bisgmenu -1
db\demo\unicode\bisgen -1
db\demo\unicode\dataexch -1
```

- 3 Create word-break rule file for the CRM Unicode databases.

- a Start a command window (`cmd.exe`) and set the `DLC` and `PATH` variables.

```
set DLC=ProgressInstallDir
set PATH=%PATH%;%DLC%;%DLC%\bin
```



- b** Change current directory to the Progress installation directory.

```
cd %DLC%
```

- c** Compile the new word-break file using below command.

```
proutil -C wbreak-compiler %DLC%\prolang\convmap\utf8-bas.wbt 1
```

Setting Up the Database Server

QAD CRM is a multi-database application that requires a minimum of three databases connected concurrently to a single session. Each QAD CRM client session connects to, at minimum, a main database (*bisgen*), an administration database (*bisgmenu*) and a data synchronization database (*dataexch*). If you plan to integrate with a QAD ERP application, you need to connect to other databases.

Working QAD CRM databases are created in two stages. You first create empty databases, then use them as a template to build test, production, training, development and other databases.

To set up databases in a UNIX/Linux server, you must have experience creating databases and loading data definition files in Progress. You must also know how to modify system files such as service and startup scripts for databases.

Before creating the database, determine the following:

- 1** The directory where you want to create the QAD CRM databases, referred to as *QADCRMInstallDirDatabaseServer/db*
- 2** The Progress directory
- 3** The host name of the database server

QAD recommends that you deploy QAD CRM and QAD ERP application databases on the same database server.

Set the Progress DLC variable correctly and ensure that the *\$DLC\bin* directory is included in the PATH environment variable. DLC is the directory where Progress is installed, and *bin* is a subdirectory of DLC where the most often used Progress executables reside.

Setting Up Databases in a UNIX/Linux Server

Creating Non-Unicode Databases

To create empty databases in a UNIX/Linux server:

- 1 Go to `QADCRMInstallDirDatabaseServer/db`.
- 2 Transfer all the data definition (.df) and structure (.st) files from `QADCRMInstallDir\compile\db\df` to `QADCRMInstallDirDatabaseServer/db` using an FTP or WinSCP program.
- 3 Enter the following:


```
prostrct create bisgen bisgen.st -blocksize 8192
prostrct create bisgmenu bisgmenu.st -blocksize 8192
prostrct create dataexch dataexch.st -blocksize 8192
procopy $DLC/empty8 bisgen
procopy $DLC/empty8 bisgmenu
procopy $DLC/empty8 dataexch
```
- 4 Start the Progress data dictionary using the command:


```
_progres -p _admin.p
```
- 5 Connect `bisgen`, `bisgmenu`, and `dataexch` databases and load data definitions into it that define each table, field, and index in the database.
- 6 The database schema (.df file) consists of the sequences, tables, fields and indexes in the database. In this task, you load the schema into the empty `bisgen`, `bisgmenu`, and `dataexch` databases using data definition files `bisgen.df`, `bisgmenu.df` and `dataexch.df`. Load the data definition files using the Progress data dictionary tool.
- 7 The resulting empty databases are used to build all your main and support databases such as `bisgenprod`, `bisgentest`, and `bisgentrain`. Create copies of the databases for backup and testing purposes.

Creating Unicode Databases

- 1 Go to `QADCRMInstallDirDatabaseServer/db`.
- 2 Transfer all the data definition (.df) and structure (.st) files from `QADCRMInstallDir\compile\db\df` to `QADCRMInstallDirDatabaseServer/db` using an FTP or WinSCP program.
- 3 Type the following:


```
prostrct create bisgen bisgen.st -blocksize 8192
prostrct create bisgmenu bisgmenu.st -blocksize 8192
prostrct create dataexch dataexch.st -blocksize 8192
procopy $DLC/prolang/utf/empty8 bisgen
procopy $DLC/prolang/utf/empty8 bisgmenu
procopy $DLC/prolang/utf/empty8 dataexch
```

4 Load the ICU-UCA collation table.

- a** Start the Progress data dictionary using the following command:

```
_progres -p _admin.p
```

- b** Connect to the database you want to load the ICU-UCA collation table into by choosing Database|Connect from the menu.

- c** Choose Admin|Load Data and Definitions|Data Definitions (.df file). Locate the file ICU-UCA.df in \$DLC/prolang/utf/ and load it into the database.

Ignore the following error and warning messages:

```
Error: Collation tables for database DBName have been changed. You must
rebuild all the indexes in order to reconnect to this database. (2609)
```

Fig. 2.3
Warning Message



- d** Disconnect from the database by choosing Database|Disconnect from the menu.

Note Repeat steps b through d for each of the three CRM databases—bisgen, bisgmenu, and dataexch.

5 Rebuild indexes. Execute the following command to rebuild index for the new ICU-UCA collation:

```
proutil DBPath/bisgen -C idxbuild all -cpinternal UTF-8
proutil DBPath/bisgmenu -C idxbuild all -cpinternal UTF-8
proutil DBPath/dataexch -C idxbuild all -cpinternal UTF-8
```

6 Load your .df files.

Start the Progress data dictionary using the following command:

```
_progres -p _admin.p
```

Connect to the bisgen, bisgmenu, and dataexch databases and load into them data definitions that define tables, fields, and indexes in the databases.

Note For the bisgen Unicode database, you should skip loading bisgen.df and load bisgen_utf.df instead.

7 Use the empty databases to build your main and support databases such as bisgenprod, bisgentest, and bisgentrain. Create copies of the databases for backup and testing purposes.

Note Whenever you use Progress tools such as Data Dictionary or Data Administration for setting up Unicode databases, make sure that the .pf file used by the Progress session specifies the following parameters:

```
-cpinternal UTF-8
-cpstream UTF-8
-cpcoll ICU-UCA
-cpcase Basic
```

- 8 Copy all databases from the `QADCRMInstallDir\compile\db\demo\unicode` folder to the `QADCRMInstallDir\prod\db` folder on the Windows server where CRM was installed from the CRM installation CD.

Setting Up Databases in a Windows Server

The QAD CRM installation uses or creates several directories. If you use the default directories and they do not exist at the time of installation, they are created automatically. This applies the ownership and appropriate permissions. However if you create or use the other directories outside installation, make sure that permissions are set properly.

Installation creates the following environments:

- `QADCRMInstallDir\compile`: the compilation environment for storing encrypted program files.
- `QADCRMInstallDir\test`: the test environment for testing QAD CRM.
- `QADCRMInstallDir\prod`: the production environment for storing compiled program files used for enterprise-wide deployment.

The above environments have a `db` folder. QAD recommends that you keep the databases on these folders. For example you can keep test databases on the `QADCRMInstallDir\test\db` folder.

Before creating the database, determine the following:

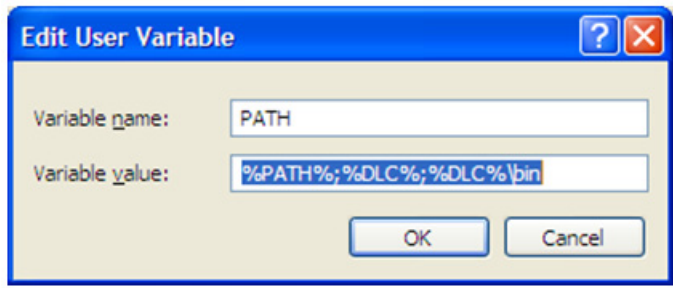
- 1 The directory where you want to create the QAD CRM databases
- 2 The Progress directory
- 3 The host name of the database server

Set the Progress `DLC` variable correctly and ensure that the `%DLC%\bin` directory is included in the `PATH` environment variable. `DLC` is the directory where Progress is installed, and `bin` is a subdirectory of `DLC` where the most often used Progress executables reside.

To add `DLC` and `PATH` to user environment variables:

- 1 From the Desktop, choose Start|Settings|Control Panel.
- 2 Double-click the System icon and select the Advanced tab.
- 3 Click the Environment Variable button.
- 4 Click New under the User variables for <user name> listbox. The New User Variable dialog box appears.
- 5 In the Variable name field, type `DLC`.
- 6 In the Variable value field, type the Progress installation path. Then click OK.
- 7 Repeat Step 4 to create a `PATH` environment variable. In the Variable value field, type the following:

```
%PATH%;%DLC%;%DLC%\bin
```



When you have added the `DLC` and `PATH` environment variables, use the DOS command prompt to run all the Progress commands.

Creating Non-Unicode Databases

- 1 Using Windows Explorer, copy all the database structure (`.st`) and data definition (`.df`) files from `QADCRMInstallDir\compile\db\df` to `QADCRMInstallDir\test\db`
- 2 From the Desktop, choose Start|Run. The Run dialog box appears. Type `cmd` in the Open field. Then click OK.
- 3 Change to the `QADCRMInstallDir\test\db` folder.
- 4 Type the following:

```
prostrct create bisgen bisgen.st -blocksize 8192
prostrct create bisgmenu bisgmenu.st -blocksize 8192
prostrct create dataexch dataexch.st -blocksize 8192
procopy %DLC%/empty8 bisgen
procopy %DLC%/empty8 bisgmenu
procopy %DLC%/empty8 dataexch
```

- 5 Start the Progress data dictionary using the command:
`_progres -p _admin.p`
- 6 Connect the `bisgen`, `bisgmenu`, and `dataexch` databases and load data definitions that define each table, field, and index in the database.
- 7 The database schema (`.df` file) consists of the sequences, tables, fields, and indexes in the database. You load the schema into the empty `bisgen`, `bisgmenu`, and `dataexch` databases using the data definition files `bisgen.df`, `bisgmenu.df` and `dataexch.df`. Load the data definition files using Progress data dictionary tool.

The resulting empty databases are used to build all your main and support databases such as `bisgenprod` and `bisgentrain`. Create copies of the databases for backup and testing purposes.

- 8 For setting up your production CRM databases, do not use the `QADCRMInstallDir\prod\db` folder. The databases in that folder are meant for remote nodes. Use a different folder for your production databases.

Creating Unicode Databases

To create Unicode databases on the Windows Server:

- 1 Copy all the database structure (.st) and data definition (.df) files from *QADCRMInstallDir\compile\db\df* to *QADCRMInstallDir\test\db*.
- 2 From the Windows Start menu, choose Run; then enter `cmd` and click OK to open the command window.
- 3 Change to the *QADCRMInstallDir\test\db* folder.
- 4 Enter the following:

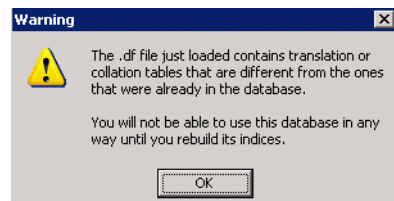

```
prostrct create bisgen bisgen.st -blocksize 8192
prostrct create bisgmenu bisgmenu.st -blocksize 8192
prostrct create dataexch dataexch.st -blocksize 8192
procopy %DLC%\prolang\utf\empty8 bisgen
procopy %DLC%\prolang\utf\empty8 bisgmenu
procopy %DLC%\prolang\utf\empty8 dataexch
```
- 5 Load the ICU-UCA collation table.
 - a Start the Progress data dictionary using the following command:


```
_progres -p _admin.p
```
 - b Connect to the database you want to load ICU-UCA collation table into by choosing Database|Connect from the menu.
 - c Choose Admin|Load Data and Definitions|Data Definitions (.df file). Locate the file ICU-UCA.df in %DLC%\prolang\utf\ and load it into the selected database.

Ignore the following error and warning messages:

```
Error: Collation tables for database DBName have been changed. You must
rebuild all the indexes in order to reconnect to this database. (2609)
```

Fig. 2.4
Warning Message



- d Disconnect from the database by choosing Database|Disconnect from the menu.

Note Repeat steps b through d for each of the three CRM databases—bisgen, bisgmenu, and dataexch.

- 6 Rebuild indexes. Execute the following command to rebuild indexes for the new ICU-UCA collation:

```
proutil DBPath/bisgen -C idxbuild all -cpinternal UTF-8
proutil DBPath/bisgmenu -C idxbuild all -cpinternal UTF-8
proutil DBPath/dataexch -C idxbuild all -cpinternal UTF-8
```

- 7 Load your .df files.

Connect to the bisgen, bisgmenu, and dataexch databases and load into them data definitions that define tables, fields, and indexes in the databases.

Note For the bisgen Unicode database, you should load `bisgen_utf.df` instead of `bisgen.df`.

- 8 Use the Progress Data Dictionary tool to load the data definition files `bisgen.df`, `bisgmenu.df`, and `dataexch.df` into the empty bisgen, bisgmenu, and dataexch databases.
- 9 Use the empty databases to build your main and support databases such as bisgenprod, bisgentest, and bisgentrain. Create copies of the databases for backup and testing purposes.

Note Whenever you use Progress tools such as Data Dictionary or Data Administration for setting up Unicode databases, make sure that the .pf file used by the Progress session specifies the following parameters:

```
-cpinternal UTF-8
-cpstream UTF-8
-cpcoll ICU-UCA
-cpcase Basic
```

- 10 Copy all databases from the `QADCRMInstallDir\compile\db\demo\unicode` folder to the `QADCRMInstallDir\prod\db` folder on the Windows server where CRM was installed from the CRM installation CD.

Note For setting up your production CRM databases, do not use the `QADCRMInstallDir\prod\db` folder. The databases in that folder are meant for remote nodes. Use a different folder for your production databases.

Starting Databases in Multi-User Mode

To enable clients to communicate with the databases, you need to start databases in multi-user mode.

- 1 On the database server machine, tailor your services file. All services names, host names, and port numbers must match in the services files of each client and each database server on the network. The location of the UNIX/Linux services file on the server is typically the `/etc` directory. On Windows, it is located in `C:\windows\system32\drivers\etc`.

Note The more users you expect to have, the more numbers you should leave open between port numbers.

- 2 Add the names of your database services to your services file. Add one for each main database and any other databases you plan to connect to. Limit the service name to 16 characters. You can use any unused port numbers.
- 3 The database service names and suggested port numbers are described below. If these port numbers conflict with your existing setup, you must specify appropriate numbers.

Service Name	Port #/Protocol	Comment
bisgentest	2030/tcp	# test bisgen
bisgmenutest	2040/tcp	# test bisgmenu
dataexchtest	2050/tcp	# test dataexch
bisgenprod	2060/tcp	# Production bisgen
bisgmenuprod	2070/tcp	# Production bisgmenu
dataexchprod	2080/tcp	# Production dataexch

4 Start the databases in multi-user mode using one of the following:

- Progress Explorer (Windows only)
- Batch files

The installation technician is responsible for supplying and customizing the batch files.

If you plan to integrate with a QAD ERP application, QAD recommends that you use QAD ERP application startup and shutdown scripts.

5 Make sure that the databases are running properly. In case of errors, check Progress help and database startup parameters.

Configuring the File Server

To enable clients to communicate with the file and database server, you must configure various files in the file server. All services names, host names, and port numbers must match in the services files of each client and each database server on the network.

You do not have to modify the files in the workstations—the QAD Shared network installation program does this. However, you must configure various files on the file server.

Configuring the services.txt File

The `services.txt` file in the QAD CRM file server contains a list of database service names and their port number. The QAD CRM Shared network installation program uses this file to update the services file of client computers to start a multi-user session.

You must ensure that the database service names and port numbers in the `services.txt` file match the services file of the database server that you have defined in the start databases in the multi-user mode section.

To update the `services.txt` file:

1 Open the following file in an editor:

`QADCRMInstallDir\test\netsetup\services.txt`

2 Specify the correct service names and their port numbers.

3 Save and close the file.

4 Open the following file:

`QADCRMInstallDir\prod\netsetup\services.txt`

- 5 Repeat Steps 2 and 3.

Configuring the Initialization File

The system uses an initialization file to run QAD CRM from the server.

To configure the initialization file:

- 1 Open the `qadsfamaclient.ini`, in an editor such as Notepad. This file is located here:
`QADCRMInstallDir\test\netsetup`
- 2 Ensure that the DLC environment variable is set to NULL:
`DLC=`
- 3 Save the file.
- 4 Open the `qadsfamaprod.ini` in an editor such as Notepad. This file is located here:
`QADCRMInstallDir\prod\netsetup`
- 5 Repeat Steps 2–4.

Mapping Network Drive and Permissions

You typically use the Progress and QAD CRM shared network installation to install Progress and QAD CRM on client computers from a central location on the network. This utility updates client computers with the system files, icons, and registry entries required to launch Progress and QAD CRM.

To launch Progress and QAD CRM shared network installation utilities, you need to map two network drives to all client computers: one for Progress and one for QAD CRM.

For example if you have installed:

- Progress on `C:\progress\dlc101c`, you need to map `C:\progress` to a logical drive. For example `S:\`.
- QAD CRM on `C:\qadsfama`, you need to map `C:\qadsfama` to a logical drive. For example `R:\`.

QAD recommends you map the drive by using the net logon script on the file server.

All QAD CRM users should have write permissions to the following folders:

- `QADCRMInstallDir\test`
- `QADCRMInstallDir\test\document`
- `QADCRMInstallDir\test\document\template`
- `QADCRMInstallDir\test\log`
- `QADCRMInstallDir\test\datain`
- `QADCRMInstallDir\test\datain\save`
- `QADCRMInstallDir\test\dataout\`
- `QADCRMInstallDir\test\dataout\save`
- `QADCRMInstallDir\prod`

- `QADCRMInstallDir\prod\document`
- `QADCRMInstallDir\prod\document\template`
- `QADCRMInstallDir\prod\datain`
- `QADCRMInstallDir\prod\datain\save`
- `QADCRMInstallDir\prod\dataout\`
- `QADCRMInstallDir\prod\dataout\save`

Configuring Parameters

The servers and clients connect using scripts, which you must customize appropriately.

In the startup and shutdown scripts of any network environments, you must assign a name to the broker process using the service name startup parameter `-S`. Remote clients communicate with the broker using the same `-S` value as the startup or database parameter. The syntax is:

`-S servicename port-number`

Depending on your network type, you might have to specify additional addressing criteria in the scripts for remote clients.

Note The multi-user Progress database server process coordinates database requests from all clients using a single database. For the UNIX or Windows 2000/2003 database server that shares the Progress memory version, the broker process is the main database server. It manages shared resources and starts the server for remote clients.

The TCP protocol requires remote clients to explicitly address the database server computer. You must use the host name startup parameter `-H` to specify the host address. The host address is the name assigned to the database server machine in the TCP/IP host file. The syntax is:

`-H host-name`

You must also ensure that the `-S` and `-H` values are correctly defined in the parameter file of QAD CRM. This file is used to connect clients to the database server.

To configure the parameter file:

- 1 For test databases, open the following file in an editor:

`QADCRMInstallDir\test\netsetup\qadsfamatest.pf`

- 2 Ensure that the file has correct entries. You must appropriately edit the bold text in the following example of the file contents:

```
# qadsfamatest.pf
#
# Use this parameter file when you are running QAD SFA and MA in
# test mode.
# Refer to Progress Admin Manual for an explanation of these
# parameters.
#
-db bisgentest -ld bisgen -H <IP address of database server> -S <test bisgen service name> -N TCP -trig triggers
-db bisgmenutest -ld bisgmenu -H <IP address of database server> -S <test bisgmenu service name> -N TCP -trig triggers
-db dataexchtest -ld dataexch -H <IP address of database server> -S <test dataexch service name> -N TCP -trig triggers
-Bt 10000
```

```

-mmax 65534
-L 50000
-yy 1950
-cpinternal iso8859-1 -cpstream ibm850
-inp 32000
-tok 4096
-T c:\temp
-zn
-tmpbsize 8
-s 128
-noincrwarn
-h 8
-p progs\plog2000.r

```

3 Save the file.

4 For production databases, modify the `qadsfamaprod.pf` file located in `QADCRMInstallDir\prod\netsetup`.

Integrating the System with QAD SE

Note If you are using QAD Enterprise Edition, see “Integrating the System with QAD EE” on page 40.

The system uses a switch-based approach to integrate with a QAD ERP application. It lets you choose multiple QAD ERP Domains and QAD ERP application modules you want to integrate with QAD CRM. The following modules can be integrated:

- Product
- Address
- Sales Quote
- Sales Order
- Installed base
- Call
- Contract
- Contract Quote
- Multiple Currency
- Users

QAD CRM uses database and session triggers to connect and update the databases of both systems, eliminating the need for manual intervention when transferring data between the two systems.

For integration, the databases of both systems:

- Must always be available.
- Must run in multi-user mode.
- Can share the same database server.

For integration you must configure the file servers of the QAD CRM and your QAD ERP application.

Prerequisites

Before integrating with QAD Enterprise Applications, verify that you have met the following prerequisites:

- System requirements for QAD ERP application integration. See “System Requirements” on page 11.
- Configured QAD CRM databases to use client/server connections.
- Your QAD ERP application is functioning properly.
- Your network is operating.
- QAD ERP application databases are in multi-user mode.
- You have access to QAD ERP application compiled programs (.r) and the `xrc` folder.

Configuring QAD CRM for Integration

To configure the system file server for integration:

- 1 Check the primary language used in QAD Enterprise Applications, such as US for US-English or DU for Dutch.

- 2 Create a new directory called `mfgsrv` in the `test` and `prod` directories and then create a language folder under `mfgsrv`. For example, in the case of US, create `mfgsrv\us`.

The name of the directory must match the primary language of your QAD ERP application.

As an example, US is assumed to be the detected language. In this case, the new directories are:

```
QADCRMInstallDir\test\mfgsrv\us
```

```
QADCRMInstallDir\prod\mfgsrv\us
```

- 3 Under the new directory, create the following directories:

- `mfgsrv\triggers`
- `mfgsrv\us\gp`
- `mfgsrv\us\sq`
- `mfgsrv\us\fs`
- `mfgsrv\us\mc`
- `mfgsrv\us\px`
- `mfgsrv\us\tx`
- `mfgsrv\us\lg`
- `mfgsrv\us\qq`

- 4 Rename the file:

```
QADCRMInstallDir\compile\system\psys0101.i
```

For example, you can rename the file to `psys0101.i.org`.

- 5 Copy `psys0101.i` from `QADCRMInstallDir\compile\integration\eb21` to the following folder:

```
QADCRMInstallDir\compile\system
```

- 6 Create a folder called `xrc` under `QADCRMInstallDir\compile` and then copy all programs from `QADERPInstallDir\xrc` to `QADCRMInstallDir\compile\xrc`.
- 7 If Progress installed on QAD ERP (SE) is 64 bit and Progress installed on QAD CRM is 32 bit, refer to “Compilation with Progress 64 Bit” on page 99 and skip the next two steps:
- 8 Copy the files as described below.

Copy all files from this directory in the installation directory	...to this directory in the test and prod directories of the QAD CRM installation directory
<code>QADERPInstallDir</code>	<code>mfgsrv</code> (copy only .r files)
<code>/triggers</code>	<code>mfgsrv\triggers</code>
<code>/us</code>	<code>mfgsrv\us</code> (copy only the .r files)
<code>/us/fs</code>	<code>mfgsrv\us\fs</code>
<code>/us/gp</code>	<code>mfgsrv\us\gp</code>
<code>/us/lg</code>	<code>mfgsrv\us\lg</code>
<code>/us/mc</code>	<code>mfgsrv\us\mc</code>
<code>/us/px</code>	<code>mfgsrv\us\px</code>
<code>/us/qg</code>	<code>mfgsrv\us\qg</code>
<code>/us/sq</code>	<code>mfgsrv\us\sq</code>
<code>/us/tx</code>	<code>mfgsrv\us\tx</code>

- 9 If QAD QXtend is installed, create a new directory called `qxo` under `QADCRMInstallDir/mfgsrv` in the test and prod directories and copy the files as described below.

Copy all the files from this folder ...	To this folder in the QAD CRM test and prod installation directory
<code>QxtendOutboundInstallDir</code>	<code>mfgsrv\qxo</code> (copy only .r files)
<code>QxtendOutboundInstallDir/triggers</code>	<code>mfgsrv\qxo\triggers</code> (the complete trigger folder)
<code>QxtendOutboundInstallDir/config</code>	<code>mfgsrv\qxo\config</code> (the complete config folder)

- 10 If QAD QXtend is installed, modify the QAD CRM prod and test configuration settings (.ini) file to include path `mfgsrv\qxo` on top of all other paths from folder `mfgsrv` as shown below.

```
.,progs,system,dataexch,triggers,integration\mfgpro,report,lib,mfgsrv\qxo,mfgsrv\qxo\triggers,mfgsrv,mfgsrv\triggers,mfgsrv\us,mfgsrv\us\sq,mfgsrv\us\tx
```

- 11 Open the system parameter file .pf located at:

```
QADCRMInstallDir\prod\netsetup
```

```
QADCRMInstallDir\test\netsetup
```

- 12 Modify the parameter file to connect to all QAD ERP application test and prod databases. Make sure that QAD ERP database `qaddb` is included as the first database to connect.

For QAD ERP application test databases, modify:

```
QADCRMInstallDir\test\netsetup\qadsfamatest.pf
```

For QAD ERP application prod databases, modify:

`QADCRMInstallDir\prod\netsetup\qadsfamaproduct.pf`

Use the trigger option and specify the trigger location for QAD ERP application databases:

`-trig triggers`

If QXtend is installed, modify the parameter file to connect to the qxevents database of test and prod QAD ERP application. Use the trigger option and specify the trigger location for the qxevents database:

`-trig triggers`

- 13 Modify `QADCRMInstallDir\compile\qadsfamacompile.pf` to connect all QAD Enterprise Applications compilation databases.
- 14 Choose Start|All Programs|QAD CRM 6.4|QAD CRM Application Compiler and compile all the programs in the following directories:
 - `QADCRMInstallDir\compile\integration\mfgpro`
 - `QADCRMInstallDir\compile\triggers`
 - `QADCRMInstallDir\compile\system`
 - `QADCRMInstallDir\compile\dataexch`
 - `QADCRMInstallDir\compile\progs`
 - `QADCRMInstallDir\compile\report`
 - `QADCRMInstallDir\compile\xrc\mfdpers.p`

Note View the compiler log file to check for errors.

- 15 Copy the `.r` files from the directories listed in Step 14 to their corresponding directories in the `QADCRMInstallDir\prod` directories.
- 16 Copy `QADCRMInstallDir\compile\xrc\mfdpers.r` to the following folders:
`QADCRMInstallDir\test\mfgsrv\us`
`QADCRMInstallDir\prod\mfgsrv\us`
Skip the following two steps if Progress installed on QAD ERP (SE) is 64 bit and Progress installed on QAD CRM is 32 bit.

- 17 Create the following directories in the QAD Enterprise Applications installation environment:
`QADERPInstallDir/integration/test`
`QADERPInstallDir/integration/prod`
- 18 Copy the `.r` files you copied in the `prod` directory in Step 16—except `mfdpers.r`—to their corresponding directories in this location:
`QADERPInstallDir/integration/prod`

Configuring QAD Enterprise Applications for Integration

To configure the QAD Enterprise Applications file server:

- 1 Modify QAD Enterprise Applications parameter file (`.pf`) for connecting to the QAD CRM databases.
The following is an example of how you can modify the `.pf` file.

```

-db testdb -ld qaddb -N TCP -H progsol_sni -S mfgdemo-srv -trig triggers
-db testcu -ld custom -N TCP -H progsol_sni -S custtest-srv -trig triggers
-db helptest -ld qadhelp -N TCP -H progsol_sni -S hlpdemo-srv -trig triggers
-db admintest -ld qadadm -N TCP -H progsol_sni -S admdemo-srv
-db bisgen -N TCP -H progsol_sni -S testbisgen -trig
QADERPInstallDir/integration/prod/triggers
-db bisgmenu -N TCP -H progsol_sni -S testbisgmenu -trig
QADERPInstallDir/integration/prod/triggers
-db dataexch -N TCP -H progsol_sni -S testdataexch -trig
QADERPInstallDir/integration/prod/triggers
-h 8
-yy 1950

```

In the above example, `progsol_sni` is the name of the QAD CRM database server.

Normally, QAD Enterprise Applications uses the same `.pf` file for telnet, connmgr, AppServer broker, and WebSpeed broker. If this is not the case, you must modify all `.pf` files.

- 2 Modify QAD Enterprise Applications configuration settings (`.ini`) file, telnet, connmgr, AppServer broker, and WebSpeed broker for the test environment to add the following directory locations in the PROPATH:

```

QADERPInstallDir/integration/test
QADERPInstallDir/integration/test/system
QADERPInstallDir/integration/test/dataexch
QADERPInstallDir/integration/test/progs
QADERPInstallDir/integration/test/report
QADERPInstallDir/integration/test/triggers
QADERPInstallDir/integration/test/integration/mfgpro
QADERPInstallDir/integration/prod
QADERPInstallDir/integration/prod/system
QADERPInstallDir/integration/prod/dataexch
QADERPInstallDir/integration/prod/progs
QADERPInstallDir/integration/prod/report
QADERPInstallDir/integration/prod/triggers
QADERPInstallDir/integration/prod/integration/mfgpro

```

- 3 Modify QAD Enterprise Applications configuration settings (`.ini`) file, telnet, connmgr, AppServer broker, and WebSpeed broker for the production environment to add the following directory locations in the PROPATH:

```

QADERPInstallDir/integration/prod
QADERPInstallDir/integration/prod/system
QADERPInstallDir/integration/prod/dataexch
QADERPInstallDir/integration/prod/progs
QADERPInstallDir/integration/prod/report
QADERPInstallDir/integration/prod/triggers
QADERPInstallDir/integration/prod/integration/mfgpro

```

- 4 Create a printer record for Sales Order Integration in QAD ERP using the following steps:

- a Run QAD ERP.

- b Go to Printer Setup Maintenance (36.13.2) and create a printer record with the following details:

- Output To: sfama.so
- Destination Type: Default
- Description: sfama
- Lines / Page: 66
- Scroll Output: No
- Device Pathname: `/tmp/sfama.so`

- Spooler: No

Leave the rest of the fields blank.

- 5 Modify the script file used by QAD Enterprise Applications Character Client to connect to the `bisgen`, `bisgmenu`, and `dataexch` databases and startup program:

```
exec $DLC/bin/_progres -rq
$MFGDB -ld qaddb -znotrim -trig triggers
-db $ADMDB -ld qadadm
-db $HLPDB -ld qadhelp
-db $QADSAMDB -ld bisgen -trig triggers
-db $EDATADB -ld dataexch -trig triggers
-db $EBMENUDB -ld bisgmenu -trig triggers
-cpstream iso8859-1 -cpinternal iso8859-1 -cpcoll basic
-Bt 350 -c 30 -D 100 -mmax 3000 -nb 200 -s 63
-E -d dmy -yy 1970 -T /ext1/mfgeB/mfgwork -h 8
-p mf.p
```

If you are integrating CRM with QAD 2007.1 SE, then you need to replace “-p mf.p” with “-p mfbg.p” in the above file.

Note Skip the following steps if you are integrating CRM with QAD 2009 SE or later releases.

- 6 Back up the following programs from the `QADERPInstallDir\src` directory if available:

<code>cmw.t</code>	Write trigger for QAD Enterprise Applications <code>cm_mstr</code> table	Skip this if QAD ERP version is QAD 2008 SE
<code>ptw.t</code>	Write trigger for QAD Enterprise Applications <code>pt_mstr</code> table	Skip this if QAD ERP version is QAD 2008 SE
<code>adw.t</code>	Write trigger for QAD Enterprise Applications <code>ad_mstr</code> table	Skip this if QAD ERP version is QAD 2008 SE
<code>mfwb01a.p</code>	Program for the integration	Skip this if QAD ERP version is QAD 2008 SE
<code>sopiwiitt.i</code>	Best Price routine	
<code>sopiwids.i</code>	Best Price routine	
<code>sopiwapi.p</code>	Best Price routine	

- 7 Transfer the programs listed in Step- 6 from `QADCRMInstallDir\compile\integration\eb21` to `QADERPInstallDir\src` using an FTP or WinSCP program.
- 8 Compile the programs you copied in Step- 7 using MFG/UTIL. Skip steps 8 to 10, if QAD ERP version is QAD 2008 SE.
Note If the programs are customized, contact your QAD ERP application supplier.
- 9 Copy the compiled files `cmw.r`, `ptw.r`, and `adw.r` from `QADERPInstallDir\src` to the directory `QADERPInstallDir/triggers`.
- 10 Copy `mfwb01a.r` from `QADERPInstallDir\src` to the directory `QADERPInstallDir`.
- 11 Copy the three triggers `cmw.r`, `ptw.r`, and `adw.r` from `QADERPInstallDir\src` to the directory `QADCRMInstallDir\prod\mfgsrv\triggers` using an FTP or WinSCP program.

AIM Configuration

Do the following if AIM is configured with QAD Enterprise Application (SE):

- 1 Before configuring AIM, verify that you have met the following prerequisites:
 - System requirements for AIM in QAD ERP application integration section. See “System Requirements” on page 11.
- 2 Back up cpdtrig.p from the AIMInstallDir\xrc directory.
- 3 Transfer cpdtrig.p from QADCRMInstallDir\compile\integration\eb21 to AIMInstallDir\xrc using an FTP or WinSCP program.
- 4 Compile cpdtrig.p.

Note If above program is customized, contact your QAD ERP application supplier.
- 5 Copy the compiled cpdtrig.r to QAD ERP environment depend upon AIM configuration.

Setting Up the AppServer Environment

QAD AdminService, QAD ERP application, Sales Order Integration, and QAD Remote Sales data synchronization use Progress AppServer. You must prepare the AppServer environment to support these features.

Note If AppServer and your QAD ERP application are installed on the same computer, skip Steps 1–8.

To prepare the AppServer environment:

- 1 Create the following directories on the QAD CRM AppServer machine:
 - QADCRMAuto/test
 - QADCRMAuto/prod
- 2 Create the following subdirectories under QADCRMAuto/test and QADCRMAuto/prod:
 - system
 - dataexch
 - progs
 - report
 - triggers
 - integration\mfgpro
- 3 Copy all programs from the following locations on the file server to the corresponding directories in the QADCRMAuto\prod directory on the AppServer machine:
 - QADCRMInstallDir\prod\system
 - QADCRMInstallDir\prod\integration\mfgpro
 - QADCRMInstallDir\prod\dataexch
 - QADCRMInstallDir\prod\progs
 - QADCRMInstallDir\prod\report
 - QADCRMInstallDir\prod\triggers

If the Appserver is installed on UNIX/Linux, use FTP or WinSCP to copy the programs.

- 4 Define AppServer test and production brokers in the `ubroker.properties` file.
- 5 Create the AppServer broker `.pf` file to connect to the QAD CRM and databases.
- 6 Modify the PROPATH parameters of the AppServer brokers. Put QAD CRM folders in the PROPATH.

For test AppServer broker, put the following folders in the PROPATH:

```
QADCRMAuto\test\system
QADCRMAuto\test\integration\mfgpro
QADCRMAuto\test\dataexch
QADCRMAuto\test\progs
QADCRMAuto\test\report
QADCRMAuto\test\triggers
QADCRMAuto\prod\system
QADCRMAuto\prod\integration\mfgpro
QADCRMAuto\prod\dataexch
QADCRMAuto\prod\progs
QADCRMAuto\prod\report
QADCRMAuto\prod\triggers
```

For production AppServer broker, put the following folders in the PROPATH:

```
QADCRMAuto\prod\system
QADCRMAuto\prod\integration\mfgpro
QADCRMAuto\prod\dataexch
QADCRMAuto\prod\progs
QADCRMAuto\prod\report
QADCRMAuto\prod\triggers
```

- 7 Start the AppServer broker using the following command:

```
ProgressInstallDir/bin/asbman -name <broker name> -start
```
- 8 To start the AppServer automatically, modify the QAD-supplied startup batch files.

Configuring the Environment for Sales Order Integration

QAD CRM uses CIM to create sales orders in QAD Enterprise Applications. If you plan to use this feature, use the AppServer from the QAD Enterprise Applications machine.

You must also perform the following configuration in your test and production environments.

Test Environment

1 Do either of the following:

- If QAD Enterprise Applications is installed on a Linux\UNIX system, copy `QADCRMInstallDir\compile\bin\client_cim_linux.sh` to `QADERPInstallDir/script` (where all QAD Enterprise Applications batch files are available).
- If QAD Enterprise Applications is installed on Windows, copy `QADCRMInstallDir\compile\bin\client_cim_win.bat` to `QADERPInstallDir/script` (where all QAD Enterprise Applications batch files are available).

2 Open the copied `client_cim_linux.sh/client_cim_win.bat` file in an editor and make sure the `DLC` and `PROPATH` entries have valid values.

For example, for Linux/UNIX, it should look like this:

```
&DLC = /home/progress/dlc101c
&PROPATH =
QADERPInstallDir,QADERPInstallDir/bbi,QADERPInstallDir/integration/test,QADERPInstallDir/integration/test/system,QADERPInstallDir/integration/test/dataexch,QADERPInstallDir/integration/test/progs,QADERPInstallDir/integration/test/report,QADERPInstallDir/integration/test/triggers,QADERPInstallDir/integration/test/integration/mfgpro,QADERPInstallDir/integration/prod,QADERPInstallDir/integration/prod/system,QADERPInstallDir/integration/prod/dataexch,QADERPInstallDir/integration/prod/prog,QADERPInstallDir/integration/prod/report,QADERPInstallDir/integration/prod/triggers,QADERPInstallDir/integration/prod/integration/mfgpro
```

3 If QXtend is installed, open the copied `client_cim_linux.sh/client_cim_win.bat` file in an editor and include the QXtend Outbound install directory in the beginning of the `propath`:

```
&PROPATH =
QXtendOutboundInstallDir,QADERPInstallDir,QADERPInstallDir/bbi,QADERPInstallDir/integration/test,QADERPInstallDir/integration/test/system,QADERPInstallDir/integration/test/dataexch,QADERPInstallDir/integration/test/progs,QADERPInstallDir/integration/test/report,QADERPInstallDir/integration/test/triggers,QADERPInstallDir/integration/test/integration/mfgpro,QADERPInstallDir/integration/prod,QADERPInstallDir/integration/prod/system,QADERPInstallDir/integration/prod/dataexch,QADERPInstallDir/integration/prod/prog,QADERPInstallDir/integration/prod/report,QADERPInstallDir/integration/prod/triggers,QADERPInstallDir/integration/prod/integration/mfgpro
```

4 Modify the paths of the following files in the

`client_cim_linux.sh/client_cim_win.bat` file:

- `Test.pf`. This parameter file should connect the QAD CRM and QAD ERP application test databases and `qxevents` database if QXtend is installed. You need to create one if you cannot use any existing `.pf` file.
- `pintord02.r` file located in the `QADERPInstallDir/integration/prod/integration/mfgpro` directory

Production Environment

1 Do either of the following:

- If your QAD ERP application is installed on a Linux\UNIX system, copy `QADCRMInstallDir\compile\bin\client_cim_linux.sh` as `client_cim_prod_linux.sh` to `QADERPInstallDir/script` (where all QAD Enterprise Applications batch files are available).

- If your QAD ERP application is installed on Windows, copy `QADCRMInstallDir\compile\bin\client_cim_win.bat` as `client_cim_prod_win.bat` to `QADERPInstallDir/script` (where all QAD Enterprise Applications batch files are available).
- 2 Open the copied `client_cim_prod_linux.sh/client_cim_prod_win.bat` file in an editor and make sure the `DLC` and `PROPATH` entries have valid values.

For example in case of Linux/UNIX, it should look like this:

```
&DLC = /home/progress/dlc101c
&PROPATH =
QADERPInstallDir,QADERPInstallDir/bbi,QADERPInstallDir/integration/prod,QADERPInstallDir/integration/prod/system,QADERPInstallDir/integration/prod/dataexch,QADERPInstallDir/integration/prod/progs,QADERPInstallDir/integration/prod/report,QADERPInstallDir/integration/prod/triggers,QADERPInstallDir/integration/prod/integration/mfgpro
```

- 3 If QAD QXtend is installed, open the copied `client_cim_linux.sh/client_cim_win.bat` file in an editor and include the QXtend Outbound install directory in the beginning of the `propath`:

```
&PROPATH =
QXtendOutboundInstallDir,QADERPInstallDir,QADERPInstallDir/bbi,QADERPInstallDir/integration/test,QADERPInstallDir/integration/test/system,QADERPInstallDir/integration/test/dataexch,QADERPInstallDir/integration/test/progs,QADERPInstallDir/integration/test/report,QADERPInstallDir/integration/test/triggers,QADERPInstallDir/integration/test/integration/mfgpro,QADERPInstallDir/integration/prod,QADERPInstallDir/integration/prod/system,QADERPInstallDir/integration/prod/dataexch,QADERPInstallDir/integration/prod/prog,QADERPInstallDir/integration/prod/report,QADERPInstallDir/integration/prod/triggers,QADERPInstallDir/integration/prod/integration/mfgpro
```

- 4 Modify the paths of the following files in the `client_cim_prod_linux.sh/client_cim_prod_win.bat` file:
- `Production.pf`. This parameter file should connect the QAD CRM and QAD ERP application `prod` databases and `qxevents` database if QXtend is installed. You need to create one if you cannot use any existing `.pf` file.
 - `pintord02.r` file located in the `QADERPInstallDir/integration/prod/integration/mfgpro` directory.

Integrating the System with QAD EE

The system uses a switch-based approach to integrate with a QAD ERP application. It lets you choose multiple QAD ERP Domains and QAD ERP application modules you want to integrate with QAD CRM. The following modules can be integrated:

- Product
- Address
- Sales Quote
- Sales Order
- Installed base
- Call
- Contract
- Contract Quote
- Multiple Currency

- Users

QAD CRM uses QXtend to transfer data between QAD ERP and QAD CRM for the following modules.

- Address
- Multiple Currency
- Users

QAD CRM uses database and session triggers to connect and update the databases of both systems for other modules.

For integration, the databases of both systems:

- Must always be available.
- Must run in multi-user mode.
- Can share the same database server.

For integration you must configure the file servers of QAD CRM and your QAD ERP application.

Prerequisites

Before integrating with QAD Enterprise Applications, verify that you have met the following prerequisites:

- System requirements for QAD ERP application integration. See “System Requirements” on page 11.
- Configured QAD CRM databases to use client/server connections.
- Your QAD ERP application is functioning properly.
- Your network is operating.
- QAD ERP application databases are in multi-user mode.
- You have access to QAD ERP application compiled programs (.x) and the `xrc` folder.
- QXtend is installed and functioning properly.

Configuring QAD CRM for Integration

To configure the system file server for integration:

- 1 Check the primary language used in QAD Enterprise Applications, such as US for US-English or DU for Dutch.
- 2 Create a new directory called `mfgsrv` in the `test` and `prod` directories and then create a language folder under `mfgsrv`. For example, in the case of US, create `mfgsrv\us`.
The name of the directory must match the primary language of your QAD ERP application. As an example, US is assumed to be the detected language. In this case, the new directories are:

```
QADCRMInstallDir\test\mfgsrv\us
```

```
QADCRMInstallDir\prod\mfgsrv\us
```

- 3 Under the new directory, create the following directories:

- mfgsrv\qxo
- mfgsrv\triggers
- mfgsrv\us\gp
- mfgsrv\us\sq
- mfgsrv\us\fs
- mfgsrv\us\mc
- mfgsrv\us\px
- mfgsrv\us\tx
- mfgsrv\us\lg (Skip this if QAD ERP version is QAD 2010.1 EE)
- mfgsrv\us\qq (Skip this if QAD ERP version is QAD 2010.1 EE)

4 Create a folder called `xrc` under `QADCRMInstallDir\compile` and then copy all programs and subfolders from `QADERPInstallDir\xrc` to `QADCRMInstallDir\compile\xrc`.

5 Rename the file:

`QADCRMInstallDir\compile\system\psys0101.i`

For example, you can rename the file to `psys0101.i.org`.

6 Copy `psys0101.i` from `QADCRMInstallDir\compile\integration\eb3` to the following folder:

`QADCRMInstallDir\compile\system`

7 If Progress installed on QAD EE is 64 bit and Progress installed on QAD CRM is 32 bit, refer to “Compilation with Progress 64 Bit” on page 99. Skip the next two steps.

8 Copy the files as described below.

Copy all files from this directory in the installation directory

`QADERPInstallDir`

`/triggers`

`/us`

`/us/fs`

`/us/gp`

`/us/lg`

`/us/mc`

`/us/px`

`/us/qq`

`/us/sq`

`/us/tx`

...to this directory in the test and prod directories of the QAD CRM installation directory

`mfgsrv` (copy only `.r` files)

`mfgsrv\triggers`

`mfgsrv\us` (copy only the `.r` files)

`mfgsrv\us\fs`

`mfgsrv\us\gp`

`mfgsrv\us\lg` (Skip this if QAD ERP version is QAD 2010.1 EE)

`mfgsrv\us\mc`

`mfgsrv\us\px`

`mfgsrv\us\qq` (Skip this if QAD ERP version is QAD 2010.1 EE)

`mfgsrv\us\sq`

`mfgsrv\us\tx`

9 Copy the files as described below.

Copy all the files from this folder ...	To this folder in the QAD CRM test and prod installation directory
<i>QxtendOutboundInstallDir</i>	mfgsrv\qxo (copy only .r files)
<i>QxtendOutboundInstallDir/triggers</i>	mfgsrv\qxo\triggers
<i>QxtendOutboundInstallDir/config</i>	mfgsrv\qxo\config

- 10** Copy `proxy.pl` from *QADERPInstallDir/fin* to *QADCRMInstallDir\prod\mfgsrv* and *QADCRMInstallDir\test\mfgsrv*.

If Progress installed on QAD ERP is 64 bit and Progress installed on QAD CRM is 32 bit, then copy Progress 32 bit version of the `proxy.pl` file from QAD Enterprise Applications (EE) installation media. Location of the file is `mfgproap32/mfgproap32.zip`. From the installation media, extract the above `mfgproap32.zip` file to *QADCRMInstallDir\prod\mfgsrv* and *QADCRMInstallDir\test\mfgsrv*.

- 11** Open the system parameter file `.pf` located at:

QADCRMInstallDir\prod\netsetup

QADCRMInstallDir\test\netsetup

- 12** Modify the parameter file to connect to all QAD ERP application `test` and `prod` databases and QXtend database `qxevents`. Make sure that QAD ERP database `qaddb` is included as the first database to connect.

For QAD ERP application test databases, modify:

QADCRMInstallDir\test\netsetup\qadsfamatest.pf

For QAD ERP application prod databases, modify:

QADCRMInstallDir\prod\netsetup\qadsfamaproduct.pf

Use the trigger option and specify the trigger location for QAD ERP application databases:

`-trig triggers`

Use the trigger option and specify the trigger location for the `qxevents` database:

`-trig triggers`

- 13** Make sure that the QAD CRM prod and test configuration settings file `qadsfamaproduct.ini` contains the path in the same order as specified below in `PROPATH`. If some entries are missing, modify the `PROPATH` as per shown below.

`.,progs,system,dataexch,triggers,integration\mfgpro,report,lib,mfgsrv\qxo,mfgsrv\qxo\triggers,mfgsrv,mfgsrv\triggers,mfgsrv\us,mfgsrv\us\sq,mfgsrv\us\tx, mfgsrv\proxy.pl`

- 14** Modify *QADCRMInstallDir\compile\qadsfamacompile.pf* to connect all QAD Enterprise Applications compilation databases.

- 15** Open `cbserver.xml` under *QADCRMInstallDir\prod\integration\mfgpro* in Notepad and modify `appServiceURL` with QAD ERP financial AppServer details.

In the following example, `col45` is AppServer host name, `42398` is the NameServer port number and `QADFdevsfm93app` is the QAD EE Financial AppServer broker name.

```

<?xml version="1.0" encoding="UTF-8" ?>
<!-- This file contains the configuration of the business layer of the application -->
- <serverConfiguration xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:noNamespaceSchemaLocation="serverConfiguration.xsd">
  <!-- sessionInfoGetterProcedure can be used to override the default value of
  clnsrvcenv.p -->
  <sessionInfoGetterProcedure>clnsrvcenv.p</sessionInfoGetterProcedure>
  <!-- disable authentication for time being -->
  <!-- <DisableAuthentication/> -->
  <!-- A valid appserver needs to be specified -->
  - <appServerConnection>
    - <appService name="QADFdevsfm93app">
      <appServiceURL>appserver://coli45:42398/QADFdevsfm93app</appServiceURL>
    </appService>
    <DebugLevel>0</DebugLevel>
  </appServerConnection>
</serverConfiguration>

```

- 16** Choose Start|All Programs|QAD CRM 6.4|QAD CRM Application Compiler and compile all the programs in the following directories:

- *QADCRMInstallDir\compile\integration\mfgpro*
- *QADCRMInstallDir\compile\triggers*
- *QADCRMInstallDir\compile\system*
- *QADCRMInstallDir\compile\dataexch*
- *QADCRMInstallDir\compile\progs*
- *QADCRMInstallDir\compile\report*
- *QADCRMInstallDir\compile\lib*
- *QADCRMInstallDir\compile\xrc\pxtools.p*

Note View the compiler log file to check for errors.

- 17** Copy the .r files from the directories listed in Step 16 to their corresponding directories in the *QADCRMInstallDir\prod* directories.

- 18** Copy *QADCRMInstallDir\compile\xrc\pxtools.r* to the following folders:

QADCRMInstallDir\test\mfgsrv
QADCRMInstallDir\prod\mfgsrv

Skip the following two steps if Progress installed on QAD ERP (EE) is 64 bit and Progress installed on QAD CRM is 32 bit.

- 19** Create the following directories in the QAD Enterprise Applications installation environment:

QADERPInstallDir/integration/test
QADERPInstallDir/integration/prod

- 20** Copy the .r files you copied in the prod directory in Step 16 to their corresponding directories in this location:

QADERPInstallDir/integration/prod

- 21** Copy the *cbserver.xml* file from *QADCRMInstallDir\prod\integration\mfgpro* to *QADERPInstallDir/integration/prod/integration/mfgpro*

- 22** Copy the *cbserver.xml* file from *QADCRMInstallDir\test\integration\mfgpro* to *QADERPInstallDir/integration/test/integration/mfgpro*

Configuring QAD Enterprise Applications for Integration

To configure QAD Enterprise Applications file server:

- 1 Modify QAD Enterprise Applications parameter file (.pf) for connecting to the QAD CRM databases.

The following is an example of how you can modify the .pf file.

```
-db testdb -ld qaddb -N TCP -H progsol_sni -S mfgdemo-srv -trig triggers
-db testcu -ld custom -N TCP -H progsol_sni -S custtest-srv -trig triggers
-db helptest -ld qadhelp -N TCP -H progsol_sni -S hlpdemo-srv -trig triggers
-db admintest -ld qadadm -N TCP -H progsol_sni -S admdemo-srv
-db bisgen -N TCP -H progsol_sni -S testbisgen -trig triggers
-db bisgmenu -N TCP -H progsol_sni -S testbisgmenu -trig triggers
-db dataexch -N TCP -H progsol_sni -S testdataexch -trig triggers
-h 8
-yy 1950
```

In the above example, progsol_sni is the name of the QAD CRM database server.

Normally, QAD Enterprise Applications uses the same .pf file for telnet, connmgr, AppServer broker, and WebSpeed broker. If this is not the case, you must modify all .pf files.

- 2 Modify QAD Enterprise Applications configuration settings (.ini) file, telnet, QAD Financials AppServer broker, QAD UI AppServer, WebSpeed broker, and connmgr for the test environment to append the following directory locations in the PROPATH:

```
QADERPInstallDir/integration/test
QADERPInstallDir/integration/test/system
QADERPInstallDir/integration/test/dataexch
QADERPInstallDir/integration/test/progs
QADERPInstallDir/integration/test/report
QADERPInstallDir/integration/test/triggers
QADERPInstallDir/integration/test/integration/mfgpro
QADERPInstallDir/integration/prod
QADERPInstallDir/integration/prod/system
QADERPInstallDir/integration/prod/dataexch
QADERPInstallDir/integration/prod/progs
QADERPInstallDir/integration/prod/report
QADERPInstallDir/integration/prod/triggers
QADERPInstallDir/integration/prod/integration/mfgpro
```

- 3 Modify QAD Enterprise Applications configuration settings (.ini) file, telnet, QAD Financials AppServer broker, QAD UI AppServer, WebSpeed broker and connmgr for the prod environment to append the following directory locations in the PROPATH:

```
QADERPInstallDir/integration/prod
QADERPInstallDir/integration/prod/system
QADERPInstallDir/integration/prod/dataexch
QADERPInstallDir/integration/prod/progs
QADERPInstallDir/integration/prod/report
QADERPInstallDir/integration/prod/triggers
QADERPInstallDir/integration/prod/integration/mfgpro
```

- 4 Modify server.xml under folder <QDT_install_directory>/envs/<environment name>/configs to include QAD CRM database connection details as follows:

```

<?xml version="1.0" encoding="UTF-8" ?>
- <serverConfiguration xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:noNamespaceSchemaLocation="serverConfiguration.xsd">
+ <components>
- <databases>
  <rdbms>Progress</rdbms>
  <database>
    <name>sfm93t_mfg</name>
    <parameters>-H coli40 -S sfm93t_mfg-server -N TCP -ld newyork -trig
      triggers</parameters>
    </database>
  - <database>
    <name>sfm93t_adm</name>
    <parameters>-H coli40 -S sfm93t_adm-server -N TCP -ld qadadm -trig
      triggers</parameters>
    </database>
  - <database>
    <name>bisgmenu</name>
    <parameters>-H coli40 -S sfm93tt_bm-server -N TCP -ld bisgmenu -trig
      triggers</parameters>
    </database>
  - <database>
    <name>bisgen</name>
    <parameters>-H coli40 -S sfm93tt_bg-server -N TCP -ld bisgen -trig
      triggers</parameters>
    </database>
  - <database>
    <name>dataexch</name>
    <parameters>-H coli40 -S sfm93tt_dx-server -N TCP -ld dataexch -trig
      triggers</parameters>
    </database>
  - <database>

```

5 Create a printer record for Sales Order Integration in QAD ERP using the following steps:

- a Run QAD ERP.
- b Go to Printer Setup Maintenance (36.13.2) and create a printer record with the following details:
 - Output To: sfama.so
 - Destination Type: Default
 - Description: sfama
 - Lines / Page: 66
 - Scroll Output: No
 - Device Pathname: /tmp/sfama.so
 - Spooler: No

Leave the rest of the fields blank.

Note Skip the following steps if you are integrating CRM with QAD 2009.1 EE or later releases.

6 If QAD ERP version is QAD 2009 EE, back up the following program from the *QADERPInstallDir/xrc* directory:

```

ptw.t      Write trigger for the QAD Enterprise Applications
pt_mstr table

```

7 Transfer the programs in Step 6 from *QADCRMInstallDir\compile\integration\eb3* to *QADERPInstallDir/xrc* using an FTP or WinSCP program.

8 Compile the programs you copied in Step 7 using MFG/UTIL.

Note If the programs are customized, contact your QAD ERP application supplier.

- 9 Copy the compiled file `ptw.r` from `QADERPInstallDir\xrc` to the directory `QADERPInstallDir/triggers`.
- 10 Copy the trigger `ptw.r` from `QADERPInstallDir\xrc` to the directory `QADCRMInstallDir\prod\mfgsrv\triggers` using an FTP or WinSCP program.
- 11 Modify the script file used by QAD Enterprise Applications Character Client to connect to the `bisgen`, `bisgmenu`, and `dataexch` databases and startup program:

```
exec $DLC/bin/_progres -rq
$MFGDB -ld qadddb -znotrim -trig triggers
-db $ADMDB -ld qadadm
-db $HLPDB -ld qadhelp
-db $QADSAMDB -ld bisgen -trig triggers
-db $EDATADB -ld dataexch -trig triggers
-db $EBMENUDB -ld bisgmenu -trig triggers
-cpstream iso8859-1 -cpinternal iso8859-1 -cpcoll basic
-Bt 350 -c 30 -D 100 -mmax 3000 -nb 200 -s 63
-E -d dmy -yy 1970 -T /ext1/mfgeB/mfgwork -h 8
-p mfbg.p
```

Setting Up the AppServer Environment

QXtend Outbound, QAD AdminService, QAD ERP application, Sales Order Integration, and QAD Remote Sales data synchronization use Progress AppServer. You must prepare the AppServer environment to support these features.

To prepare the AppServer environment:

- 1 Define new AppServer broker for test and production in the `ubroker.properties` file where QAD EE is installed. Use the Progress `$DLC/bin/genuuid` utility to generate a new unique UUID for the new Progress Appserver definition.

- 2 Specify `srvrStartupParam` parameter for the test broker as follows:

```
srvrStartupParam=-pf <QAD ERP Application parameter file with full path>
```

- 3 Specify `srvrStartupProc` parameter for the test broker as follows:

```
srvrStartupProc=QADERPInstallDir/integration/prod/progs/pappsistart.p
```

- 4 Include the following folders in the `PROPATH` parameter for the test broker:

```
QADERPInstallDir/integration/test/integration/mfgpro
QADERPInstallDir/integration/prod/integration/mfgpro
QXtendOutboundInstallDir/
QADERPDesktopInstallDir/com/mfgpro
QADERPDesktopInstallDir/
QADERPInstallDir
QADERPInstallDir/us/bbi
QADERPInstallDir/us
QADERPInstallDir/us/sq
QADERPInstallDir/us/tx
QADERPInstallDir/config/
QADERPInstallDir/qra/qra.pl
QADERPInstallDir/fin/proxy.pl
QADERPInstallDir/fin/proxy/
QADERPInstallDir/integration/test/
QADERPInstallDir/integration/test/dataexch
QADERPInstallDir/integration/test/progs
QADERPInstallDir/integration/test/system
QADERPInstallDir/integration/test/triggers
QADERPInstallDir/integration/test/report
QADERPInstallDir/integration/prod/
QADERPInstallDir/integration/prod/dataexch
```

```
QADERPInstallDir/integration/prod/progs
QADERPInstallDir/integration/prod/system
QADERPInstallDir/integration/prod/triggers
QADERPInstallDir/integration/prod/report
```

5 Include the following folders in the PROPATH parameter for the prod broker:

```
QADERPInstallDir/integration/prod/integration/mfgpro
QXtendOutboundInstallDir/
QADERPDesktopInstallDir/com/mfgpro
QADERPDesktopInstallDir/
QADERPInstallDir
QADERPInstallDir/us/bbi
QADERPInstallDir/us
QADERPInstallDir/us/sq
QADERPInstallDir/us/tx
QADERPInstallDir/config/
QADERPInstallDir/qra/qra.pl
QADERPInstallDir/fin/proxy.pl
QADERPInstallDir/fin/proxy/
QADERPInstallDir/integration/prod/
QADERPInstallDir/integration/prod/dataexch
QADERPInstallDir/integration/prod/progs
QADERPInstallDir/integration/prod/system
QADERPInstallDir/integration/prod/triggers
QADERPInstallDir/integration/prod/report
```

6 Start the AppServer broker using the following command:

```
ProgressInstallDir/bin/asbman -name <broker name> -start
```

7 To start the AppServer automatically, modify the QAD-supplied startup batch files.

Configuring the Environment for Sales Order Integration

QAD CRM uses CIM to create sales orders in QAD Enterprise Applications. If you plan to use this feature, use the AppServer from the QAD Enterprise Applications machine.

You must also perform the following configuration in your test and production environments.

Test Environment

1 Do either of the following:

- If QAD Enterprise Applications is installed on a Linux\UNIX system, copy
`QADCRMInstallDir\compile\bin\client_cim_linux.sh` to
`QADERPInstallDir/script` (where all QAD Enterprise Applications batch files are available).
- If QAD Enterprise Applications is installed on Windows, copy
`QADCRMInstallDir\compile\bin\client_cim_win.bat` to
`QADERPInstallDir/script` (where all QAD Enterprise Applications batch files are available).

2 Open the copied `client_cim_linux.sh/client_cim_win.bat` file in an editor and make sure the DLC and PROPATH entries have valid values.

For example in case of Linux/Unix, it should look like this:

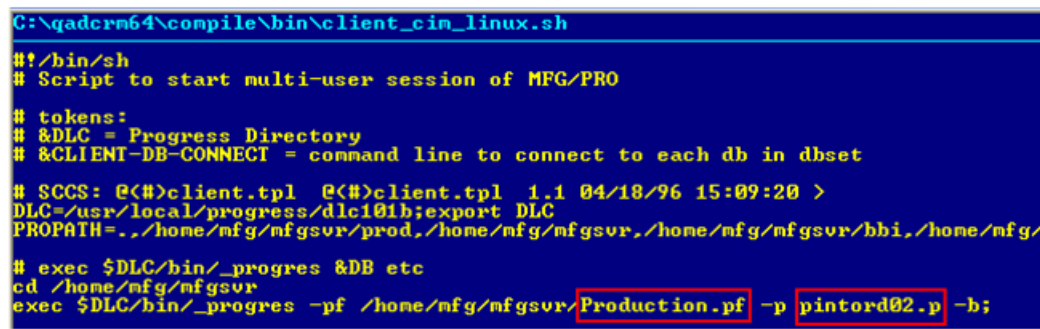
```
&DLC = /home/progress/dlc101c
&PROPATH =
QXtendOutboundInstallDir/:QADERPDesktopInstallDir/com/mfgpro:QADERPDesktopInstallDir/:
QADERPInstallDir/:QADERPInstallDir/us/bbi:QADERPInstallDir/us:QADERPInstallDir/us/sq:Q
ADERPInstallDir/us/tx:QADERPInstallDir/config/:QADERPInstallDir/qra/qra.pl:QADERPInsta
```

```
llDir/fin/proxy.pl:QADERPInstallDir/fin/proxy/:QADERPInstallDir/integration/test/:QADE
RPInstallDir/integration/test/dataexch:QADERPInstallDir/integration/test/progs:QADERPI
ninstallDir/integration/test/system:QADERPInstallDir/integration/test/triggers:QADERPI
ninstallDir/integration/test/report:QADERPInstallDir/integration/test/integration/mfgpro:Q
ADERPInstallDir/integration/prod/:QADERPInstallDir/integration/prod/dataexch:QADERPI
ninstallDir/integration/prod/progs:QADERPInstallDir/integration/prod/system:QADERPI
ninstallDir/integration/prod/triggers:QADERPInstallDir/integration/prod/report:QADERP
ninstallDir/integration/prod/integration/mfgpro
```

3 Modify the paths of the following files in the

client_cim_linux.sh/client_cim_win.bat file:

- Production.pf. This parameter file should connect the QAD CRM and QAD ERP application test databases and qxevents database if QXtend is installed. You need to create one if you cannot use any existing .pf file.
- pintord02.r file located in the QADERPInstallDir/integration/prod/integration/mfgpro directory



```
C:\qadcrm64\compile\bin\client_cim_linux.sh
#!/bin/sh
# Script to start multi-user session of MFG/PRO
# tokens:
# &DLC = Progress Directory
# &CLIENT-DB-CONNECT = command line to connect to each db in dbset
# SCCS: @(<#>client.tpl @(<#>client.tpl 1.1 04/18/96 15:09:20 >
DLC=/usr/local/progress/dlc101b;export DLC
PROPATH=../home/mfg/mfgsvr/prod../home/mfg/mfgsvr../home/mfg/mfgsvr/bbi../home/mfg/
# exec $DLC/bin/_progres &DB etc
cd /home/mfg/mfgsvr
exec $DLC/bin/_progres -pf /home/mfg/mfgsvr/Production.pf -p pintord02.p -b;
```

Production Environment

1 Do either of the following:

- If your QAD ERP application is installed on a Linux/UNIX system, copy QADCRMInstallDir\compile\bin\client_cim_linux.sh as client_cim_prod_linux.sh to QADERPInstallDir/script (where all QAD Enterprise Applications batch files are available).
- If your QAD ERP application is installed on Windows, copy QADCRMInstallDir\compile\bin\client_cim_win.bat as client_cim_prod_win.bat to QADERPInstallDir/script (where all QAD Enterprise Applications batch files are available).

2 Open the copied client_cim_prod_linux.sh/client_cim_prod_win.bat file in an editor and make sure the DLC and PROPATH entries have valid values.

For example, for Linux/UNIX, it should look like this:

```
&DLC = /home/progress/dlc101c
&PROPATH =
QXtendOutboundInstallDir/:QADERPDesktopInstallDir/com/mfgpro:QADERPDesktopInstallDir/:
QADERPInstallDir/:QADERPInstallDir/us/bbi:QADERPInstallDir/us:QADERPInstallDir/us/sq:Q
ADERPInstallDir/us/tx:QADERPInstallDir/config/:QADERPInstallDir/qra/qra.pl:QADERPInsta
llDir/fin/proxy.pl:QADERPInstallDir/fin/proxy/:QADERPInstallDir/integration/prod/:QADE
RPInstallDir/integration/prod/dataexch:QADERPInstallDir/integration/prod/progs:QADERPI
ninstallDir/integration/prod/system:QADERPInstallDir/integration/prod/triggers:QADERPI
ninstallDir/integration/prod/report:QADERPInstallDir/integration/prod/integration/mfgpro
```

Open the copied `client_cim_linux.sh/client_cim_win.bat` file in an editor and make sure that `PROPATH` entries have QXtend Outbound install folder of prod env if QXtend is installed.

- 3 Modify the paths of the following files in the `client_cim_prod_linux.sh/client_cim_prod_win.bat` file:

- `Production.pf`. This parameter file should connect the QAD CRM and QAD ERP application prod databases and qxevents database if QXtend is installed. You need to create one if you cannot use any existing `.pf` file.
- `pintord02.r` file located in the `QADERPInstallDir/integration/prod/integration/mfgpro` directory.

Configuring QXtend for Integration

This section explains how to configure QXtend in order to enable data transfer between QAD EE and QAD CRM. It involves various settings in QAD EE, QXtend Outbound and in QXtend Inbound.

- 1 Configure Event Daemon settings using Event Daemon Configure in the .NET UI.

Fig. 2.5
Event Daemon Configure

Instances. Enter 5.

Log-in ID for this Daemon/Password for this Daemon. Enter the log-in ID and password for this daemon.

Daemon Log File. Specify the Daemon log file; for example, `/qad/mfgpro/93/crm/work/EventDaemon.log`.

Daemon Start Directory. Specify the Daemon start directory; for example, `/qad/mfgpro/93/crm/work/`. Make sure that the directory has write permission.

- 2 Create event destination using Event Destination Create in the .NET UI.

Fig. 2.6
Event Destination

Note The Modify function is shown here to provide an example of values to enter in the Event Destination-Create function.

Destination Name. Enter qadcrm.

Destination Type. Choose Direct AppServer.

AppServer Connection. Specify the AppServer Connection QXtend Outbound SI AppServer connection string; for example:

appserver://coli45.qad.com:42398/testsfm93qxoSIapp

Where coli45 is the AppServer host name; 42398 is the NameServer port number; testsfm93qxoSIapp is QXtend Outbound SI AppServer broker name.

AppSever Procedure. Enter com/qad/qra/si/RPCRequestService.p

3 Create event configuration for the following components in all the entities of all the integrated components using Event Configuration Create in the .NET UI:

- Business Relation
- Supplier
- Customer
- Customer Ship-To
- End User
- Domain
- Domain Property
- Currency
- Exchange Rate
- User

Repeat the above steps for all the entities of all the domains available in the QAD ERP.

Fig. 2.7
Event Configuration Create

Component. Choose one of the above-mentioned components in the list by searching for it using the Component Label field; for example, choose Business Relation.

Publish Any Update. Select this option.

Object Status. Leave the field blank.

Destination Name. Enter qadcrm.

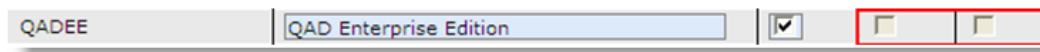
Active. Select this option.

- 4 Start the event daemon using the Event Daemon Start. When the event daemon is started, the system displays the message: The daemon is successfully started.
- 5 Update CRM application code using System Maintain in the .NET UI. In System Maintain, specify QAD EE as the application ID.

Configuring QXtend Outbound for Integration

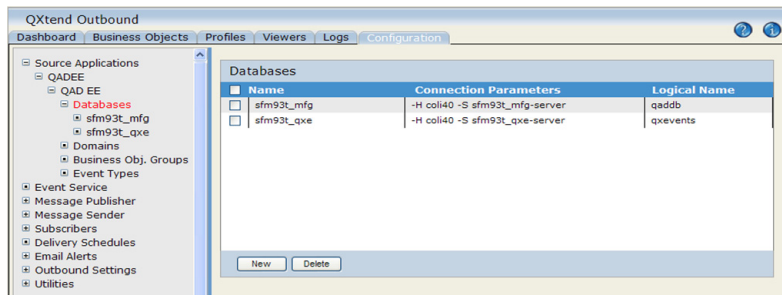
- 1 Create source application for QAD CRM integration.
 - a In a web browser, enter the QXtend Outbound URL; for example, <http://coli47.qad.com:10040/testcrm93qxo/>.
 - b In the QXtend Outbound main page, click Configuration.
 - c Expand Source Applications.
 - d Make sure that source application type QAD EE is created. If it does not exist, create one with the following details:
 - Name as QADEE
 - Description as QAD Enterprise Edition
 - Active selected
 - Use RowIDs deselected

- Direct Data Publish (DDP) only deselected



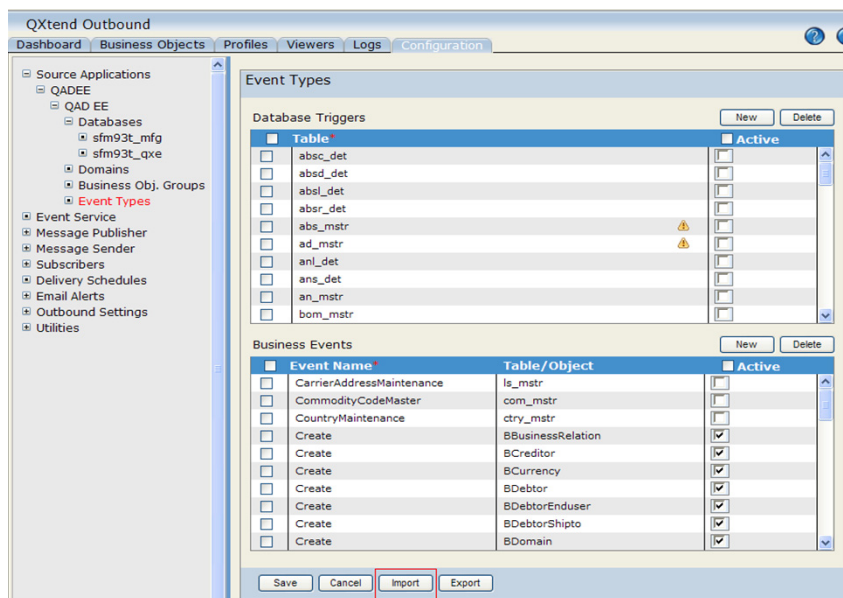
- e Create a new source application. Specify QAD EE as the code and leave AppServer parameters blank.
- f If QXtend version is 1.6.2.6 or later, create the following databases:
 - Add one database and specify Name of qadddb database (for example, sfm93t_mfg), Connection Parameters (for example, -H coli40 -S sfm93t_mfg-server, where coli40 is the database host name and sfm93t_mfg-server is the service name created for the qadddb database) and Logical name of mfg database as qadddb.
 - Add database and specify Name of qxevents database (for example, sfm93t_qxe), Connection Parameters (for example, -H coli40 -S sfm93t_qxe-server, where coli40 is the database host name and sfm93t_mfg-server is the service name created for qadddb database) and Logical Name (for example, qxevents)

Fig. 2.8
Set Up Databases



- g Make sure default event types are imported. If not, import event types by selecting the Import button.

Fig. 2.9
Import Event Type



h Create event types for CRM integration for the following objects using Events Create, Modify, and Delete.

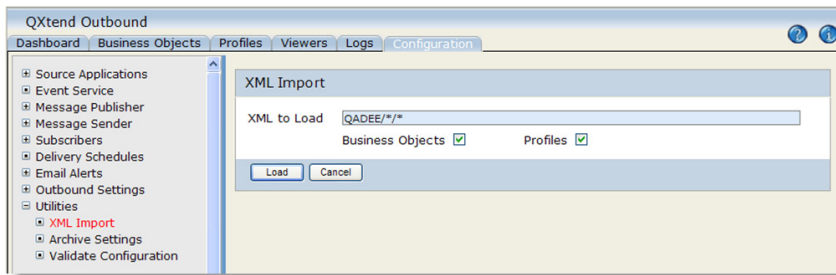
- BBusinessRelation
- BCreditor
- BCurrency
- BDebtor
- BDebtorEndUser
- BDebtorShipto
- BDomain
- BDomainProperty
- BExchangeRate
- BUser

2 Configure schemas, business objects and profiles.

If you are using QXtend 1.6.2.6 or later, use the following steps to load business objects and profiles:

- Go to the QXtend Outbound main page.
- Click the Configuration tab.
- In the left pane, choose Utilities|XML Import.
- In the XML Import screen, specify QADEE/*/* in the XML to Load field.
- Click Load to import business objects and profiles.

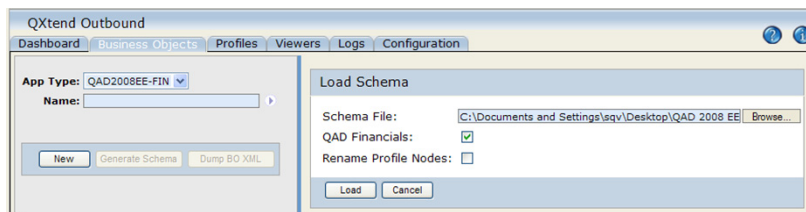
Fig. 2.10
XML Import



If your QXtend version is earlier than 1.6.2, use the following steps:

- a** Go to the QXtend Outbound main page.
- b** Click the Business Objects tab.
- c** Select the App Type created earlier, such as QAD2008EE-FIN.
- d** Click the New button.

Fig. 2.11
Load Schema



Schema File. Specify the following as the schema file for the business relation:

```
QADCRMInstallDir\compile\integration\eb3\schemas\<QAD EE
Version>\bbusinessrelation-ERP3_1.xsd
```

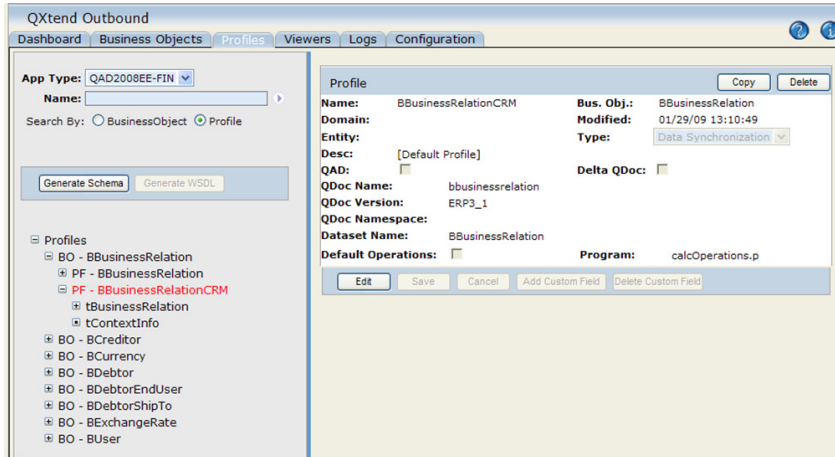
QAD Financials. Select QAD Financials.

Rename Profile Nodes. Leave this option deselected.

- e** Click Load to load the schema.
- f** Repeat steps d and e to load schemas for the following components:
 - BCreditor
 - BDebtor
 - BDebtorShipto
 - BDebtorEndUser
 - BDomain
 - BDomainProperty
 - BCurrency
 - BExchangeRate
 - BUser

- g** In the left pane, select the profile radio button.
- h** Select default profile for business relation.
- i** Click Copy to create a new profile for CRM integration.

Fig. 2.12
Create Profile



Name. Enter a profile name, such as BBusinessRelationCRM.

QDoc Name. Enter a QDoc name in lower case; for example, bbusinessrelation.

QDoc Version. Enter ERP3_1.

Type. Choose Data Synchronization.

- j** Make sure that all the ID fields are included for the BBusinessRelation profile. To do this, select the profile and click the Edit button to select check boxes for ID fields; then click Save.

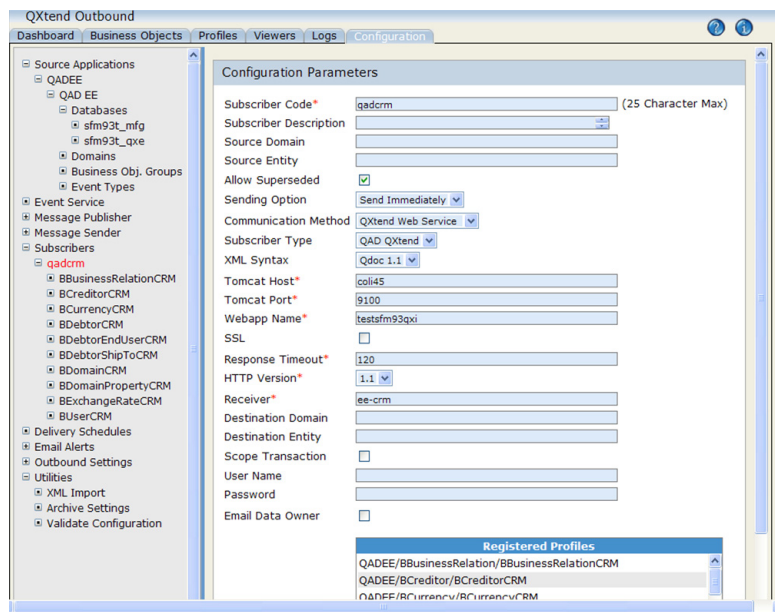
- k** Repeat steps h through j to create profiles for all the following components:

- BCreditor
- BDebtor
- BDebtorShipto
- BDebtorEndUser
- BDomain
- BDomainProperty
- BCurrency
- BExchangeRate
- BUser

3 Create a new subscriber

- a Go to the QXtend Outbound main page.
- b Click the Configuration tab.
- a In the left pane, click Subscriber.
- b Click New to create a new subscriber.

Fig. 2.13
Create Profile



Subscriber Code. Enter qadcrm.

Allow superseded. Select this option.

Sending Option. Choose Send Immediately.

Communication Method. Choose QXtend Web Service.

XML syntax. Choose QDoc 1.1.

Tomcat Host. Enter the Tomcat host name.

Tomcat Port. Enter Tomcat host port.

Webappname. Enter the Inbound Webappname; for example, testcrm93qxi.

HTTP Version. Enter 1.1.

Receiver Name. Specify the QXtend Inbound receiver name.

Destination Domain. Leave this field blank.

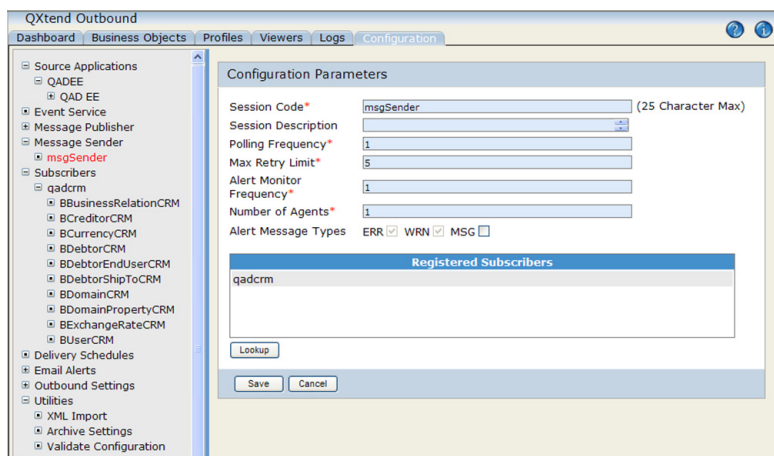
Destination Entity. Leave this field blank.

Scope Transaction. Leave this option deselected.

- c Click Register Profiles.

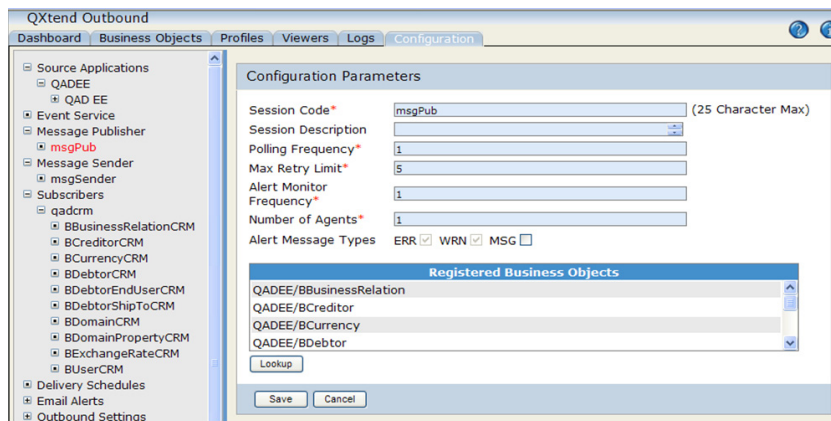
- d Select all the profiles created for CRM from the list on the right and click Add the Profiles.
 - e Click Register Src Apps and select Source Application.
 - f Click Save.
- 4 Configure Message Sender.
- a Go to the QXtend Outbound main page.
 - b Click the Configuration tab.
 - c From the left pane, click Message Sender.
 - d Select an available message sender under Message Sender. Create one if no default message sender exists.
 - e Select the Lookup button.
 - f Select newly created Subscriber and click Add.
 - g Click save to save the details.

Fig. 2.14
Create Message Sender



- 5 Configure Message Publisher.
- a Go to the QXtend Outbound main page.
 - b Click the Configuration tab.
 - c From the left panel, click Message Publisher.
 - d Select available message Publisher under Message Publisher. Create one if default one does not exist.
 - e Click the Lookup button.
 - f Select App Type QAD EE.
 - g Select BusinessObjects created for CRM integration and click Add to include it in the Message publisher.

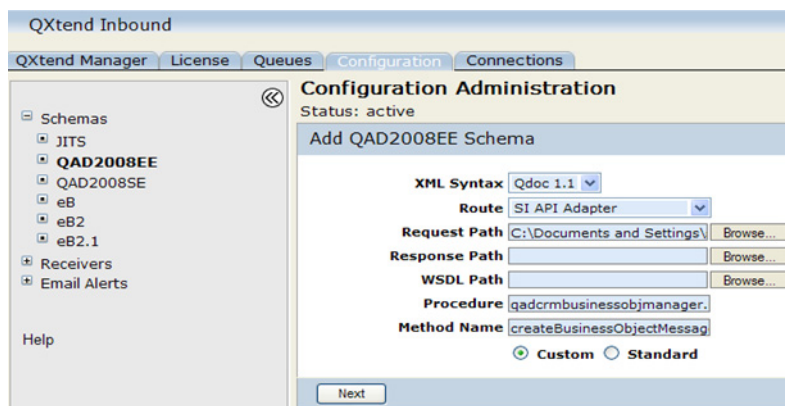
Fig. 2.15
Configure Message Publisher



Configuring QXtend Inbound for Integration

- 1 Load Business Components schemas for CRM integration only if QXtend version is prior to 1.6.2.6.
 - a Go to the QXtend Inbound main page.
 - b Go to the Configuration tab.
 - c Select Schemas from the left pane.
 - d Select QAD2008EE under schemas
 - e Click Add.
 - f Select Continue Configuration update without suspending QXtend Inbound.

Fig. 2.16
Configure Message Publisher



XML syntax. Select Qdoc 1.1.

Route. Select SI API Adapter.

Request Path. Enter the following:

`QADCRMInstallDir\compile\integration\eb3\schemas\<QAD EE Version>\bbusinessrelation-ERP3_1.xsd`

Response Path. Leave this field blank.

WSDL Path. Leave this field blank.

Procedure. Enter `qadcrmbusinessobjmanager.r.`

Method Name. Enter `createBusinessObjectMessage`.

Custom/Standard. Select Custom.

g Click Next.

h Select the receiver ee-crm specified during subscriber configuration.

i Repeat the above steps to load schemas for the following components:

- BCreditor
- BDebtor
- BDebtorShipto
- BDebtorEndUser
- BDomain
- BDomainProperty
- BCurrency
- BExchangeRate
- BUser

2 Create New Receiver for data transfer from QAD EE to QAD CRM.

a Go to the QXtend Inbound main page.

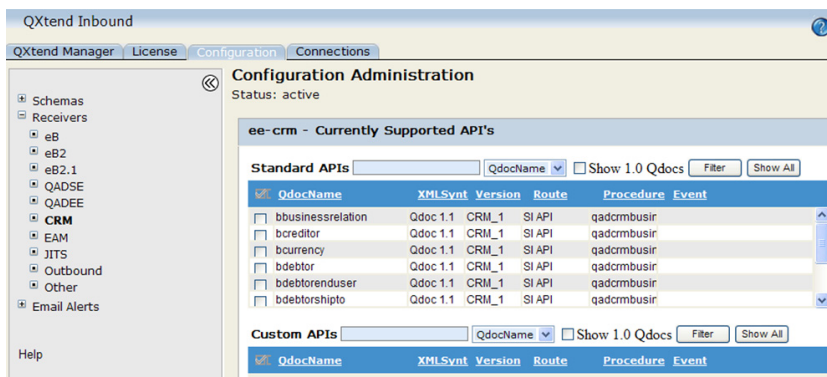
b Go to the Configuration tab.

c Select Receivers from left pane.

d Select QADEE if QXtend Version is prior to 1.6.2.6; otherwise, select CRM.

e Click New.

Fig. 2.17
Add Receiver



- f** Select Continue Configuration update without suspending QXtend Inbound.
 - g** Specify the receiver name as ee-crm.
 - h** Leave licensed domains blank.
 - i** Click Next.
 - j** Select the following QDocs from Standard APIs if QXtend version is 1.6.2.6 or later; otherwise select Qdocs from custom APIs.
 - BBusinessRelation
 - BCreditor
 - BDebtor
 - BDebtorShipto
 - BDebtorEndUser
 - BDomain
 - BDomainProperty
 - BCurrency
 - BExchangeRate
 - BUser
- 3** Create New Connection for data transfer from QAD EE to QAD CRM.
- a** Go to the QXtend Inbound main page.
 - b** Go to the Connection tab.
 - c** Expand Add connection pool.
 - d** Click Add SI-API pool.

Fig. 2.18
Add Receiver

The screenshot shows the 'Configuration Settings Update' dialog box within the 'QXtend Inbound' application. The 'Configuration' tab is selected. On the left, a tree view shows 'Functions' expanded, with 'Update Configuration' selected. The main area contains various configuration fields with their current values:

- Debug: No
- App Server Name: testsfm93SIapp
- Host: coli45
- Port: 42398
- User: mfg
- Password: [masked]
- Domain (If Applicable):
- Minimum Connections: 1
- Maximum Connections: 5
- Maximum Failures: 20
- Connections Monitor Frequency: 60000
- Maximum Connection Idle Time: 180000
- Maximum Connection Init Time: 20000
- Wait time for Idle Connection: 10000
- Max Licensed Agent Retry: 5
- Wait time for Licensed Agent: 20000

At the bottom, there are 'Save' and 'Cancel' buttons.

Pool Name. Enter the same name as the receiver name, such as ee-crm.

AppServer Name. Enter the AppServer name created when you set up the AppServer environment; for example, testsfm93SIapp.

Host. Enter the AppServer host name.

Port. Enter the NameServer port number.

e Click Save.

4 Create new receiver for data transfer from QAD CRM to QAD EE.

a Go to the QXtend Inbound main page.

b Go to the Configuration tab.

c Select Receivers from the left pane.

d Select QADEE and Click New.

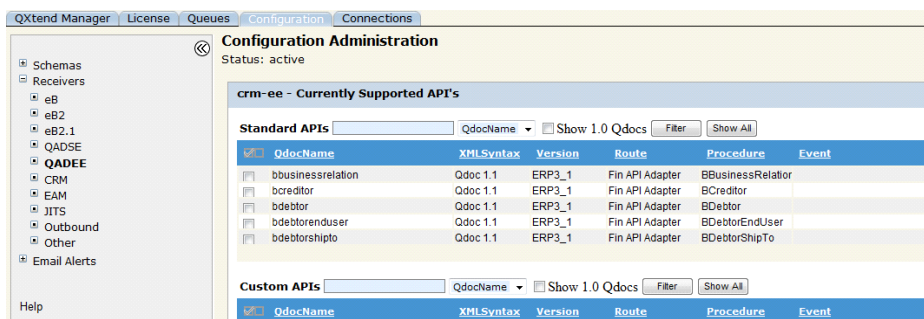
e Select Continue Configuration update without suspending QXtend Inbound.

f Specify crm-ee as the receiver name and leave licensed domains blank.

g Select following QDocs from Standard APIs:

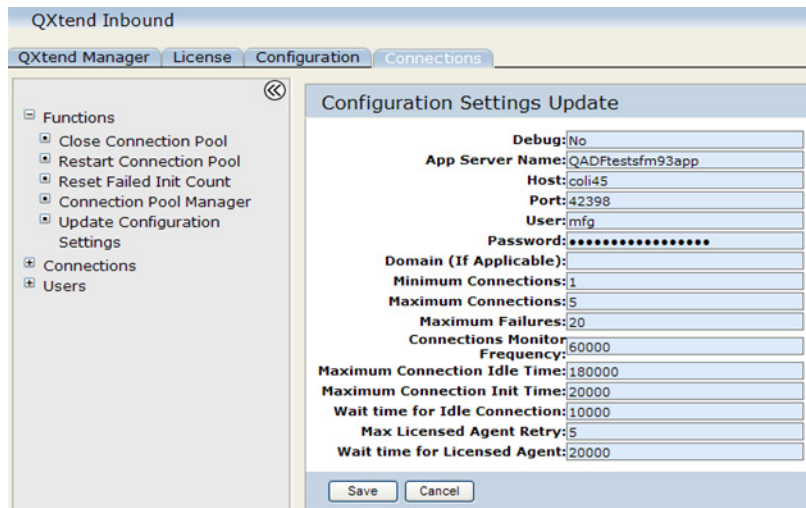
- BBusinessRelation
- BCreditor
- BDebtor
- BDebtorShipto
- BDebtorEndUser
- BDomain
- BDomainProperty
- BCurrency
- BExchangeRate
- BUser

Fig. 2.19
Select QDocs



- 5 Create New Connection for data transfer from QAD CRM to QAD EE.
 - a Go to the QXtend Inbound.
 - b Go to the Connection tab.
 - c Expand Add connection pool.
 - d Click Add Fin API pool.

Fig. 2.20
Create Connection



Pool Name. Specify the same name as the receiver name such as crm-ee.

AppServer Name. Specify QAD EE Financial AppServer broker name; for example, QFtestsfm93app.

Host. Enter the AppServer Host name.

Port. Enter the NameServer port number.

User/Password. Enter the user and password.

- e Click Save.

Setting Up Clients

Users can access QAD CRM through the client software installed on their computers.

Before setting up clients, configure the system with mandatory information. You should create user profiles, assign users necessary permissions, and set up the database. For details, see Chapter 3, “Post-Installation Configuration,” on page 73.

Prerequisites

Before setting up QAD CRM clients, verify that you have met the following prerequisites:

- System requirements for QAD CRM. See “System Requirements” on page 11.

- Configured QAD CRM databases to use client/server connections.
- QAD ERP application is functioning properly and databases are configured to use client/server connections (if you plan to integrate to QAD CRM).
- Mapped network drives on each client for Progress and QAD CRM components installed on the file server.
- Your network is operating.

Installing and Configuring Progress on Client Computers

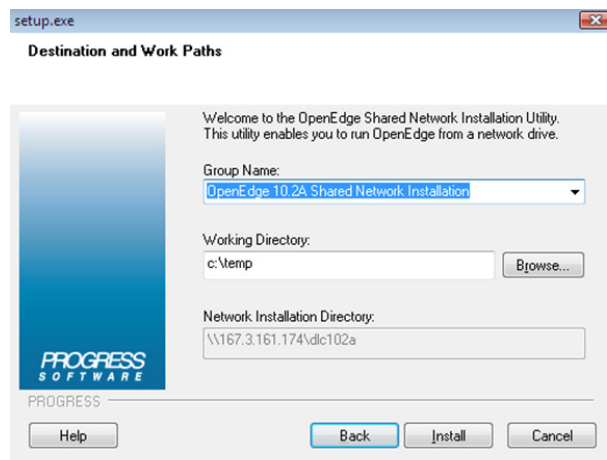
You typically use the Progress shared network installation utility to install Progress Client on client computers from a central location on the network. This utility updates client computers with system files, icons, and registry entries that are necessary for launching Progress locally. Each client shares the network copy of Progress.

To install Progress on a client computer:

- 1 Select the logical network drive you mapped for Progress. For example `S:\`.
- 2 Run `S:\ProgressInstallDir\netsetup\setup.exe` where `S:` is the mapped drive.

This starts the Progress shared network installation utility for installing Progress on client computers.

Fig. 2.21
Destination and Work Paths



- 3 In the Group Name field, select the default group name or type a different name. If the group name does not already exist, the installation utility adds it to the Program menu of your computer.
- 4 Choose a working directory. For example, `C:\temp`.
- 5 Click Install to complete the installation.

Note One-time progress client configuration for shared network installations: When the shared network installation is done for the first client machine, the `progress.ini` file on the file server needs to be modified as described below. Once this is done, this procedure does not need to be performed for shared network installations on subsequent client machines.

To configure the Progress client:

- 1 Open this file in an editor:

`S:\ProgressInstallDir\dlc\bin\progress.ini`

- 2 In the startup section, add this line, if it is not already present:

`UseSourceEditor=no`

- 3 Save and close the file.

Installing Clients

Client computers connect to the QAD CRM database and file servers through an Ethernet connection running the TCP/IP protocol.

You install the client program on a server that is accessible by workstations. Users can access this program and install the client program. This installation is done using the QAD CRM shared network installation utility.

The shared network installation utility updates each client computer with all system files, icons, and registry entries required to launch the system locally. All clients share the network copy of the system.

The client installation program also initiates the installation program of the Crystal Distribution package. The system requires this software to generate various reports using Crystal Reports.

See “Configuring the File Server” on page 28.

The client installation program uses the `services.txt` and `client.pf` files on the file server to configure the clients.

To install the QAD CRM client software on a client computer:

- 1 Select the logical network drive you mapped for QAD CRM. For example `R:\`.

- 2 For the test environment, run:

`R:\test\netsetup\setup.exe`

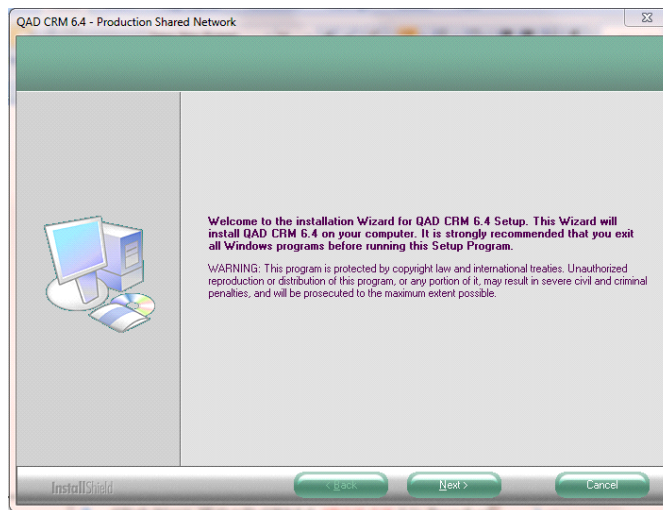
For the prod environment, run:

`R:\prod\netsetup\setup.exe`

where `R:` is the mapped drive.

The shared network installation utility starts.

Fig. 2.22
Welcome Screen



- 3 Click Next. If QAD CRM 6.4B2/6.3/6.1 is found on the system, Setup displays a warning message. Click Yes to continue with the installation or No to abort the setup.

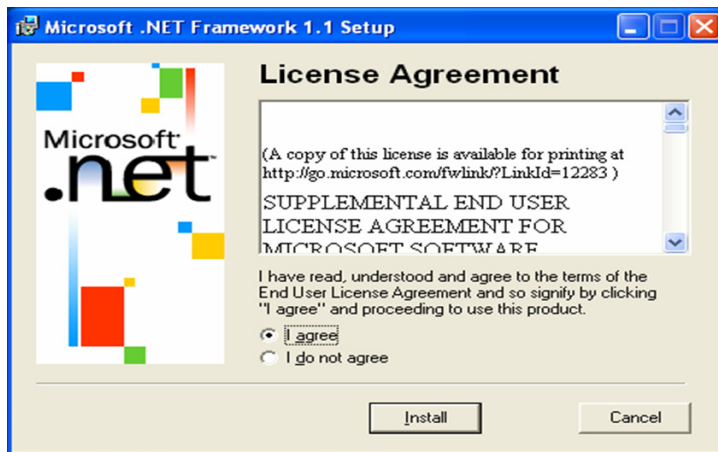
Note It is highly recommended that you uninstall any previous version of QAD CRM prior to installing the latest release.

- 4 Setup checks for the following required files in the installation directory in order to proceed. If any one of the following files is not found, an error message appears and the installation is aborted.
 - parameter file (.pf)
 - .ini file
 - services.txt file with services defined in it

Note Normally, these files are located in the installation directory and you can continue with the installation in most circumstances.

- 5 Setup checks for the Progress version installed on the computer.
 - If the compatible Progress versions (10.2B01 or 10.2A02 or 10.1C03) are not found, setup displays an error message and aborts the installation.
 - If more than one Progress versions are installed on the computer, Setup first checks for Progress 10.2B01. If it cannot find that version, it checks for 10.2A02 and then 10.1C03.
- 6 Setup checks if Microsoft .NET Framework 1.1 runtime version is installed. If the runtime version cannot be found, a message appears. If Setup finds Microsoft .NET Framework 1.1 runtime license, it skips the steps for installing Microsoft .NET Framework 1.1. Click Yes. The License Agreement screen appears.
- 7 Read and accept the license terms and conditions and then click Install.

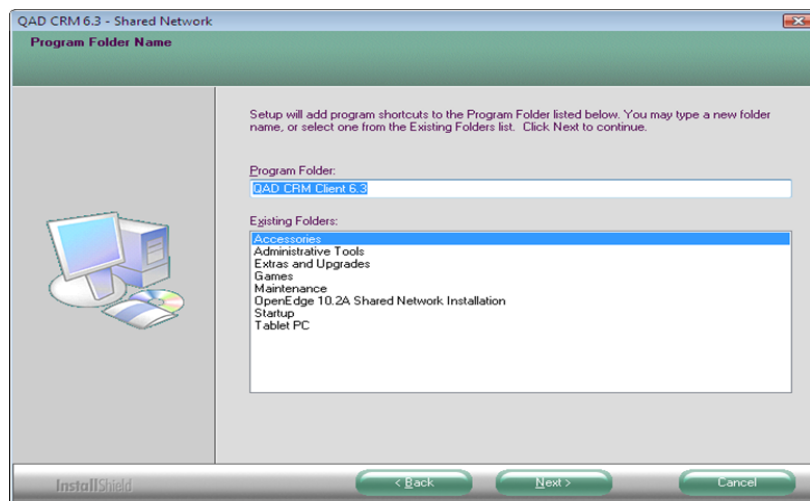
Fig. 2.23
License Agreement



A setup complete message appears when installation has finished.

- 8 Setup checks for Microsoft .NET Framework 3.5 SP1 on the system.
 - If Microsoft .NET Framework 3.5 SP1 is already installed, skip to the next step.
 - If Microsoft .NET Framework 3.5 SP1 is not found, Setup prompts you to install the component. Click yes to install Microsoft .NET Framework 3.5 SP1. Setup Wizard will install the component.
- 9 Click OK. The Destination Location screen appears.
- 10 To change the default installation folder, click Change. Browse and select the folder. Then click OK and then click Next.
The Program Folder screen appears.

Fig. 2.24
Program Folder Name



- 11 To change the default program folder for storing shortcuts, specify the desired folder in the Program folder field. Click Next. The Confirmation screen appears.

- 12 Click Install. Setup starts installing the system components in the designated directory.
- 13 Setup initiates the Crystal Distribution package installation or repair. If this software is already installed, you must select the Repair option. Selecting the Remove option will remove the Crystal Distribution package from the client computer.
- 14 To install the Crystal Distribution package, click Next.
The Select Installation Folder screen appears.
- 15 To change the default installation directory, click Browse. Specify the installation directory. Click Next. The Confirm Installation screen appears. Click Next to start installation.
- 16 On the Installation Complete screen, click Close to finish the Crystal Reports Installation.
- 17 Click Finish to end the QAD CRM 6.4 Shared Network installation.

If you encounter errors during the QAD CRM client installation, contact QAD Support.

Setup creates the following QAD CRM shortcut icons on the Desktop:

- QAD CRM client 6.4
- QAD CRM help
- QAD CRM release notes

Installing QAD Remote Sales

To install QAD Remote Sales on a remote computer:

- 1 Install the Progress and Progress Personal Database. For details, refer to the Progress documentation.
- 2 Install QAD Remote Sales on your remote computers.
- 3 Prepare an appropriate data subset from the host database and load it in QAD Remote Sales.

You must configure the system on the network and QAD Remote Sales on the remote computer to synchronize data.

Installing QAD Remote Sales

To install QAD Remote Sales on a remote computer:

- 1 Install the Progress Personal Database license at:
`C:\Progress\openedge`
- 2 Create a directory on the remote computer to store QAD Remote Sales program files. The assumed directory is:
`C:\QADRemoteSales`

Note In the case of Unicode implementation, you must have already done the following:

Ensure that on the file server, the Unicode databases are copied

`QADCRMInstallDir\compile\db\demo\unicode` to `QADCRMInstallDir\prod\db`.

This step should have been already performed during the main installation.

- 3 From the QAD CRM file server, copy the directories and their content from the following location to the new directory you created:

`QADCRMInstallDir\prod`

- 4 Run the following program:

`C:\QADRemoteSales\netsetup\remote\setup.exe`

This program starts the QAD Remote Sales installation.

- 5 Click Next.

If QAD CRM 6.4B2/6.3/6.1 is found on the system, Setup displays a warning message. Click Yes to continue with the installation or No to abort the setup.

It is highly recommended that you uninstall any previous version of QAD CRM prior to installing the latest release.

- 6 Setup checks for the Progress database version installed on the computer.

- If the compatible Progress versions (10.2B01 or 10.2A02 or 10.1C03) are not found, setup displays an error message and aborts the installation.
- It will check for the compatible Progress versions in a particular sequence. If Progress 10.2B01 is installed then it will use that to run QAD CRM 6.4. If Progress 10.2B01 is not found, it will check for 10.2A02 and then 10.1C03.

Select the Progress version you want to use and click Next.

- 7 Setup checks if Microsoft .NET Framework 1.1 runtime version is installed. If the runtime version cannot be found, a message appears.

- 8 Click Yes. The License Agreement screen appears.

- 9 Read the license terms and conditions. To accept all terms, select the I agree option and then click Install. A setup complete message appears when installation is complete.

- 10 Setup checks for Microsoft .NET Framework 3.5 SP1 on the system.

- If Microsoft .NET Framework 3.5 SP1 is already installed, skip to the next step.
- If Microsoft .NET Framework 3.5 SP1 is not found, Setup prompts you to install the component. Click yes to install Microsoft .NET Framework 3.5 SP1. Setup Wizard will install the component.

- 11 Click OK. The Destination Location screen appears.

- 12 To change the default installation folder, click Change. Browse and select the folder. Then click OK and then click Next. The Program Folder screen appears.

- 13 To change the default program folder for storing shortcuts, specify the folder you want in the Program folder field. Click Next. The Options Selected screen appears.

- 14 Click Install. Setup starts installing the system components in the designated directory.

- 15 During install, Setup checks some Progress files. If the files cannot be found, Setup prompts you to copy Progress files. It is recommended to choose Yes to copy the Progress files required.

- 16** The installation program now initiates the Crystal Distribution package installation or repair. If this software is already installed, select the Repair option.

Note Choosing the Remove option removes the Crystal Distribution package from the client computer.

- 17** To install the Crystal Distribution package, click Next.
The Select Installation Folder screen appears.
- 18** To change the default installation directory, click Browse. Specify the installation directory.
- 19** Click Next. The Confirm Installation screen appears. Click Next to start the installation.
- 20** On the Installation Complete screen, click Close to finish the Crystal Reports Installation.
- 21** Click Finish to end the QAD CRM 6.4 Remote Sales installation.

The QAD Remote Sales installer creates icons to start the system and access the help system.

After installation you can start QAD Remote Sales with demo data. You should restart the computer for your changes to take effect.

Note In case of Unicode implementation, you must have done the following:

Change some parameter values in the remote sales client parameter (.pf) file. The file name is `qadsfama.pf` and is available in the remote sales installation folder (`C:\QADRemoteSales`).

Update or add the following entries in the `qadsfama.pf` file:

```
-cpinternal UTF-8
-cpstream UTF-8
-cpcoll ICU-UCA
-cpcase Basic
```

Preparing QAD Remote Sales

Before preparing QAD Remote Sales, you must register the QAD Remote Sales database—called the remote node—with the host system on the network. This is required for data synchronization and data subset creation.

From the database on the network—also called the host node—you must create the data subset file for the remote node. This file is loaded onto the QAD Remote Sales.

To load the host node data subset onto the personal database:

- 1** Extract the appropriate data subset from the host node and save it in the `.res` file format.
- 2** Copy the data subset file of the node in `.res` format from:
`QADCRMInstallDir\prod\dataout`
to this directory on the computer where QAD Remote Sales is installed:
`QADRemoteSaleInstallDir\datain`
- 3** Log in as the demo in QAD Remote Sales.
- 4** Choose Main Menu|Remote Sales Data Synchronization|Receive Data to Recreate Current Node. The Node Requiring Re-creation dialog box appears.

- 5 From the Load data from list, choose File.
- 6 In the File Name field, specify the full path and name of the `.res` file.
- 7 Click OK. The system starts loading the data into the personal database.
- 8 Restart the system.

To enable data synchronization:

- 1 Choose Main Menu|Remote Sales Data Synchronization|Node Management Control|Synchronization settings.
- 2 Select the Enable Data Synchronization check box.
- 3 In the No of Days Modified Records must be kept field, type 30.
- 4 Restart QAD Remote Sales.

When needed, synchronize the data with the host node. You must ensure that the data synchronization feature is configured in QAD CRM. QAD Remote Sales users should periodically synchronize data with the host node to keep information current.

Post-Installation Configuration

This section describes post-installation configuration of QAD Customer Relationship Management (QAD CRM). It discusses the following topics:

Overview 74

Configuring Mandatory Information 75

Loading Language Files into QAD CRM 79

Configuring Function Information 82

Overview

After installing QAD CRM, you must configure it according to the requirements of your company. Most system features are based on these configurations. For example, users access the system through their user profile and permissions as configured in the system.

You must configure the system before using it in your company's production environment.

Custom settings of the system are categorized as mandatory configurations or function settings.

Mandatory Configuration Tasks

Mandatory configuration tasks provide the minimum information required to operate QAD CRM. These are typically one-time settings and must be completed before the system is used in the production environment. The system provides a Configuration Wizard to set up mandatory information.

Mandatory information includes:

- Details of the headquarters of your business unit
- Administrator profile
- Base currency
- Business year
- Data synchronization
- Look-up data

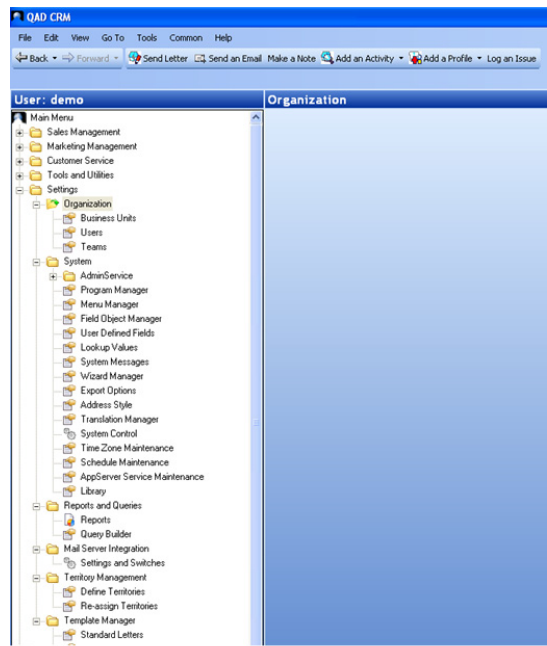
Function Settings

Function settings are useful for customizing and operating the system. They can be set up at any time during system deployment and include:

- User profiles
- Teams
- System parameters
- Menus
- Programs
- Wizards
- System messages
- User-defined frames
- Export options
- Templates
- Currency and foreign exchange rates
- VAT details
- Product details
- Territory details

You can customize the system with mandatory and function information through the System Setup module.

Fig. 3.1
System Setup Module



To integrate the system with your QAD ERP application, you must appropriately configure QAD CRM for integration. You must then transfer information from your QAD ERP application to the system.

Configuring Mandatory Information

You can configure the system with mandatory information using the Configuration Wizard, which is available when you first start the QAD CRM after installation. The Configuration Wizard leads you step by step through entering the mandatory data.

After configuring the system with mandatory information, log in using the admin user name and password. Then configure the system with function information.

To configure the system using the Configuration Wizard:

- 1 Start QAD CRM.

Fig. 3.2
Starting the Wizard



- 2 Click Setup. The Configuration Wizard screen appears.

Fig. 3.3
Installation Wizard - Business Unit

The screenshot shows the 'QAD CRM V6.1.1 Build 5 Installation Wizard' window. On the left is a sidebar with a tree view containing 'Business Unit' (selected), 'User', 'Data Synchronisation', 'Base Currency and Business Year', and 'Default Data'. The main area contains various input fields for business unit details: 'Unit ID:' (QAD), 'Name:' (QAD Inc.), 'Logo file:' (with a browse button), 'Address[1]:' (100 Innovation Place), 'Address[2]:', 'Address[3]:', 'Town/City:' (Santa Barbara), 'County:', 'State:' (CA), 'Post Code:' (93108), 'Country:' (UNITED STATES (USA) with a dropdown arrow), 'Telephone:' (with a browse button), 'Fax:', 'Email ID:' (with a browse button), 'Web address:', and 'Time zone:' (PST/PDT with a dropdown arrow). At the bottom right are navigation buttons: back, forward, cancel, and help.

- 3 Enter your business unit details.
- 4 Click Next.
- 5 Enter details for the system administrator user profile.

Fig. 3.4
Administrator Details

The screenshot shows the 'Administrator Details' screen of the QAD CRM V6.1.1 Build 5 Installation Wizard. The left sidebar contains the following options: Business Unit, User (selected), Data Synchronisation, Base Currency and Business Year, and Default Data. The main area is titled 'Details' and contains the following fields:

- User ID: Admin
- Name & Initials: Admin A
- Position: Administrator
- Language: English
- Time zone: (dropdown menu)
- Phone numbers and Email:
 - Direct: (text box)
 - Mobile: (text box)
 - Fax: (text box)
 - Home: (text box)
 - Business email ID: (text box)
 - Private email ID: (text box)
- Address:
 - Address[1]: (text box)
 - Address[2]: (text box)
 - Address[3]: (text box)
 - Town/City: (text box)
 - County: (text box)
 - State: (text box)
 - Post Code: (text box)
 - Country: (dropdown menu)
- Security:
 - Password: (text box)
 - Confirm Password: (text box)

At the bottom right, there are navigation buttons: a left arrow, a right arrow, a green checkmark, a red X, and a help icon.

6 Click Next.

Fig. 3.5
Node Details

The screenshot shows the 'Node Details' screen of the QAD CRM V6.1.1 Build 5 Installation Wizard. The left sidebar contains the following options: Business Unit, User, Data Synchronisation (selected), Base Currency and Business Year, and Default Data. The main area is titled 'Node details' and contains the following fields:

- Node ID: QAD
- Description: (text box)
- Time zone: PST/PDT
- Email ID: info@qad.com
- Enable Data Synchronisation: (checkbox, unchecked)
- No. of days modified records to be kept: 0

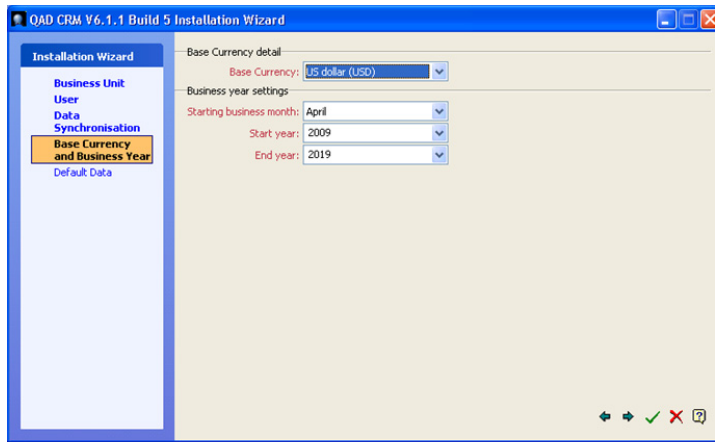
At the bottom right, there are navigation buttons: a left arrow, a right arrow, a green checkmark, a red X, and a help icon.

7 Enter host node details.

Note A node is a database that the system uses. The host node is the main central database to which QAD CRM connects.

8 Click Next.

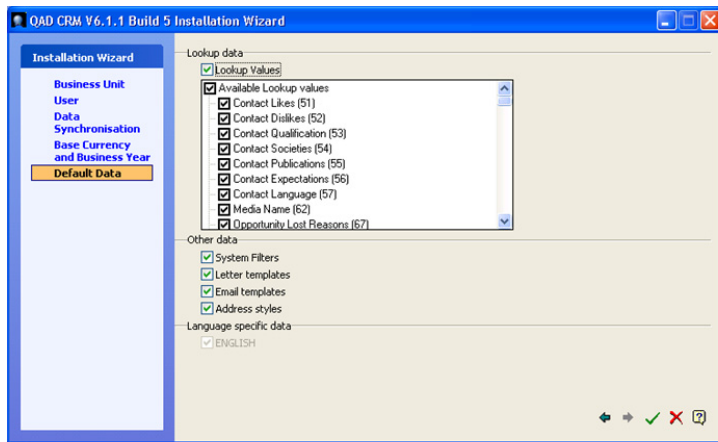
Fig. 3.6
Selecting Base Currency



9 From the Base Currency drop-down list, select the base currency that your company uses for business.

10 Click Next.

Fig. 3.7
Setting Lookup Values



11 Select the required options to configure look-up values and select the languages that the system must support.

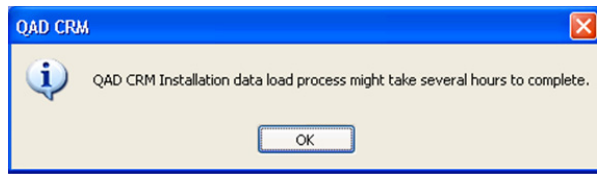
12 Click Save.

If you leave any mandatory input fields empty, the Configuration Wizard does not let you save the information. In this case use the Back and Next buttons to complete the information, then click Save.

The system is now configured with mandatory information.

13 Click OK. The message below appears.

Fig. 3.8
Data Load Process



If necessary, you can modify the configuration from the System Setup module. See *Administration Guide: QAD Customer Relationship Management* for details.

Warning Before modifying any mandatory information, analyze the results. For example, changing the base currency can adversely affect product pricing and exchange rates.

Loading Language Files into QAD CRM

If you need to load any language files after QAD CRM is installed, you must perform the tasks described below.

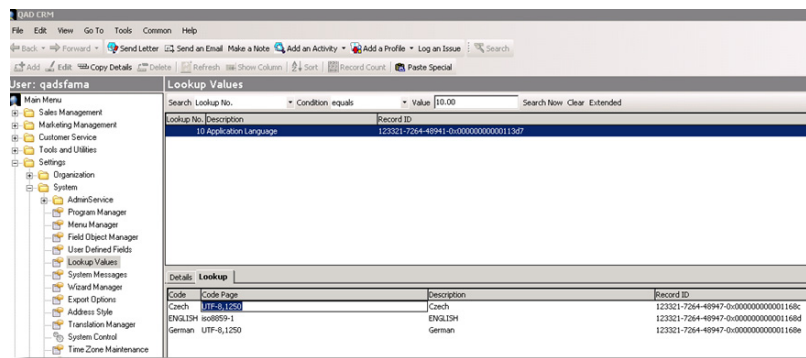
Perform the following general steps if you want to load language files after QAD CRM is installed:

- 1 Set up a new language record in the lookup table for lookup no = 10 and update the correct code page.
- 2 Run the QAD CRM Upgrade Utility to select and upload the language file.

Setting Up a New Language Record

- 1 From the QAD CRM Main Menu, choose Settings|System|Lookup Values.
- 2 Set Lookup No. equals 10.00 as the search criteria and click Search Now.
- 3 Under the Lookup tab in the lower frame, right-click and select Add to add a new language code.
- 4 Enter the code, code page, and description in the corresponding fields and save the record.

Fig. 3.9
Setting Up a New Language Record



Code. Enter the language code as supplied in the below language table; for example, if you want to load Castilian Spanish, enter code as ‘CastSpaní’. The system will validate the language file name against the code identifier during file load and will not load if it does not match.

Code Page. Enter the language code page as supplied in the below language table corresponding to the language code. For example, if you want to load Castilian Spanish, enter “UTF-8, ISO8859-1” as code page. System validates the code page against the Progress session code page. It will not load if the system code page does not match the language code page.

Description. Enter the language description as supplied in the below language table corresponding to the language code.

CRM 6.4 only supports UTF-8 and ISO8859-1 code pages.

Table 3.1
Language Table

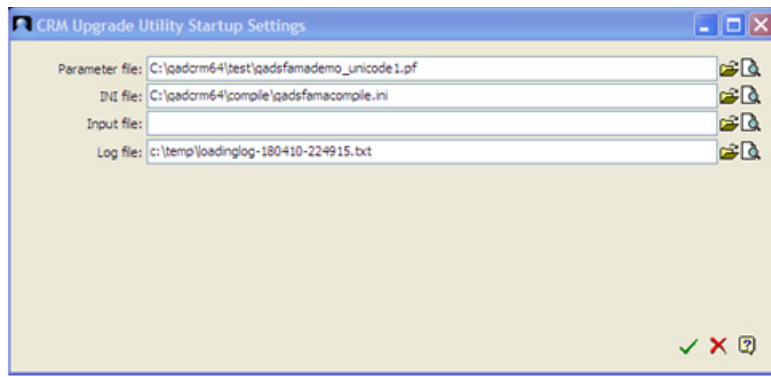
Code	Code Page	Description
CastSpan	UTF-8, ISO8859-1	Castilian Spanish
Dutch	UTF-8, ISO8859-1	Dutch
French	UTF-8, ISO8859-1	French
German	UTF-8, ISO8859-1	German
Italian	UTF-8	Italian
Japanese	UTF-8	Japanese
LatiSpan	UTF-8, ISO8859-1	Latin Spanish
Polish	UTF-8	Polish
Portug	UTF-8, ISO8859-1	Portuguese
SimpChin	UTF-8	Simplified Chinese
TradChin	UTF-8	Traditional Chinese

Loading Language File

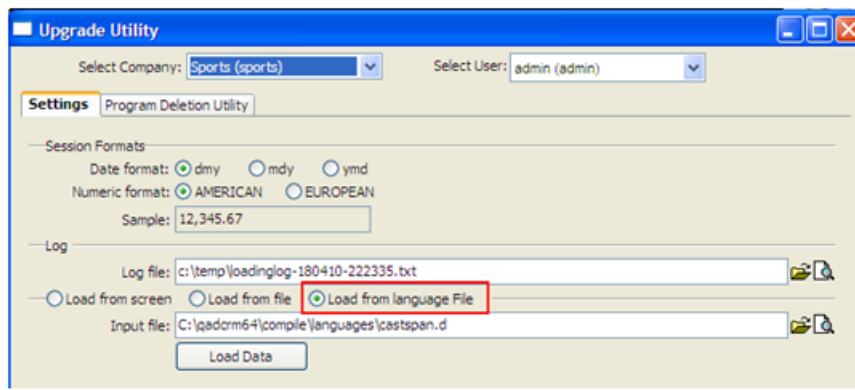
- 1 Launch the QAD CRM upgrade utility.
- 2 In the QAD CRM upgrade startup screen, specify the parameter file and the .ini file located under *QADCRMInstallDir\Environment* to connect to your CRM environment, such as test, compile, or prod; then click the OK icon (green check mark).

The parameter file (.pf) file should connect to the same databases where you created the language record.

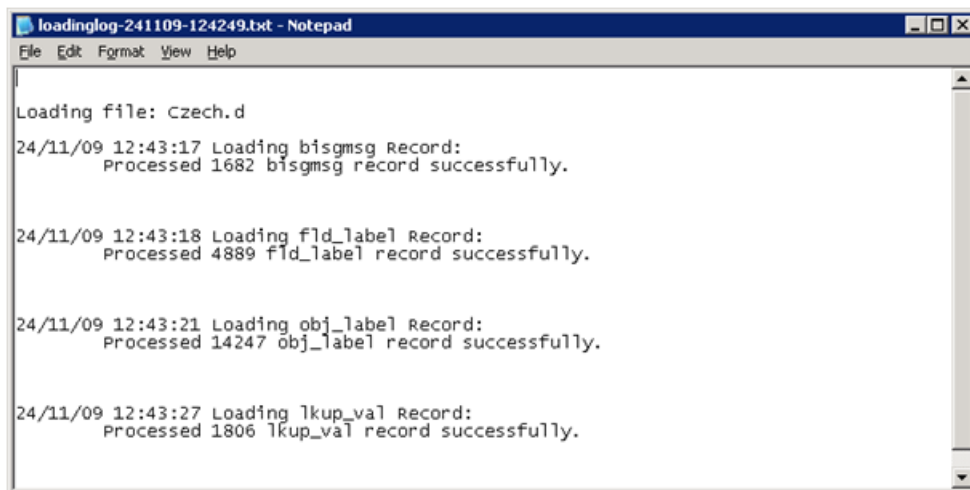
Fig. 3.10
CRM Upgrade Utility Startup Settings



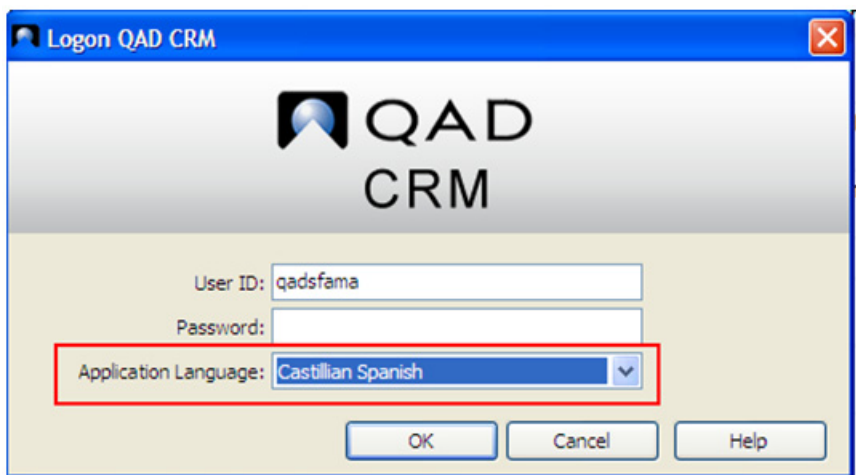
- 3 In the Upgrade Utility screen, select Load From Language File and specify the language file to load from the `QADCRMInstallDir\compile\languages` directory, where all CRM language files are located. If the `QADCRMInstallDir\compile\languages` directory was not created during installation or if new language files are provided, manually create the language directory under `QADCRMInstallDir\compile` and copy the language files you want to load to it.



- 4 Click Load Data. The data load process begins.
- 5 After the language file load is complete, a message prompts you to view the log file. Click Yes to open the log file. The following illustration shows how the log file will look after loading the `Czech.d` file. Four tables get loaded as a result of loading a language file. They are as follows:
 - bisgmsg
 - fld_label
 - obj_label
 - lkup_val



- 6 If the system fails to load them successfully, contact QAD Support.
- 7 Log out and log in to CRM again. In the log-in screen, select the language you just loaded the language file for from the Application Language field. After you log in, you will see the CRM user interface in the new language.



Configuring Function Information

Function information is supplied using various system setup features after the application has been configured with mandatory information. For details, see *Administration Guide: QAD Customer Relationship Management*.

Upgrade

This chapter describes conversion tasks required to upgrade your QAD Customer Relationship Management (QAD CRM) version 6.1.1 installation to version 6.4.

Upgrading QAD CRM 6.1.1 to 6.3B1 84

Upgrading QAD CRM 6.3 to 6.3B1 91

Upgrading QAD CRM 6.3 B1 / 6.4 B2 to QAD CRM 6.4 B6 91

Upgrading QAD CRM 6.1.1 to 6.3B1

Use the instructions in this section to convert QAD CRM versions 6.1.1 to the 6.3B1 release. This guide covers Windows conversions for Progress databases.

The upgrade process consists of several steps:

- 1 Installing QAD CRM 6.3B1
- 2 Converting 6.1.1 Databases to the Supported Progress Version
- 3 Converting 6.1.1 Databases to 6.3B1 (Non-Unicode)
- 4 Converting 6.3B1 Databases From Non-Unicode to Unicode
- 5 Performing Post-Upgrade Tasks

Note If the system breaks down during upgrade, you should start again with a backup copy. You cannot re-run the conversion on the same database.

Installing QAD CRM 6.3B1

- 1 Make sure the following prerequisite components are installed:
 - Progress OpenEdge 10.1C03 or 10.2A02, including the following components: Client Networking, Query Result, and OE Studio
 - QAD CRM 6.3 GA (September 2009) release
 - The appropriate version of QAD ERP you want to integrate QAD CRM with
- 2 Download the QAD CRM 6.3B1 (QAD CRM 6.3 build 1) update bundle from the Product Changes and Advisories|Customer Advisories section on the QAD support Web site and install the package on top of the QAD CRM 6.3 GA (September 2009) release installation using the accompanying installation instructions.
- 3 Perform QAD CRM 6.1.1 data synchronization to make sure all remote nodes are synchronized with the host database. If you do not synchronize remote nodes now, they will be re-created after upgrade and all data residing in them will be lost.
- 4 Make sure none of the sub-directories under `QADCRMInstallDir\compile` contains any r-code files. Delete them if you find any.
- 5 Back up any QAD CRM 6.1.1 database you want to convert.
- 6 Make sure no other user is using the QAD CRM 6.1.1 database during the upgrade process.

Converting 6.1.1 Databases to the Supported Progress Version

QAD CRM 6.3B1 only supports Progress OpenEdge 10.1C03 and 10.2A02. Use the following steps to convert your QAD CRM 6.1.1 databases to the supported Progress version:

- 1 Stop all the QAD CRM databases.
- 2 Truncate the BI file using the old Progress version for each of the QAD CRM databases (bisgen, bisgmenu, and dataexch) using the following command:

```
proutil DBPath\bisgen.db -C truncate bi
proutil DBPath\bisgmenu.db -C truncate bi
proutil DBPath\dataexch.db -C truncate bi
```

- 3 Start all the QAD CRM databases using the new Progress version.

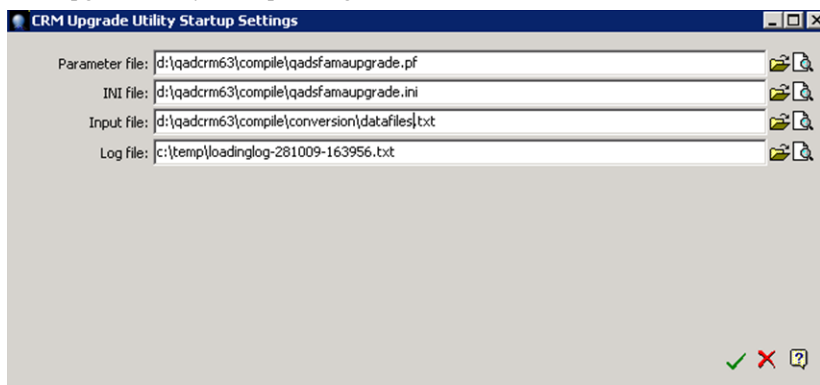
Converting 6.1.1 Databases to 6.3B1 (Non-Unicode)

- 1 Make a copy of *QADCRMInstallDir\compile\qadsfamacompile.ini* and rename it *qadsfamaupgrade.ini*.
- 2 Modify *qadsfamaupgrade.ini* using a text editor to include the conversion directory at the beginning of the PROPATH as in the following example:

```
PROPATH=
.,conversion,progs,system,dataexch,triggers,integration\mfgpro,report,lib,xrc,si\xrc,m
fgsrv,mfgsrv\us,mfgsrv\us\sq,mfgsrv\triggers,mfgsrv\qxo,mfgsrv\us\tx,c:\apps\dlc\gui,c
:\apps\dlc,c:\apps\dlc\bin
```

- 3 Modify *QADCRMInstallDir\compile\qadsfamaupgrade.pf* to connect the QAD CRM 6.1.1 databases. You do not need to connect the QAD ERP databases.
- 4 Modify the properties of QAD CRM Upgrade Utility shortcut for QAD CRM 6.3B1 to change the INI file name from *qadsfamacompile.ini* to *qadsfamaupgrade.ini*.
- 5 Double-click the CRM Upgrade Utility icon to run the utility.
- 6 In the CRM Upgrade Utility Startup Settings window, specify the file paths; then click the OK icon (green check mark).

Fig. 4.1
CRM Upgrade Utility Startup Settings



Parameter File. Enter *QADCRMInstallDir\compile\qadsfamaupgrade.pf*.

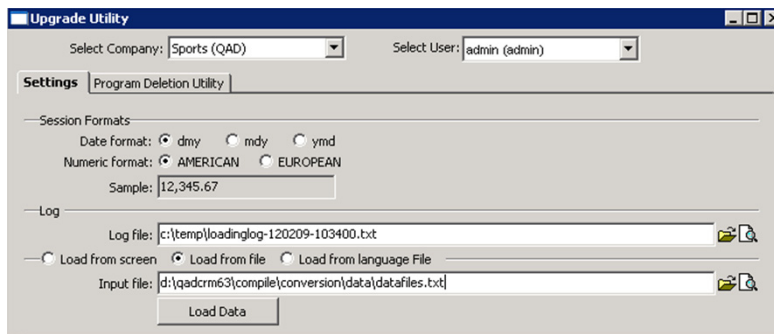
INI File. Enter `QADCRMInstallDir\compile\qadsfamaupgrade.ini`.

Input File. Enter `QADCRMInstallDir\compile\conversion\datafiles.txt`.

Log File. Leave the field as is.

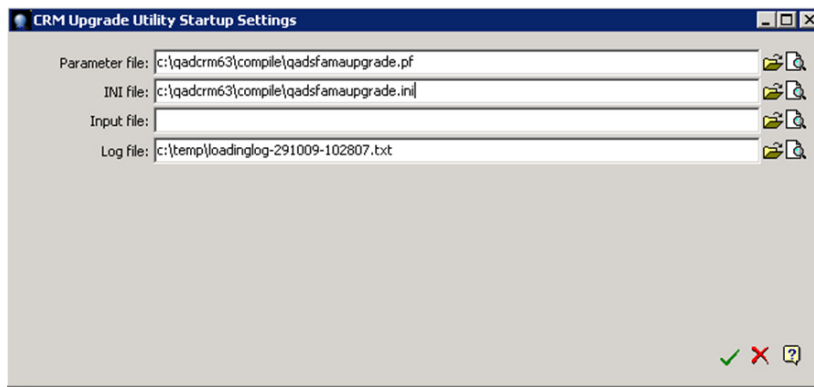
- 7 The system prompts you to back up your existing databases before proceeding. Make sure you have backed up your databases and click Yes to continue.
- 8 A message informs you that data load is complete and prompts you to view the log file. Click No.
- 9 In the Upgrade Utility window, choose the proper company or business unit, select Load From File, and specify `QADCRMInstallDir\compile\conversion\datafiles.txt` as the input file; then click Load Data.

Fig. 4.2
CRM Upgrade Utility



- 10 The system prompts you to back up your existing databases before proceeding. Make sure you have backed up your databases and click Yes to continue.
- 11 A message informs you that data load is complete and prompts you to view the log file. Click No.
- 12 Close the window.
- 13 Double-click the QAD CRM Upgrade Utility to run the utility again from the QAD CRM 6.3B1 environment.
- 14 In the CRM Upgrade Utility Startup Settings window, specify the file paths; then click the OK icon (green check mark).

Fig. 4.3
CRM Upgrade Utility Startup Settings



Parameter File. Enter `QADCRMInstallDir\compile\qadsfamaupgrade.pf`.

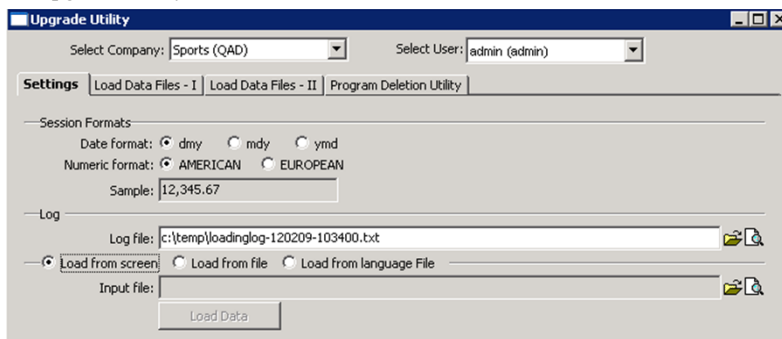
INI File. Enter `QADCRMInstallDir\compile\qadsfamaupgrade.ini`.

Input File. Leave the field as is.

Log File. Leave the field as is.

- 15 A message pops up prompting you to back up your existing databases before proceeding. Make sure you have backed up your existing databases and click Yes to continue.
- 16 A message is displayed informing you that data load is complete and prompting you to view the log file. Click No.
- 17 In the Upgrade Utility window, select Load From Screen and click the Load Data Files - I tab.

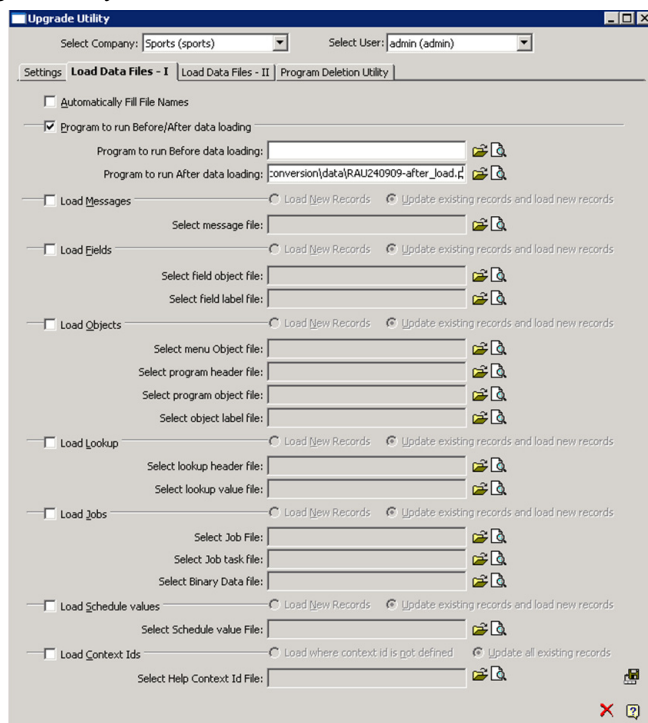
Fig. 4.4
CRM Upgrade Utility



- 18 Under the Load Data Files - I tab, select Program to Run Before/After Data Loading and specify the following as the program to run after data loading:

`QADCRMInstallDir\compile\conversion\data\RAU240909-after_load.p`

Fig. 4.5
CRM Upgrade Utility



19 Click the Save icon and close the window when done.

Converting 6.3B1 Databases From Non-Unicode to Unicode

Perform these steps only if you want to change the code page of your QAD CRM 6.3B1 databases from non-Unicode to Unicode:

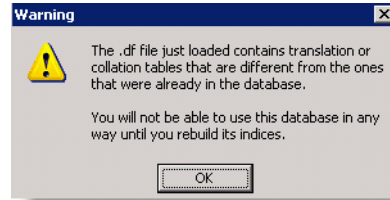
- 1** Stop all the QAD CRM databases.
- 2** Open the command prompt window and execute the proenv command.
- 3** Use the following command to convert each of the QAD CRM databases—bisgen, bisgmenu, and dataexch—to support UTF-8:


```
proutil DBPath\bisgen.db -C convchar convert UTF-8
proutil DBPath\bisgmenu.db -C convchar convert UTF-8
proutil DBPath\dataexch.db -C convchar convert UTF-8
```
- 4** Open Progress Procedure Editor with all the required databases connected in single-user mode.
- 5** Run Data Administration. For each of the QAD CRM databases—bisgen, bisgmenu, and dataexch—perform the following steps:
 - a** If not connected to the database, choose Database|Connect to connect it.
 - b** Choose Admin|Load Data and Definitions|Data Definitions (.df file). Locate the file `icu-uca.df` under `$DLC/prolang/utf` and load it into the database.

c Ignore the following error and warning messages:

Error: Collation tables for database *DBName* have been changed. You must rebuild all the indexes in order to reconnect to this database. (2609)

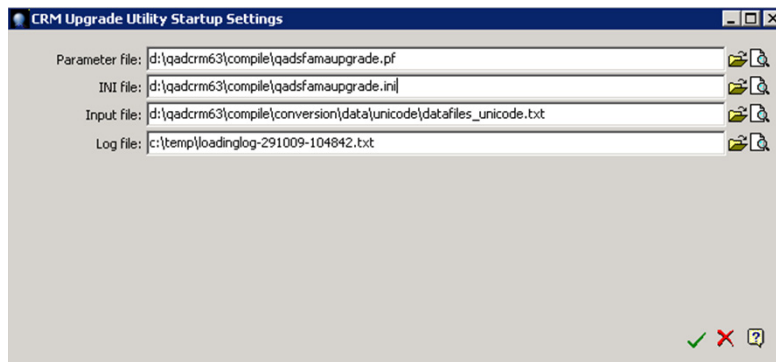
Fig. 4.6
Warning Message



- 6** Stop all the QAD CRM databases.
- 7** Execute the following command to rebuild indexes for the new ICU-UCA collation:


```
proutil DBPath/bisgen -C idxbuild all -cpinternal UTF-8
proutil DBPath/bisgmenu -C idxbuild all -cpinternal UTF-8
proutil DBPath/dataexch -C idxbuild all -cpinternal UTF-8
```
- 8** If your existing database code page is not iso8859-1, modify the `codepage.txt` file under `QADCRMInstallDir\compile\conversion` to include your source code page value.
- 9** Modify `QADCRMInstallDir\compile\qadsfamaupgrade.pf` to change the following parameter values from the source code page to UTF-8 related values:
 - -cpinternal UTF-8
 - -cpstream UTF-8
 - -cpcoll ICU-UCA
 - -cpcase Basic
- 10** Double-click the CRM Upgrade Utility icon to run the utility.
- 11** In the CRM Upgrade Utility Startup Settings window, specify the file paths; then click the OK icon (green check mark).

Fig. 4.7
CRM Upgrade Utility Startup Settings



Parameter File. Enter `QADCRMInstallDir\compile\qadsfamaupgrade.pf`.

INI File. Enter `QADCRMInstallDir\compile\qadsfamaupgrade.ini`.

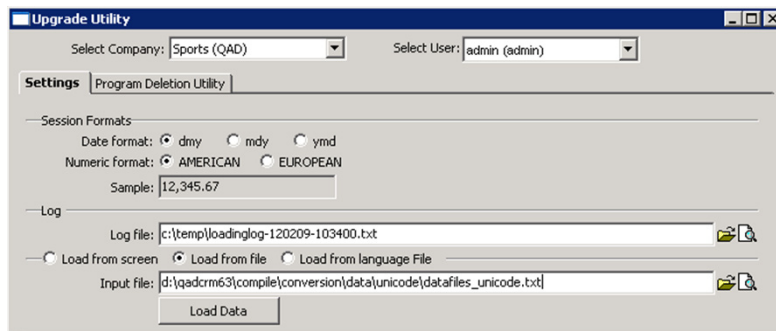
Input File. Enter

`QADCRMInstallDir\compile\conversion\data\unicode\datafiles_unicode.txt`.

Log File. Leave the field as is.

- 12 The system prompts you to back up your existing databases before proceeding. Make sure you have backed up your databases and click Yes to continue.
- 13 A message informs you that data load is complete and prompts you to view the log file. Click No.
- 14 In the Upgrade Utility window, select Load From File and specify `QADCRMInstallDir\compile\conversion\data\unicode\datafiles_unicode.txt` as the input file; then click Load Data.

Fig. 4.8
CRM Upgrade Utility



- 15 The system prompts you to back up your existing databases before proceeding. Make sure you have backed up your databases and click Yes to continue.
- 16 A message informs you that data load is complete and prompts you to view the log file. Click No.
- 17 Close the window.

Performing Post-Upgrade Tasks

The upgrade process deletes all the existing address style records but does not create any system-supplied records. Therefore, you need to re-create these records.

- 1 Switch on the following integrations based on the previous settings in QAD CRM 6.1.1 and modify the settings where necessary.
 - QAD ERP Integration
 - Data Synchronization
 - QAD AdminService
 - Microsoft Exchange Integration
- 2 Modify node details for each node and enter such values as Business Unit. You may also need to check and modify the settings under the Node Details|Products tab.
- 3 Rebuild all the remote nodes.

- 4 Optionally, uninstall QAD CRM 6.1.1.
 - a Run the following program to unregister ocx, assembler, and other components:
`QADCRMInstallDir\compile\bin\QADCRMClientComponents\setup.exe`
 - b Delete the whole conversion directory under `QADCRMInstallDir\compile`.

Upgrading QAD CRM 6.3 to 6.3B1

Download the QAD CRM 6.3B1 (QAD CRM 6.3 build 1) update bundle from the Product Changes and Advisories|Customer Advisories section on the QAD support Web site and install the package on top of the QAD CRM 6.3 GA (September 2009) release installation using the accompanying installation instructions.

Upgrading QAD CRM 6.3 B1 / 6.4 B2 to QAD CRM 6.4 B6

Use the instructions in this section to convert QAD CRM version 6.3 B1 / 6.4 B2 to the 6.4 B6 release. This guide covers Windows conversions for Progress databases.

The conversion process consists of three major steps:

- 1 Pre-Upgrade Tasks.
- 2 Converting 6.3 B1 / 6.4 B2 databases to 6.4 B6 Format.
- 3 Post-Upgrade Tasks.

Note If the system breaks during upgrade then you should start again with a backup copy. Re-run of conversion on the same database is not allowed.

Pre-Upgrade Tasks

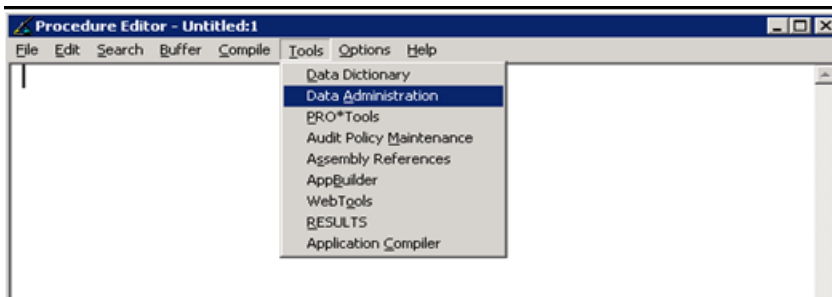
Perform the following steps before upgrading the QAD CRM database from version 6.3 B1 / 6.4 B2 to 6.4 B6.

- 1 Make sure the following prerequisite components are installed:
 - Progress 10.1C03 / 10.2A02 / 10.2B01 Client Networking, Query Result and OE Studio
 - QAD CRM 6.4 B6
 - The appropriate version of QAD ERP (if you want to integrate QAD CRM with QAD ERP application)
- 2 Perform QAD CRM 6.3 B1 / 6.4 B2 data synchronization. That is, make sure all the remote nodes are synchronized with the host database because remote nodes need to be re-created after upgrade and if you do not synchronize then their data will not be available on host and this way they can lose the data.
- 3 Make sure that there are no r-code files available under various sub-folders of `QADCRM64InstallDir\compile` folder. In case any r-code files are available then delete them.

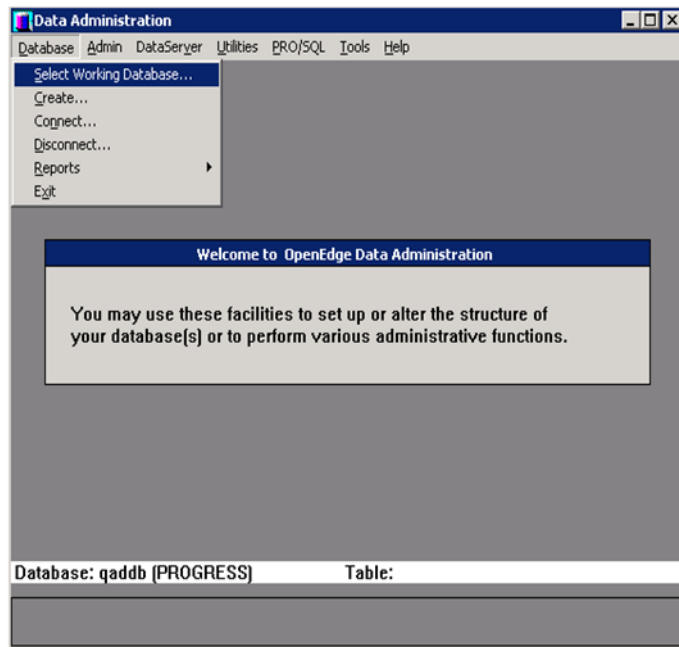
- 4 Back up the QAD CRM 6.3 B1 / 6.4 B2 databases (bisgen, bisgmenu and dataexch) you want to upgrade.
- 5 Make sure no user is using the version 6.3 B1 / 6.4 B2 database during upgrade.
- 6 Please skip this step if you are upgrading from 6.4 B2.

Make sure opportunity, prc_hdr, and product tables from the bisgen database are not frozen. This can be done using the following steps:

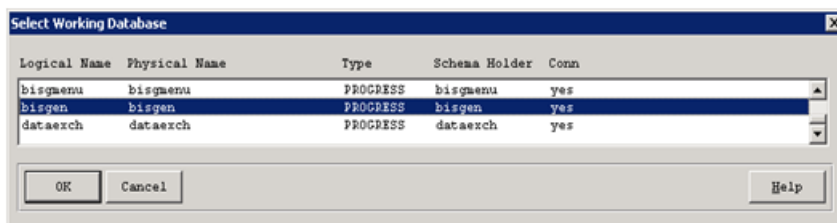
- Go to QAD CRM Procedure Editor and select Tools|Data Administration.



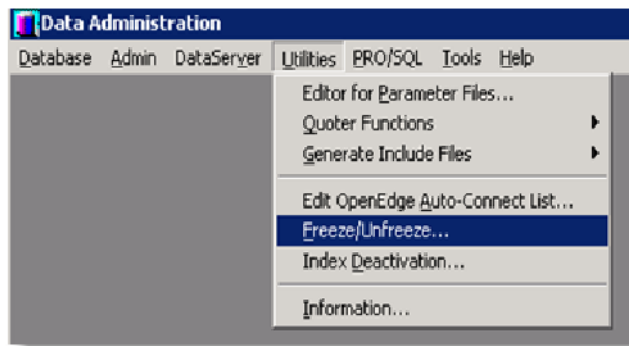
- Select Database > Select Working Database.



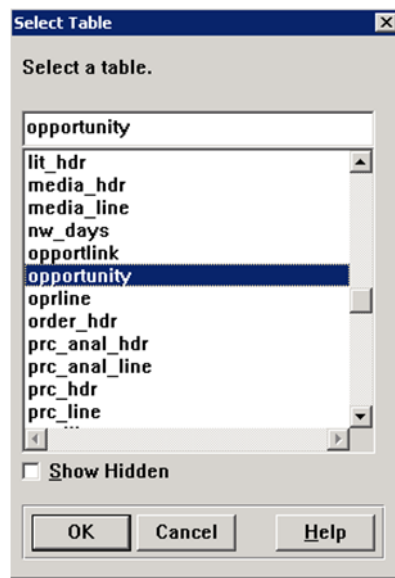
- Select bisgen database from the below Select Working Database screen and press OK.



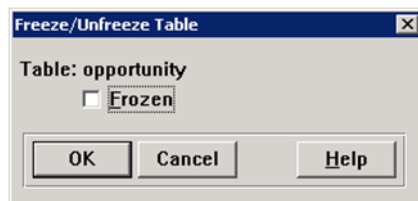
- Select Utilities > Freeze/Unfreeze.



- Select the opportunity table and press OK.



- Make sure the Frozen check box is unchecked and press OK.



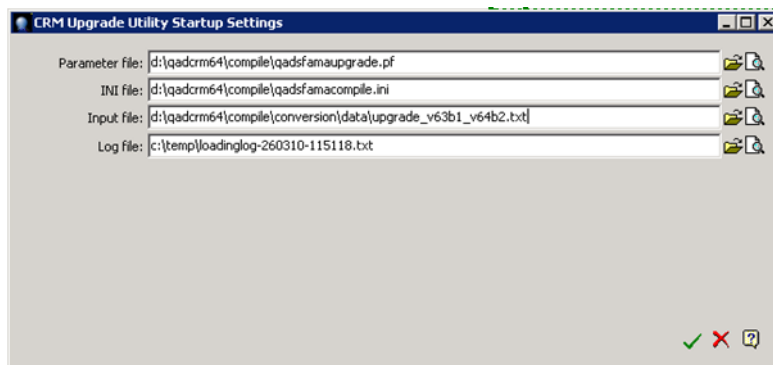
- Repeat the same thing for the prc_hdr and product tables.

Converting 6.3 B1 / 6.4 B2 Databases to 6.4 B6 Format

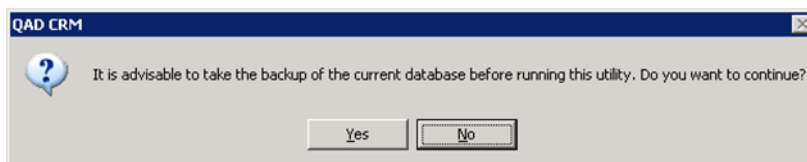
Perform the following steps in order to upgrade QAD CRM database from version 6.3 B1 / 6.4 B2 to 6.4 B6. Please skip steps from 2 to 13 if you are upgrading from 6.4 B2.

- 1 Modify `QADCRM64InstallDir\compile\qadsfamaupgrade.pf` to connect to QAD CRM 6.3 B1 / 6.4 B2 databases. You do not need to connect QAD ERP databases.
- 2 Copy `emailc.txt` file from `QADCRM64InstallDir\compile\conversion\data` to `c:\temp` folder.
- 3 Choose Start|All Programs|QAD CRM 6.4|QAD CRM Upgrade Utility in order to apply df / data.
- 4 Select the value of “Parameter file” and “Input file” as shown in the following figure and then select the OK button.

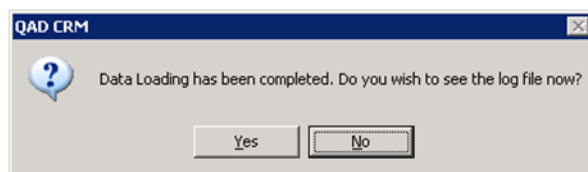
The below screen assumes that QAD CRM 6.4 is installed in the `d:\qadcrm64` folder.



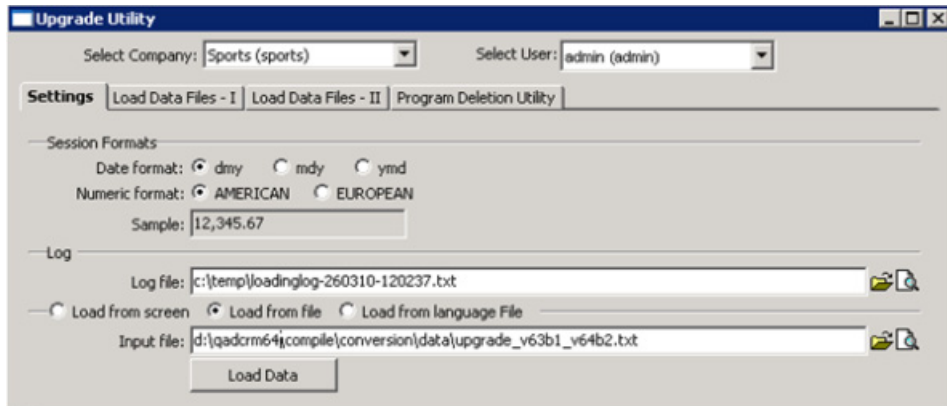
- 5 When you select OK, the following screen appears:



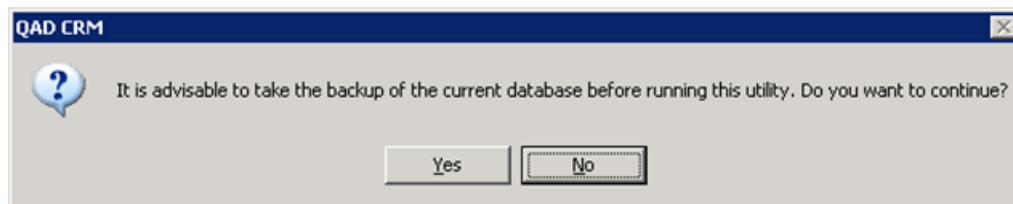
- 6 Make sure the CRM 6.3 B1 databases are backed up and select Yes. The following screen appears:



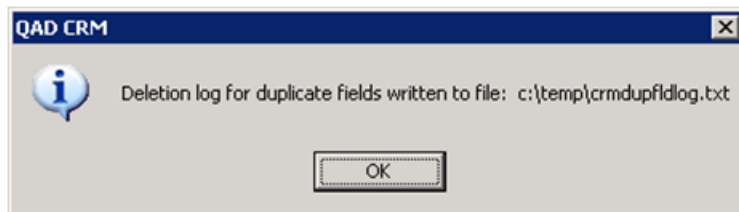
- 7 Select No. The following screen appears:



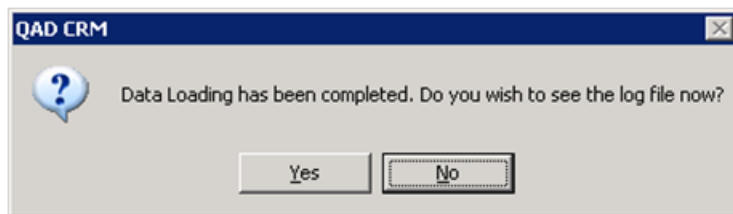
- 8 Select the correct Company (Business Unit) from Select Company combo and make sure that the “Load from file” option is selected and the value of “Input file” is correct as shown in the above figure.
- 9 Select the Load Data button. The following screen appears.



- 10 Make sure databases are backed up and select Yes. The following screen appears.

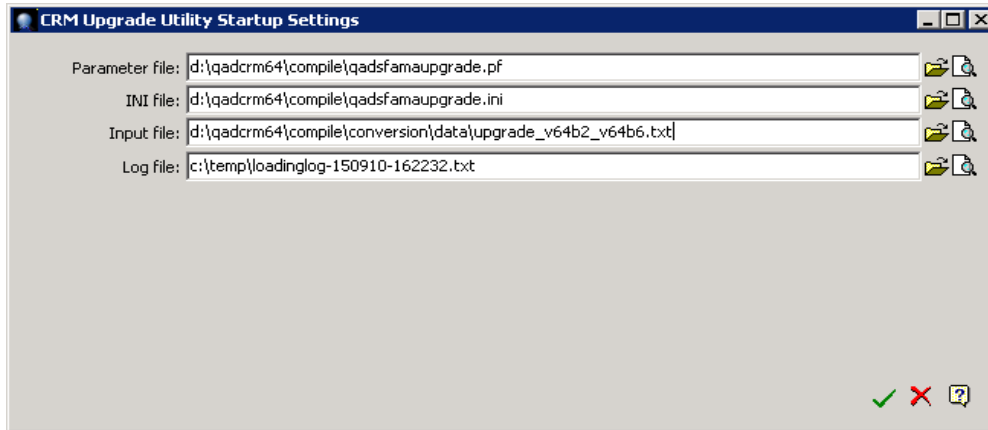


- 11 Select OK. The following screen appears:

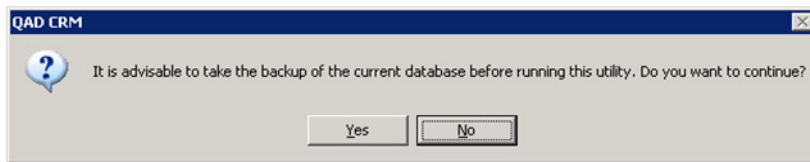


- 12 Select No. The original interface remains visible on the screen.
- 13 Select the Close button to close the interface.
- 14 Run Upgrade Utility. Choose Start|All Programs|QAD CRM 6.4|QAD CRM Upgrade Utility in order to apply df / data.

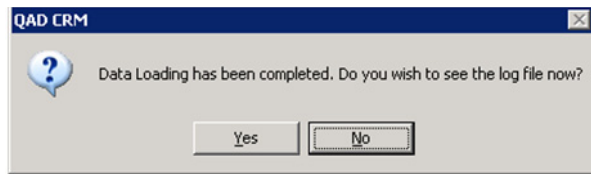
- 15 Select the value of “Parameter file” and “Input file” as shown in the following figure and then select the OK button. The below screen assumes that QAD CRM 6.4 is installed in the d:\qadcrm64 folder.



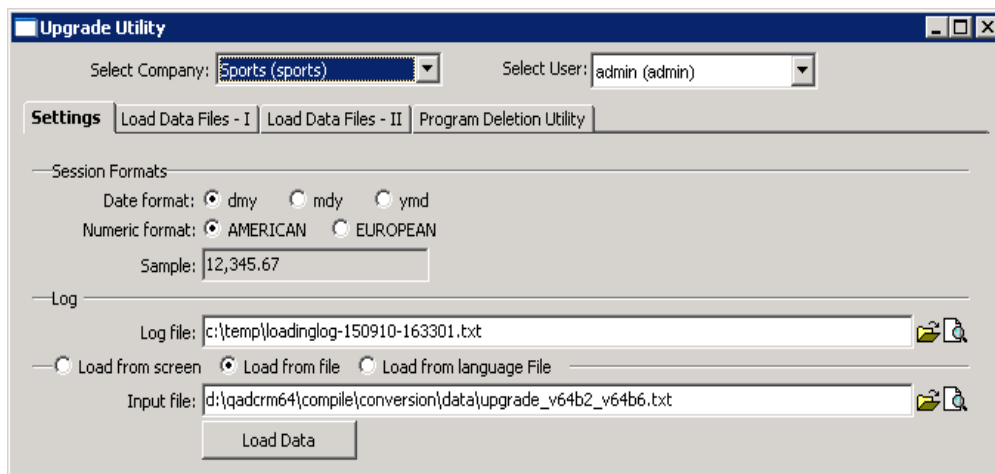
- 16 When you select OK, the following screen appears:



- 17 Make sure the CRM 6.3 B1/ 6.4 B2 databases are backed up and select Yes. The following screen appears:

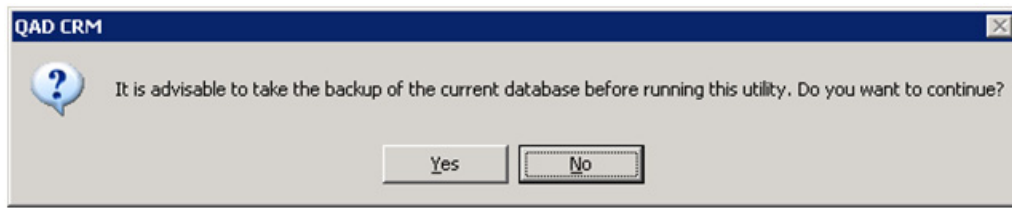


- 18 Select No. The following screen appears:

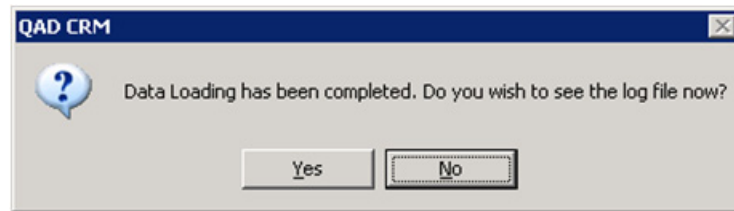


- 19 Select the correct Company (Business Unit) from Select Company combo and make sure that the “Load from file” option is selected and the value of “Input file” is correct as shown in the above figure.

- 20 Select the Load Data button. The following screen appears:



- 21 Make sure databases are backed up and select Yes. The following screen appears:



- 22 Select No. The original interface remains visible on the screen.
 23 Select the Close button to close the interface.

Post-Upgrade Tasks

Perform the following steps after upgrading QAD CRM database from version 6.3 B1 / 6.4 B2 to 6.4 B6.

- 1 If you are upgrading from 6.3 B1 to 6.4 B6 then make sure opportunity, prc_hdr, and product tables from the bisgen database are frozen. This can be done using the similar steps as mentioned in Pre-Upgrade Tasks section except that the "Frozen" check-box should be selected here.
- 2 Re-create all the Remote Nodes.
- 3 Un-install QAD CRM 6.3 B1 / 6.4 B2 once you have checked data conversion and it is no longer required.

In case you uninstall QAD CRM 6.3 B1 / 6.4 B2 then run

`QADCRMInstallDir\prod\netsetup\setup.exe` to re-register system files (ocx, assembler etc.), which got unregistered during un-installing QAD CRM 6.3 B1 / 6.4 B2.

Compilation with Progress 64 Bit

For integration purposes the databases must run in multi-user mode and must always be available. The file server that holds QAD ERP application programs must include certain QAD CRM programs. Similarly, the file server that holds QAD CRM programs must contain certain QAD ERP application programs.

In a scenario where the Progress version installed on Windows is 32 bit and the Progress version installed on Linux is 64 bit, you must recompile some QAD ERP programs on Windows and some CRM programs on Linux.

Compiling QAD ERP (Standard Edition) on the File Server 100

Compiling QAD ERP (Enterprise Edition) on the File Server 103

Compiling QAD CRM on the Database Server 106

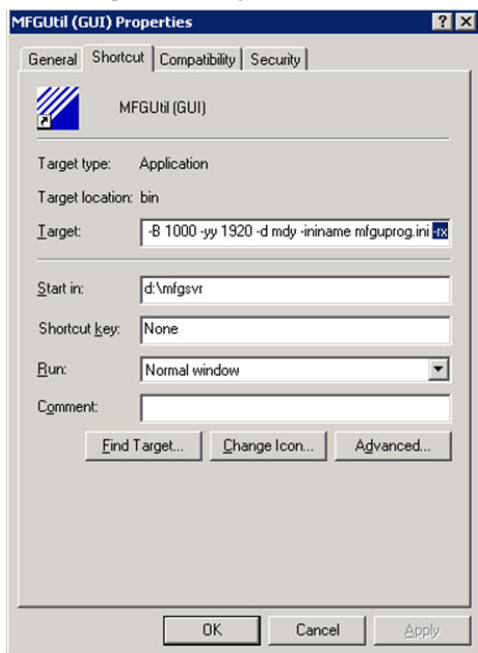
Compiling QAD ERP (Standard Edition) on the File Server

- 1 Access the QAD Support Knowledge base and locate the kbase ID of qad64455, then download the attached `compilelist.txt` file. This file contains a list of standard QAD ERP application programs that need to be recompiled. If your QAD ERP configuration includes any customized programs or triggers, you should add their program names to the end of the `compilelist.txt` file. This allows them to be recompiled if they impact the CRM/QAD ERP integration.
- 2 To compile QAD ERP programs, MFGUTIL must be installed on the Windows file server. This utility is installed with the QAD ERP data server. Follow the instructions in the “Install Database Server Files” section of your QAD ERP application installation guide.

Once MFGUTIL is installed:

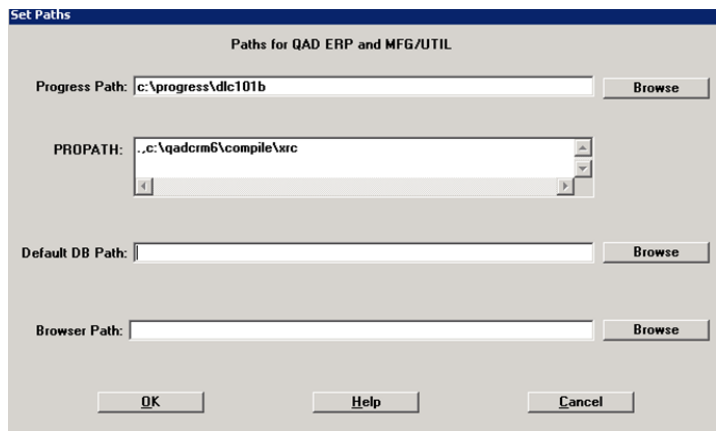
- 1 Right-click on MFGUTIL (GUI) to open its properties.
- 2 Modify the properties to include the `-rx` parameter. If Progress OE Studio license is installed instead of Progress Client Networking, this parameter is not required.

Fig. 5.1
MFG/UTIL Properties Dialog Box



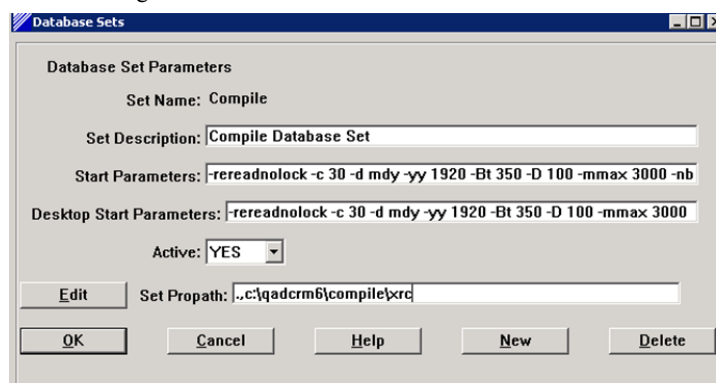
- 3 Launch MFG/UTIL (GUI).
- 4 On the Configure menu, click Set Paths for QAD ERP and MFG/UTIL.
- 5 In the Set Paths dialog box, modify the Propath to `QADCRMInstallDir\compile\xrc` and leave the Default DB Path blank. Also, confirm that the Progress Path field is pointing to the correct version of Progress being used for CRM 6.4. After you set the correct paths, click OK.

Fig. 5.2
Set Paths Dialog Box



- 6 On the Configure menu, click Database Set Maintenance.
- 7 In the Database set Configuration dialog box, select the Compile database set and then click Edit Set.
- 8 Set Active to Yes and enter the value of Set Propath as *QADCRMInstallDir\compile\xrc*; then click OK.

Fig. 5.3
Database Sets Dialog Box



- 9 Edit the parameters of the mfgempty, hplempty, and admempty databases.

To edit database parameters:

- a Select the database and click Edit DB.
- b In the Database Parameters dialog box, set connection type to Client Server, and enter correct values for the other fields to connect to the database.

Fig. 5.4
Database Parameters Dialog Box

- c Click OK.
- 10 If you have not implemented the Enhanced Controls module in QAD ERP, you can select the audempty database in the Database Set Configuration dialog box and click Delete DB to remove it.
- 11 Click OK.
- 12 On the Programs menu, click Compile Procedures.
- 13 In the QAD Compiler dialog box, do the following:
 - In the Compile List File field, specify the path to the `compilelist.txt` file.
 - Set the Compile Propath to `QADCRMInstallDir\compile\xrc`.
 - In the Destination Directory, specify `QADCRMInstallDir\prod\mfgsrv`.

Fig. 5.5
QAD Compiler

- 14 Click Compile. When compilation is complete, check the log file to make sure all the programs are compiled correctly.
- 15 If no errors are found, copy the mfgsrv folder from the prod directory to the test directory.

Compiling QAD ERP (Enterprise Edition) on the File Server

Prerequisites

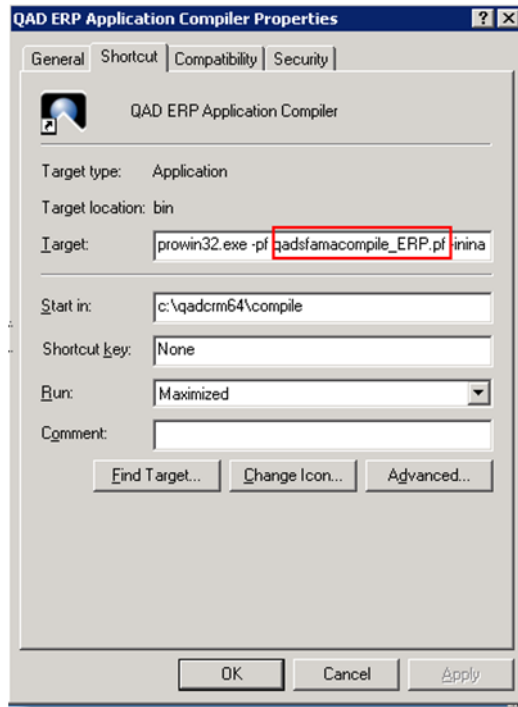
Before compiling with QAD Enterprise Applications (Enterprise Edition), verify that you have met the following prerequisites:

- Your network is operating.
- QAD ERP application databases are in multi-user mode.
- You have copied all the programs and subfolders from *QADERPInstallDir\xrc* to: *QADCRMInstallDir\compile\xrc*.

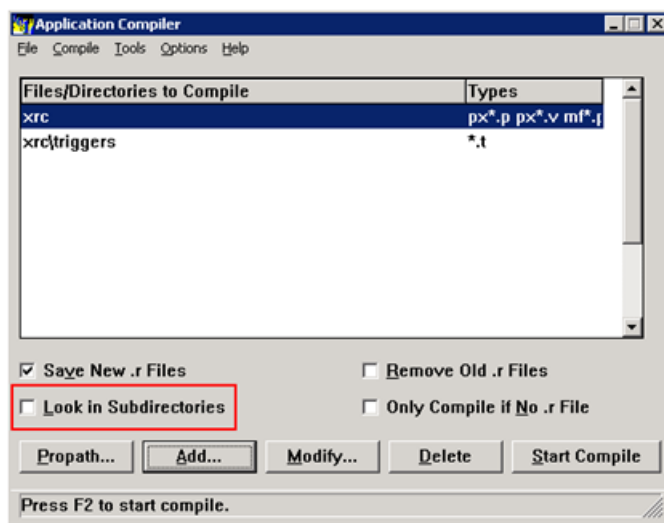
Compile Steps

- 1 Create a parameter file (.pf) file with the following parameters:
 - a Connect to the QAD ERP compile databases only.
 - b Connect QXtend qxevents database (logical name alias_qxevents).


```
-inp          32000
-tok          4096
-l           1000
-c           500
-s          32000
-D           50
-TM           5
-TB           2
-B           10
-yy          1920
-cprcodeout  utf-8
-cpinternal  utf-8
-cpstream    utf-8
-v6colon
-p _comp.p
```
 - c Modify the code page (-cpinternal, -cpstream and -cprcodeout) as per your environment.
- 2 Make a copy of QAD CRM Application Compiler and change the label to QAD ERP Application Compiler.
- 3 Right-click the shortcut icon and choose Properties.
- 4 Modify the Target field and use the parameter file you created in the step 1.



- 5 Create a new folder called triggers under *QADCRMInstallDir\compile\xrc*.
- 6 Copy all the trigger programs from *QADCRMInstallDir\compile\xrc*.t* to *QADCRMInstallDir\compile\xrc\triggers*.
- 7 Select QAD ERP Application Compiler.
- 8 Add xrc directory with following program types:
 px*.p mf*.p fs*.p gp*.p lg*.p mc*.p px*.p qq*.p sq*.p tx*.p
- 9 Add xrc\triggers directory with following program type.*.t



- 10 Clear the Look in Subdirectories check box.
- 11 Select Start Compile. When compilation is complete, check the log file to make sure all the programs are compiled correctly.
- 12 Copy the files as described below:

Copy files from this directory...	...to this directory
<i>QADCRMInstallDir</i> \compile\xrc\ (file name begins with mf*.r px*.r)	<i>QADCRMInstallDir</i> \prod\mfgsrv\
<i>QADCRMInstallDir</i> \compile\xrc\trigger s*.r	<i>QADCRMInstallDir</i> \prod\mfgsrv\triggers\
<i>QADCRMInstallDir</i> \compile\xrc\ (file name: mfsec.r, mfmrwfs.r, mfmenu.r, mfinttot.r, mfhdate.r, mfc credpl.r, mfa iunrf.r, mfa ierr.r and mfla.r)	<i>QADCRMInstallDir</i> \prod\mfgsrv\us\
<i>QADCRMInstallDir</i> \compile\xrc\ (file name begins fs*.r)	<i>QADCRMInstallDir</i> \prod\mfgsrv\us\fs
<i>QADCRMInstallDir</i> \compile\xrc\ (file name begins gp*.r)	<i>QADCRMInstallDir</i> \prod\mfgsrv\us\gp\
<i>QADCRMInstallDir</i> \compile\xrc\ (file name begins lg*.r)	<i>QADCRMInstallDir</i> \prod\mfgsrv\us\lg\
<i>QADCRMInstallDir</i> \compile\xrc\ (file name begins mc*.r)	<i>QADCRMInstallDir</i> \prod\mfgsrv\us\mc\
<i>QADCRMInstallDir</i> \compile\xrc\ (file name begins px*.r)	<i>QADCRMInstallDir</i> \prod\mfgsrv\us\px\
<i>QADCRMInstallDir</i> \compile\xrc\ (file name begins qq*.r)	<i>QADCRMInstallDir</i> \prod\mfgsrv\us\qq\
<i>QADCRMInstallDir</i> \compile\xrc\ (file name begins sq*.r)	<i>QADCRMInstallDir</i> \prod\mfgsrv\us\squ\
<i>QADCRMInstallDir</i> \compile\xrc\ (file name begins tx*.r)	<i>QADCRMInstallDir</i> \prod\mfgsrv\us\tx\

- 13 Copy the mfgsrv folder from the prod directory to the test directory.
- 14 Close QAD ERP Application Compiler; then click OK.

Compile QXtend Programs

- 1 Copy all the programs and subfolders from *QXtendInstallDir*\xrc to:
QADCRMInstallDir\compile\xrc\qxtend\xrc
- 2 Select QAD ERP Application Compiler.
- 3 Add xrc\qxtend\xrc directory with following program type.*.t *.p
- 4 Add xrc\qxtend\xrc, xrc\qxtend\xrc\util to the QAD ERP Application Compiler pro path.
 - a Select PRO*Tools from Tools
 - b Select Propath button from the Toolbar.



- c Select Add button and `xrc\qxtend\xrc` to the propath.
- d Select Add button again and `xrc\qxtend\xrc\util` to the propath.



- e Select OK.
- f Restart QAD ERP Application Compiler.
- g Select Start Compile button.

5 Copy Qxtend programs to prod mfgsrv directory:

Copy all the files from this folder ...	To this folder in the QAD CRM test and prod installation directory
<code>QADCRMInstallDir\compile\xrc\qxtend</code> (file name - <code>qxoevent.r gpqxohdl.r gpqxocnf.r</code> <code>apipl-db.r</code> and <code>apipl.r</code>)	<code>mfgsrv\qxo</code>
<code>QADCRMInstallDir\compile\xrc\qxtend</code> (file name — copy all the *.r files except file listed above point)	<code>mfgsrv\qxo\triggers</code>
<code>QxtendOutboundInstallDir/config</code>	<code>mfgsrv\qxo\config</code>

Compiling QAD CRM on the Database Server

- 1** Copy all the *.p, *.cls and *.i programs from the following directories on the Windows File Server into their corresponding directories in `QADERPInstallDir/integration/prod` on the Linux Server:

- `QADCRMInstallDir\compile\integration\mfgpro`
- `QADCRMInstallDir\compile\triggers`
- `QADCRMInstallDir\compile\system`
- `QADCRMInstallDir\compile\dataexch`
- `QADCRMInstallDir\compile\progs`
- `QADCRMInstallDir\compile\report`

- `QADCRMInstallDir\compile\si`

2 Create a parameter file (.pf) file with following parameters:

- Connect to the QAD CRM compile databases.
- Connect to the QAD ERP compile databases.

```
-inp 32000
-tok 4096
-zn
-h 8
-q
-p _comp.p
```

```
root@qadrh:/dr01/qdt/envs/qms/scripts
db /dr01/qad/db/mfgprod -ld qadddb -trig triggers
db /dr01/qad/db/admprod -ld qadadm -trig triggers
db /dr01/qad/db/hlpprod -ld qadhelp -trig triggers
db /dr01/qad/db/bisgen -ld bisgen -trig triggers
db /dr01/qad/db/bisgmenu -ld bisgmenu -trig triggers
db /dr01/qad/db/dataexch -ld dataexch -trig triggers
-inp 32000
-tok 4096
-zn
-h 8
-q
-p _comp.p
```

3 Create a compile script file to start CRM application compiler with above parameter file (.pf) and below parameters:

- Set following environmental variables:

```
DLC=ProgressInstallDir;export DLC
PATH=$PATH:$DLC/bin;export PATH
PROMSGS=$DLC/promsgs;export PROMSGS
PROTERMCAP=$DLC/protermcap;export PROTERMCAP
PS1='$$ ';export PS1
```

- Include the following in the propath:

```
QADERPInstallDir/xrc
QADERPInstallDir/integration/prod
QADERPInstallDir/integration/prod/system
QADERPInstallDir/integration/prod/dataexch
QADERPInstallDir/integration/prod/progs
QADERPInstallDir/integration/prod/report
QADERPInstallDir/integration/prod/triggers
QADERPInstallDir/integration/prod/integration/mfgpro
```

- Set Terminal type as per your environment.

- Start PROGRESS client with .pf file

```
<progress path>/bin/_progres -s 128 -pf <compile>.pf -cpinternal <codepage> -
cpstream <codepage stream>
```

Example:

```
/dr01/progress/dlc/bin/_progres -s 128 -pf /dr01/qdt/envs/qms/scripts/base-live-
set-crm.pf -cpinternal ISO8859-1 -cpstream ISO8859-1
```

```
#!/bin/sh
# Script to start multi-user session of MFG/PRO

# tokens:
# &DLC = Progress Directory
# &CLIENT-DB-CONNECT = command line to connect to each db in dbset

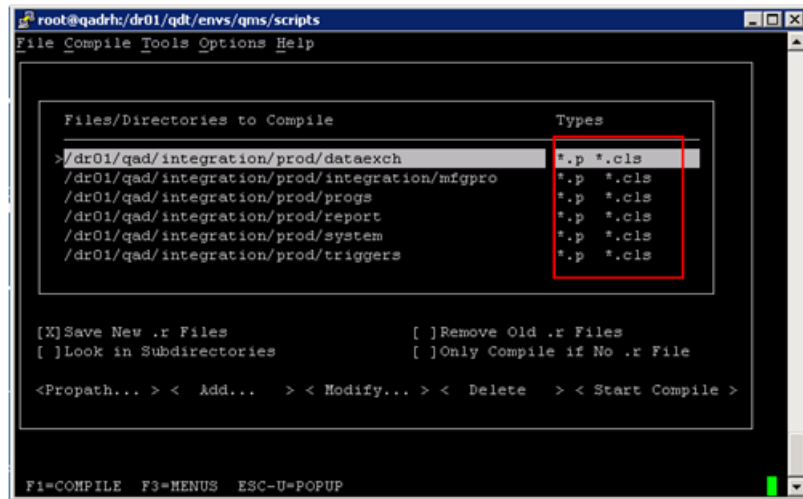
stty intr '^c'
DLC=/dr01/progress/dlc;export DLC
. $DLC/bin/slib_env
PATH=$PATH:$DLC/bin;export PATH
PROMSGS=$DLC/promsgs;export PROMSGS
PROTERMCAP=$DLC/protermcap;export PROTERMCAP
PS1='$$ ';export PS1
PROPATH=.,/dr01/qad/integration/prod,/dr01/qad/integration/prod/system,/dr01/qad/
/integration/prod/dataexch,/dr01/qad/integration/prod/progs,/dr01/qad/integration/prod/report,/dr01/qad/integration/prod/triggers,/dr01/qad/integration/prod/integration/mfgpro,/dr01/qad/xrc,/dr01/progress/dlc;export PROPATH

#
# Set terminal type.
#
if [ ${TERM:-NULL} = NULL ]
then
    echo
    echo "Please enter your terminal type: \c"
    read TERM
    export TERM
fi

#
# Start MFG/PRO.
#
cd      # change to home directory

# exec $DLC/bin/_progres &DB etc
/dr01/progress/dlc/bin/_progres -s 128 -vf /dr01/qad/envs/qms/scripts/base-live-
set-crm.pf -cpinternal ISO8859-1 -cpstream ISO8859-1
~
```

- e Modify the code page (-cpinternal and -cpstream) as per your environment.
- 4 Select the following directories to compile with program types (*.p *.cls):
 - QADERPInstallDir/integration/prod/system
 - QADERPInstallDir/integration/prod/dataexch
 - QADERPInstallDir/integration/prod/progs
 - QADERPInstallDir/integration/prod/report
 - QADERPInstallDir/integration/prod/triggers
 - QADERPInstallDir/integration/prod/integration/mfgpro



- 5 Choose the Start Compile option. When compilation is complete, check the log file to make sure all the programs are compiled correctly.
- 6 If no errors are found, copy the compiled programs (rcode) from the following directories to corresponding directories in *QADERPInstallDir/integration/test*.
 - *QADERPInstallDir/integration/prod/system*
 - *QADERPInstallDir/integration/prod/dataexch*
 - *QADERPInstallDir/integration/prod/progs*
 - *QADERPInstallDir/integration/prod/report*
 - *QADERPInstallDir/integration/prod/triggers*
 - *QADERPInstallDir/integration/prod/integration/mfgpro*

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