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**QAD SOLUTIONS**

*Manufacturing Applications*

# **MFG/PRO eB2.1 Installation Guide Oracle Database**



78-0607B  
MFG/PRO eB2.1 SP3 and higher  
September 2005

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## What Is in This Guide?

The instructions in this guide cover how to:

- Install MFG/PRO on Oracle on UNIX or Windows servers.
- Install the MFG/PRO character client software.
- Install the MFG/PRO Windows client software.
- Configure a standard MFG/PRO environment including character and GUI clients.

This installation covers the current service pack level of eB2.1. If you are installing only the service pack to upgrade an existing environment, use only *Installation Guide: MFG/PRO eB2.1 Service Pack X*, where *X* is the latest service pack level. The guide ships with the service pack CD.

Use this guide to install production databases, as well as training, demonstration, and other MFG/PRO databases. It also enables you to install these databases with one or more user languages.

## Installation Checklists

▶ See Appendix A, “Installation Checklists,” on page 129.

For advanced users, or for less experienced users who want to track their progress on the installation, this guide includes an appendix that contains checklists for:

- Standard US English installation
- Client installations
- Single non-US English language installation
- Multiple-language installation

These checklists provide the sequence, the tool set required, the default or recommended values if applicable, and the page reference for the more detailed description of the steps in the guide.

## Audience

These instructions are for the MFG/PRO system administrator who is installing the MFG/PRO database and is familiar with UNIX operating systems, Oracle database environments, Microsoft Windows, Progress software, and networking as needed for the planned installation.

## Installation Documentation

This document is available on the QAD ServiceLinQ Web site:

<http://support.qad.com/>

Before you start the installation, make sure you have the most recent version of this document.

This document supports the installation of the following CDs:

- Database server
- Database server language files
- Character client
- GUI client

**Note** CD item numbers are dependent on your purchased configuration.

If you are doing this install as part of a conversion, you should also have the latest *MFG/PRO eB2.1 Conversion Guide: Oracle Database*.

### Related MFG/PRO Installation Documentation

The MFG/PRO on Oracle installation creates your production and support databases, and any training, development, or pilot databases you need.

- To install QAD Desktop, see *Installation Guide: QAD Desktop*.
- To install QXtend Inbound, see *Technical Reference: QXtend Inbound*.
- To install QXtend Outbound, see *Technical Reference: QXtend Outbound*.

For a full list of other documentation see the QAD ServiceLinQ site.

### Additional Web Resources

For Progress problems, use the Progress Knowledge Center accessed from their support Web site:

<http://www.progress.com/support/index.ssp>

For OS-related problems, use standard vendor support, or use other search engines on the Web.

## Document Conventions

This guide uses the conventions listed in the following table.

<b>If you see:</b>	<b>It means:</b>
monospaced text	A command, file name, or path.
<i>italicized monospaced text</i>	A variable name for a value you enter as part of an operating system command; for example, <i>cdrom</i> .
indented command line	A long command that you enter as one line although it appears in the text as two lines.
<b>Note</b>	Exceptions or special conditions.
<b>Important</b>	Critical information.
<b>Warning</b>	Situations where you can overwrite or corrupt data, unless you follow the instructions.

## UNIX and Windows Installations

This document supports the installation of MFG/PRO on both UNIX and Windows platforms. The instructions use character screens and UNIX file and path conventions. In the few places where the two sets of instructions diverge, the headings and text state explicitly which operating system is the focus of the current set of instructions.

## QAD Services and Support

During your implementation of QAD products, you should be aware of available service and support offerings.

## QAD Consulting and Technical Services

MFG/PRO installations have a wide variety of configuration possibilities, are highly scalable, and are easily customized. While this guide provides basic installation information, it cannot consider every possible computing environment or configuration.

To take full advantage of MFG/PRO's flexibility and potential in your specific environment, QAD offers Consulting and Technical Services specializing in installations and customizations. These offerings include performance enhancements as well as technical and administration training. For more information, contact your nearest QAD office or go to:

<http://www.qad.com/services/>

## QAD Support

Before beginning an installation, it is recommended that you contact QAD Support to notify them of your plans, schedule, and if you will have a consultant onsite to assist in the process. Be sure to identify who the consultant is, and how they can be reached. QAD Support provides a number of online resources to help you find answers to your questions and avoid problems beforehand. These include, but are not limited to, the following:

- QAD Knowledgebase
- QAD Learning Portal
- Customer Advisories
- Platform Availability Guide
- QVillage Discussion Forums

Go to QAD ServiceLinQ to access the full array of online Support resources at:

<http://support.qad.com/>



# Planning an MFG/PRO Oracle Installation

This chapter presents basic topics that you should understand before beginning an MFG/PRO on Oracle installation or conversion.

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**Important** If you have experience installing MFG/PRO from previous versions, numerous significant changes have occurred to streamline the process. Review this chapter prior to starting the install and read the instructions.

## Planning an Installation

There are three types of installation:

- A new installation
- A new installation including a service pack
- An installation to support a conversion from an earlier MFG/PRO version to the current release

If you are migrating from an earlier version of MFG/PRO, start your planning with the *MFG/PRO eB2.1 Conversion Guide: Oracle Database*. The installation steps covered in this guide are treated as a step within the larger conversion process. Starting with eB2.1, there are several changes to the conversions, including the introduction of an in-place conversion option. The steps you complete to install your new MFG/PRO version in this guide depend on which conversion method you choose to follow.

This guide provides instructions for installing the core databases on the server, the UNIX host client, and remote Windows clients.

**Tip**  
For new terms see “Glossary” on page 153.

For the installation component of both new installs and conversions, you must plan for the following:

- An installation addressing:
  - Pilot and production databases
  - Training databases
  - A development database
- The languages you are implementing
- Configuration of side tables including MFG/PRO administration and help databases, as well as custom and other side databases
- The resulting network, disk, and client layouts

**Note** The Enhanced Controls module, available for MFG/PRO on Progress implementations, is not yet available for MFG/PRO on Oracle implementations. However, an audit schema holder is required to support compiles.

## Security Plan

A successful MFG/PRO installation includes a complete security plan. During an installation or conversion, full permissions are required for system and application tools that can be used to load, edit, or delete data. In addition, an installation results in at least one user, `mfg`, with full administrative access to MFG/PRO. For these reasons, a security plan is essential. The basic components of a security plan are:

- Operating-system-level security for intrusive tools such as:
  - Oracle tools
  - Progress tools
  - QAD MFG/UTIL
- Operating-system log-in security
- Operating-system permissions and ownership set appropriately for:
  - Database files
  - Before-image and after-image files
  - Log files
  - Application source and compiled source files
  - Application startup and shutdown scripts
- Log-in security for MFG/PRO
- Domain security for MFG/PRO
- Specific MFG/PRO security features such as menus, fields, and sites

A security plan should address the tasks of the initial administrative user in setting up valid users and securing MFG/PRO by user and group prior to giving users access to the application.

## Service Pack Installs

If you are installing or converting from a prior release of MFG/PRO to eB2.1 with a service pack, this guide covers all steps. If you are installing a service pack for an existing eB2.1 installation, use the instructions shipped with the service pack.

▶ See the “Users and Security” chapter in *User Guide: MFG/PRO eB2.1 New Features*.

## DataSynchronization Users

With eB2.1, DataSync no longer requires a separate installation; the DataSync database has been merged with the main MFG/PRO database.

## Deployment

You can install MFG/PRO eB2.1 on UNIX or Windows servers with character or GUI clients, or a mix of these. MFG/PRO consists of three distinct components:

- A database server
- A file server
- Remote clients

### Database Server

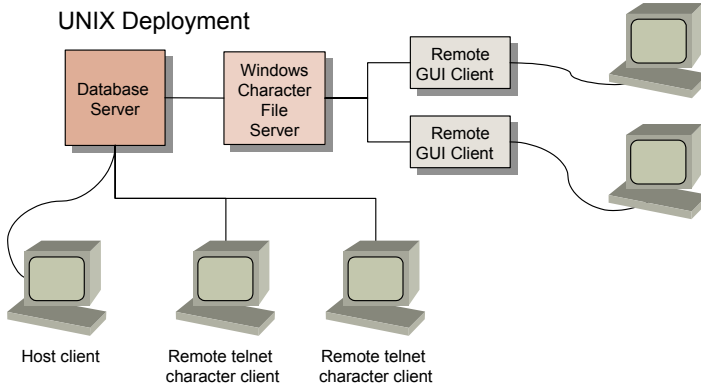
The database server consists of the MFG/PRO databases. You build these databases as part of the installation. Clients connect to these databases directly or through a file server.

### File Server

The file server is the location of the MFG/PRO source code, compiled specifically for this machine. The resulting `.r` code is run by the connected clients.

If the file server is a UNIX machine, shown as the host client connecting to the database server in Figure 1.1, then additional UNIX character clients can connect to MFG/PRO on this machine using telnet startup scripts generated for the host client.

If the file server is a Windows machine using character or GUI clients as in Figure 1.2, or if you want to run GUI clients against a UNIX file server as in Figure 1.1, a remote client setup is required for each client PC.

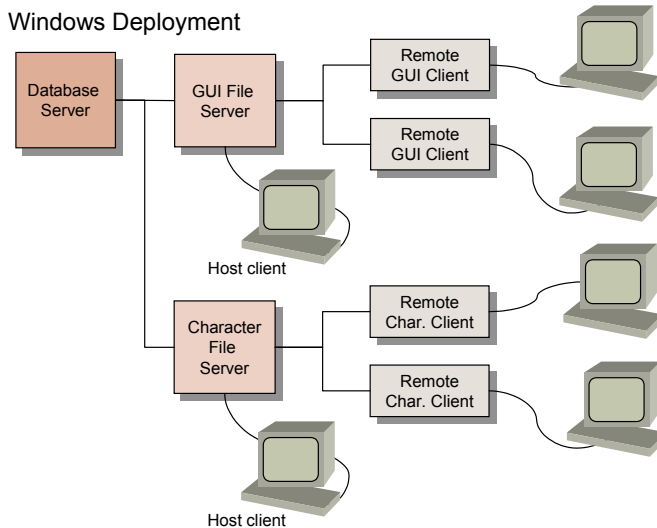


**Fig. 1.1**  
UNIX Deployment

### Remote Clients

A remote client setup is required for all GUI clients and for all character clients connecting to a Windows file server. The remote client setup creates a copy of MFG/UTIL on the client PC. You then run MFG/UTIL on the client, connected to the file server, to generate local startup scripts. The resulting client runs source code on the file server and accesses the databases on the database server.

▶ For more information, see “Installation Utilities” on page 16.



**Fig. 1.2**  
Windows Deployment

## Database Server Installation

Working MFG/PRO databases on Oracle are created in two stages. First, create a Progress schema holder database. Then create the Oracle database and use the schema holder to load the schema and data into the Oracle database.

### Create the Schema Holder

The schema holder is a Progress database that consists only of a metaschema. The metaschema is the data structure—a description of tables and fields, indexes, triggers, and database-level validations—that MFG/PRO uses to connect with an Oracle database.

The installation process creates empty Progress schema holder databases, and then loads the MFG/PRO schema into them. In Progress installations, four separate databases are created and connected simultaneously: the main or production database, the admin database, the audit database, and the help database. On Oracle, the main, admin, and help databases are combined into a single instance. For this database, you perform three separate schema loads to load all three database schemas into a single schema holder. The audit database schema is only required for compiles.

### Create the Oracle Database

The Oracle database is created using QAD-provided templates. These templates are used in conjunction with the Oracle Database Configuration Assistant (ODCA), which lets you tailor tablespaces and other parameters prior to the creation step.

One of the most important requirements of an MFG/PRO on Oracle installation is the laying out of the database on multiple disks on the server. If you are doing a conversion, this process is easier since you have the existing database for comparison. However, if this is a first-time install of MFG/PRO on Oracle, you will need to make some educated guesses about laying out your tablespaces across disks and setting the sizes of those tablespaces.

Oracle installations typically install multiple database instances to support demo, development, training, and production requirements. You create a separate schema holder and Oracle database instance for each.

## Load Default Data

Once your databases are created, you load default MFG/PRO data into them. The data is separated into language-independent and language-dependent data, as well as into standard manufacturing data and administration data. Perform the load of the language-dependent data for each language you plan to implement.

The main databases you load data into are:

*mfgprod*. This is your production Oracle database. The database name can be anything. In this guide the name of the database is `eb21ora`.

*mfgdemo*. Optional. This is your conference-room pilot database. QAD supplies working data for `mfgdemo` that you can use to support a pilot or for development testing.

*mfgtrain*. QAD supplies data for this database specifically designed to support MFG/PRO training materials and scenarios.

*seattle*, *chicago*, *newyork*. These databases are used for multi-site implementation training. Like `mfgtrain`, they have their own data and you need as many copies as you have students in the training sessions.

▶ See “Installing Additional Databases” on page 109 for additional information.

## Copy the Schema Holder

For each empty schema holder you create, once the data is loaded, you create a new schema holder that references the new Oracle database. This leaves the empty schema holders for compiles and as backups to create future copies of the schema holders if needed.

## File Server Installation

The file server is often installed on the same machine as the database server, though this is not required. The creation of a file server consists of the following steps:

- Install MFG/PRO source code.
- Install host client code.
- Configure database sets.

- Compile the source code.
- Generate startup scripts for the host client (and for remote UNIX clients).

The file server is either a character server or a GUI server or both. You install the character file server from the character client CD and the GUI file server from the GUI client CD. If you plan to use both types of clients, both file servers are required.

### Database Sets

Database sets are the group of databases launched by a startup script or stopped by a shutdown script from a client machine. On Oracle, database sets consist of the Oracle database and the Progress schema holders. These databases are included in database sets, and startup and shutdown scripts are generated for each. You define database sets as part of the installation. The typical sets are:

- Train $N$  (one for each student)
- Development or Demo
- Production
- Compile

**Important** One connected empty audit schema holder is required during compiles for all installations, even though Enhanced Controls is not being used. Standard MFG/PRO code references tables in the audit schema.

Once you have created the database sets, you generate the startup and shutdown scripts that launch or stop the databases within each set.

### Remote Client Installation

Installing remote clients for Windows character or GUI clients requires that you have first installed a file server for the specific interface—character or GUI. You then install remote clients by connecting to that file server and running the client installation routine on the remote machine.

## Online Help

The help database is loaded after the client install. You can add custom help to the database using Field Help Maintenance (36.4.13). Data is shipped translated when you order additional languages. Help is accessible on GUI, character, and Desktop clients.

## Network, Disk, and Client Layout

At the machine level, QAD recommends deployment of MFG/PRO on Oracle on a single database server with the character client installed on the main server for administration and batch processes. On UNIX, this character client supports additional terminal connections to the database.

If you are planning to use Windows clients—GUI or character—QAD recommends that you install the appropriate client files on a file server separate from the database server.

Additional databases—training, development, demonstration—require less overhead if they share the Oracle instance created for your production MFG/PRO on Oracle database.

## Installation Utilities

A large portion of the installation is managed by a QAD utility called MFG/UTIL. This product can be used for numerous database management tasks. For the installation, several of these tasks are scripted together to guide you through the installation steps.

## Guided Setup

The entire installation process is semi-automated by a Guided Setup within MFG/UTIL. Guided Setup uses initialization files to control which install steps are followed in what order. The files step you through the creation of the schema holder, the creation and running of the SQL scripts, the data loads, and the compile.

This installation guide follows the installation method defined by the Guided Setup initialization files:

- Database server—`wk0200.ini`
- Character client—`wk0400.ini`
- Windows clients—`wk0410.ini`

MFG/UTIL keeps track of where you are in the steps so that you can leave the installation and restart later. Text tokens for each group of steps are written to the initialization files to create this status: Not Run, Started, Error, and Done.

**Important** If you need to rerun the last set of steps from the beginning, the Guided Setup may not let you return to the initial entry screen to reenter setup data. In this case, use a text editor to change the Status token back to Not Run for that set of steps in the initialization file.

### Editing Workflow .ini Files for US English Installs

You will probably need to edit the Guided Setup production database workflow, `wk0200.ini`. For each installation, review the workflow file and determine which databases you are implementing. The default `wk0200.ini` creates the empty and production schema holders.

▶ See the *MFG/PRO eB2.1 Conversion Guide: Oracle Database* for details.

For example, if you are converting an existing MFG/PRO database using the buffer-copy method, you must comment out the two data loads and the OID generator code load program for the production database in `wk0200.ini` as shown in the example. Use the semicolon (;) to comment lines out.

```

;Enter OID Seed Value
[GetOID]
Status=Not Run
Program=menuoid.p
;
;[OIDSeed]
;Status=Not Run
;Program=oidseed.p
;DBName=./db/oraempty.db
;LDBName=mfgprod
;
;[SysLoadDataOID]
;Status=Not Run
;Program=oidload.p
;DataDir=./us/mfg
;DBName=./db/oraempty.db
;LDBName=mfgprod

```

```

;
;[SysLoadDataOID]
;Status=Not Run
;Program=oidload.p
;LDBName=mfgprod
;DataDir=./mfg
;DBName=./db/oraempty.db
;
[SysLoadDataOID]
Status=Not Run
Program=oidload.p
LDBName=mfgprod
DataDir=./us/admin
DBName=./db/oraempty.db
    
```

**Note** You do not need to edit the Guided Setup initialization files specifically for Windows installations. MFG/UTIL translates the UNIX path statements (. /db) to Windows paths (c : \mfgsvr\db). This is true for both .ini files and structure files (.st).

## MFG/UTIL Keyboard Commands

Keyboard commands for MFG/UTIL are listed in Table 1.1.

Keyboard Entry	Command Name	Description
F1	Go	Moves to next frame or runs a program
F2	Help	Displays context-sensitive help (may not be available for all functions)
F3	Menu Bar	Accesses the menu bar
F4	End	Exits a frame, program, or menu
Spacebar	Select	Selects check boxes and on/off options
Enter or Tab	Tab	Moves to next field or command
Shift+Tab or Control+U	Back Tab	Moves to the previous field or command

**Table 1.1**  
MFG/UTIL  
Character Interface  
Commands

**Note** In the character interface, buttons appear within angle brackets: <OK>. To choose a button, Tab to the button and press Enter.

## OID Generator Codes

During a standard MFG/PRO eB2.1 installation, you must specify an OID generator code for each database. This code is used to create values that uniquely identify database records. If you are performing a conversion, the OID code is specified during the conversion process.

**Note** Currently, only some records take advantage of this new feature. However, it will be used more extensively in future QAD development.

You can choose any numeric code you want. The OID generator code you enter is used by MFG/PRO as the registration ID of the full OID value written to database records as they are created. The generator code is stored and displayed in Database Control (36.24) in MFG/PRO and can be modified later, if necessary.

Once the OID generator code has been specified, OID fields in the database are populated using an algorithm that ensures uniqueness across all records, tables, and databases within the company. The value stored in the OID field for each record has the following decimal format:

```
<date><seq_value>.<registration_id>
```

Where:

<date> is the server date with format `yyyymmdd`.

<seq\_value> is obtained from a Progress database sequence.

<registration\_id> identifies the origin of the OID value.

The registration ID is derived from the OID generator code by reversing the digits of the generator code.

## Installing Multiple Languages

All installs, including English-only installs, are language specific. You receive media for your database server and client installs, as well as separate media for each language you are implementing.

To create a US English-only install, no special steps are required. To create a single-language install that is not US English, you load your base language data, as well as a set of translated schema definitions. You then set your compile destination and client scripts to point to the language-specific directories.

To support multiple languages, you create a schema holder for each language, loading each with translated schema definitions. You then compile each language separately against these schema holders, setting the compile destination to point to the language-specific directory. You create one set of production schema holders from the empty ones and load the language-specific data files for each language you are implementing into them.

The steps you follow are documented in this guide. See the following checklists for a summary of steps:

- “Single Non-US English Installations” on page 139
- “Multi-Language Installations” on page 146

## Installing Shared and Compatible Code Page Languages

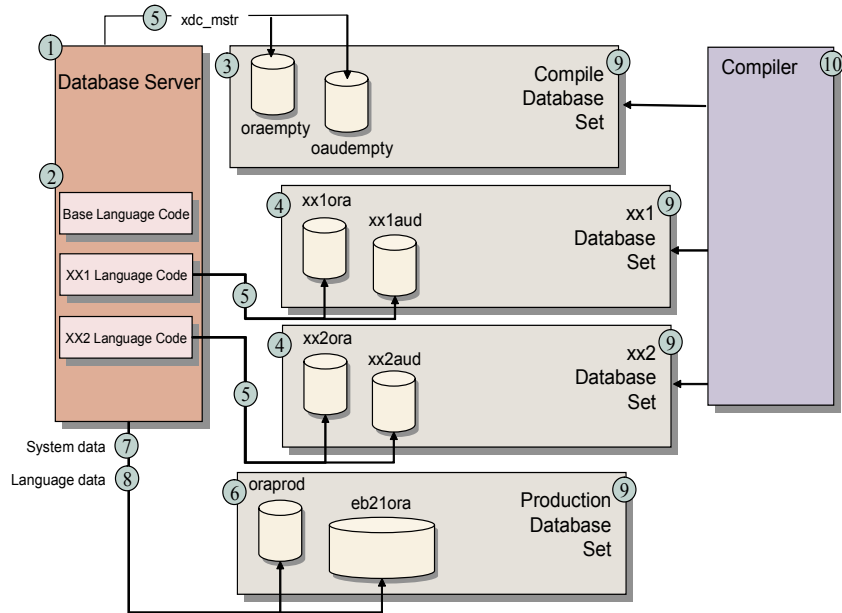
If all the languages you are implementing share the same code page—for example, English, French, German, Spanish that share the ISO-8859-1 code page, or Russian, Ukrainian, and Romanian that share the ISO-1251-1 code page—no special install steps are required.

If you are installing multiple languages with a compatible code page, such as non-Western European languages like Japanese or Chinese and US English, you must first follow the instructions in the Progress documentation for setting up Progress for a non-Western European language. Then the steps in this guide apply.

If you are installing a double-byte language such as Korean or Chinese, always install the double-byte language media before installing any other languages.

Figure 1.3 provides a graphic overview of a multi-language install. The numbered steps are described following the graphic.

**Fig. 1.3**  
Multiple Language  
Installation Stages



**Note** The header record for `oraempty.d` uses the ISO8859-1 codepage. If this is not the correct codepage for the target install language, edit the `oraempty.d` codepage before loading the file.

A general overview of the required steps is as follows:

- 1 Install the MFG/PRO database server.
- 2 Install language media for each language.
- 3 Create empty schema holders (`oraempty` and `oaudempty`).
- 4 Copy the empty schema holders for each language-specific schema holder (`XX1ora`, `XX1aud`, `XX2ora`, `XX2aud`, and so forth, where `XX1` is the language code).
- 5 Load translated labels (`xdc_mstr.d`) into each language-specific schema holder. If you are not implementing US English, load the base language `xdc_mstr`.

- 6 Create the production schema holder and database (`oraprod` and `eb21ora`).
- 7 Load system data into the production database.
- 8 Load language-specific data for each language into the production database.
- 9 Create database sets and generate scripts. You will need a compile database set pointing to the language-specific empty schema holders for each language.
- 10 Compile each language against a language-specific empty database set.
- 11 Install clients.
- 12 Generate client scripts and edit for language specifics.  
**Note** Each user can have a separate client script that sets language-specific components such as date format. Then in MFG/PRO, each user's default language for menus, messages, and labels is set in User Maintenance (36.3.1).

## Install a Single, Non-US English Language

The following are the steps to create a single-language installation that is not a US English installation. This scenario assumes that you have installed a version of Progress in the same language. A general overview of the required steps is as follows:

- 1 Install the MFG/PRO database server.
- 2 Install the language media.
- 3 Create the empty MFG/PRO schema holder.
- 4 Load translated schema labels (`xdc_mstr.d`) into the empty schema holder.
- 5 Create the production schema holder and database.
- 6 Load system data into the production database.
- 7 Load language-specific data into the production database.

- 8 Create database sets and generate scripts. You will need a compile database set pointing to the language-specific empty databases for each language.
- 9 Compile against the empty compile database sets.
- 10 Create database sets and generate scripts.
- 11 Install clients.
- 12 Generate client scripts and edit for language specifics.

### Edit MFG/UTIL for Multiple Languages

Not all steps in a multiple-language installation can be added to a workflow. The copy of empty databases and the subsequent load of translated schema labels is best accomplished using Progress and MFG/UTIL tools. You can, however, incorporate the language-specific data loads to the `eb21ora` database.

To add languages to `wk0200.ini`, which loads the language-specific data into the production database, search for all instances of the base language (`/us`) and copy the section where it is found. There will be two in the original: one for `/us/mfg`, and one for `/us/admin`.

Paste the section below the copied section and modify the base language abbreviation to reflect the correct language abbreviation for the additional language. Figure 1.4 shows the addition of a French data load to a US English base.

```
[LoadData]
Status=Not Run
Program=rapload.p
DataDir=./us/mfg
DBName=./db/oraempty.db
LDBName=
;
```

```
[LoadData]
Status=Not Run
Program=rapload.p
DataDir=./fr/mfg
DBName=./db/oraempty.db
LDBName=
;
```

Example of a French data load section.

```
[LoadData]
Status=Not Run
Program=rapload.p
DataDir=./mfg
DBName=./db/oraempty.db
LDBName=
;
```

**Fig. 1.4**  
Language-Specific  
Load

The only change to the copied section is the change from `/us` to `/fr`.

Add a section for each language you are implementing for the production database and the administration database.

### Loading Translated Labels Using a Workflow

If you want to load translated labels (`xdc_mstr`) in the database creation workflow, you can add the following step into `wk0200.ini` for the `mfgempty` and `oaudempty` schema holders. A French load would look like the following:

```
[LoadXlat]
Status=Not Run
Program=rapldlbl.p
DBName=./db/mfgempty.db
Language=fr

[LoadXlat]
Status=Not Run
Program=rapldlbl.p
DBName=./db/oaudempty.db
Language=fr
```

## Client CD Contents

Each customer receives a printed Release Media Report as part of the product shipment. This is an important document. It is not available on the release media, so locate this and store it in a safe location.

The Release Media Report lists the MFG/PRO modules you are licensed to run. If you ordered source code for a module, an X appears under Src.

On the release media are files with an `.lst` extension under the `mfgpro/dist/lst` directory. These list the individual programs that are licensed within each module. For example, valid Purchase Order module programs are listed in `po.lst`. The installation process places these lists on your disk under `MFGPROInstallDir/dist/lst`.

The `.rp` files contain a list of reports and inquiries for each module. The `iv.lst` file is a listing of shared include files.

If you attempt to run a program and get a message that says you are not licensed to run it, first check your Release Media Report to make sure the module is licensed. Then check the module list to make sure the program is in the module you expect it to be in.

## Installation Summary

For a full checklist of the installation process, see “Installation Checklists” on page 129.

# System Requirements

An MFG/PRO installation requires planning for adequate system resources. This chapter provides system requirements and software prerequisites for database server, file server, clients, and the network.

*General Requirements*    **26**

*Database Server*    **26**

*File Server*    **28**

*Remote Clients*    **28**

*Network*    **29**

An MFG/PRO on Oracle system consists of a database server, a character client, optionally a file server (for remote Windows clients), and remote clients with an adequate network. For requirements for QAD Desktop, see *Installation Guide: QAD Desktop*.

## General Requirements

The system administrator must be a certified Oracle database administrator with at least 1 to 2 years of experience, and must know how to manage Progress client processes.

Before installing MFG/PRO, both Oracle and Progress must be installed following the installation guides for both products. Oracle has an install guide for each platform that may include UNIX kernel changes and patches.

## Database Server

The database server contains MFG/PRO and Progress server software, as well as your production data in the Oracle database. You should estimate the eventual size of your production database and the demands placed on different components of the database prior to starting an installation so that you can lay out your disks appropriately.

## Hardware Requirements

- 3 GB of free disk space (includes Oracle, Progress, and MFG/PRO). This may be lower or higher depending on the Oracle installation type selected. Refer to the Oracle installation guides for additional memory and system requirements.
  - 700 MB for each additional language
  - 100 MB of temporary space if installing from tape
- Approximately 10 GB disk space spread across three or more disks for data structures. This is an estimate based on a 5 to 7 GB production database.
- High-speed 100 mbps network card.
- ISO9660 CD-ROM or tape drive.

- 2 disk controller channels (minimum).
- 200 system file handles per simultaneous MFG/PRO process.

## Operating Systems

- HPUX 11i 32- and 64-bit; HPUX 11.0 32-bit
- AIX 5.1 and 5.2
- Solaris 7; Solaris 8 32- and 64-bit
- Red Hat Linux 7.2–8.0; Red Hat Linux Advanced Server 2.1
- SuSe Linux Enterprise Server 8.0
- Compaq Tru64 5.1A
- Microsoft Windows Win2003, Win2000, XP, NT 4.0

## Software Prerequisites

- Operating system patches. Check both the *Oracle Installation Guide* and the *Progress Product Availability Guide* for required OS patches.
- Oracle Version 9iR2 (9.2.0.1.0 and higher), 10gR1 (10.1.0.4.0), and 10gR2. Complete a full installation.
  - For your Oracle installation, use the Cost Based Optimizer and turn Statistics on. See your Oracle documentation or refer to <http://docs.oracle.com/> for further information.
- Progress OE10B02 + 03 DataServer patch from Progress.
- Progress OE10B02 DataServer for Oracle.

**Important** On the required Progress products, select a Complete installation, not Typical or Custom.

- In a multi-language installation, Progress language-specific releases for each language.
- Optionally, a Web browser (Netscape or Internet Explorer) to view MFG/UTIL help files in HTML format and to access online support.

## File Server

The file server requirements cover shared Windows remote client requirements, implemented on a separate server.

### Hardware Requirements

- 1 GB of free disk space (includes Progress and MFG/PRO)
- 700 MB for each additional language

### Software Prerequisites

- Operating system patches
- Progress OE10B02 Query Results
- Progress patches
- Progress OE10B02 DataServer license on Windows, depending upon configuration
- Oracle Client Software (requires about 600 MB) to connect via Oracle NetServices

## Remote Clients

The requirements for remote client PCs assume that all shared files are on a file server.

### Hardware Requirements

- 10 MB of disk space
- 600 MHz or faster Intel Pentium (or compatible) processor
- 128 MB of RAM
- Super VGA video
- 1 GB or larger hard drive for future data storage
- 100 Mbps network card

## Software Prerequisites

- Microsoft Windows Win2003, Win2000, XP, NT 4.0, 98 and/or current UNIX server software
- MFG/PRO client media
- Progress OE10B02 software:
  - Query/Results (one Query license per client required)
  - Client Networking
- Optionally, a Web browser (Netscape or Internet Explorer) to view MFG/UTIL help files in HTML format and to access online support resources

## Network

Set up your network to support Progress specifications. Minimum requirements from the MFG/PRO standpoint are:

- 10 Megabit (Mb) Ethernet or faster network

▶ See the *Progress Networking Guide*.



# Database Server Install

Use this chapter to load the MFG/PRO eB2.1 database server media, create the MFG/PRO and audit database schema holders and SQL scripts, generate the Oracle databases, and load system data. The audit database schema holder is required for all customers in order to compile the code. If you are not using the optional Enhanced Controls module, you do not need to create the Oracle audit database.

▶ See “Installing Windows File Servers” on page 68 for instructions.

**Note** While setting up the database server, you can simultaneously load the MFG/PRO remote GUI or character client media onto the file server—provided it is a separate machine.

*Preliminary Steps*    **32**

*Installing Server Files*    **36**

*Creating the Oracle Database*    **42**

*Run SQL Scripts to Load Schema*    **49**

*Creating the Schema Holders*    **50**

## Preliminary Steps

Prior to install, review the following cautions and requirements:

- Install the latest operating system patches.
- For multi-language installations on Windows and SunOS, load any OS-specific language files to support multi-language character displays. Other operating systems may have similar requirements; check with your operating system vendor.
- Set your `$TERM` variable to a standard terminal type such as vt100 or vt200 while installing MFG/PRO. You can switch to a language-specific terminal if necessary when you launch the clients.
- Make sure Progress and the latest Progress patches are installed.
- Change to the Korn shell.
- Determine the following information:
  - The directory where you want to install the MFG/PRO database server files, referred to as *MFGPROInstallDir*
  - The Progress directory
  - The host name for the database server

## Oracle Installation

During your Oracle installation, make sure you complete the following:

- Install the Enterprise Edition.
- Do not create a starter database.
- Select the Use Database Control for Database Management option.
- Use the File System storage option.
- The recommended password for the database schema is qad.
- Use the Cost Based Optimizer and turn Statistics on.

## Rebuild the Progress Executable on UNIX

Some UNIX and Linux platforms require a rebuild of the Progress executable in order to run under Oracle. For example, HP and AIX platforms require rebuilds. If you get Progress errors—typically error numbers 47, 48, or 49—when you attempt to connect to Oracle using `_progres`, you will need to rebuild the executable.

If your platform does require a rebuild, refer to the “Requirements for Building the DataServer Executables” in the Progress OpenEdge 10 *DataServer for Oracle Guide*.

## Setup for Non-Western European Languages

If you are installing non-Western European languages:

- Back up the `startup.pf` and `empty.db` files in the Progress directory.
- From the appropriate Progress language-code directory, copy the following files to the top-level Progress directory:
  - The parameter file (extension `.pf`) corresponding to the language you are installing
  - The empty database file (`empty.db`) and associated files
- Edit the following `startup.pf` values to reflect your base language:

```
-cpinternal ISO8859-1
-cpstream ISO8859-1
-d mdy
-numsep 44
-numdec 46
```

See the *Progress Internationalization Guide* for details.

## Windows Installation Setup (Windows Only)

If you are installing on Windows clients, you will need to set up the Windows server as an application server.

- 1 Choose Start|Settings|Control Panel.
- 2 Double-click Network and Dial-Up Connections.
- 3 Right-click Local Area Connection and click Properties.

- 4 Click File and Print Sharing for Microsoft Networks, then click Properties.
- 5 Click Maximize Throughput for Network Applications and click OK.

### Create the Installation User and Group (UNIX Only)

MFG/PRO installations on UNIX require a group called `qad` and a user called `mfg` on the database server. All MFG/PRO installation and maintenance programs store pertinent information under the `mfg` user home directory. This enables QAD scripts to find data about installed products automatically and reliably and lets you maintain your system without logging on as `root`.

- Create a group called `qad` with a group ID (gid) of 65535 with your UNIX system administration utility. (65535 is the user ID of the files on MFG/PRO media.)
- Create a user called `mfg`, with a user ID of 65535.
  - Assign the Korn shell to this user. All of the scripts delivered on QAD media use Korn shell (ksh) syntax.
  - For the `mfg` user, set the `$HOME` environment to a user directory where working and temporary files can be written.
  - Assign the standard umask of 022 to set permissions and security.
  - Update the `mfg` user `.profile` to include `ORACLE_HOME`, `ORACLE_SID`, `DLC`, and `PATH` variables. For example:
 

```
ORACLE_HOME=/dr01/oracle/OraHome1;export ORACLE_HOME
ORACLE_SID=eb21ora;export eb21ora
DLC=/dr01/progress/dlcOE10;export DLC
PATH=$PATH:$DLC/bin:$ORACLE_HOME/bin;export PATH
```
  - Create directory `cfg` under the home directory of user `mfg`. This directory is mandatory for storing installation and configuration information. The `cfg` directory must have read, write, and access permissions (755) for the owner group and others.

**Important** You will need to switch to an Oracle system admin user such as `oracle` for Oracle-specific tasks such as running SQL scripts.

## Permissions

The MFG/PRO installation uses or creates several directories. If you choose to use the default directories and they do not exist at the time of the install, they are created automatically. This applies the ownership and appropriate permissions for the installation user (`mfg`). However, if you choose to create or use other directories outside of the installation process, make sure these are owned by `mfg` and have read and write permissions for `mfg` assigned.

## Modify the Services File (Optional)

If you are implementing a client/server environment, you may want to tailor your `services` files. This is not a required step for Oracle since database service connections are maintained by Oracle without the `services` file. If you add any new service names after installation, you must modify your `services` file. All service 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 `services` file on the server is typically the `/etc` directory. On Windows it is located in:

```
c:\winnt\system32\drivers\etc
```

Add the names of your database services to your `services` file. Add one for each main database and support database you plan to connect to. Limit the service name to 16 characters. You can use any unused port numbers. Table 3.1 shows example service names and port numbers for a production database set.

Service Name	Port #/Protocol	Comment
prod-srv	5500/tcp	# Production Database

### Tip

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

**Table 3.1**  
Services File  
Example

## Installing Server Files

In this set of steps, you mount the Database Server media and copy the files to the server. Choose the steps for the media you received. For Windows servers, insert the CD and go to “Install Database Server Files” on page 37.

### Mount the CD-ROM (UNIX only)

For Windows installs, just insert the CD in the CD-ROM drive. For UNIX installations, use the following instructions:

- 1 Log on as `mfg`.
- 2 Mount the CD-ROM. Example commands are listed in Table 3.2.

**Table 3.2**  
UNIX CD Drive  
Mount Commands

Hardware	Mount Command
Sun	<code>volcheck cdrom</code>
HP	<code>/etc/mount -F cdfs /dev/dsk/YourCDDevice /cdrom</code>
Digital	<code>mount -r -o noversion -t cdfs /dev/YourCDDevice /cdrom</code>
AIX	<code>smitty mountfs</code> Then select file system, directory, and file system type ( <code>cdrfs</code> ).
Linux	<code>mount /dev/hdb /mnt/cdrom</code> Where <code>/hdb</code> could be <code>hdc</code> or <code>hdd</code> among other possibilities.
All others	Refer to your operating system documentation or vendor for requirements to mount a CD-ROM. You may be able to type <code>man mount</code> to determine the correct command.

- 3 Continue with “Install Database Server Files” on page 37.

### Load Tape Media (UNIX Only)

Load the tape media into a temporary directory, then extract the MFG/PRO files from there into a permanent install directory. All MFG/PRO tapes are written using a block size of 5120 bytes.

- 1 Log on as `mfg`.
- 2 Create a temporary directory.

3 Load your tape into the appropriate server drive.

4 Change to the temporary installation directory:

```
cd TemporaryTapeDir
```

5 Enter the applicable load command from Table 3.3.

On this hardware...	Enter this load command...
HP 9000/800 Series, 1/4" cartridge	<code>tcio -i /dev/rct/<i>YourTapeDevice</i>   cpio -iumvdBc</code>
All others	<code>cpio -iumvdBc &lt; /dev/<i>YourTapeDevice</i></code>

**Table 3.3**  
UNIX Tape Extract  
Commands

6 Remove the tape and store it.

## Installation Directory

Your selection of an installation directory for MFG/PRO can be important. If this is a new install, the easiest and simplest method to support is to accept the default. If this is a conversion from a previous version of MFG/PRO, install to a separate directory structure.

In addition, do not select a directory path that has spaces in it such as `C:\Program Files\mfgpro`. Database scripts generated by MFG/UTIL cannot locate a database in a path with spaces.

## Install Database Server Files

Complete this section to install the MFG/PRO database server files on the server.

1 In UNIX, log on as user `mfg` under the group `qad`. For Windows, log in as a user with Administrator privileges.

2 On the CD, change to the directory containing the database server media. This is the temporary tape directory for tape installs.

3 Change to the `install` directory:

```
cd install
```

4 Launch the database server installation script in that directory:

```
./install.ksh
```

For Windows, run `install.exe` from Run on the Start menu.

A welcome screen displays. Press Enter.

```
Welcome to QAD's MFG/PRO eB2.1 Database Server installation.
We are installing MFG/PRO eB2.1 Database Server for hpux.
Press <Enter> to view license agreement.
```

- 5 Accept the MFG/PRO software license agreement. Press Ctrl+C to jump to the end of the agreement.

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

To install MFG/PRO eB2.1 Database Server, you must accept this
agreement. (y/n)?
Default is n
->y
```

- 6 Accept the default or enter a different installation log files location. Later installs (language files, host client, and others) look in this location for installation information. If you enter a different location, make a note of it for later installations.

```
Please enter the location where the log file should be
written.
Default is /users/mfg/instlog
->/users/mfg/instlog
```

On Windows the default location is `c:\instlog`.

The log directory is used to record information about this installation. That information is used during the installation of subsequent media. If you choose not to use the default location, remember the location that you choose so you can use the same location during installation of subsequent media.

- 7 Enter the Progress installation directory path or accept the default. The script verifies the location and version. Specify Yes to confirm.
- 8 Enter the path and directory where you want to install the MFG/PRO database server files (`MFGPROInstallDir`). If this directory does not exist, it is created.
- 9 Respond Yes to the prompt, “Is this install for an Oracle dataserver?”
- 10 On Windows, you are prompted to enter the folder name for the MFG/UTIL program icons. The default is MFG/PRO eB2.1 Database Server. Modify or accept the default, and press Enter.

- 11 Review the summary and confirm by entering `y` and pressing Enter. By default, the installation log is written to `c:\instlog` on Windows and `/users/mfg/instlog` on UNIX.
- 12 Choose the Finish button and press Enter to begin copying the files. The log is written to `/instlog/mfgdbsv.log`.

## Install Language Files

Complete these steps to install the MFG/PRO language files, which include the language-specific menu and message data files. This is a required step even if you are installing only one language.

The first language you install becomes the base language. This cannot be changed without a re-installation. If you are installing an MFG/PRO environment with multiple languages, you must repeat these language file installation steps for each language. Always install a double-byte language first if you are installing any double-byte languages at all.

The US language media is required for all installations, even if you are not implementing US English.

The language files for each language you purchased are installed in subdirectories below *MFGPROInstallDir*. The language subdirectories are identified by the two-letter MFG/PRO language code. For example, for US-English the subdirectory is `/us`.

- 1 For Windows, insert the language CD. For UNIX, load the language media on your system using the instructions appropriate to the type of media you have:
  - For tape media, use “Load Tape Media (UNIX Only)” on page 36.
  - For CD-ROMs, use “Mount the CD-ROM (UNIX only)” on page 36.
- 2 In UNIX, log on as user `mfg` under the group `qad`. For Windows, log in as a user with Administrator privileges.
- 3 On the CD, change to the directory containing the language media. For tape installs, this is the temporary tape directory.

- 4 Change to the `install` directory:  

```
cd install
```
- 5 Launch the database server installation script in that directory:  

```
./install.ksh
```

For Windows, run `install.exe` from Run on the Start menu.  
The welcome screen displays. Press Enter to continue.
- 6 Accept the MFG/PRO software license agreement.
- 7 Enter the log file location from step 6 in “Install Database Server Files” on page 37. If you used the default, accept the default here.
- 8 Enter the Progress installation directory.
- 9 Enter the `MFGPROInstallDir` from step 8 in “Install Database Server Files” on page 37.
- 10 Review the summary and confirm by entering `y` and pressing Enter.  
The log is written to `/instlog/mfglang.log`.

If you are installing multiple MFG/PRO languages, repeat steps 1 to 10 for each language. If you are installing a single non-US English version, you must load the base language media and the US English language media.

### Modify `mfgutpro.ini` File (Single Non-US English Only)

To use MFG/UTIL in a language other than English, open `mfgutpro.ini` from the `MFGPROInstallDir` and alter all instances of `/us` with the two-letter code for the installed language.

### Modify the Workflow `.ini` File

The `wk0200.ini` file controls the MFG/PRO Guided Setup creation of the MFG/PRO schema holders. Use a text editor to edit these files.

**Note** For conversions, the workflow should need no additional adjustments if you installed the new version of MFG/PRO into a separate directory structure.

▶ For more information, see “Guided Setup” on page 15.

- Change any path or database name references that do not match your intended installation.
- Add language-specific loads of schema labels as necessary for multi-language installs.
- Modify all paths to reflect the correct language. For example, if you are installing French as the base language, you would change all instances of `/us` to `/fr`.
- Add additional language loads. For example, if you are installing French, you would add data loads for both `/fr/mfg` and `/fr/admin`.
- For buffer copy conversions, comment out the following sections:
  - [OIDSeed]
  - [SysLoadDataOID] where `DataDir=. /us/mfg` and `./mfg` (two instances)
  - [TruncBI] where `LBName=mfgprod.db`
- For in-place conversions, comment out the same sections as for buffer copy conversions above, and in addition, comment out the [CreateOraSH] section.

▶ See *MFG/PRO eB2.1 Conversion Guide: Oracle Database* for additional information.

## Set Up MFG/UTIL Clients (Windows Only)

If you are installing on a Windows machine, you must make some temporary settings to enable the tools and DOS windows to work correctly.

- The graphical interface does not perform some functions, such as compiling, at high screen resolutions. Reset your screen resolution to 800 x 600 prior to starting the graphical MFG/UTIL.
- The character interface requires resetting your DOS window layout. The symptoms of incorrect settings are deceptive; the screens do not refresh properly after tabbing through menu and button selections.

To reset the DOS window for MFG/UTIL, complete the following steps:

- 1 Launch the character MFG/UTIL from the Start menu icon.
- 2 Right-click on the DOS window title bar and select Properties.
- 3 Select the Layout tab.

- 4 Set Screen Buffer Size Width to 80 and Height to 25 and select OK.
- 5 When you are prompted, select Modify Shortcut.
- 6 Restart MFG/UTIL to enable the change.

Reset these to the defaults (Width 80, Height 300) after you have completed the Windows client installations to ensure adequate buffers for other applications.

### Modify mfgutil.ini

After installing the MFG/PRO files to the server, modify the copy of `mfgutil.ini` in the `MFGPROInstallDir`:

```
Startparms=-d mdy
```

## Creating the Oracle Database

The first stage of database creation requires several steps outside of MFG/UTIL. You copy MFG/PRO source files into Oracle directories, and then run the Oracle Database Configuration Assistant (DBCA) to create the databases.

### Copy MFG/PRO Files to Oracle

- 1 Depending on your operating system, copy either `QAD_UNIXx.dbt` or `QAD_WINx.dbt`, where `x` is the version of Oracle you are using, from:

```
MFGPROInstallDir/db
```

To:

```
$ORACLE_HOME/assistants/dbca/templates
```

## Create the Oracle Databases

The following sequence of screens will be different depending on which version of Oracle, 9i or 10g, you are running.

**Important** For UNIX and Linux implementations, the display value must be set before running the Database Configuration Assistant (DBCA). See the Oracle documentation for information on the DBCA.

### 1 Start the Oracle DBCA.

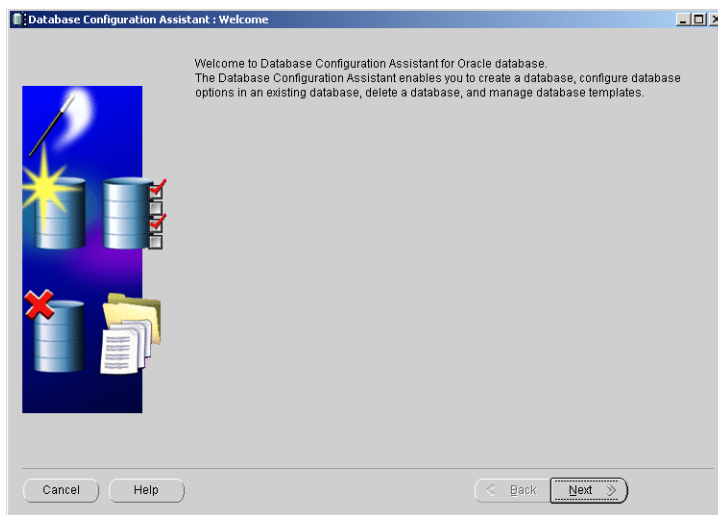
- On UNIX:

```
cd $ORACLE_HOME/bin
dbca
```

- On Windows:

Start|All Programs|Oracle|Configuration and Migration  
Tools|Database Configuration Assistant

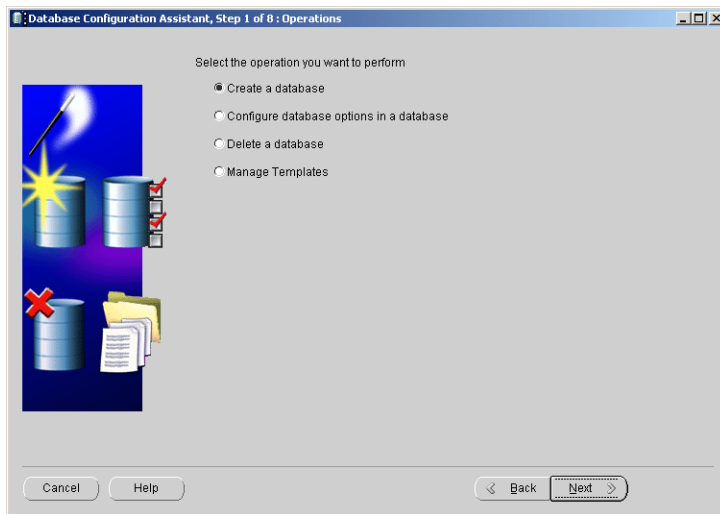
The Database Configuration Assistant welcome screen displays. Click Next to continue.



**Fig. 3.1**  
Oracle Database  
Configuration  
Assistant

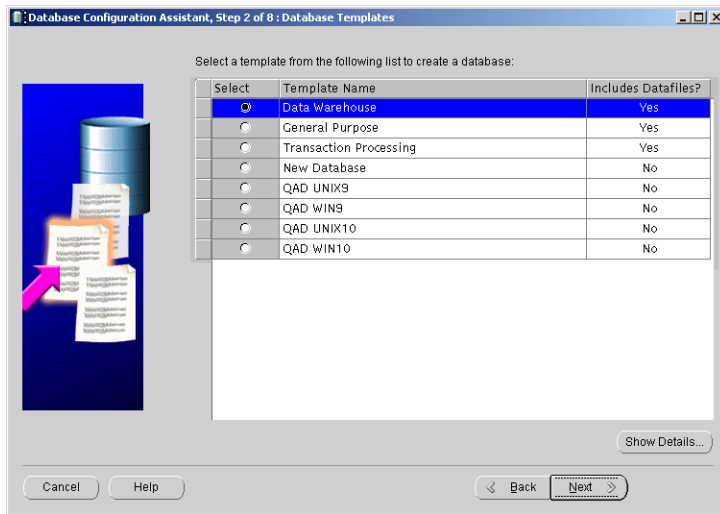
- 2 In the Operations screen, select Create a Database and click Next.

**Fig. 3.2**  
Oracle DBCA  
Operations Screen

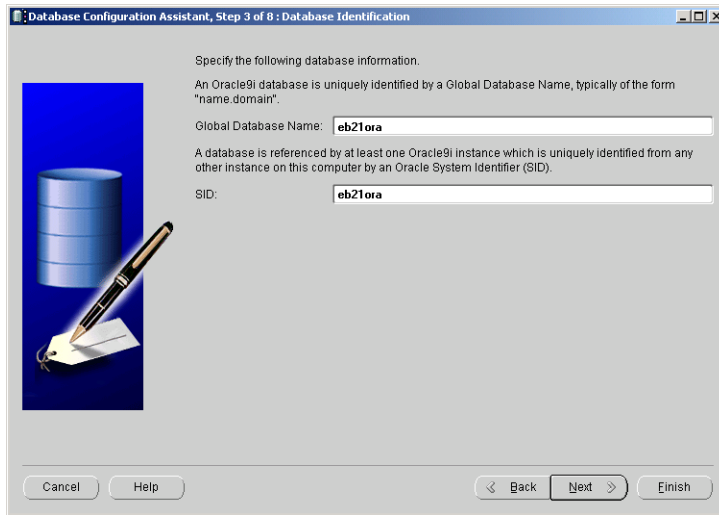


- 3 In the Database Templates screen, select the QAD WIN $x$  or QAD UNIX $x$  template, where  $x$  is the version of Oracle you are using, depending on your operating system.

**Fig. 3.3**  
Oracle DBCA  
Database Templates  
Screen



- 4 In the Database Identification screen, update the Global Database Name and/or SID prefix to the values you want.



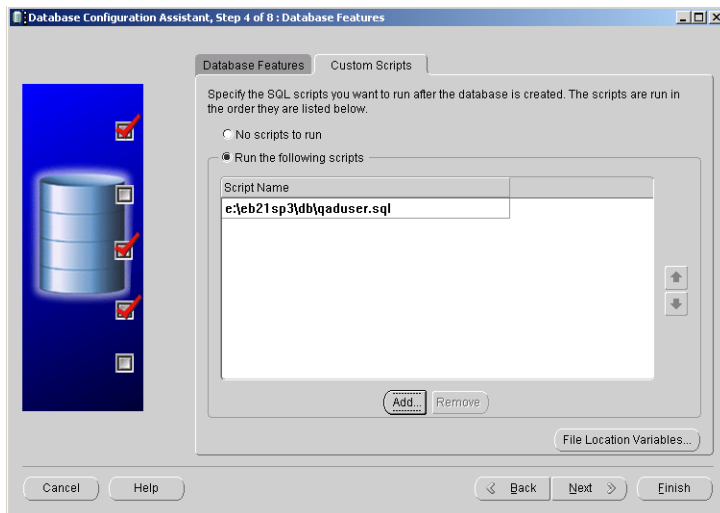
**Fig. 3.4**  
Oracle DBCA  
Database  
Identification  
Screen

The global database name can be up to 30 characters in length and must begin with an alphabetical character. The SID prefix must begin with an alphabetical character and contain no more than 561 characters. The DBCA uses the SID prefix to generate a unique value for the ORACLE\_SID for each instance.

- 5 Click Next to continue.

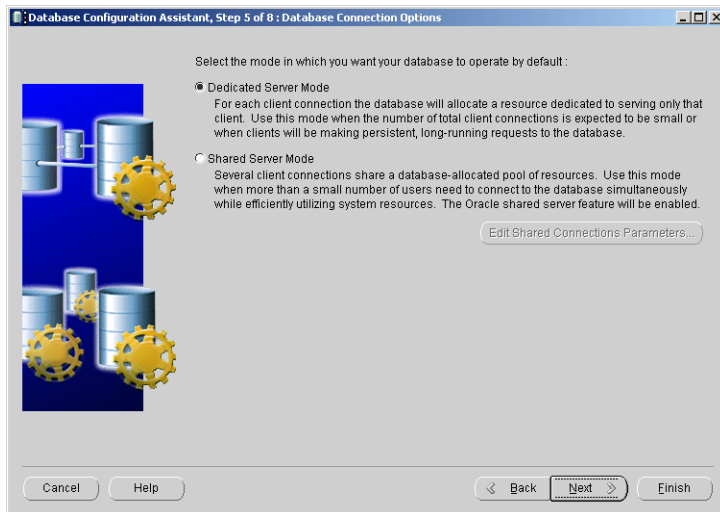
- In Database Features, select the Custom Scripts tab and choose Add to enter the location of `qaduser.sql`; for example `/MFGPROInstallDir/db/qaduser.sql`. Select Run the following scripts and click Next.

**Fig. 3.5**  
Oracle DBCA  
Database Features  
Screen

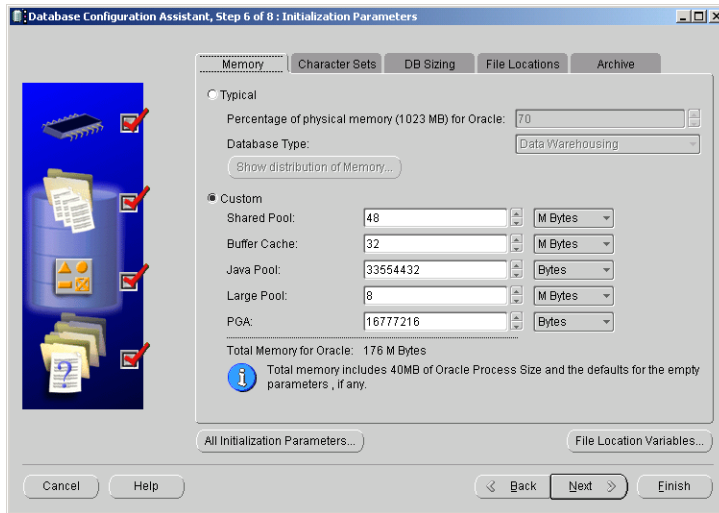


- In the Database Connection Options screen, select the mode you want to use for your Oracle database, dedicated or shared, and click Next.

**Fig. 3.6**  
Oracle DBCA  
Database  
Connection Options  
Screen



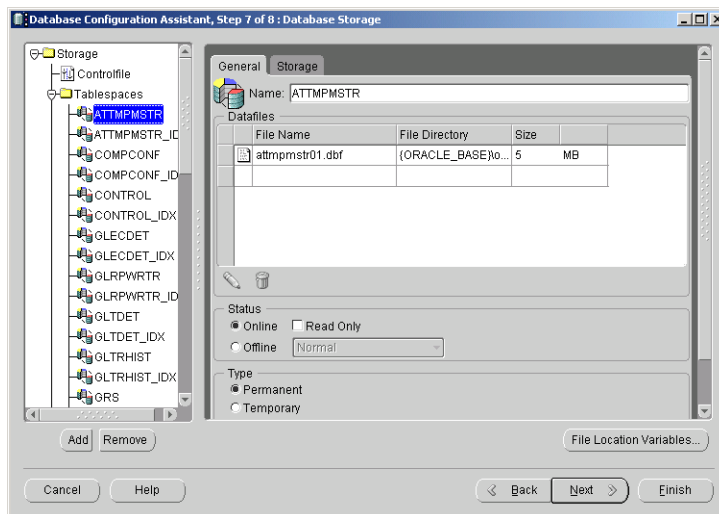
- 8 In the Initialization Parameters screen, modify the initialization parameters, character sets, file locations, and archive mode as required. Then click Next to continue.



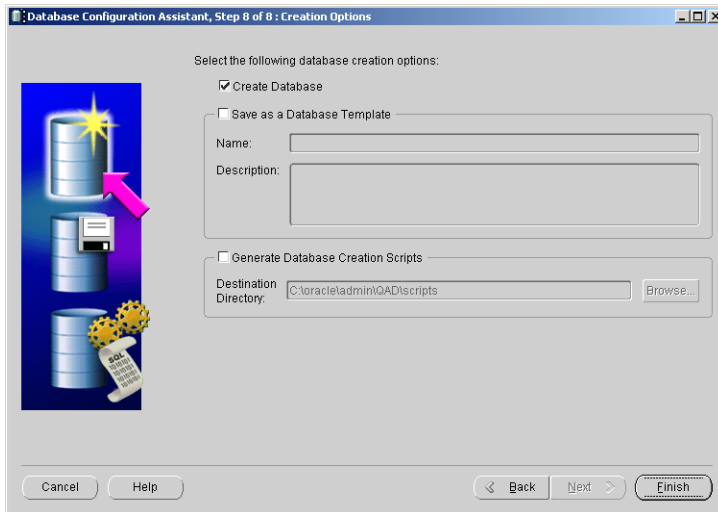
**Fig. 3.7**  
Oracle DBCA  
Initialization  
Parameters Screen

- 9 In the Database Storage screen, expand the Tablespaces tab in the navigation pane, and select any tablespace to modify tablespace datafile names, locations, or sizes as required. Do not replace any of the QAD-provided tablespaces or the MFG/PRO SQL scripts will fail. Click Next to continue.

**Fig. 3.8**  
Oracle DBCA  
Database Storage  
Screen



- 10 In the Creation Options screen, choose Create Database to create the database now. If you plan to create the database at a later time, choose one or both of the other options. All options can be selected simultaneously if you want. Click Next to create the database, template, and/or script.



**Fig. 3.9**  
Oracle DBCA  
Creation Options  
Screen

- 11 This ends the database creation step for the Oracle database.

If the `qaduser.sql` script was not run for some reason during database creation, then the `sysdba` user must run the script in the Oracle database. The `qaduser.sql` file is located in `MFGPROInstallDir/db`.

## Run SQL Scripts to Load Schema

Several scripts are supplied by QAD to create the Oracle database schema. These are run from a command line interface in SQL\*Plus.

- 1 Run a command window and log in as the `qad` user.
- 2 Change directories to `MFGPROInstallDir/db`.
- 3 Use the following syntax to run the first script to build the oraempty tablespaces.

```
sqlplus qad/qad < oraempty-tbl.sql
```

- 4 Once the script is complete, run the scripts listed in Table 3.4 using the same syntax.

**Table 3.4**  
Oracle Database  
Tablespace Scripts

Script Name	Purpose
<code>oraempty-idx.sql</code>	oraempty index tablespaces
<code>oraempty-seq.sql</code>	oraempty sequences
<code>oadmempty-tbl.sql</code>	admin tablespaces
<code>oadmempty-idx.sql</code>	admin index tablespaces
<code>ohpempty-tbl.sql</code>	help tablespaces
<code>ohpempty-idx.sql</code>	help index tablespaces

## Creating the Schema Holders

Complete these steps to build the Progress schema holder databases for your empty databases, and load the MFG/PRO schema. After the schema holders have been created, the OID value is loaded in the Oracle database and the production schema holder is created.

### Build the Schema Holders

▶ For information on MFG/UTIL keyboard commands, see “MFG/UTIL Keyboard Commands” on page 17.

- 1 Launch MFG/UTIL from the *MFGPROInstallDir* using the command:  

```
./mfgutil
```

 For Windows, launch MFG/UTIL from the icon on the Start menu.

- 2 Choose MFG/PRO Guided Setup from the Configure menu.



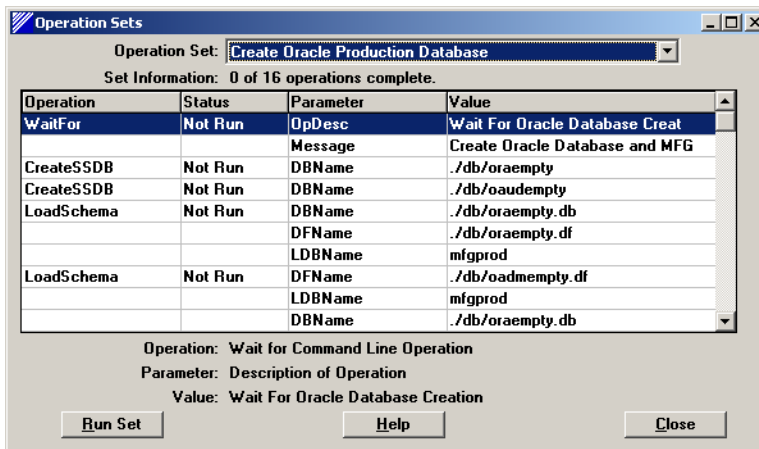
**Fig. 3.10**  
MFG/UTIL  
Configure Menu

- 3 Select Create Oracle Production Database in the Operation Set dropdown list.

The MFG/PRO Guided Setup program provides a workflow of the operations involved in setting up your MFG/PRO environment. You can use this program to access the different configuration utilities in MFG/UTIL with proper default information and in the proper sequence. Review the following figure to become familiar with Guided Setup.

**Note** The number of operations is determined by the number of uncommented sections in `wk0200.ini`. See “Guided Setup” on page 15 for information on configuring this file.

**Fig. 3.11**  
Create Oracle  
Databases  
Workflow

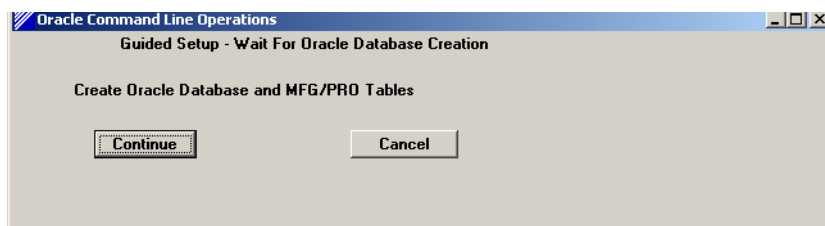


Operation sets are groups of installation activities. The operations in a set display in the Operation frame. On completion, the status changes to Done. If errors occur or if you cancel processing prior to completing a step, the status is Error. Below the Operation frame, the operation, the key variable required, and default value for that variable display.

If you stop the workflow and an Error status is written to a step, this is the first step run when you restart the operation set.

- 4 Choose Run Set and press Enter.
- 5 A wait-for screen displays. This is a reminder to complete “Creating the Oracle Database” on page 42 before continuing. If you have finished the Oracle database creation, choose Continue.

**Fig. 3.12**  
Oracle Database  
Creation Wait  
Screen



- 6 The Create Database screen displays. In the New Physical Database Name field, accept the default empty schema holder name or enter the name you want to use. This guide refers to the empty schema holder using the default `oraempty`.

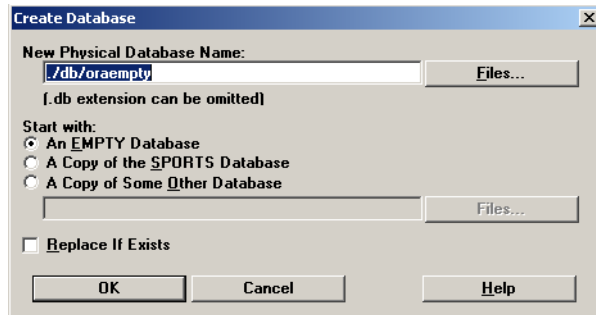


Fig. 3.13  
Creating oraempty

- 7 Accept the default Start with option, choose OK, and press Enter. The empty schema holder is created.
- 8 The Create Database screen displays again to create the empty audit schema holder. This schema holder is required for all implementations in order to compile. In the New Physical Database Name field, accept the default or enter the name you want to use for the empty audit schema holder. This guide refers to the empty audit schema holder using the default `oaudempty`.

## Load MFG/PRO Schema

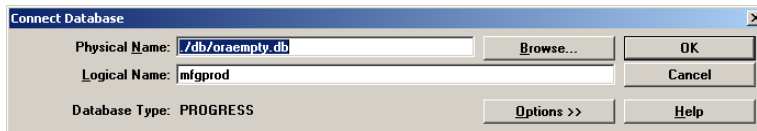
**Note** The header record for `oraempty.df` uses the ISO8859-1 codepage. If this is not the correct codepage for the target install language, edit the `oraempty.df` codepage before loading the file.

When the schema holders are built, the Connect Database screen displays for the `oraempty` schema holder in preparation to complete the schema loads. Three different schema files are loaded into the `oraempty` schema

holder—`oraempty.df`, `oadmempty.df`, and `ohpempty.df`—then a single schema file, `oaudempty.df`, is loaded in the empty audit schema holder.

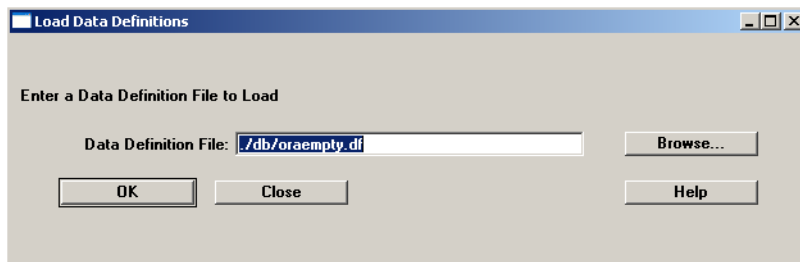
- 1 Verify that the Physical Name field contains the path to and name of the `oraempty` schema holder. Accept `mfgprod` as the Logical Name and choose OK to connect to the schema holder.

**Fig. 3.14**  
Connecting to  
`oraempty` Schema  
Holder



- 2 In the Load Data Definitions screen, verify that the `oraempty.df` file is specified in the Data Definition File field. When ready, choose OK to load the main MFG/PRO schema contained in the `oraempty.df` data definition file.

**Fig. 3.15**  
Loading `oraempty`  
Data Definitions



When the Load Completed prompt displays, choose Close.

The data definition load screen reappears with the Close button selected. Press Enter to close the screen.

- 3 Repeat steps 1 and 2 for the schema holders and data definition files listed in Table 3.5.

**Table 3.5**  
Schema Loads

Schema Holder	Data Definition File (.df)
<code>oraempty.db</code>	<code>oadmempty.df</code>
<code>oraempty.db</code>	<code>ohpempty.df</code>
<code>oaudempty.db</code>	<code>oaudempty.df</code>

- 4 When the data definition load screen reappears following the final load, choose Close.

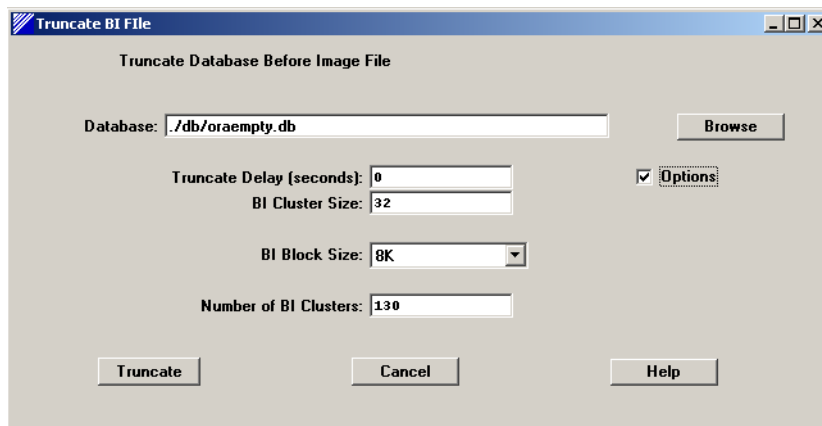
## Truncate Before-Image Files

You now truncate the empty database before-image (BI) files. These files contain data awaiting writes to the database. Truncation updates the file so that the database is fully synchronized and then deletes the temporary data, bringing the files back to their minimum size. Little has occurred to increase the size of your BI file at this point, but the synchronization is required prior to creating copies of these databases.

- 1 In the Truncate BI File screen, accept the default path to `oraempty` and choose Truncate.

The default Progress delay is 60 seconds prior to starting the truncate. This protects databases in current use from missing writes from the before-image file. Since the databases in the installation are all new, you accept the workflow setting of 0.

- 2 If you choose Options, MFG/UTIL connects to the database and retrieves information about the BI clusters. For more information on changing these settings, see the *Progress Database Administration Guide and Reference*. For installations, changes to these are not necessary.



**Fig. 3.16**  
Truncating the  
oraempty Schema  
Holder

- 3 Choose Close in the progress screen.

- 4 Repeat these steps for `oaudempty`.

## Specify the Database OID Values

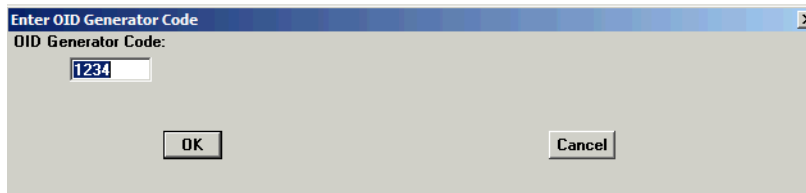
**Important** You should skip steps 2 and 3 for the production database if this installation is creating the target database for a conversion. All implementations must complete step 1.

After truncating the empty schema holders, the Enter OID Generator Code screen displays. This code is used to update the Oracle database created in “Creating the Oracle Database” on page 42.

Enter an OID generator code value as described in “OID Generator Codes” on page 18.

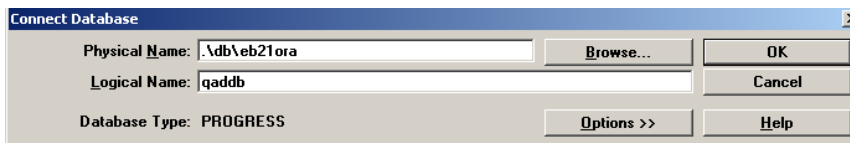
- 1 The Enter OID Generator Code screen displays. This value is reversed and used as the registration ID portion of all OID values in the database.

**Fig. 3.17**  
Entering the OID  
Generator Code



- 2 The Connect Database screen displays. Make sure the database is the Oracle database you created. The following examples use the name `eb21ora`. Choose OK.

**Fig. 3.18**  
Connect Database  
for eb21ora



- 3 The Log Window displays showing the creation of the `qaddb_ctrl` record. Choose Close to continue.

## Load System Data

The QAD system data includes data to support production and administrative programs for all languages you are implementing. The system data load takes place in several steps. The language-dependent data to support production programs is loaded for your base language. You then load the same data for each additional language you are implementing. The same model is then followed for administration data.

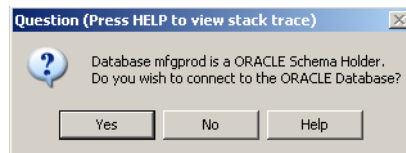
The following instructions describe the first data load—language-dependent data to support production programs. You can then use the same instructions for the remaining loads using Table 3.6, “Data Load Values,” on page 59.

- 1 When the Connect Database screen displays, accept the defaults and choose OK to connect to the Progress schema holder.



**Fig. 3.19**  
Connecting to  
eb21ora Schema  
Holder

- 2 When prompted to connect to the Oracle database, choose Yes.



**Fig. 3.20**  
Connecting to the  
Oracle Database

- 3 In the Connect Database screen, enter `qad/qad` in the User ID field. Choose OK to continue. On client/server installations, enter `qad/qad@ORACLE_SID` for the User ID.

**Fig. 3.21**  
Connect Screen for  
the Oracle Database

The 'Connect Database' dialog box includes the following fields and controls:

- Physical Name: [ ]
- Logical Name: qaddd
- Database Type: ORACLE
- Network: (None)
- Host Name: [ ]
- User ID: qad/qad
- Service Name: [ ]
- Password: [ ]
- Trigger Location: [ ]
- Parameter File: [ ]
- Other CONNECT Statement Parameters: [ ]
- Buttons: Browse..., OK, Cancel, Options <<, Help, Multiple Users (checkbox)

- The Table Selection for Load screen displays the data files for the eb21ora database in the language-specific mfg subdirectory; for example /us/mfg. This screen may take a minute or more to load the data file list for larger directories. Choose OK to start the load.

**Fig. 3.22**  
Table Selection for  
Load Screen

The 'Table Selection for Load' dialog box includes the following elements:

- Buttons: Select Tables, Deselect Tables
- Table List:
 

cd_det
lngd_det
mnt_det
msg_mstr
- Buttons: OK, Cancel, Help

- When the load completes, press the spacebar to continue.

Table	Load file	Records Loaded	Total Errors	Expected Records
cd_det	.\us\mfq\cd_det.d	131	0	131
lnqd_det	.\us\mfq\lnqd_det.d	1111	0	1111
mnt_det	.\us\mfq\mnt_det.d	3040	0	3040
msq_mstr	.\us\mfq\msq_mstr.d	7371	0	7371

**Fig. 3.23**  
Table Load Processing

Repeat this section for each of the data sets listed in Table 3.6. The Guided Setup steps you through with the correct input directories entered. To load the additional languages referenced in the table, edit `wk0200.ini`.

▶ See “Installation Utilities” on page 15.

Data	Physical	User ID	Input Dir.
Production, additional languages	eb21ora.db	qad/qad <sup>a</sup>	./XX/mfg <sup>b</sup>
Production, general data	eb21ora.db	qad/qad	./mfg
Administration, base language	eb21ora.db	qad/qad	./us/admin <sup>c</sup>
Administration, additional languages	eb21ora.db	qad/qad	./XX/admin
Administration, general data	eb21ora.db	qad/qad	./admin

**Table 3.6**  
Data Load Values

- a. For client/server installs, enter `qad/qad@ORACLE_SID`.
- b. Replace instances of `XX` with the language code you are implementing.
- c. Base language shows `/us` as an example only.

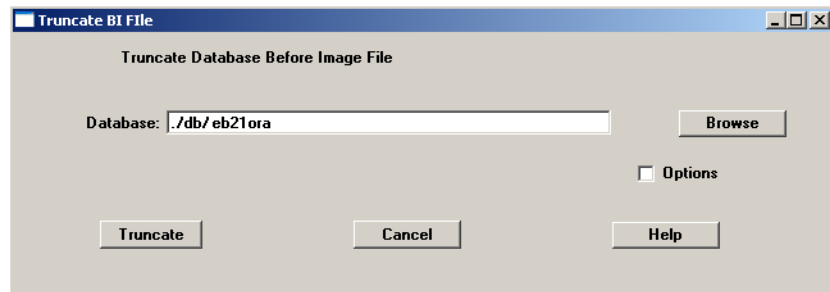
After each load, errors are written to `.e` files in the directory you loaded from. For example, if an error occurs loading from the `co_ctlr.d` file in `./mfg`, a `co_ctlr.e` file with the errors is created in `./mfg`.

## Truncate Before-Image Files

You now truncate the new empty schema holder before-image (BI) files. Little has occurred to increase the size of your BI file at this point, but the synchronization is required prior to loading data and to avoid error messages.

- 1 Select Database|Truncate Database. In the Truncate BI File screen, accept the default path to `eb21ora` and choose Truncate.

**Fig. 3.24**  
Truncating the  
Oracle Database



- 2 Close the log window that displays on completion.
- 3 Repeat the process for your new audit schema holder.
- 4 This finishes the server installation. Exit from the log window and MFG/UTIL.

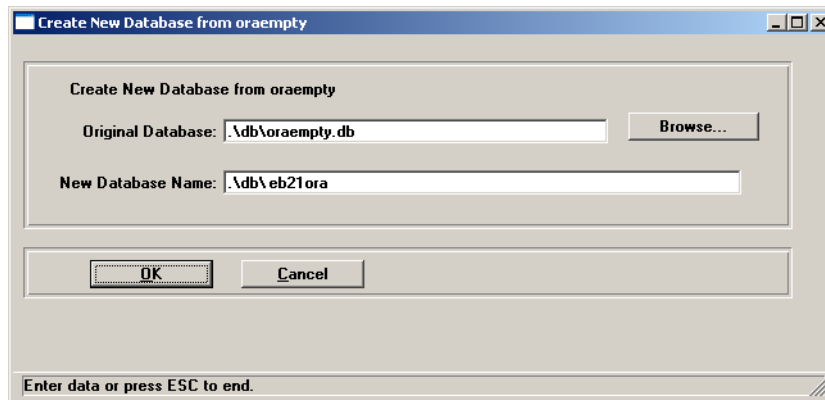
## Copy the Schema Holders

The original schema holders were created with the default names of `oraempty` and `oaudempty`. You now create a copy of these databases for production use with a new name and update the foreign database

references (the schema holder reference to the Oracle database) from the defaults—`qaddb` and `qadaud`—to the actual Oracle database names. In the following illustrations, the database names are `eb21ora` and `audora`.

- 1 Return to the MFG/UTIL Create New Database from oraempty screen. The empty schema holder, `./db/oraempty`, displays by default. Enter the name you want to use for your production schema holder under New Database Name, usually your Oracle SID. Choose OK.

**Note** You do not need to enter the path for the new schema holder. It is created in the same directory as the current schema holder by default.



**Fig. 3.25**  
Create New  
Database from  
oraempty Screen

- 2 When the copy completes, choose Close.
- 3 Confirm the names at the verification prompt.  
The foreign database reference in the schema holder is changed from `qaddb` to the Oracle database name (`eb21ora` in the example).

**Important** If you are completing a conversion, go to the conversion process now. You are finished with the installation process.

## Copy Empty Schema Holders (Multi-Language Only)

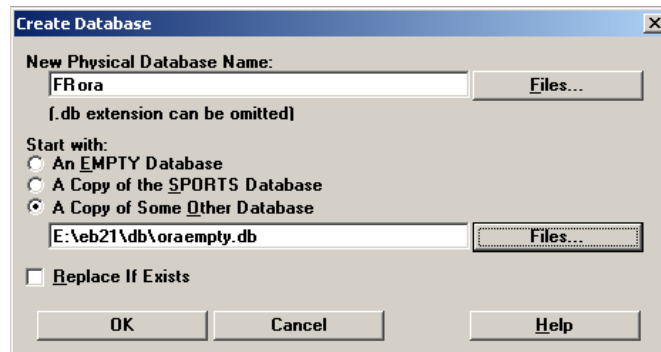
Each language requires a database set of empty schema holders to compile against in order to read in the correct schema labels. The simplest means of creating additional empty schema holders is to use Progress tools. You will need two schema holders for each language. The recommended naming convention is:

- oraempty = XXora
- oaudempty = XXaud

Where XX is the two-letter language code.

- 1 In MFG/UTIL, select Progress Editor from the File menu.
- 2 In the Progress Editor, select Data Administration from the Tools menu (this is called Data Dictionary in the character interface).
- 3 In the Data Administration tool, select Create from the Database menu.
- 4 Enter the database name and path you want to create, set Copy of Some Other Database, and locate the empty database to copy.

**Fig. 3.26**  
Creating FRora  
from oraempty



- 5 Choose OK.
- 6 The Connect Database screen displays. Connect to the database to verify it was created correctly.
- 7 Select Disconnect Database from the Database menu.

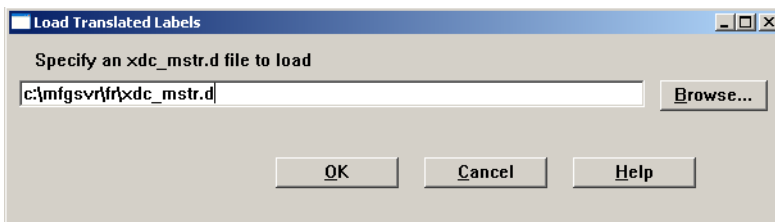
- 8 Repeat steps 3 through 7 to create a copy of `oraempty` for each additional language you installed.
- 9 Repeat steps 3 through 7 to create a copy of `oaudempty` for each language you are implementing.

## Load Translated Labels (Multi-Language Only)

These steps are required for any multi-language or non-US English installation. See “Loading Translated Labels Using a Workflow” on page 23 for information on automating this process.

**Note** No `xdc_mstr` load is required in your base empty databases if these are to be used for the US English compile. If you are implementing a single non-US English version, you can load that language’s `xdc_mstr` into the base empty databases.

- 1 In the Connect Database screen, accept the language-specific empty database name from `wk0200.ini`, or enter the correct one. Choose OK.
- 2 Accept the location of the `xdc_mstr` from the `wk0200.ini` file or enter it here. It is located in the language directory of each language except US English, which is loaded by default. Choose OK to start the load.



**Fig. 3.27**  
Loading French  
Translated Labels

- 3 The load completes. Choose OK to close the load window.

## Load Source Code System Cross-Reference (Optional)

Once you have loaded the help schema, you can load the source code cross-reference data into the main database. Loading source code cross-reference data into the main database is optional. This data supports the functions on the System Cross-Reference menu (36.18), which identify how and where fields and files are used within MFG/PRO.

Loading the source code cross-reference data increases the size of the database by approximately 300 MB and must be taken into account when defining the size of the database extents.

**Note** Load the cross-reference data only once for all languages.

- 1 From MFG/UTIL, select Database|Load Data into Database.
- 2 In the Connect Database window, connect to the main database, `eb21ora`.
- 3 The QAD Log Window displays showing the database connection. Choose Close.
- 4 In the Load Data Contents window, specify the path to the `mfghelp` subdirectory below the `MFGPROInstallDir` and click OK.
- 5 When the Table Selection for Load window displays, all of the tables in the `eb21ora` database with corresponding data files (extension `.d`) in the `mfghelp` subdirectory are selected. Click OK to begin loading data.
- 6 When the load completes, choose Close to exit the log window.

# File Server and Host Client Installs

Use this chapter to install the UNIX host client, or the character or GUI file server and remote client software. This chapter supports both new and existing (conversion) installations.

*Overview*    **66**

*Preliminary Steps*    **66**

*Installing UNIX Host Clients*    **67**

*Installing Windows File Servers*    **68**

*Building the Progress Schema Holder*    **70**

*Setting Up Remote Clients*    **73**

## Overview

In this chapter you install one or all of the configurations listed in Table 4.1.

**Table 4.1**  
UNIX and  
Windows Client  
Configurations

	Host machine	Remote clients
UNIX	Character client	Telnet to host
Windows Character	Character file server	Character client
Windows GUI	GUI file server	GUI client

On UNIX, you install a host client and then telnet in from other UNIX terminals to connect with the host client session.

If you are running Windows clients (character or GUI) in addition to the UNIX host clients, you first install a character or GUI file server, and then install remote clients on each additional machine. Remote character clients connect with a character file server; GUI remote clients connect with a GUI file server.

Installing on a Windows database server is exactly parallel except there is no host client. If you want to install a client on the host machine, it is the same as installing a character or GUI file server.

▶ For additional information on Desktop 2 requirements and deployment, see *Installation Guide: QAD Desktop*.

While the choice of database server is largely dependent on company policy, most companies install the Windows character file server and remote clients rather than the GUI for performance reasons. The character deployment fully supports a QAD Desktop implementation.

## Preliminary Steps

Prior to install, a few cautions and requirements:

- Change to the Korn shell.
- Log on as user `mfg` under the group `qad`. You should have created this group and user during the installation of the database server files.
- Use a standard terminal type such as `vt100` while installing.
- Verify adequate disk space.

- The client PC that you use must have read, write, and execute permissions for the directory on the Windows file server where you want to create the GUI client.
- If applicable, ensure that you have performed a Probuild to create the Progress character client executable (`_progres`).

## Installing UNIX Host Clients

This installation assumes you are installing the host client on the database server machine.

- 1 Starting with your base language, load the language-specific UNIX character client media. For tape media, see “Load Tape Media (UNIX Only)” on page 36. For CDs, see “Mount the CD-ROM (UNIX only)” on page 36.
- 2 Log on as user `mfg`.
- 3 On the CD, change to the directory containing the client media. For tape installs this is the temporary tape directory.
- 4 Change to the `install` directory:
 

```
cd install
```
- 5 Launch the install script:
 

```
./install.ksh
```

 A welcome screen displays. Press Enter to continue.
- 6 Review and accept the MFG/PRO software license agreement. Press Ctrl+C to jump to the end.
- 7 Accept the default installation log file location, or enter the correct location if you did not use the default during the database server install.
- 8 Enter the Progress installation directory.
- 9 Enter the `MFGPROInstallDir`. This is the database server directory. It defaults in if your log files are correctly identified in the previous step.

- 10 Enter or accept the destination for this client installation. The default is *MFGPROInstallDir*.

**Note** In previous releases, the character client code was installed under `mfgsvr/us` by default. The character client is now installed to `/mfgsvr` by default.

**Important** Do not select a directory path that has spaces in it such as `C:\Program Files\mfgpro`. Database scripts generated by MFG/UTIL cannot locate a database in a path with spaces.

- 11 Review the installation summary and enter `y` to install.

**Note** If you are installing more than one language, you do not need to repeat these client install steps for additional languages. You compile for each language later on.

- 12 You are asked if you would like additional information on the SV product. Select Yes to view this information, No to continue.

This ends the install script. The installation log is written to the log directory as `mfgchrcli.log`. To complete the host client install, go to “Configuring Database Sets” on page 78.

## Additional UNIX Clients

▶ See “Generating Scripts and Shortcuts” on page 91.

To connect additional UNIX clients to your MFG/PRO server, make startup scripts such as `client.Production` available to those clients.

## Installing Windows File Servers

In the following steps, you install either a character or GUI file server on a Windows system. The instructions for each install are nearly identical; you use different media and the default directories are different. The media is labeled Character Client for the character file server or GUI Client for the GUI file server.

## Preliminary Steps

▶ A summary of the remote client install appears on page 14.

For Windows, if you have not done so, reset your DOS command window buffers. See “Set Up MFG/UTIL Clients (Windows Only)” on page 41.

If you are installing the file server on a different drive than the database server, you must have either mapped the drive from the intended file server drive or created a TCP/IP network connection.

## Installation Steps

- 1 Starting with your base language, load either the language-specific character client or GUI client media. For tape media, see “Load Tape Media (UNIX Only)” on page 36. For CDs, see “Mount the CD-ROM (UNIX only)” on page 36.
  - 2 On the CD, change to the directory containing the client media.
  - 3 Launch the install script `install.exe`.  
A welcome screen displays. Press Enter to continue.
  - 4 Review and accept the MFG/PRO software license agreement.
  - 5 Accept the default installation log file location, or enter the correct location if you did not use the default during the database server install.
  - 6 Enter the *MFGPROInstallDir*. This is the database server directory. It defaults in if your log files are correctly identified in the previous step.
  - 7 Enter the destination for this file server installation. By default the directory is *MFGPROInstallDir*. The default directories for the different possible installations are:
 

Windows Character Default	Windows GUI Default
<code>c:\mfgsvr</code>	<code>c:\mfgsvr\guicli</code>
- Note** In previous releases, character server code was installed under `mfgsvr\us` by default. It is now installed to `\mfgsvr` by default.
- Important** Do not select a directory path that has spaces in it such as `C:\Program Files\mfgpro`. Database scripts generated by MFG/UTIL cannot locate a database in a path with spaces.
- 8 You are prompted for the folder name for MFG/UTIL icons. Accept the defaults or enter new ones.
  - 9 Review the installation summary and enter `y` to install.

**10** Respond to the prompt:

Would you like to view more information about SV?

Supply Visualization (SV) is a Web-based service for managing inventory by inventory visibility, schedules, or Kanban, offered through MFGx.net, the QAD Web portal.

At the MFGx.net home page, click the Services tab, then the Supply Visualization button to display the SV home page. Select Request a call or Send e-mail from the Request More Information section.

**11** Repeat these steps to complete an install of the other file server type if you require it.

**Note** If you are installing more than one language, you do not need to repeat these client install steps for additional languages. You compile for each language later on.

## Building the Progress Schema Holder

For MFG/PRO Windows clients to connect to the Oracle database, they must have access to the Progress schema holders. You can provide access to the schema holders using one of the following methods:

- On each Windows client PC, map a network drive to the directory containing the schema holders on your server. On UNIX installations, this requires networking software that lets Windows PCs access UNIX directories.

If you cannot implement this option in your environment, skip this section and continue with “Configuring Database Sets” on page 78.

- If you cannot access the existing schema holders on the UNIX server, you can create schema holders on the Windows client file server. Then, map a network drive on each client PC to provide access to the schema holder.

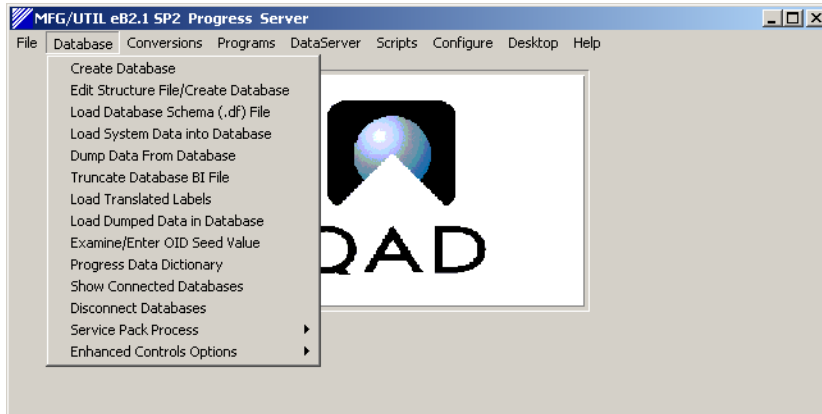
## Build the Schema Holder

Use these steps to build schema holders on the Windows file server. These steps assume that:

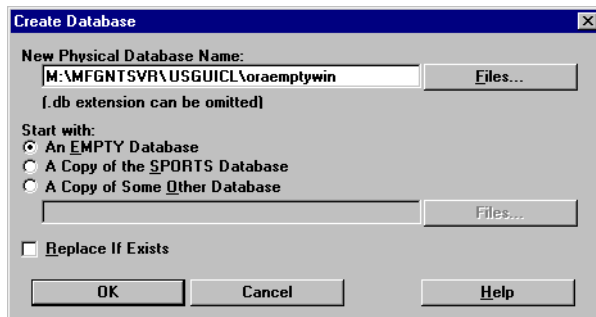
- The schema holders are being built on the file server.
- All of the Windows clients can map a drive to access it.

- The MFG/PRO data definition files have been copied to a db subdirectory below the Windows client administration directory on the file server.

- 1 Launch MFG/UTIL.
- 2 Choose Create Database from the Database menu.



- 3 The Create Database screen displays.



- a In the New Physical Database Name field, enter the name you want to use for the schema holder. This guide refers to the production schema holder as `oraemptywin`.

If you want to create the schema holders on the file server, specify the path to the directory on the file server in which you want to create the schema holders. You can use either a network drive letter or the Universal Naming Convention (UNC). This example uses a network drive:

```
M:\mfgsvr\guicli\oraemptywin
```

**Note** If you are creating a Windows client for a training, development, or other database, make sure you enter the name of that database in this step.

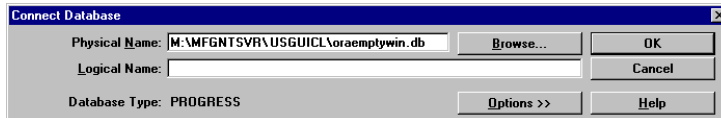
- b** Select An EMPTY Database from the Start with list.
- c** Click OK to create the schema holder.

**4** Verify that the following database files were created:

```
SchemaHolderName.b1
SchemaHolderName.d1
SchemaHolderName.db
SchemaHolderName.st
```

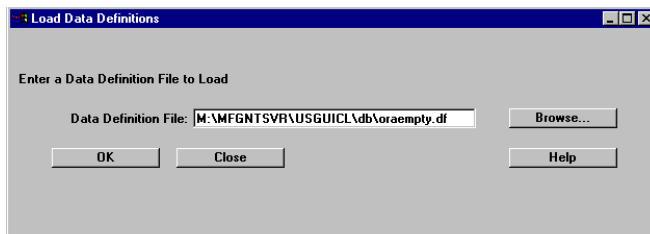
**Note** Using the previous examples, the schema holder files are located in the M:\mfgsvr\guicli directory.

- 5** Select Load Database Schema (.df) File from the Database menu.
- 6** In the Connect Database window, specify the path and name of the correct schema holder database. You can use the Browse button to select the database. When ready, click OK.

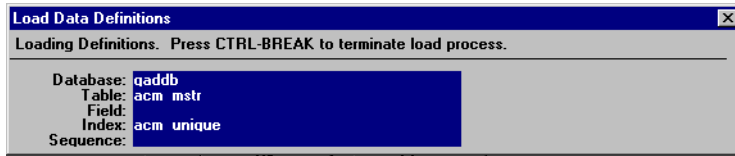


- 7** In the Data Definition File field, specify the path to the oraempty.df file and click OK.

**Note** For these steps, this file is located in a db subdirectory below the GUI client install directory.



As the data definition file loads, a progress window displays.



- 8 When the Load Complete dialog box displays, click OK.
- 9 Repeat steps 6 through 10 to load the three other data definition files:

Directory	Data Definition File
guicli/us	oadmemory.df
guicli/us	ohpempty.df
guicli/us	oaudempty.df

- 10 Repeat steps 6 through 9 for additional languages.

Once you finish loading the MFG/PRO schema, the schema holders are ready for use. All MFG/PRO Windows clients must be able to access the schema holders to connect to the Oracle database.

## Setting Up Remote Clients

If you installed a character or GUI file server in the preceding steps, you need to complete the following steps on each additional client you want to use to connect to the file server. In other words, use the following steps to install a remote character or GUI client on a Windows machine.

### Preliminary Steps

For Windows, if you have not done so, reset your DOS command window buffers. See “Set Up MFG/UTIL Clients (Windows Only)” on page 41.

If you are installing the file server on a different drive than the database server, you must have either mapped the drive from the intended file server drive or created a TCP/IP network connection.

## Installation Steps

- 1 From the Run program on the Start menu, launch a DOS session:

```
cmd
```

- 2 Change to the `install` directory on either the character client or GUI client CD-ROM:

```
cd CD-ROMDrive:\install
```

- 3 Run the appropriate command for the client type you want.

For GUI clients:

```
install -remote x:\mfgsvr\guicli
```

For character clients:

```
install -remote x:\mfgsvr
```

Where `x` is the drive where the file server code is installed. The file server directory must contain the file `version.mfg` and a directory named `client`. The command launches a client install on the current machine that points back to the original installation directory.

- 4 Click Next when the Welcome window displays.
- 5 To continue with the installation, read the license agreement and enter `y` to accept it.
- 6 Enter or accept the installation log location. This should match the location used for the file server installation. If it does not match, you are asked to reenter path information about the previous install.
- 7 Enter or accept the directory where the file server was installed. The defaults are:

Windows Character Default

```
c:\mfgsvr
```

Windows GUI Default

```
c:\mfgsvr\guicli
```

- 8 Enter or accept the destination for the client installation. The defaults for the different installations are:

Windows Character Default

```
c:\qadchrcli
```

Windows GUI Default

```
c:\qadguicli
```

This directory is created if it does not exist.

▶ See “Install Database Server Files” on page 37.

- 9 Enter or accept the name of the MFG/UTIL icon directory. This directory is created if it does not exist.
- 10 A summary screen displays. Review the information and confirm by entering *y*. The file copy starts.
- 11 Respond to the prompt:
 

Subscribe to QAD Supply Visualization?

Supply Visualization (SV) is a Web-based service for managing inventory by inventory visibility, schedules, or Kanban, offered through MFGx.net, the QAD Web portal.

At the MFGx.net home page, click the Services tab, then the Supply Visualization button to display the SV home page. Select Request a call or Send e-mail from the Request More Information section.
- 12 Exit the log window.

## Create Locales

Each user is defined with a locale that sets their date and number formats. The `locale.dat` file contains the available locales. The default file contains the languages and countries for which MFG/PRO is translated. For example, the French entry is:

```
FR, fr, FR, , dmy, European
```

The entry consists of the MFG/PRO language code, the ISO language code, the ISO country code, an optional variant (not currently used), the date format, and the Progress number format.

An entry must exist for each country where you are setting up users. If you are implementing MFG/PRO in a country that is not represented in the `locale.dat` file, open the file in an editor and add any countries that are missing. The file is in the root `MFGPROInstallDir`.



# Database Setup and Application Compile

Use this chapter to configure database sets, generate client startup scripts and shortcuts, and compile application code.

<i>Configuring Database Sets</i>	<b>78</b>
<i>Compiling Application Code</i>	<b>83</b>
<i>Generating Scripts and Shortcuts</i>	<b>91</b>
<i>Express Setup for Remote Clients</i>	<b>96</b>
<i>Progress Initialization File</i>	<b>98</b>

## Configuring Database Sets

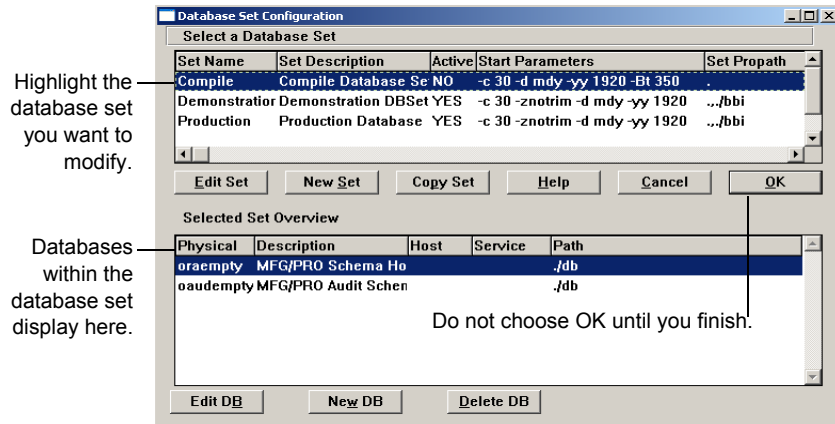
MFG/UTIL uses the concept of database sets to generate server and client startup scripts. The standard MFG/PRO database set consists of a Progress schema holder and an Oracle database. This section provides instructions for configuring the production, audit, and compile database sets.

The production database set contains the production Progress schema holder (mfghold) and the Oracle production database (eb21ora). The compile database set contains the empty Progress schema holders (oraempty and oaudempty).

### Database Set Configuration Screen

Review the following figure to become familiar with the Database Set Configuration screen.

**Fig. 5.1**  
Database Set  
Configuration  
Overview



Once you launch the Guided Setup and the Database Set editor opens, you can scroll up and down in the list of database sets. Potential database sets display by default. When the set you want to edit is highlighted, you can Tab to the Set buttons such as Edit Set or New Set. If you continue to Tab, the cursor jumps to the list of databases at the bottom of the screen under the heading Selected Set Overview. Another Tab takes you to the database buttons: Edit DB, New DB, or Delete DB.

After verifying and modifying all the database sets you want to generate scripts for, Tab to the OK button below the Database Set list. This button saves your work. The process is described in greater detail in the following sections.

## Set Up Database Sets

- 1 Launch the Character Client MFG/UTIL:

```
cd /MFGPROInstallDir  
./mfgutil
```

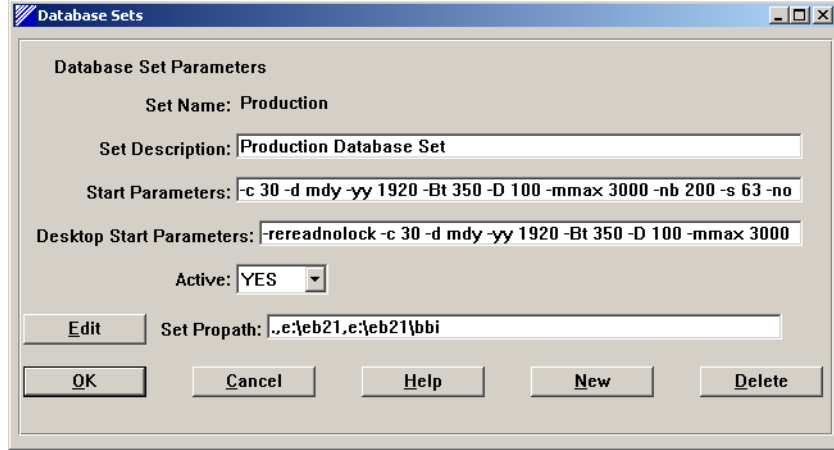
On Windows, double-click the MFG/UTIL icon from the Start menu.

**Important** You must use the Character Client MFG/UTIL to ensure correct compile environments; and that the correct executables and paths are generated in the scripts. GUI screens are used to better display the screen contents.

- 2 Select Configure|Database Set Maintenance. The Database Set editor opens.
- 3 Select the database set you want to edit. The following screens show the Production database set.
- 4 Select Edit Set and verify that the Active value is set to Yes in the Database Sets screen. (The Compile database set does not require scripts or shortcuts and does not need to be Active.)

When the Database Sets screen displays, complete the fields using the following figure and Table 5.2 as guides.

**Fig. 5.2**  
 Edit Set for  
 Production  
 Database Set

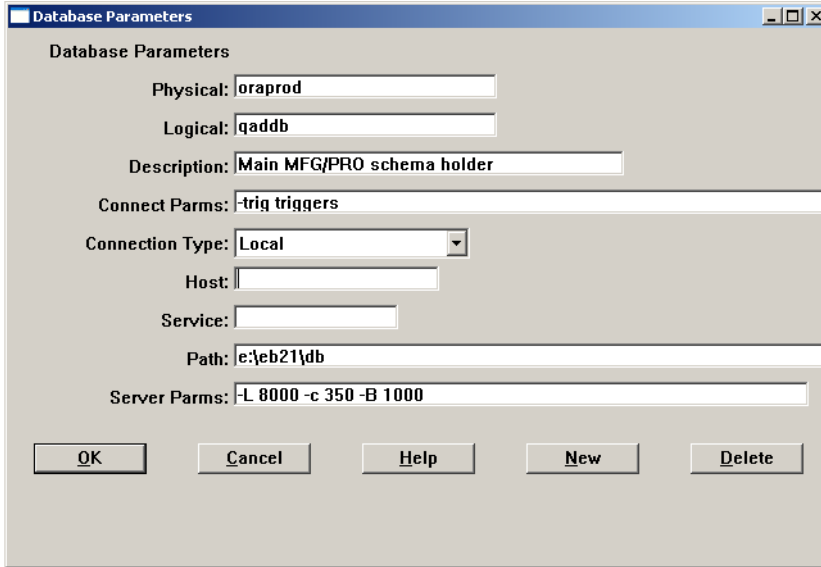


**Table 5.1**  
 Client Database  
 Parameter Values

Field	Description
Set Description	Specify an optional description of the database.
Start Parameters	This field contains the default start parameters for the Progress database servers. For more information, refer to the Progress <i>Database Administration Guide and Reference</i> .
Desktop Start Parameters	This field contains the default start parameters for the database set under QAD Desktop. For more information, refer to <i>Installation Guide: QAD Desktop</i> .
Active	Indicate whether scripts are created for this database set when using the Generate Scripts option on the Scripts menu. Set this to No for the Compile set; Yes for all others you are using.
Set Propath	Specify the Progress search path (PROPATH) the databases in the set use to access programs during an MFG/PRO session.

- 5 Choose OK to save your changes.

- 6 Configure the `oraprod` schema holder by selecting it in the Selected Set Overview list and choosing Edit Database.
  - a When the Database Parameters screen displays, complete the fields using the following figure and Table 5.2 as guides.



**Fig. 5.3**  
Configuring a Schema Holder in a Database Set

Field	Enter
Physical	Enter the name of the schema holder database.
Logical	Set to <code>qaddb</code>
Description	Specify an optional description of the database.
Connect Parms	<code>-trig triggers</code> enables the standard MFG/PRO triggers through the schema holder.
Connection Type	Local.
Path	Set to <code>MFGPROInstallDir/db</code> .
Server Parms	Accept the default values in this field for a standard connection. You can modify these parameters later in the startup scripts. For more information, refer to the <i>Progress Database Administration Guide and Reference</i> .

**Table 5.2**  
Database Parameters

- 7 Choose OK.

- 8 The remaining steps are different for Compile and Production sets:
  - a For the Compile database set, repeat steps 3 through 7 to add the empty audit schema holder (oaudempty).
  - b For the Production database set, and other sets that contain an Oracle database, choose New DB to add the eb21ora database. Choose OK on completion.

**Fig. 5.4**  
oraempty Database  
Parameters

The screenshot shows a 'Database Parameters' dialog box with the following fields and values:

- Physical: eb21ora
- Logical: (blank)
- Description: Main Oracle Database
- Connect Params: -dt ORACLE -U qad -P qad -c 250
- Connection Type: Local (dropdown menu)
- Host: (blank)
- Service: (blank)
- Path: (blank)
- Server Params: (blank)

Buttons at the bottom: OK, Cancel, Help, New, Delete.

Field	Enter
Physical	Enter the name of your Oracle database.
Logical	Leave this field blank.
Description	Specify an optional description of the database.
Connect Params	Set database type (-dt) to Oracle. The -U parameter should be -U qad@ORACLE_SID for client/server implementations. Enter the -c argument with a value of 500.
Connection Type	Local.
Path	Delete the contents of this field and leave it blank.
Server Params	Leave blank.

- 9 On completion, the Production database set should look like the screen in Figure 5.5.

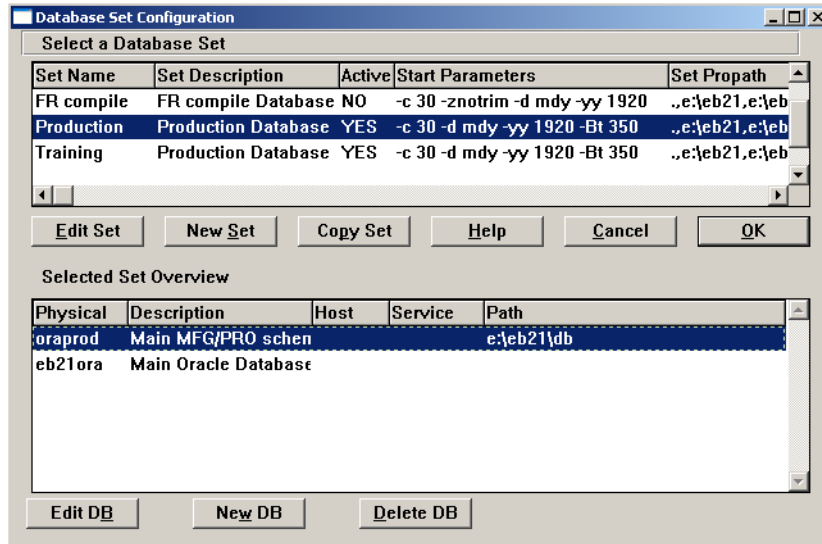


Fig. 5.5  
Production  
Database Set

**Note** Each language you are implementing requires a separate database set that mirrors the Compile database set. Each set should include a language-specific `XXORA` database with the correct schema and data loaded in.

## Compiling Application Code

A full compile of the server code is required after installation. This was a recommended step in prior releases to ensure your MFG/PRO environment was synchronized and compatible across all programs and with the Progress code. It is a requirement in MFG/PRO eB2.1 because compiled programs (the `.r` code) are no longer shipped with the product.

Compiling a source file creates an object file with the same name and the `.r` extension. Compiled programs are saved into a subdirectory using the first two letters of the program name. This subdirectory is located below the two-letter language code directory below `MFGPROInstallDir`. For example, `sosomt.p` compiled for US English is placed in `MFGPROInstallDir/us/so`.

**Important** If you are compiling for a non-English language, you must first create a language-specific compile database set.

Use the following instructions to compile MFG/PRO code on a UNIX database server with MFG/UTIL. You can also use these instructions as a guide when compiling Windows client code on a Windows machine; the user interface is different.

## Non-US English Base Language Compiles

If your base language is not US English, compile this language against the Compile database set. You should have loaded translated schema labels for the language in “Load Translated Labels (Multi-Language Only)” on page 63. For the compile, you will select the appropriate language code in the Compiler Options screen, the Compile database set, and then compile.

## Multiple Language Compiles

For multiple language compiles, you must have:

- Loaded the language media (page 39)
- Created empty databases for each language (page 62)
- Loaded translated schema labels in the language-specific empty databases (page 63)
- Loaded language-specific data in the production databases (page 57)
- Created a language-specific compile database set (page 83)

For each language you are implementing, including US English, set the Compiler Options screen to point to the correct language code and the correct database set. Compile each language in this way.

## Set the Correct PROPATH

When configuring database sets using MFG/UTIL, a value defaults to the PROPATH field. Depending on the specific system configuration, the default value may not be correct. Continuing an MFG/UTIL operation without updating an incorrect value will cause unforeseen errors.

Typically, the PROPATH value defaults from the value defined in the Paths for MFG/PRO and MFG/UTIL screen.

Note the following points when working with MFG/UTIL:

- In MFG/UTIL, select Configure|Set Paths for MFG/PRO and MFG/UTIL. Review and update the values as needed.
- When using MFG/UTIL to generate any script or complete any task, always carefully review the PROPATH values displayed for each screen you access.
- When working with database sets, verify the PROPATH for each database in the Database Set Parameters screen. Access this screen by selecting Edit in the Select a Database Set screen.
- The typical PROPATH for a new MFG/PRO installation includes these directories in this order:
  - a The current directory (.)
  - b The directory where the client code was installed (c:\mfgsvr)
  - c The xrc directory

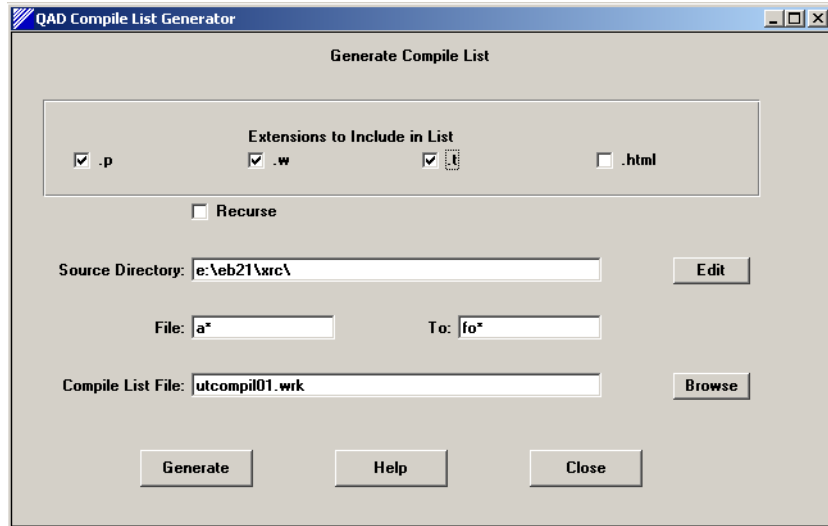
**Example** ., c:\mfgsvr, c:\mfgsvr\xrc

## Multithreaded Compiles

Depending on your system, compiles can take as much as two hours. You can set up the compile to multithread using multiple compile listings and by initiating multiple compile sessions. The following steps summarize details in the next section:

- 1 In the Generate Compile Listing screen, use the From and To fields to limit the scope of the file you are generating. Enter a unique file name.
- 2 Run Generate Compile Listing again for the next set of files.  
For example, assuming you are compiling every program (7746 files) you could include all programs from A to FO in `utcomp01.wrk` (1736 files), FS to H in `utcomp02.wrk` (1882 files), I to RC in `utcomp03.wrk` (2007 files), and RE to Z in `utcomp04.wrk` (2120 files).

**Fig. 5.6**  
Generating a Multi-Threaded Compile List



- 3 You then launch separate, concurrent MFG/UTIL sessions for each compile process. Launch them all concurrently. Four sessions can save from 50% to 75% of the processing time.

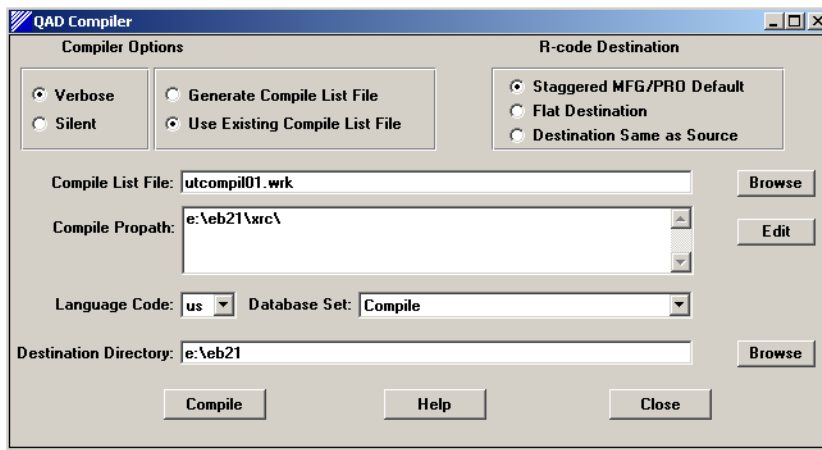
**Important** Errors display in each compile session stating that the process cannot open `mfgulog.log`. This occurs when another process is writing to the file. The file is eventually updated and the errors do not harm the compiles.

## Compile MFG/PRO

The files MFG/UTIL compiles are those listed in the file `utcompil.wrk`. By default, this file lists the files shipped with MFG/PRO. You can change the file listing in `utcompil.wrk` during the process of setting up for the compile, but this is usually done only for subsequent compiles for custom development.

**Important** To compile for a character client, run the character version of MFG/UTIL.

- 1 In MFG/UTIL, choose Compile Procedures from the Programs menu.
- 2 Use the screen example and field descriptions to select compile options. The Compiler Options in the upper left of the screen let you set feedback levels and select a compile list.



**Fig. 5.7**  
Compiler Options

**Verbose.** MFG/UTIL displays compile information on the screen and writes it to the MFG/UTIL log file (`mfgulog.log`). During the compile, the following information displays:

- Date and time
- Percentage of the compile completed
- Path and name of the program currently compiling
- Number of compile errors that occur

The log file is in the directory from which MFG/UTIL was launched.

**Silent.** MFG/UTIL writes to `mfgulog.log` only.

**Generate Compile List File.** Generates or regenerates a file listing the programs to compile. When you select this option, the Generate Compile List screen displays.

**Use Existing Compile List File.** By default, this is `utcompil.wrk`, which is shipped with MFG/PRO and contains the full list of files.

▶ See “Compiling Application Code” on page 83.

**Staggered MFG/PRO Default.** Saves compiled code in the default structure of language directories underneath *MFGPROInstallDir*.

**Flat Destination.** Select this option to save the compiled code in a single destination directory.

**Destination Same as Source.** Select this option to save the compiled code in the same directory where the uncompiled source resides. No files are overwritten; the source is *.p*, *.i*, *.w*, and *.t* files; the compile creates *.r* files.

**Compile List File.** Specify the name of the compile list file, by default *utcompil.wrk*. If the file is located in a directory other than the one from which MFG/UTIL was launched, include the directory path and the file name.

**Compile Propath.** The compile PROPATH must contain:

- The *MFGPROInstallDir*
- The *xrc* subdirectory in *MFGPROInstallDir*
- The language-specific directory containing the source code for the programs you are compiling
- The language-specific directory containing any include files for the source code you are compiling

Use the Edit button to open the Directory List Editor. See “Using the Directory List Editor” on page 90 for additional information.

**Language Code.** If you selected Staggered MFG/PRO Default option, enter the language code where you want the code saved.

**Database Set.** Specify the database set against which to compile.

**Destination Directory.** Specify the directory where you want compiled code saved. This is typically the *MFGPROInstallDir*. If Staggered MFG/PRO Default is selected, the compile places compiled code in the appropriate language directory beneath this directory and within two-letter directories beneath that. For example, a US English *sosomt.p* is compiled to:

```
./MFGPROInstallDir/us/so/sosomt.r
```

- 3** If you selected the Generate Compile List File option, complete the following instructions. If you selected Use Existing Compile List File, skip to step 4.
  - a** Select the file extensions to include in the compile. For MFG/PRO compiles, these are `.p`, `.w`, and `.t`.
  - b** Select Recurse if there are multiple source directories with subdirectories. The recurse option compiles down through each source directory, then returns to the next top-level directory specified, and compiles it. This is not required for MFG/PRO compiles.
  - c** In the Source Directory field, specify the path to the directory containing the source programs you want to compile. By default, this is `MFGPROInstallDir/xrc`. To build a source directory list, select Edit.
  - d** To compile a subset of the programs, specify the subset using the File and To fields (limited to alphanumeric sorts).
  - e** Specify the file name to use in the Compile List File field. The default file name is `utcompil.wrk`.

If you want the list file created in a specific directory, include the path. If you do not specify a path, the file is generated in the directory from which MFG/UTIL was launched (usually `MFGPROInstallDir`).
  - f** Choose Generate to create the compile list file.
  - g** You are asked to confirm the overwrite of the `MFGPROInstallDir` and `MFGPROInstallDir\us` directories. No files are overwritten during the compile; it is safe to respond Yes.
  - h** The Compiler Options screen displays with the Use Existing Compile List option selected. Enter the correct compile list name.
- 4** When ready, choose Compile.
- 5** In the compile verification screen, verify the compile information. If the settings are correct, choose Continue. If the settings are incorrect, choose Back to make changes.

**Note** If you are compiling code for a non-Western European language, you may have to modify the code page values for the compile. The compile code page values default from the `startup.pf` file located in the Progress directory.

- 6 If you selected Verbose, an Installation Log screen displays. When the compile ends, choose Print or Close.
- 7 Once the compile completes, check the MFG/UTIL log file for errors. If errors occur, correct them and rerun the compile.

If you encounter compile errors, the most prevalent reasons are:

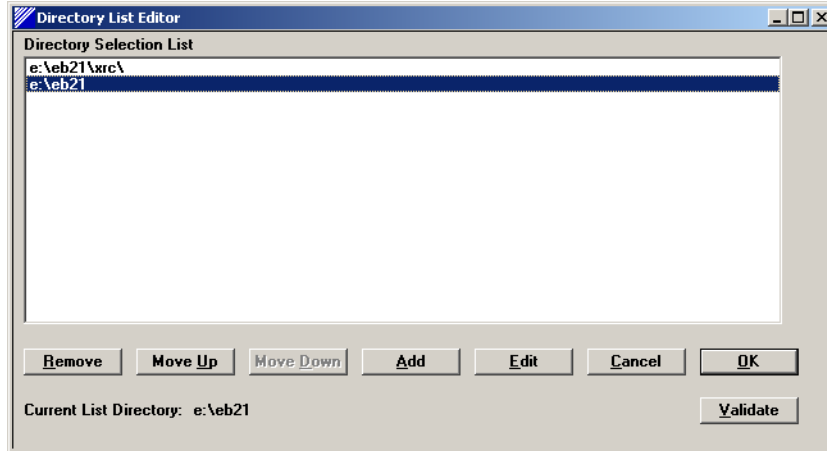
- PROPATH is missing the `/src` or `/xrc` directories.
- Progress database version does not match the code version.

**Note** MFG/UTIL saves the settings entered in the QAD Compiler screen so that you can reuse or modify them for the next compile.

- 8 Repeat the compile for each language you purchased. Each language-specific compile requires:
  - A language-specific database set containing two empty language-specific schema holders
  - The language-specific directory in the PROPATH; for example  
`c:\mfgsvr\fr`
  - The correct language code selected in Compiler Options

### Using the Directory List Editor

You can manually enter a comma-delimited path in Set Propath; however, you cannot easily edit, browse for, or validate paths. Choose Edit to open the Directory List Editor. The Directory List Editor lets you enter and maintain a sequential list of directories.



**Fig. 5.8**  
MFG/UTIL  
Directory List  
Editor

- 1 Select a directory and choose Remove to delete a directory; choose Move Up or Move Down to change the directory order.
- 2 Choose Edit to modify a directory; choose Add to insert a new directory. The path editor displays. Choose Browse to search for the directory on networked drives.
- 3 Select any directory and choose Validate. A message displays confirming the directory, or informing you that it is not accessible on the currently networked drives.
- 4 Choose OK to save and exit the editor.

## Generating Scripts and Shortcuts

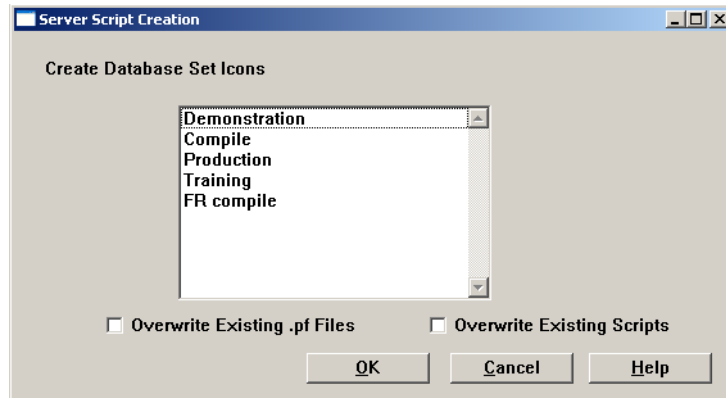
The next steps create startup and shutdown scripts or shortcuts for each active database set. You can edit these scripts and icons after you generate them if you choose. There are three different types of scripts or icons:

- UNIX scripts
- Windows character session icons
- Windows GUI session icons

The following instructions cover all three types:

- 1 If you are using Guided Setup, the Create Server Scripts screen displays by default when you choose OK in the Database Sets screen.

**Fig. 5.9**  
Generating Scripts  
in MFG/UTIL



- 2 Press spacebar or click in Windows to select all database sets you want to generate server scripts for and choose OK or Next.
 

**Note** You do not need to create Compile scripts, since these databases are only connected to during compiles, not launched with scripts.
- 3 When prompted, choose Yes to confirm the generation.
- 4 For Windows shortcuts, select the program folder where you want the shortcuts stored.
- 5 In Windows, you view a confirmation screen. Click Next to generate the shortcuts.
 

**Note** The Windows icon build is completed by the `makeicon.exe` program. This program must be in your `PROPATH`. It is located in `MFGPROInstallDir` by default.
- 6 For UNIX systems, MFG/UTIL creates the scripts listed in Table 5.3 for each database set. Use these scripts, or copies of them, for all startup and shutdown processes. The scripts are created in the `MFGPROInstallDir`.

**Table 5.3**  
Scripts Generated  
by MFG/UTIL

Script	Description
<code>start.DBSetName</code>	This script starts servers for the databases in the set. <code>start.Production</code> starts servers for the Oracle database and the schema holder.
<code>stop.DBSetName</code>	This script shuts down servers for all databases in the set.
<code>client.DBSetName</code>	This script launches the Progress schema holder, connects you to the correct Oracle instance, and starts MFG/PRO. This script functions only after installing character clients.
<code>qma.DBSetName</code>	This script is created only for UNIX servers and is used by MFG/PRO QAD Desktop clients.  In QAD Desktop, some MFG/PRO maintenance programs function in a telnet environment. This script specifies the connection parameters for the database set and launches the MFG/PRO telnet program. See <i>Installation Guide: QAD Desktop</i> .
<code>qma2.DBSetName</code>	This script is created only for Tomcat servers and is used by MFG/PRO QAD Desktop clients. This script specifies the connection parameters for the database set and launches the MFG/PRO Tomcat program. See <i>Installation Guide: QAD Desktop</i> .

Windows shortcuts are Start and Shutdown for each database set and a client script to launch the MFG/PRO character client.

- 7 After the scripts or shortcuts are generated, choose Close in the Installation Log Window.
- 8 Review the log file, `mfgulog.log`, for any errors.

## Edit UNIX Scripts

- 1 To edit scripts to start sessions in other languages, copy the scripts you just created to a new file name. For example, copy `client.Production` to `frclient.Production`. Make the following modifications:
  - a Modify the `PROMSGS=` setting to use a language-specific Progress messages file (`promsgs.LanguageCode`). This file is located in a three-letter Progress language code subdirectory below the `prolang` directory in the Progress directory. The following example is for a French startup script:

```
PROMSGS=$DLC/prolang/fre/promsgs.fre; export PROMSGS
```

- b Modify the `PROPATH=` setting to use the language-specific `bbi` subdirectory. This subdirectory is located below the two-letter MFG/PRO language code directory where you installed the MFG/PRO character client. Typically, the character client is installed in the `MFGPROInstallDir`. The following example is for a French startup script:

```
PROPATH=${PROPATH:-./MFGPROInstallDir,  
/MFGPROInstallDir/fr};export PROPATH
```

**Note** Progress and MFG/PRO language codes are not always the same.

## Create Language-Specific Windows Shortcuts

After you run client setup and generate a client startup shortcut, make the following modifications to create a language-specific startup shortcut. For directions on running the client setup program and generating the initial client startup shortcut, see “Generating Scripts and Shortcuts” on page 91.

- 1 Copy your initialization file, `progress.svg` or `progress.vga`, to one with a new name, for example, `progressXX.svg`, where `XX` is the two-letter language code.

Check the `-ininame` parameter in the Target field of the Shortcut Properties dialog window, or check the `-ininame` parameter in your `clientDBSetname.bat` file, to determine the initialization file the client is using.

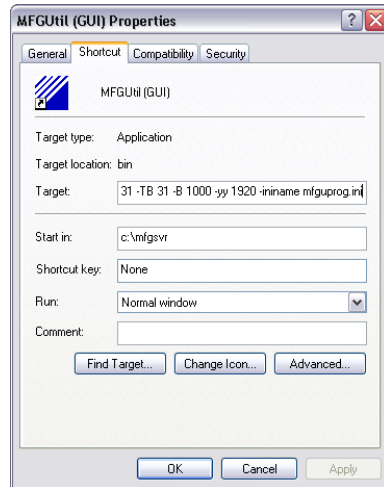
▶ For possible edits to the initialization file, see “Initialization File Entries” on page 99.

- 2 Modify the PROPATH setting in the file to reflect the specific language this file will be used for. For example, changing it to read:

```
PROPATH=.,c:/MFGSVR/images.pl,c:/MFGSVR,c:/MFGSVR/XX
```

Where XX is the two-letter language code.

- 3 Right-click the shortcut icon to verify Shortcut Properties entries.



## Modify Windows Startup Parameters

Once you have modified the initialization file, you must change the shortcut icon parameters to reference it.

- 1 Right-click the MFG/PRO shortcut icon and select Properties.
- 2 Scroll down the Target field to the `-ininame` parameter. This references a path and file with an `.svg` extension.
- 3 Enter the new file name and click OK.

## Test the Client Installation

Before you test the remote client installation, make sure the database servers are started for the chosen database set.

- 1 To start the database servers for a set, access the *MFGPROInstallDir* on the database server; then launch `start.DBSetName` (UNIX) or `startDBSetName.bat` (Windows) from that directory.
- 2 Start the client:
  - a To start an MFG/PRO GUI client on Windows, open Start|All Programs|MFG/PRO eB2.1 Client. Click the GUI Client shortcut for the appropriate database set.
  - b To start a character client, launch `client.DBSetName` (UNIX) or `clientDBSetName.bat` (Windows) from *MFGPROInstallDir*.
- 3 When the MFG/PRO Sign-On window displays, click OK or Exit.

## Express Setup for Remote Clients

▶ See “Compiling Application Code” on page 83 for detailed instructions.

Prior to installing additional remote clients with the express setup method, compile the application code.

After installing the client files on the file server, you must configure each client machine. The goal of configuration is to copy needed files onto the client machine and generate client startup shortcuts. Generating the startup shortcuts requires that you configure database sets.

Once you configure the database sets on the first client, MFG/UTIL gives you the option of storing your settings on the file server so that subsequent client installations can reuse them. This feature is called *express setup*.

**Note** These steps assume you have loaded the correct (GUI or character) client files onto a file server—not on each client machine.

## Setup Prerequisites for Remote Clients

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

- You have met the system requirements for remote clients. ▶ See page 28.
- You have configured your database servers to use client/server connections or are installing this client on the Windows server machine. ▶ See page 10.
- Your network is operating.
- Progress client software is installed on each client PC or is accessible from a network file server.
- You have mapped network drives on each remote client for any components installed on a file server, including MFG/PRO client files and Progress software.
- The first client PC has write access to the Windows file server installation directory. Write access is needed to use the express setup feature.

## Use Express Setup

Express setup implements Windows clients without configuring database sets on each client. You can save the configuration settings from the first client setup to the file server, then download these settings to additional Windows clients.

- 1 After you set up the first client, select File|Save default mfgutil.ini in the MFG/UTIL Main Window.
- 2 Click Yes in the confirmation dialog box.
- 3 Repeat the steps in “Setting Up Remote Clients” on page 73 on each Windows client.
- 4 At the end of the client setup process, launch MFG/UTIL.
- 5 From the MFG/UTIL Main Window, select File|Load default mfgutil.ini.
- 6 Click Yes in the confirmation dialog box.

- 7 When the database settings are loaded, access Scripts|Generate Scripts. Generate the client startup shortcuts using the instructions in “Generating Scripts and Shortcuts” on page 91.

## Change Express Setup Settings

You can change the express setup settings if you choose.

- 1 Start MFG/UTIL from any Windows client by double-clicking the MFG/UTIL shortcut.
- 2 Open Configure|Database Set Maintenance.
- 3 Make your changes in Database Set Configuration and click OK.
- 4 In the MFG/UTIL Main Window, select File|Save Default mfgutil.ini. MFG/UTIL stores your changes in the Windows client administration directory on the file server, as well as on the current machine. You can now use these settings to set up additional clients.

## Progress Initialization File

The Progress initialization file is created during the installation of MFG/PRO remote clients. When you start MFG/PRO, the system uses this file to determine values for variables during initialization.

**Important** Depending on your drive relationships, the `progress.svg` or `.vga` file may not get properly updated to reflect your Progress or MFG/PRO paths. Always verify all paths in these files before launching a client.

The file has an extension of `.vga` or `.svg`—`progress.vga` or `progress.svg`—depending on the display resolution of the computer. You can edit this file as required with a text editor such as Notepad or Wordpad.

The following is an excerpt from a Progress initialization file.

```

;mfqprod.svg

[Startup]
;SCCS: @(#)progress.svg 1.2 05/17/02 16:21:31> v6Display=no
;ImmediateDisplay=yes
;MultitaskingInterval=100

*****
;* UTDEVCMP.P parameter
workdir=h:\pdt91
*****

;SVGA - low-resolution (800 x 600)
CharWidth=8
DefaultFont=MS Sans Serif, size 8 bold
DefaultFixedFont=Courier New, bold, size=8

;* New frame spacing parameter from Progress -
;* required for legacy code
FrameSpacing=1
Use3D-Size=no

DLC=p:/dlc91d
CONVMAP=v:\dlc91a
PROMSGS=v:\dlc91a\promsgs
PROBUILD=p:/dlc91d/PROBUILD
PROPATH=.,c:/QADGUICL/images.pl,r:/MFGNTSVR/QADGUICL,r:/
MFGNTSVR/QADGUICL/US

[Applications]
;* Enable Spinning MFG/PRO Globe
spin=no

;* Enable Graphs with the Browse
graph=yes
GRAFPATH=\stageobj\grafsman

;* Specifies executable to run when you select edit image
paint=pbrush.exe

```

## Initialization File Entries

The following entries in the Progress initialization file have a direct bearing on MFG/PRO:

**CharWidth.** You can change these font settings, but you must use only fonts with the same metrics.

**Frame Spacing.** Leave this setting as it is; it is required to support legacy code in MFG/PRO.

**Use-3D-Size.** This setting determines the three-dimensionality of fields in MFG/PRO. Leave this setting as it is:

**PROBUILD and PROPATH.** Leave the settings as they are.

*Spin.* This setting determines whether or not you can spin the globe on the MFG/PRO Sign-On screen.

Set to Yes, the globe spins when you click it. Double-click to stop.

*Graph.* This setting supports browse graphing and points to the Graftsman directory. Graftsman is distributed with MFG/PRO.

*Paint.* This setting determines which imaging program you use when you edit graphics associated with a field. The default setting is Microsoft Paintbrush. The images you create and edit are stored in the working directory.

**Note** Some versions of Windows include Microsoft Paint rather than Paintbrush. If this is true of your computer, use a text editor to change this setting to `paint=mspaint.exe`.

*Fonts.* This section lists the fonts available to MFG/PRO, including the name of each font and the code number associated with it. Do not change any of the fonts on this list.

The end of the fonts section includes the code numbers of the fonts used by Windows print devices for 80-column (portrait orientation) and 132-column (landscape orientation) reports:

```
80ColumnReportFont=21
132ColumnReportFont=22
```

The default values for these variables are font codes 21 and 22. To reassign fonts, change these codes to the corresponding values from the font list.

For information on making fonts available to the Progress initialization file, see the *Progress System Administration Guide* chapter on maintaining user environments.

◆ For details on using this feature, see *User Guide Volume 1: Introduction*.

# Setting Up MFG/PRO

Use this chapter to set up MFG/PRO by registering the application and setting up initial users.

**Important** If you are completing a conversion, the steps in this chapter are not required.

*Starting and Registering MFG/PRO* 102

*Backing Up the Database* 106

*Next Steps* 106

## Starting and Registering MFG/PRO

Test your startup scripts with the following steps. You can use these same steps on a regular basis to start MFG/PRO servers and character clients.

- 1 **UNIX only:** Change to the `MFGPROInstallDir` and launch the server script:

```
./start.DBSetName
```

- 2 Then start a multiuser session:

```
./client.DBSetName
```

For Windows, launch MFG/PRO from the Start menu icons.

MFG/PRO starts.

## Register MFG/PRO

▶ For details on User Licensing, see *User Guide Volume 9: Manager Functions*.

You must register your MFG/PRO license the first time you log in. These steps require that you have the license code sheet included with your release media.

- 1 At the MFG/PRO Sign On screen, press Enter. You are automatically logged in to the system domain.
- 2 In the License Details screen, choose Register.

```

*** WELCOME ***
License Details
Product: MFG/PRO
License Code
Product Not Registered
Status
<Register> < Ok >
User ID: cwp
Password:

```

- 3 In the Registered Products screen, choose Add.

```

      * * * * W E L C O M E * * * *
      Registered Products
    Products:
      Name      Description
      >
      < Add >  < Edit >  < Remove >
                          < Ok >  < Cancel >
    User ID: cwp
    Password:
  
```

- 4 In the Add Product screen, complete the License Code fields by entering the codes from the license code sheet included with your release media. Choose OK.
- 5 When the Registered Products screen reappears, choose OK. Your license code and details display in the License Detail screen.
- 6 Choose OK at the License Detail screen. You are returned to the operating system. To begin a session, restart MFG/PRO and log in.

#### Tip

If you need to modify your license code, use License Registration (36.16.10).

## Load Online Help

You can load online help data at any time after you create the Oracle database. You need to load help data in each Oracle database.

- 1 From the MFG/PRO Main Menu, open Field Help Load (36.4.19).
- 2 In the Language field, enter the MFG/PRO language code of the language that you are loading help for, and press Enter.
- 3 Skip to Field Help Load File, leaving all other fields blank, and enter the two-letter language code directory followed by the name of the help file, which is always `fieldhlp.fhd`. For example, for US English, enter `us/fieldhlp.fhd`.

```

mgflld.p e+                               36.4.19 Field Help Load           04/04/00
-----
Language: us  english (U.S.)
Field:
To:
Procedure:                                     To:
Status:                                       To:
Text Type:                                   To:

Field Help
Load File: us/fieldhlp.fhd
Skip loading help with lower status: yes
    
```

- 4 Accept the default values in all other fields.
- 5 Press Go to begin the load process.

As the load proceeds, the number of records that have been read and loaded displays at the bottom of the screen.

```

mgflld.p e+                               36.4.19 Field Help Load           04/04/00
-----
Language: us  english (U.S.)
Field:
To:
Procedure:                                     To:
Status:                                       To:
Text Type:                                   To:

Field Help
Load File: us/fieldhlp.fhd
Skip loading help with lower status: yes

Loaded flhm_mst : 40           Loaded flhd_det : 2,400
Read flhm_mst   : 40           Read flhd_det   : 2,400
Expected flhm_mst: 0           Expected flhd_det: 0
    
```

- 6 Load help for any other languages in your environment, using the appropriate language code and help file.

### Test the Language Installation

Once you associate MFG/PRO users with particular languages, use the following instructions to test each of the languages you set up:

- 1 Using your language-specific script or shortcut, launch an MFG/PRO session.
- 2 At the MFG/PRO log-in screen, specify an MFG/PRO user ID associated with the language you want to test.
- 3 Open menu item 1.4.1 (Item Master Maintenance) and verify that the field labels are translated.

- 4 Press Help to access the browse associated with the first field (Item Number) and verify that the labels in the browse are translated.
- 5 Press Help again to access the field help for the first field (Item Number) and verify that the help is translated.
- 6 Enter a numeric value in the first field and press Go. A translated message that a new record is being added to the database should display (in English, Adding new record).
- 7 Press Go to access the second field in 1.4.1 (in English, UM). Press Delete on the test item and return to the first field. A translated prompt asking you to verify that you want to delete the item should display (in English, Please confirm delete). Select No to cancel, Yes to delete.

If the language you are testing does not display correctly during these tests, review the following list of typical errors. If correcting these does not eliminate the problem, then visit the Support area of the QAD Web site or contact QAD Support.

- In User Maintenance (36.3.1), verify that the MFG/PRO user ID you are trying to log in with exists and is associated with the appropriate language.
- Verify that Translate Frames is set to Yes in Label Control (36.4.17.24).
- Make sure you have loaded the language-specific system data—translated menus, messages, administration data, and help—into the main and administration databases.
- Verify the two-letter language subdirectory and the two-letter compiled code subdirectories were created below *MFGPROInstallDir*.
- Determine if the directories in the client PROPATH contain multiple copies of the compiled code. Depending on the type of client you are using for your test, the PROPATH is located in different places:
  - For character clients, the PROPATH is listed in the client startup script; for example, *client.Production*.

▶ See “Progress Initialization File” on page 98.

- For GUI clients, the PROPATH is listed in the GUI client initialization file located in the GUI client directory. The file has an extension of `.vga` or `.svg`—`progress.vga` or `progress.svg`—depending on the display resolution of the computer.
- Verify that the correct language-specific `bbi` subdirectory is in the client PROPATH. The `bbi` subdirectory is located below the two-letter language subdirectory.
- MFG/PRO uses the Progress `promsgs` file for simple message components such as the Yes and No delete confirmation messages. For programs that use this file, prompts do not display correctly unless the appropriate `promsgs` file is referenced in the client startup script or shortcut.

## Exit MFG/PRO

- 1 Exit MFG/PRO by pressing End at the Main Menu.
- 2 Shut down the database servers within this database set:

```
./stop.DBSetName
```

In Windows, select Shut Down *DBSetName* from the Start menu.

## Backing Up the Database

At this point you should do a complete backup of the entire database and directory structure.

## Next Steps

This completes your installation. Use information in the following three guides that came with your documentation set to set up your base data:

- *User Guide: MFG/PRO eB2.1 New Features*
- *User Guide Volume 6: Master Data*
- *User Guide Volume 9: Manager Functions*

QAD recommends that as a first step, you create a new system admin user account, and make the `mfg` user account inactive. The `mfg` user is familiar to anyone who has installed or worked on a technical level with MFG/PRO, and is an obvious security risk. See the “Users and Security” chapter in *User Guide: MFG/PRO eB2.1 New Features* to complete these steps.



# Installing Additional Databases

Use this chapter to set up additional MFG/PRO Oracle databases for use in training, demonstration, and test environments.

<i>Summary</i>	<b>110</b>
<i>Creating Schema Holders</i>	<b>113</b>
<i>Changing the Database Owner</i>	<b>114</b>
<i>Modifying SQL Scripts</i>	<b>115</b>
<i>Running SQL Scripts</i>	<b>119</b>
<i>Loading MFG/PRO Data</i>	<b>119</b>
<i>Running Index SQL Scripts</i>	<b>119</b>
<i>Configuring Database Sets</i>	<b>120</b>
<i>Generating Startup Scripts</i>	<b>120</b>
<i>Setting Up Windows Clients</i>	<b>120</b>

## Summary

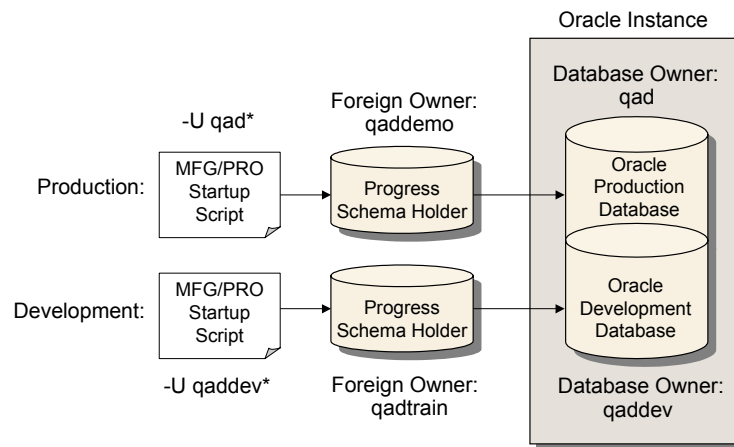
Up to this point in the installation, you set up an Oracle production database and an Oracle audit database (for compiles) in new Oracle instances. In addition to the production and audit databases, you may create databases for specific activities. Each person in a training class requires an individual database, for example. You can also set up demonstration and test databases to experiment with new MFG/PRO and custom functionality before implementing it in your production environment.

This section describes how to add an MFG/PRO training database to an instance that already contains an MFG/PRO production database. Repeat these steps for each training database required, and for databases such as test and demonstration.

## Recommended Configuration

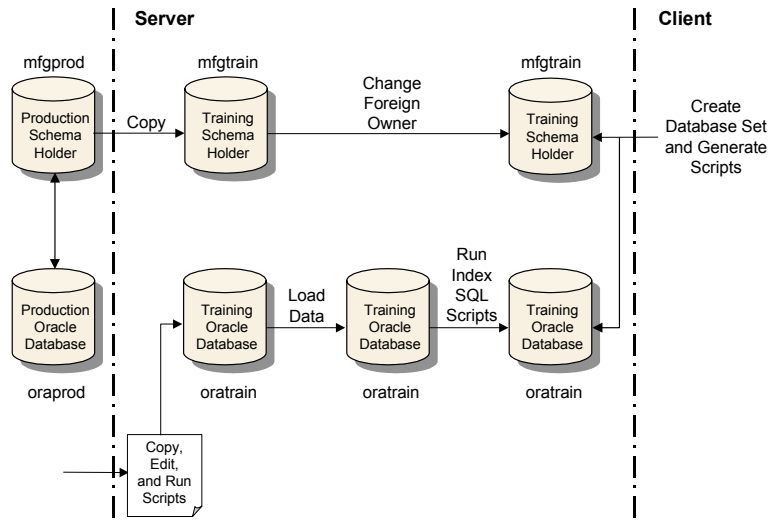
The recommended configuration for multiple databases is one instance with multiple database owners—one for each MFG/PRO database. As shown in Figure 7.1, each MFG/PRO database requires its own schema holder, Oracle database owner, and MFG/PRO startup script or shortcut.

**Fig. 7.1**  
Multiple Database  
Overview



\*For simplicity, the user and owner are identical.

The schema holder and the startup script must reference the correct database owner. In the startup script, the `-U` (user) parameter specifies the user with access privileges to the database owner. For simplicity, the examples in this section assume the user is the same name as the database owner. In the schema holder, the database owner is assigned by the `FOREIGN_OWNER` schema element.



**Fig. 7.2**  
New Database  
Creation Process

## Additional Configuration

While QAD recommends, and this guide assumes, that you will create separate, independent databases for different business activities, it is possible to configure a multiple-database environment where databases with different production schema share the same administration and help schema. Schema refers to the tablespaces, indexes, and sequences in each of the logical areas of MFG/PRO.

For example, instead of creating separate databases for offices in Chicago and New York, each with its own production, administration, and help schema, you can create two sets of production schema, and then share one set of administration and help schema.

This configuration is not fully documented in this guide. However, in general this configuration would require the following tasks:

- Use the Create Database function in MFG/UTIL to create a schema holder.
- Modify the default MFG/PRO data definition files (.df) by changing the foreign owner references to the owner of the Oracle schema you are creating. For example, if you want to create a new production schema owned by `chicago`, modify the foreign owner references in `oraempty.df` to `chicago`.
- Modify and run the SQL scripts to create the new Oracle schema you want. For example, modify the SQL scripts to create new production schema owned by `chicago` in the Oracle instance.
- Load all of the MFG/PRO .df files into the schema holder.

For example, to share the existing administration and help schema and use the new Chicago production schema, load the modified `oraempty.df` and the default `oadmempty.df` and `ohpempty.df` into the schema holder.

- Create an MFG/PRO database set that references the new schema holder and the Oracle instance.
- Generate client startup scripts and shortcuts.
- To let multiple sets of production schema share the same administration schema, you must run the `oraseqsyn.sql` script in `MFGPROInstallDir`.

▶ For more information on this script, see “Using the Sequence Synonym Script” on page 125.

## Creating Schema Holders

Follow these steps to create a schema holder that references your new Oracle database owner.

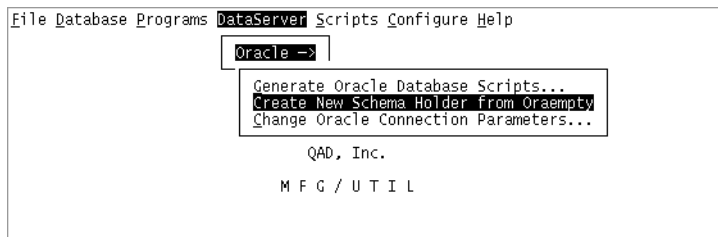
### Copy the Empty Schema Holder

**Note** These steps assume you have Progress 4GL or ProVISION.

- 1 From the MFG/PRO database server administration directory, launch MFG/UTIL:

```
cd /DBAdminDir
./mfgutil
```

- 2 From the DataServer menu in MFG/UTIL, select Oracle and choose Create New Schema Holder from Oraempty.



- 3 In the Original Database field, specify the path to and name of your production schema holder. In the New Database Name field, specify the directory location and name you want to use for the new schema holder.



- 4 Choose OK to create the new schema holder. When the process is complete, choose Close in the copy progress screen.

- 5 In the following screen, accept the default ORACLE\_SID and database values.

Current ORACLE\_SID Value: mfgora  
Oracle Database Name: mfgora

< OK > < Cancel >

- 6 When prompted to confirm the Oracle database name, choose Yes.

Question  
Is the New Oracle Database Name Correct? mfgora

<Yes> <No> <Cancel>

- 7 From the MFG/UTIL File menu, choose Exit.

## Changing the Database Owner

- 1 From the command line, run the following command to launch the Progress Procedure Editor and connect to the new schema holder:

```
pro SchemaHolder.db
```

For example:

```
pro oratrain.db
```

- 2 In the Progress Procedure Editor enter the following program to change the FOREIGN\_OWNER references in the schema holder from qad to the new database owner name:

```
for each _file
  where _file-number > 0 and _file-number < 32768:
    assign _frozen = no.
end.
pause 0 before-hide.
hide all no-pause.

for each _file
  where _for-owner = 'QAD':
    assign _for-owner = 'NewDatabaseOwner'.
end.

for each _sequence:
  assign _seq-misc[2] = 'NewDatabaseOwner'.
end.

for each _file
  where _file-number > 0 and _file-number < 32768:
    assign _frozen = yes.
end.
pause 0 before-hide.
hide all no-pause.
```

**Example** Figure 7.3 is an example program that changes the FOREIGN\_OWNER reference to QADTRAIN.

```
File Edit Search Buffer Compile Tools Help
for each _file where _file-number > 0 and _file-number < 32768:
  assign _frozen = no.
end.
pause 0 before-hide.
hide all no-pause.

for each _file where _for-owner = 'QAD':
  assign _for-owner = 'QADTRAIN'.
end.

for each _sequence:
  assign _seq-misc[2] = 'QADTRAIN'.
end.

for each _file where _file-number > 0 and _file-number < 32768:
  assign _frozen = yes.
end.
pause 0 before-hide.
File: /Users/cwp/4n_owner.p
```

**Fig. 7.3**  
Schema Holder  
Reference Change

- 3 Run the code by selecting Run from the Compile menu.
- 4 Select File|Exit to close the Progress Editor.

## Modifying SQL Scripts

Modifying SQL scripts requires you to create a subdirectory, copy files from the database server, and modify the table and index scripts.

### Modify the MFG/PRO Schema Scripts

Use the following steps to modify the MFG/PRO database schema SQL scripts:

- 1 Create a subdirectory containing the SQL scripts.
  - a Create a subdirectory to store SQL files for your new database:
 

```
mkdir traindb
```
  - b Copy the following SQL files from the database server administration directory to your new subdirectory:
    - oadempty-idx.sql
    - oadempty-seq.sql
    - oadempty-tbl.sql
    - ohpempty-idx.sql

- lvorasp.plb
- ohpempty-tbl.sql
- oraempty-idx.sql
- oraempty-seq.sql
- oraempty-tbl.sql

- c** Change the names of the SQL files; for example, `troradmempty-idx.sql` for the training database.

## 2 Modify the SQL files:

- a** In the subdirectory, open the admin tables SQL script.

```
cd traindb
vi troadmempty-tbl.sql
```

- b** In the text editor, modify all of the create tablespace statements to specify unique tablespaces for your new database. The tablespace names cannot be longer than 30 characters.

Identify the create tablespace statements by looking for `TABLESPACE` in the SQL file. The value following `TABLESPACE` is the tablespace name. Make the value unique for your database.

The following example is a command that performs this search and replace in the vi text editor:

```
:g/ TABLESPACE /s// TABLESPACE tr/
```

Your command may differ depending on the text editor you use. After running this command, each tablespace in the file is prefixed with `tr` to indicate the training database.

- c** Save your changes and close the file.
- d** Open the SQL script for the help tables in a text editor and repeat the same command to change the tablespace names:

```
vi trohempty-tbl.sql
:g/ TABLESPACE /s// TABLESPACE tr/
```

- e** Save your changes and close the file.

- f** Open the SQL script for the main tables in a text editor and repeat the same command to change the tablespace names:

```
vi troraempty-tbl.sql
:g/ TABLESPACE /s// TABLESPACE tr/
```

- g** Save your changes and close the file.

- 3** Repeat step 2 to modify the SQL for the index database objects:

- troadmempty-idx.sql
- trohpempty-idx.sql
- troraempty-idx.sql

## Modify the MFG/PRO Database Build Script

Use the following steps to modify the MFG/PRO database build script, `crdb2ORACLE_SID.sql`:

- 1** Change directories to the database server administration directory:

```
cd ..
```

- 2** Rename your original `crdb2ORACLE_SID.sql` script before you begin modifying it:

```
cp crdb2mfgora.sql orgcrdb2mfgora.sql
```

- 3** Open `crdb2ORACLE_SID.sql` in a text editor:

```
vi crdb2mfgora.sql
```

- 4** Remove the lines between the `connect internal` command and the `## * Create tablespaces for MFG/PRO` comment.

- 5** For each of the MFG/PRO tablespaces, specify the size of the tablespace and the directory where you want to store it.

When specifying tablespace sizes and locations, be sure to consider the following:

- *Do not* define the following tablespaces: RBS, TEMP, TOOLS, and USERS. These tablespaces are used by the Oracle instance and are shared by the databases in the instance. They were defined when you created the production database.
- You must store the tablespaces for each database in different directories.

- For default training and demonstration data, you can accept the default tablespace sizes. If you want to add additional data to your new database, you may need to increase the default tablespace sizes.
  - You may need to increase the default size of the MFGHELP tablespace and index. If you plan to load several languages, multiply the default size by the number of languages.
- 6 Remove the lines between the `## * Create rollback segments` comment and the `create user qad identified by qad;` command.
  - 7 Change the references to user `qad identified by qad` to your new database name. Make sure the new database name you specify matches the `FOREIGN_OWNER` reference in your schema holder (`qadtrain`).

**Example** The following lines of script add a database owner for the training database:

```
create user qadtrain identified by qadtrain;
grant dba to qadtrain;
alter user qadtrain default tablespace tools
        temporary tablespace temp;
```

- 8 Remove the following line from the end for the SQL script:

```
connect qad/qad@ORACLE_HOME/rdbms
        /admin/catdbsyn.sql
```

- 9 Modify all of the create tablespace statements to specify unique tablespaces for your new database. The tablespace name cannot be longer than 30 characters.

You can identify the create tablespace statements by looking for `create tablespace` in the SQL file. The value following this statement is the tablespace name. Change this value to something unique for your new database.

This `vi` search and replace example adds a `tr` prefix to each tablespace in the file. Your command may differ depending on the text editor you use.

```
:g/create tablespace /s//create tablespace tr/
```

- 10 Save your changes and close the script.

## Running SQL Scripts

This set of steps is identical to the steps you completed on the original database except that you will change the file names.

## Loading MFG/PRO Data

The data load process is identical with one exception to the process completed for the original database.

The exception: MFG/PRO ships data for training and demonstration environments. Instead of loading the data from the `/mfg` directory, load from the directories in Table 7.1 depending on the database you are creating.

### Database-Specific Data

Subdirectory	Description
<code>./mfgtrain</code>	Contains MFG/PRO training data.
<code>./mfgdemo</code>	Contains MFG/PRO demonstration data.
<code>./mfg</code>	Contains the standard MFG/PRO default data. You may want to load the data from this directory to create a test database that duplicates your production environment.
<code>./seattle</code>	Contain multisite training data. Load each of these to separate database owners.
<code>./newyork</code>	
<code>./chicago</code>	

**Table 7.1**  
Database-Specific  
Data

## Running Index SQL Scripts

This set of steps is identical to the steps you completed on the original database except that you will change the file names.

## Configuring Database Sets

- ▶ See “Configuring Database Sets” on page 78.

Configuring the database set has one difference from the standard steps: The connection parameters on the Oracle database Edit Client screen take the form of:

```
-U NewDBName@ORACLE_SID  
-P NewDBPassword
```

## Generating Startup Scripts

- ▶ See “Generating Scripts and Shortcuts” on page 91.

Generate the startup scripts using the same procedures as for the original database.

## Setting Up Windows Clients

- ▶ See Chapter 4, “Installing Windows File Servers,” on page 68.

Set up your Windows clients for additional databases using the same procedures as for the original clients.

# Additional Setup

Use this chapter to perform post-installation and ongoing maintenance tasks.

*Modifying the Oracle Database*    **122**

*Migrating a Custom Progress Database to Oracle*    **122**

*Changing Installation Script Commands*    **124**

*Using the Sequence Synonym Script*    **125**

*Changing the Client PROPATH*    **126**

*Verifying SQL Scripts*    **127**

## Modifying the Oracle Database

When creating a new custom program, you may need to add tables or tablespaces to the Oracle database. However, you should *not* modify the standard MFG/PRO tables.

If you make changes to the Oracle database, you must also change the Progress schema holder using the DataServer utility, Update/Add Oracle Table Definitions. This utility uses the objects in the Oracle schema to create the schema holder. You can then compile your custom code against the new schema holder.

## Migrating a Custom Progress Database to Oracle

If you need to migrate a side Progress database to an Oracle database, use the DataServer utility `protoora.p`. Using this utility is the first of several steps required to convert the database correctly.

Some of the conventions used by Protoora (Progress-to-Oracle) may not be appropriate for your Oracle database. The first time it runs, Protoora creates a database with only one data tablespace and one index tablespace for all schema objects and data. Also, some of the character columns will probably be undersized because Protoora uses the format value from the data dictionary as the base size value.

To correct these problems, make adjustments to the SQL script and rerun it to create a corrected Oracle database.

**Warning** *Do not* use these instructions to convert an MFG/PRO on Progress environment to MFG/PRO on Oracle. See the MFG/PRO eB2.1 *Conversion Guide* to perform this conversion.

▶ For details, see the *Progress DataServer Guide*.

- 1 Run `protoora.p`.
- 2 The Protoora utility sets up the Oracle database and a Progress schema holder to match it.

The first half of the utility examines your side Progress database and produces SQL scripts that in turn create the Oracle database. These database objects are incorrect and must be replaced.

The second half pulls across schema information from the Oracle database to create the Progress schema holder database.

- 3 You may need to modify the following aspects of the SQL script Protoora created:
  - a Create tablespaces and size them to match the number of records in your custom side database. Use the standard Oracle tablespace sizing algorithm.
  - b Change the tablespace parameters to match the new tablespaces you created.
  - c Adjust the column sizes to match the application requirements for which your custom side database was developed.

**Note** Labels for columns (also called fields) are stored in the Progress schema holder and not in the Oracle database.

- 4 Use the modified SQL script as input for the Oracle server manager to create corrected Oracle database objects (tablespaces, tables, and so on):

```
svrmgr1 < YourSQLScriptName
```

- 5 Remove the incorrect Oracle database objects originally created by Protoora.
- 6 While connected to the new schema holder, open the Data Dictionary, select the Admin menu, and choose the Dump Data Definitions option. The system creates a data definition file (.df extension).
- 7 Using a text editor, open the data definition file. For each ADD TABLE command, make sure the FOREIGN-OWNER statement is blank; for example:

```
FOREIGN-OWNER ``
```

**Note** If you are adding sequences to the data definitions, you must define a foreign owner.

- 8 Append the new data definition statements to the main MFG/PRO database definitions file.
- 9 Compile your custom programs against the updated MFG/PRO schema.

▶ See the *Progress DataServer Guide*.

- 10 Once the Oracle database is set up, dump the Progress data into data files (extension `.d`) and load them into the Oracle database.
- 11 Test your custom software.

## Changing Installation Script Commands

The MFG/PRO installation scripts were designed for the following UNIX systems:

- HP-UX 11.0
- Sun Solaris SPARC 2.6 and 2.7
- IBM AIX 4.2.1 and 4.3

While you can install MFG/PRO on UNIX systems other than those listed, the operating system-dependent commands the scripts use may not function correctly in all environments.

If an installation script does not function correctly, use the following instructions to copy the installation script to a temporary directory, modify the commands it uses for your system, and complete the installation.

- 1 Access the directory containing the MFG/PRO media.

- For tape media:

```
cd /TemporaryTapeDir
```

- For CD-ROM media:

```
cd /cdrom
```

- 2 Copy the `install` script as well as the `lib` and `bin` directories to a directory on your system. These instructions refer to this directory as `tempinstall`:

```
cp install /tempinstall
```

```
cp -r bin /tempinstall
```

```
cp -r lib /tempinstall
```

- 3 Modify the commands in the `install` script and `lib` directory to conform to your operating system.

- 4 To launch the script from a directory on your system, use one or both of the following parameters in the command statement.

Parameter	Description
-s	Use this parameter to specify the directory containing the MFG/PRO media. This is the source directory from which the installation script will copy files into your target installation directory. Be sure to use the full path to the directory.
-w	Use this parameter to specify the directory containing the installation script. Be sure to use the full path to the directory.

**Example** Using the directories in these instructions as an example, the following command would launch the install script from the *tempinstall* directory.

```
./install -s /cdrom
```

## Using the Sequence Synonym Script

To share the same administration schema between multiple owners, run the `oraseqsyn.sql` script located in the database server administration directory.

- 1 If the administration schema you want to share is owned by QAD, go to step 3 and run `oraseqsyn.sql`.
- 2 If the administration schema you want to share has any other owner, use the following instructions to edit `oraseqsyn.sql`.
  - a For the MFG/PRO database server administration directory, open `oraseqsyn.sql` in a text editor:
 

```
vi oraseqsyn.sql
```
  - b In the script, change the QAD value to the name of the owner of the administration schema.

For example, if you want to share administration schema owned by Chicago, replace QAD in the `oraseqsyn.sql` script with Chicago. The script is not case sensitive.

```
CREATE SYNONYM edc_sq01 FOR Chicago.edc_sq01
CREATE SYNONYM edc_sq02 FOR Chicago.edc_sq02
CREATE SYNONYM edmfs_sq01 FOR Chicago.edmfs_sq01
CREATE SYNONYM edxfms_sq01 FOR Chicago.edxfms_sq01
```

- 3 For each owner sharing the administration schema, run the `oraseqsyn.sql` script. In the following example, the script is run twice, once by the New York owner and once by the Seattle owner.

In this command, *Password* refers to the password for the production tablespace owner. *ORACLE\_SID* refers to the Oracle system identifier.

```
sqlplus newyork/Password@ORACLE_SID < oraseqsyn.sql
sqlplus seattle/Password@ORACLE_SID < oraseqsyn.sql
```

## Changing the Client PROPATH

To modify the PROPATH setting for MFG/PRO Windows clients after installation, access the Windows client initialization file and change the PROPATH entry.

- 1 Right-click the client shortcut and choose Properties.
- 2 From the Properties window, choose the Shortcut tab.
- 3 In the Target field, use the `-ininame` parameter to locate the client's initialization file; for example, `progress.svg`.
- 4 Open the initialization file in a text editor.
- 5 Modify the PROPATH setting in the [Startup] section of this file.

▶ See “Progress Initialization File” on page 98.

You can also control other aspects of the Windows client environment using this file.

## Verifying SQL Scripts

To create the MFG/PRO Oracle database, you run several SQL scripts. As these scripts run, they create log files containing process information such as each statement run, whether it completed, and any errors that occurred when the statement was executed. These log files have the name of the SQL file with a `.lst` extension; for example, `oraempty-tbl.lst`.

You can expect some errors to occur when running the SQL scripts. Most relate to drop statements in the script for Oracle database objects that do not exist when the script is run and can be safely ignored. Other errors must be resolved before you continue with the installation process.

Use the following sections to determine if unexpected errors occurred, and in some cases resolve them.

### Identifying Unexpected Errors

Use the following instructions to determine if unexpected errors occurred when a script ran:

- 1 Open the log file for the script in a text editor. SQL log files have the same name as the SQL file with a `.lst` extension; for example, `oraempty-tbl.lst`.  

```
vi oraempty-tbl.lst
```
- 2 In a text editor, search for lines beginning with `^ORA`, but exclude lines containing the following error numbers: 2289, 942, 143, 4043. These numbers identify expected errors related to drop statements in the SQL file.

The following example is a command that performs this search in the `vi` text editor. Your command may differ depending on the text editor you use. In the following command, `FileName.lst` refers to the log file created when you ran the SQL script:

```
grep "^ORA" FileName.lst | egrep -v "2289|942|143|4043"
```

- 3 The output of this command should identify any unexpected errors that occurred and the statement that produced them.

## Resolving Oracle Error ORA-12805

### Description

The Oracle database index scripts (`oraempty-idx.sql`, `oradmempty-idx.sql`, and `ohpempty-idx.sql`) contain a `parallel` option that allows more than one processor to complete the statements in the script. On some operating systems, this option causes the ORA-12805 error. Oracle provides the following information for this error:

```
A parallel server query died unexpectedly.
```

### Solution

Use the following instructions to remove the `parallel` option from each create index statement that failed with the ORA-12805 error:

- 1 Identify each create index statement that failed with the ORA-12805 error. The statement is listed above the error in the SQL log file (`FileName.lst`).

- 2 Copy each statement into a new SQL file; for example, `new-idx.sql`.

- 3 As the first line of the `new-idx.sql` file, add the `spool` command and specify an output file; for example, `new-idx.lst`:

```
spool new-idx.lst
```

- 4 Add the `spool off` command as the last line of the file:

```
spool off
```

- 5 Edit each of the create index statements in the `new-idx.sql` file, removing the `parallel` keyword.

- 6 Save the `new-idx.sql` file.

- 7 Run `new-idx.sql` using the following command:

```
sqlplus qad/qad < new-idx.sql
```

- 8 Check the SQL log file you designated in the `spool` command (`new-idx.lst`) for errors.

# Installation Checklists

This appendix contains install checklists for advanced users, or for less experienced users who want to track their progress on the installation. These checklists provide the sequence, the tool set required, the default or recommended values if applicable, and the page reference for the more detailed description of the steps in the guide.

*Standard US English Installation*    **130**

*Client Installations*    **137**

*Single Non-US English Installations*    **139**

*Multi-Language Installations*    **146**

**Note** The abbreviations shown below appear throughout this appendix.

Abbreviation	Meaning
MInstall	MFG/PRO Installation Directory ( <i>MFGPROInstallDir</i> )
PInstall	Progress Installation Directory ( <i>ProgressInstallDir</i> )
FSInstall	File Server Install Dir
CInstall	Client Install Dir
Conv	Conversion
DB	Database
XX	Two-letter language code

Installation Specifications	DB Server	UNIX Client	File Server
Operating System	UNIX, Linux, WIN	UNIX, Linux	Windows
OS patches	Yes	Yes	
Progress Version	OE10	OE10	OE10
Oracle Version	10.1.0.4.0 (10G, Rel. 2)	10.1.0.4.0 (10G, Rel. 2)	10.1.0.4.0 (10G, Rel. 2)
Memory requirements	2.0 GB		10 MB
Each additional language	700 MB		700 MB
Free Disk Space	10 GB		2 GB
IE, Netscape, Mozilla	optional	optional	optional

## Standard US English Installation

**Table A.1** Standard US English Installation (Page 1 of 7)

Installation Task	Windows Default	UNIX Default	Page
<b>Preliminary Steps</b>			
<b>Complete Prerequisites</b>			32
UNIX: Set \$TERM variable			
Determine MInstall	c:\mfgsvr	/home/mfgpro/mfgsvr	
Determine PInstall	c:\dlcOE10	/home/progress/dlcOE10	
Determine DBsrv host name			
Set DLC, ORACLE_HOME, PATH			
<b>UNIX: Rebuild Progress Executable</b>			33
<b>WINDOWS: Set Windows as Application Server</b>			33

**Table A.1** Standard US English Installation (Page 2 of 7)

Installation Task	Windows Default	UNIX Default	Page
Open Control Panel			33
Open Network and Dial-Up Connections			
Open Local Area Connection, Properties			
Open Properties on File and Print Sharing for MS Networks			
Click Maximize Throughput for Net Apps			
<b>UNIX: Create install user and group</b>			
Create group qad			34
Create user mfg			
<b>Modify services file (Optional)</b>			
Add DB servers	c:\winnt\system32\drivers\etc eb21ora-server	/system/etc eb21ora-server	35
<b>Install Media to Server</b>			<b>36</b>
Insert CD-ROM or tape			
UNIX: Log in as mfg			
Run install	install.exe	install.ksh	37
Welcome			
Accept license agreement			
Set installation log location	c:\instlog	/users/instlog	
Enter PInstall	c:\dlcOE10	/home/progress/dlcOE10	
Set MInstallDir	c:\mfgsvr	/home/mfgpro/mfgsvr	
Oracle Dataserver?	Yes	Yes	
Windows: folder name	MFG/PRO eB2.1 Database Server		
Accept summary			
<b>Install Language Files to Server</b>			<b>39</b>
Insert CD-ROM or tape			
UNIX: Log in as mfg			
Run install	install.exe	install.ksh	
Welcome			
Accept license agreement			

**Table A.1** Standard US English Installation (Page 3 of 7)

Installation Task	Windows Default	UNIX Default	Page
Set installation log location	c:\instlog	/users/instlog	
Enter PInstall	c:\dlcOE10	/home/progress/dlcOE10	
Set MInstallDir	c:\mfgsvr	/home/mfgpro/mfgsvr	
Accept summary			
<b>WINDOWS: Set up MFG/UTIL clients</b>			<b>41</b>
Modify DOS window screen buffer size			
<b>DBCA: Create Production DBs</b>			<b>42</b>
<b>Copy Oracle Database Create Scripts</b>			
Copy .dbt template file	QAD_WIN $\times$ .dbt	QAD_UNIX $\times$ .dbt	
	$\times$ is the Oracle version	$\times$ is the Oracle version	
From	MInstall	MInstall	
To	\$ORACLE_HOME\ assistants\dbca\templates	\$ORACLE_HOME/assistants/ dbca/templates	
<b>DBCA: Create Oracle Databases</b>			<b>43</b>
Start DBCA	Start All Programs Oracle  Configuration and Migration Tools Database Configuration Assistant	cd \$ORACLE_HOME/bin dbca	
Welcome			
Operations			
Create a database			
Database Templates			
Select template	QAD WIN $\times$	QAD UNIX $\times$	
Database Identification			
Global Database Name	QAD	QAD	
SID	QAD	QAD	
Database Features: Custom Scripts			
Run scripts	MInstall\db\qaduser.sql	MInstall/db/qaduser.sql	
Database Connection Options			
Server Mode	dedicated or shared	dedicated or shared	
Initialization Parameters: Memory			
Custom	set as required	set as required	
Database Storage: General			

**Table A.1** Standard US English Installation (Page 4 of 7)

<b>Installation Task</b>	<b>Windows Default</b>	<b>UNIX Default</b>	<b>Page</b>
Tablespaces	set as required	set as required	
Creation Options			
Any or all options			
Exit DBCA			
<b>Run SQL Scripts to Load Schema</b>			<b>49</b>
Open command window			
Run SQL scripts in SQL*Plus with syntax:	sqlplus qad/qad < oraempty-tbl.sql	sqlplus qad/qad < oraempty-tbl.sql	
Repeat for:	oraempty-idx.sql	oraempty-idx.sql	
	oraempty-seq.sql	oraempty-seq.sql	
	oadmempty-tbl.sql	oadmempty-tbl.sql	
	oadmempty-idx.sql	oadmempty-idx.sql	
	ohpempty-tbl.sql	ohpempty-tbl.sql	
	ohpempty-idx.sql	ohpempty-idx.sql	
<b>MFG/UTIL: Create Empty Schema Holders</b>			<b>50</b>
<b>Build schema holder</b>			
Launch MFG/UTIL			
Run Guided Setup			
Create Oracle Production DB Set			
Run set			
Oracle wait for DB create			
Create schema holder	MInstall\db\oraempty	MInstall/db/oraempty	
Close log window			
Repeat for oaudempty	MInstall\db\oaudempty	MInstall/db/oaudempty	
<b>Load schema in schema holders</b>			<b>53</b>
Connect to schema holder	MInstall\db\oraempty	MInstall/db/oraempty	
Select data definition file	MInstall\db\oraempty.df	MInstall/db/oraempty.df	
Load schema			
Close log window			
Repeat for:			
oadmempty	MInstall\db\oadmempty.df	MInstall/db/oadmempty.df	
ohpempty	MInstall\db\ohpempty.df	MInstall/db/ohpempty.df	
oaudempty	MInstall\db\oaudempty.df	MInstall/db/oaudempty.df	

**Table A.1** Standard US English Installation (Page 5 of 7)

<b>Installation Task</b>	<b>Windows Default</b>	<b>UNIX Default</b>	<b>Page</b>
<b>Truncate BI file</b>			55
Truncate schema holder	MInstall\db\oraempty	MInstall\db\oraempty	
Close log window			
<b>Repeat for oaudempty</b>	MInstall\db\oaudempty	MInstall\db\oaudempty	
<b>Specify OID Generator value</b>			56
Enter OID Generator value			
Connect to main database	eb21ora	eb21ora	
Close log window			
<b>Load system data</b>			57
Connect to Oracle DB detail	eb21ora	eb21ora	
Select tables to load			
Load data	\us\mfg	/us/mfg	
Close log window			
Repeat for:	\mfg	/mfg	
	\admin	/admin	
	\us\admin	/us/admin	
<b>Truncate BI file</b>			60
Truncate production schema holder	eb21ora	eb21ora	
Close log window			
<b>Load System Cross-Reference Data</b>			64
Database Load Data in Database			
Connect to hlpprod	eb21ora	eb21ora	
Close connect log window			
Load data	MInstall\mfghelp	MInstall/mfghelp	
Close log window			
<b>MFG/UTIL: Configure Database Sets</b>			78
Launch MFG/UTIL			
Choose Configure DB Set Maintenance			
Run Guided Setup			
Progress Character Client Setup			
Select database set to edit and Edit Set	Compile, Production, etc.	Compile, Production, etc.	
Edit database parameters			

**Table A.1** Standard US English Installation (Page 6 of 7)

<b>Installation Task</b>	<b>Windows Default</b>	<b>UNIX Default</b>	<b>Page</b>
Close DB Set Maint			
Repeat these steps for each database set			
<b>MFG/UTIL: Compile</b>			<b>83</b>
MFG/UTIL character mode			
Programs Compile Procedures			
Multithreaded Compile Option			85
Generate Compile List			
Enter new list name	utcompil01.wrk	utcompil01.wrk	
Enter files to include	a* to e*	a* to e*	
Repeat for all threads			
Compile			86
Set up Compiler Options			
Generate compile list			
Review compile summary			
Close log window			
<b>MFG/UTIL: Generate Scripts</b>			<b>91</b>
Scripts Generate Scripts			
Select database sets			
Windows: icon folder	MFG/PRO eB2.1 Database Server		
Generate			
Close log window			
Close Guided Setup			
Test client install			96
Start DB servers			
Launch client			
Log in as mfg			
<b>Remote Clients: Set up for use</b>			<b>97</b>
Save default mfgutil.ini			
Repeat Remote Client steps			73
Launch MFG/UTIL			
Load default mfgutil.ini			
Generate scripts from menu			

**Table A.1** Standard US English Installation (Page 7 of 7)

<b>Installation Task</b>	<b>Windows Default</b>	<b>UNIX Default</b>	<b>Page</b>
<b>MFG/PRO: Startup</b>			<b>102</b>
Start MFG/PRO	Start menu	client.Production	
MFG/PRO Sign-on screen			
License Details: Register			
Registered Products: Add			
Add Product: License code			
Registered Products: OK			
Load Character Help			103
Field Help Load (36.4.19)			
Enter language code			
Enter field help load file	MInstall\us\fieldhlp.fhd	MInstall/us/fieldhlp.fhd	
Exit MFG/PRO			
Back up entire MInstall			106

## Client Installations

**Table A.2** Client Installations (Page 1 of 2)

Installation Task	Windows Default	UNIX Default	Page
<b>Preliminary Steps</b>			<b>66</b>
UNIX: Set \$TERM var			
UNIX: Change to Korn shell			
Ensure administrative permissions			
Set the DLC variable			
Access to the data definitions			
<b>UNIX: Install host client</b>			<b>67</b>
Mount CD-ROM or tape			
Log in as mfg			
Run install		install.ksh	
Welcome			
Accept license agreement			
Set installation log location		/users/instlog	
Enter PInstall		/home/mfgpro/mfgsvr	
Set MInstallDir		/home/mfgpro/mfgsvr	
Accept summary			
Languages: Add locales as needed		MInstall/locale.dat	75
Go to Configure Database Sets			79
<b>WINDOWS: Install File Server</b>			<b>68</b>
Load CD			
Run install	install.exe		
Welcome			
Accept license agreement			
Set installation log location	c:\instlog		
Set MInstall	c:\mfgsvr		
Set FSInstall	c:\mfgsvr		
Specify Windows folder name	MFG/PRO eB2.1 File Server		
Accept summary			
View Supply Visualization info?			
Languages: Add locales as needed	MInstall/locale.dat		75

**Table A.2** Client Installations (Page 2 of 2)

Installation Task	Windows Default	UNIX Default	Page
Go to Configure Database Sets			78
<b>Connect PC to UNIX SRV: Create client schema holders on the file server</b>			<b>70</b>
Launch MFG/UTIL			
Database Create Database			
Enter schema holder name	oraemptywin.db		
Create from Progress empty DB			
Repeat for audit database	audemptywin.db		
Load Database Schema from menu			
Connect to new schema holder	oraemptywin.db		
Select data def file and load	oraempty.df		
Close log window			
Repeat schema loads for:	oadmempty		
	ohpempty		
	oaudempty		
<b>WINDOWS: Install Remote Windows Clients</b>			<b>73</b>
Run DOS session			
Access CD \install dir			
Run install script			
Welcome			
License Agreement			
Install log location	c:\instlog		
FileServerInstallDir	c:\mfgsvr or c:\mfgguicli		
Enter RemoteClientInstallDir	c:\qadchreli or c:\qadguicli		
Windows folder name	MFG/PRO eB2.1 Database Server		
Summary			
View Supply Visualization info?			
Languages: Add locales as needed	MInstall\locale.dat		75
Languages: Repeat for each language purchased			
Go to Configure Database Sets			78

## Single Non-US English Installations

**Table A.3** Single Non-US English Installations (Page 1 of 7)

Installation Task	Windows Default	UNIX Default	Page
<b>Preliminary Steps</b>			
<b>Complete Prerequisites</b>			32
UNIX: Set \$TERM variable			
Determine MInstall	c:\mfgsvr	/home/mfgpro/mfgsvr	
Determine PInstall	c:\dlcOE10	/home/progress/dlcOE10	
Determine DBsrv host name			
Set DLC, ORACLE_HOME, PATH			
<b>UNIX: Rebuild Progress Executable</b>			33
<b>Non-Western European Language</b>			33
Back up startup.pf and empty.db	c:\dlcOE10	/home/progress/dlcOE10	
Copy <i>langcode</i> .pf to DBsrv dir			
Copy empty.db and assoc files to DBsrv dir			
Edit startup.pf	c:\dlcOE10	/home/progress/dlcOE10	
<b>Windows: Set Windows as Application Server</b>			33
Open Control Panel			
Open Network and Dial-Up Connections			
Open Local Area Connection, Properties			
Open Properties on File and Print Sharing for MS Networks			
Click Maximize Throughput for Net Apps			
<b>UNIX: Create install user and group</b>			34
Create group qad			
Create user mfg			
<b>Modify services file (Optional)</b>			35
Add DB servers	c:\winnt\system32\drivers\etc	/system/etc	
	eb21ora-server	eb21ora-server	

**Table A.3** Single Non-US English Installations (Page 2 of 7)

<b>Installation Task</b>	<b>Windows Default</b>	<b>UNIX Default</b>	<b>Page</b>
<b>Install Media to Server</b>			<b>36</b>
Insert CD-ROM or tape			
UNIX: Log in as mfg			
Run install	install.exe	install.ksh	
Welcome			
Accept license agreement			
Set installation log location	c:\instlog	/users/instlog	
Enter PInstall	c:\dlcOE10	/home/progress/dlcOE10	
Set MInstall	c:\mfgsvr	/home/mfgpro/mfgsvr	
Oracle Dataserver?	Yes	Yes	
WINDOWS: Specify folder name	MFG/PRO eB2.1 Database Server		
Accept summary			
<b>Install Language Files to Server</b>			<b>39</b>
Insert CD-ROM or tape			
UNIX: Log in as mfg			
Run install	install.exe	install.ksh	
Welcome			
Accept license agreement			
Set installation log location	c:\instlog	/users/instlog	
Enter PInstall	c:\dlcOE10	/home/progress/dlcOE10	
Set MInstall	c:\mfgsvr	/home/mfgpro/mfgsvr	
Accept summary			
<b>Modify MFG/UTIL workflow</b>			<b>40</b>
Modify wk0200.ini to change language load directories			
<b>WINDOWS: Set up MFG/UTIL clients</b>			<b>41</b>
Modify DOS window screen buffer size			
<b>Modify mfgutil.ini</b>			
Modify startparms in mfgutil.ini			42

**Table A.3** Single Non-US English Installations (Page 3 of 7)

Installation Task	Windows Default	UNIX Default	Page
<b>DBCA: Create Production DBs</b>			<b>42</b>
<b>Copy Oracle Database Create Scripts</b>			
Copy .dbt template file	QAD_WIN $x$ .dbt $x$ is the Oracle version	QAD_UNIX $x$ .dbt $x$ is the Oracle version	
From	MInstall	MInstall	
To	\$ORACLE_HOME\ assistants\dbca\templates	\$ORACLE_HOME/ assistants/dbca/templates	
<b>DBCA: Create Oracle Databases</b>			<b>43</b>
Start DBCA	Start All Programs Oracle  Configuration and Migration Tools Database Configuration Assistant	cd \$ORACLE_HOME/bin dbca	
Welcome			
Operations			
Create a database			
Database Templates			
Select template	QAD WIN $x$	QAD UNIX $x$	
Database Identification			
Global Database Name	QAD	QAD	
SID	QAD	QAD	
Database Features: Custom Scripts			
Run scripts	c:\instlog\qaduser.sql	/users/instlog/qaduser.sql	
Database Connection Options			
Server Mode	dedicated or shared	dedicated or shared	
Initialization Parameters: Memory			
Custom	set as required	set as required	
Database Storage: General			
Tablespaces	set as required	set as required	
Creation Options			
Any or all options			
Exit DBCA			

**Table A.3** Single Non-US English Installations (Page 4 of 7)

<b>Installation Task</b>	<b>Windows Default</b>	<b>UNIX Default</b>	<b>Page</b>
<b>Run SQL Scripts to Load Schema</b>			<b>49</b>
Open command window			
Run SQL scripts in SQL*Plus with syntax:	sqlplus qad/qad < oraempty-tbl.sql	sqlplus qad/qad < oraempty-tbl.sql	
Repeat for:	oraempty-idx.sql	oraempty-idx.sql	
	oraempty-seq.sql	oraempty-seq.sql	
	oadmempty-tbl.sql	oadmempty-tbl.sql	
	oadmempty-idx.sql	oadmempty-idx.sql	
	ohpempty-tbl.sql	ohpempty-tbl.sql	
	ohpempty-idx.sql	ohpempty-idx.sql	
<b>MFG/UTIL: Create Empty Schema Holders</b>			<b>50</b>
<b>Launch MFG/UTIL</b>			
Run Guided Setup			
Create schema holders			
Create Oracle Production Database Set			
Run set			
Oracle wait for DB create			
Create schema holder	MInstall\db\oraempty	MInstall/db/oraempty	
Close log window			
Repeat for oaudempty	MInstall\db\oaudempty	MInstall/db/oaudempty	
<b>Load schema in schema holders</b>			<b>53</b>
Connect to schema holder	MInstall\db\oraempty	MInstall/db/oraempty	
Select data definition file	MInstall\db\oraempty.df	MInstall/db/oraempty.df	
Load schema			
Close log window			
Repeat for:			
oadmempty	MInstall\db\oadmempty.df	MInstall/db/oadmempty.df	
ohpempty	MInstall\db\ohpempty.df	MInstall/db/ohpempty.df	
oaudempty	MInstall\db\oaudempty.df	MInstall/db/oaudempty.df	
<b>Truncate empty DBs</b>			<b>55</b>
Truncate schema holder	MInstall\db\oraempty	MInstall/db/oraempty	
Close log window			
Repeat for oaudempty	MInstall\db\oaudempty	MInstall/db/oaudempty	

**Table A.3** Single Non-US English Installations (Page 5 of 7)

<b>Installation Task</b>	<b>Windows Default</b>	<b>UNIX Default</b>	<b>Page</b>
<b>Specify OID Generator value</b>			56
Enter OID Generator value			
Connect to main database	eb21ora	eb21ora	
Close log window			
<b>Load system data</b>			57
Connect to Oracle DB detail	eb21ora	eb21ora	
Select tables to load			
Load data	\xx\mfg	/xx/mfg	
Close log window			
Repeat for	\mfg	/mfg	
	\admin	/admin	
	\xx\admin	/xx/admin	
<b>Truncate BI file</b>			
Truncate production schema holder	eb21ora	eb21ora	
Close log window			
<b>Options:</b>			
Install Clients as needed			67
<b>Languages: Load Translated Labels</b>			<b>63</b>
Connect to schema holder	oraempty	oraempty	
Specify xdc_mstr to load	MInstall\db\XX\xdc_mstr	MInstall/db/XX/xdc_mstr	
Load data			
Close Log Window			
<b>Load System Cross-Reference Data</b>			<b>64</b>
Database\Load Data in Database			
Connect to hlpprod	eb21ora	eb21ora	
Close connect log window			
Load data	MInstall\mfghelp	MInstall/mfghelp	
Close log window			
<b>MFG/UTIL: Configure Database Sets</b>			<b>78</b>
Launch MFG/UTIL			
Select database set to edit and Edit Set	Compile, Production, etc.	Compile, Production, etc.	
Edit database parameters			

**Table A.3** Single Non-US English Installations (Page 6 of 7)

Installation Task	Windows Default	UNIX Default	Page
Close DB Set Maint			
Repeat these steps for each database set			
<b>MFG/UTIL: Compile</b>			<b>83</b>
MFG/UTIL character mode			
Programs Compile Procedures			
Multithreaded Compile Option			85
Generate Compile List			
Enter new list name	utcompil01.wrk	utcompil01.wrk	
Enter files to include	a* to e*	a* to e*	
Repeat for all threads			
Compile			
Set up Compiler Options			
Generate compile list			
Review compile summary			
Close log window			
<b>MFG/UTIL: Generate Scripts and Shortcuts</b>			<b>91</b>
Scripts Generate Scripts			
Select database sets			94
Windows: icon folder	MFG/PRO eB2.1 Database Server		
UNIX: Edit scripts			
Windows: Edit icons			
Copy shortcut			
Edit .ini file			
Reference new .ini in new shortcut			
<b>Test client install</b>			
Start DB servers			96
Launch client			
Log in as mfg			
<b>Remote Clients: Set up for Use</b>			
Save default mfgutil.ini			97
Repeat Remote Client steps, page 68			
Launch MFG/UTIL			

**Table A.3** Single Non-US English Installations (Page 7 of 7)

<b>Installation Task</b>	<b>Windows Default</b>	<b>UNIX Default</b>	<b>Page</b>
Load default mfgutil.ini			
Generate scripts from menu			
<b>MFG/PRO: Start and Register Product</b>			<b>102</b>
Start MFG/PRO			
MFG/PRO Sign-on screen			
License Details: Register			
Registered Products: Add			
Add Product: License code			
Registered Products: OK			
MFG/PRO: Load Character Help			103
Field Help Load (36.4.19)			
Enter language code			
Enter field help load file	MInstall\us\fieldhlp.fhd	MInstall/us/fieldhlp.fhd	

## Multi-Language Installations

**Table A.4** Multi-Language Installations (Page 1 of 7)

Installation Task	Windows Default	UNIX Default	Page
<b>Preliminary Steps</b>			<b>32</b>
<b>Complete Prerequisites</b>			
UNIX: Set \$TERM variable			
Determine MInstall	c:\mfgsvr	/home/mfgpro/mfgsvr	
Determine PInstall	c:\dlcOE10	/home/progress/dlcOE10	
Determine DBsrv host name			
Set DLC, ORACLE_HOME, and PATH			
<b>UNIX: Rebuild Progress Executable</b>			<b>33</b>
<b>Set up for Non-European Language</b>			
Back up startup.pf and empty.db	c:\dlcOE10	/home/progress/dlcOE10	
Copy langcode.pf to DBsrv dir			
Copy empty.db and assoc files to DBsrv dir			
Edit startup.pf	c:\dlcOE10	/home/progress/dlcOE10	
<b>Windows: Set Windows as Application Server</b>			<b>33</b>
Open Control Panel			<b>33</b>
Open Network and Dial-Up Connections			
Open Local Area Connection, Properties			
Open Properties on File and Print Sharing for MS Networks			
Click Maximize Throughput for Net Apps			
<b>UNIX: Create install user and group</b>			<b>34</b>
Create group qad			
Create user mfg			
<b>Modify services file (Optional)</b>			<b>35</b>
Add DB servers	c:\winnt\system32\drivers\etc	/system/etc	
	eb21ora-server	eb21ora-server	
<b>Install Media to Server</b>			<b>36</b>
UNIX: Mount CD-ROM or load tape			
UNIX: Log in as mfg			

**Table A.4** Multi-Language Installations (Page 2 of 7)

<b>Installation Task</b>	<b>Windows Default</b>	<b>UNIX Default</b>	<b>Page</b>
Run install from CD	install.exe	install.ksh	
Welcome			
Accept License Agreement			
Set installation log location	c:\instlog	/users/instlog	
Enter PInstall	c:\dlcOE10	/home/progress/dlcOE10	
Set MInstall	c:\mfgsvr	/home/mfgpro/mfgsvr	
Oracle Dataserver?	Yes	Yes	
Windows: folder name	MFG/PRO eB2.1 Database Server		
Accept summary			
<b>Install Language Files to Server</b>			<b>39</b>
UNIX: Mount CD-ROM or load tape			
UNIX: Log in as mfg			
Run install from CD	install.exe	install.ksh	
Welcome			
Accept License Agreement			
Set installation log location	c:\instlog	/users/instlog	
Enter PInstall	c:\dlcOE10	/home/progress/dlcOE10	
Set MInstall	c:\mfgsvr	/home/mfgpro/mfgsvr	
Accept summary			
Repeat for all purchased languages			
<b>Modify MFG/UTIL workflow</b>			
Modify wk0200.ini to add language loads			40
<b>Windows: Set up MFG/UTIL clients</b>			
Modify DOS window screen buffer size			41
<b>Modify mfgutil.ini</b>			
Modify startparms in mfgutil.ini			42
<b>DBCA: Create Production DBs</b>			<b>42</b>
<b>Copy Oracle Database Create Scripts</b>			
Copy .dbt template file	QAD_WIN $x$ .dbt	QAD_UNIX $x$ .dbt	
	$x$ is the Oracle version	$x$ is the Oracle version	
From	MInstall	MInstall	

**Table A.4** Multi-Language Installations (Page 3 of 7)

Installation Task	Windows Default	UNIX Default	Page
To	\$ORACLE_HOME\assistants\dbca\templates	\$ORACLE_HOME/assistants/dbca/templates	
<b>DBCA: Create Oracle Databases</b>			<b>43</b>
Start DBCA	Start All Programs Oracle Configuration and Migration Tools Database Configuration Assistant	cd \$ORACLE_HOME/bin dbca	
Welcome			
Operations			
Create a database			
Database Templates			
Select template	QAD WINx	QAD UNIXx	
Database Identification			
Global Database Name	QAD	QAD	
SID	QAD	QAD	
Database Features: Custom Scripts			
Run scripts	MInstall\db\qaduser.sql	MInstall/db/qaduser.sql	
Database Connection Options			
Server Mode	dedicated or shared	dedicated or shared	
Initialization Parameters: Memory			
Custom	set as required	set as required	
Database Storage: General			
Tablespaces	set as required	set as required	
Creation Options			
Any or all options			
Exit DBCA			
<b>Run SQL Scripts to Load Schema</b>			<b>49</b>
Open command window			
Run SQL scripts in SQL*Plus with syntax:	sqlplus qad/qad < oraempty-tbl.sql	sqlplus qad/qad < oraempty-tbl.sql	
Repeat for:	oraempty-idx.sql	oraempty-idx.sql	
	oraempty-seq.sql	oraempty-seq.sql	
	oadmemory-tbl.sql	oadmemory-tbl.sql	
	oadmemory-idx.sql	oadmemory-idx.sql	

**Table A.4** Multi-Language Installations (Page 4 of 7)

Installation Task	Windows Default	UNIX Default	Page
	ohpempty-tbl.sql	ohpempty-tbl.sql	
	ohpempty-idx.sql	ohpempty-idx.sql	
<b>MFG/UTIL: Create Empty Schema Holders</b>			<b>50</b>
<b>Launch MFG/UTIL</b>			
Run Guided Setup			
Create schema holders			
Create Oracle Production Database Set			
Run set			
Oracle wait for DB create			
Create schema holder	MInstall\db\oraempty	MInstall/db/oraempty	
Close log window			
Repeat for oaudempty	MInstall\db\oaudempty	MInstall/db/oaudempty	
<b>Load schema in schema holders</b>			<b>53</b>
Connect to schema holder	MInstall\db\oraempty	MInstall/db/oraempty	
Select data definition file	MInstall\db\oraempty.df	MInstall/db/oraempty.df	
Load schema			
Close log window			
Repeat for:			
oadmempty	MInstall\db\ oadmempty.df	MInstall/db/oadMempty.df	
ohpempty	MInstall\db\ohpempty.df	MInstall/db/ohpempty.df	
oaudempty	MInstall\db\oaudempty.df	MInstall/db/oaudempty.df	
<b>Truncate empty DBs</b>			<b>55</b>
Truncate schema holder	MInstall\db\oraempty	MInstall/db/oraempty	
Close log window			
Repeat for oaudempty	MInstall\db\oaudempty	MInstall/db/oaudempty	
<b>Specify OID Generator value</b>			<b>56</b>
Enter OID Generator value			
Connect to main database	eb21ora	eb21ora	
Close log window			
<b>Load system data</b>			<b>57</b>
Connect to Oracle DB detail	eb21ora	eb21ora	
Select tables to load			

**Table A.4** Multi-Language Installations (Page 5 of 7)

<b>Installation Task</b>	<b>Windows Default</b>	<b>UNIX Default</b>	<b>Page</b>
Load data	\mfg	/mfg	
Close log window			
Repeat for all installed languages for:	\admin	/admin	
	\xx\mfg	/xx/mfg	
	\xx\admin	/xx/admin	
<b>Truncate BI file</b>			
Truncate production schema holder	eb21ora	eb21ora	
Close log window			
<b>Languages: Copy Empty Schema Holders</b>			<b>60</b>
MFG/UTIL: File Progress Editor			
Tools Database Administration			
Database Create			
New Physical Name	XXora	XXora	
Copy of Some Other DB	MInstall\db\oraempty	MInstall/db/oraempty	
Connect to new database	XXora	XXora	
Disconnect			
Repeat for each language installed			
Repeat for oadempty for each language	XXaud	XXaud	
<b>Languages: Load Translated Labels</b>			<b>63</b>
Connect to schema holder	XXora	XXora	
Specify xdc_mstr to load	MInstall\db\XX\ xdc_mstr	MInstall/db/XX/xdc_mstr	
Load data			
Close Log Window			
Repeat for all installed languages			
<b>Load System Cross-Reference Data</b>			<b>64</b>
Database Load Data in Database			
Connect to hlpprod	eb21ora	eb21ora	
Close connect log window			
Load data	MInstall\mfghelp	MInstall/mfghelp	
Close log window			
<b>Options:</b>			
Install Clients as needed			67

**Table A.4** Multi-Language Installations (Page 6 of 7)

<b>Installation Task</b>	<b>Windows Default</b>	<b>UNIX Default</b>	<b>Page</b>
<b>MFG/UTIL: Configure Database Sets</b>			<b>78</b>
Launch MFG/UTIL			
Select database set to edit and Edit Set	Compile, Production, etc.	Compile, Production, etc.	
Edit database parameters			
Close DB Set Maint			
Create Compile set for each installed language	CompileFR, etc.	CompileFR, etc.	
Repeat these steps for each database set			
<b>MFG/UTIL: Compile</b>			<b>83</b>
MFG/UTIL character mode			
Programs Compile Procedures			
Multithreaded Compile Option			85
Generate Compile List			
Enter new list name	utcompil01.wrk	utcompil01.wrk	
Enter files to include	a* to e*	a* to e*	
Repeat for all threads			
Compile			
Set up Compiler Options			
Generate compile list			
Review compile summary			
Close log window			
Compile for each installed language			
<b>MFG/UTIL: Generate Scripts and Shortcuts</b>			<b>91</b>
Select DB Sets to create scripts for			
Windows: Select destination folder			
Generate			
Close log window			
Close Guided Setup			
<b>UNIX: Edit scripts</b>			<b>94</b>
Edit PROMSGS=			
Edit PROPATH=			

**Table A.4** Multi-Language Installations (Page 7 of 7)

<b>Installation Task</b>	<b>Windows Default</b>	<b>UNIX Default</b>	<b>Page</b>
<b>WINDOWS: Create language-specific shortcuts</b>			<b>94</b>
Copy .ini file			
Copy shortcut			
Edit .ini file			
Reference new .ini in new shortcut			
<b>Test client install</b>			<b>96</b>
Start DB servers			
Launch client			
Log in as mfg			
<b>Remote Clients: Set up for use</b>			<b>97</b>
Save default mfgutil.ini			
Repeat Remote Client steps, page 68			
Launch MFG/UTIL			
Load default mfgutil.ini			
Generate scripts from menu			
<b>MFG/PRO: Start and Register Product</b>			<b>102</b>
Start MFG/PRO			
License Details: Register			
Registered Products: Add			
Add Product: License code			
Registered Products: OK			
MFG/PRO: Load Character Help			<b>103</b>
Field Help Load (36.4.19)			
Enter language code			
Enter field help load file	MInstall\us\fieldhlp.fhd	MInstall/us/fieldhlp.fhd	
Repeat for each language			
Exit MFG/PRO			<b>106</b>
<b>Back up entire MInstall</b>			<b>106</b>

# Glossary

**Client Machine.** The machine in a client/server configuration, often a PC, that runs the client session.

**Client Session.** An executable running an application that accesses a server running a database.

**Client Working Directory.** The target directory specified during MFG/PRO client setup. This directory contains the files needed to run an MFG/PRO client session.

**Client/Server.** The configuration in which a client session runs on a separate machine from the database server process. MFG/PRO Windows clients run in a client/server configuration.

**Client/Server Connection.** A connection in which a client session runs on a separate machine from the database server process. MFG/PRO Windows clients require a client/server connection.

**Code Page.** A character set used to map data represented in one code page to another. Since a code page is specific to your hardware or operating system, Progress converts data from one code page to another. If the client code page is different than the database code page, Progress handles the conversion between them.

In an MFG/PRO on Oracle environment, the Progress DataServer for Oracle must use the same code page as the Oracle schema holder. Therefore, you may need to modify the code page before loading the database definitions for an Oracle database.

**Column.** Oracle's term for an element in a table that holds one type of information, such as an address. Progress's term is *field*.

**Connection Parameter.** A Progress parameter that controls how a client session connects to a database.

**Conversion.** Refers to the transition from one numbered release to the next, such as MFG/PRO 8.6 to MFG/PRO eB2.1. Conversions involve program fixes and, in some cases, major schema changes.

**Data Definition File.** A file containing the database table, field, and index definitions that make up the MFG/PRO schema. A data definition file has a `.dff` extension.

**Database.** *See Oracle database.*

**Database Server.** The machine on which the database is located.

**Database Set.** A set of databases that form a logical group. MFG/UTIL uses the concept of database sets to generate client startup scripts and icons. The standard MFG/PRO database set consists of a schema holder and Oracle database.

**DataServer for Oracle.** A Progress product that enables Progress applications to access and store information in an Oracle database.

**Default System Data.** The data that initially populates the menu, messages, printers, language code, and other default data files.

**Field.** Progress's term for an element in a table that holds one type of information, such as an address. Oracle's term is *column*.

**File Server.** A server that enables multiple client machines to share common files and directories. QAD recommends storing MFG/PRO remote Windows client code on a file server to enable centralized administration of the code and client configurations.

**Foreign Database Reference.** A logical database name used by MFG/PRO programs to connect to the Oracle database. The standard name is `qaddb`.

**Instance.** A mechanism for accessing and controlling an Oracle database. It is composed of a shared memory area and a set of processes.

**Instance Directory.** *See* Oracle Instance Directory.

**Local Client.** A client process running on the same machine as the database process. This allows the client session to communicate directly with the database rather than over the network. This type of connection greatly increases system performance. By default, MFG/PRO character clients are local clients.

**Log File.** A file created each time MFG/UTIL completes a series of tasks. You can view log files in any text editor.

**MFG/PRO Installation Directory.** The target directory specified during the installation of the MFG/PRO database server media. This directory is located on the database server machine and contains all of the database-related files for an MFG/PRO environment.

**Net8.** Oracle's networking software that allows the Progress dataserver to run locally on each client and to communicate with an Oracle database on a remote machine.

**Oracle Database.** For the purposes of this manual, this term refers to a logical set of schema objects owned by a particular Oracle user.

**Oracle Instance Directory.** The primary instance directory containing key files such as `init.ora` and key subdirectories, such as `back`, `core`, and `user`.

**ORACLE\_SID.** The environment variable that defines the system ID for the Oracle database. In most cases, it should be the same as the actual Oracle database name.

**Parameter File.** A file that contains startup parameters for an MFG/PRO Windows client session. These parameters include both Progress and MFG/PRO database details. This file is located in the client working directory on each client machine and uses the following naming convention:

`DatabaseSetName.pf`.

**R-code.** A term used to describe MFG/PRO compiled code, derived from the `.r` file extension.

**Schema.** The definition of a database including the files it contains, the fields within the files, indexes, and views. In addition to database definitions, MFG/PRO schema contain items such as validation expressions and messages.

**Schema Holder.** A database file containing the MFG/PRO schema. This file is used in an MFG/PRO on Oracle environment to facilitate communication between MFG/PRO, the Progress DataServer for Oracle, and the Oracle database.

**Server.** The machine that enables client connections to a shared resource.

**Single-User Mode.** A client connection mode that allows only a single user to connect to a database. Single-user mode is invoked by using the `-1` startup parameter in the client startup script or parameter file.

**Startup Parameter.** A Progress parameter used when a client connection is made to a database.

**Structured Query Language (SQL).** Oracle programming language for getting information from and updating a database.

**Tablespace.** The largest physical unit of an Oracle database. Tablespaces provide control over the location of database objects such as indexes, tables, data.

**Universal Naming Convention (UNC).** A way to identify a shared file without having to specify the storage device it is on.



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