



Installation Guide

**ORACLE DATABASE
ON WINDOWS NT SERVER**



78-0360
MFG/PRO Version 9.0
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param91.p 14.13.2 Routing Maintenance (Main Screen)

Routing Code:	10-15000	NONAD (75) COOLING
Operation:	20	
Standard Operation		
Work Center	1030	INSPECTION, ALL SITES
Machine		
Description	INSPEC PER PROC-005	
Machines per Op	1	Milestone
Overlap Units	1	
Queue Time	1.0	
Wait Time	0.0	
Setup Time	0.0	
Route by	Production	Build Order
Release Time		

Using This Guide

Use this guide to install MFG/PRO on Oracle for Windows NT[®] Version 9.0 on Intel-based Windows NT systems.

The instructions in this guide include how to:

- Install the server software for MFG/PRO Version 9.0
- Install Windows GUI and character clients for Version 9.0

Audience

These instructions are for the MFG/PRO system administrator who manages the MFG/PRO database and is familiar with Microsoft Windows NT, networking, Oracle database management, and PROGRESS[®] software.

Installation Errata

In addition to these instructions, you may receive a supplementary bulletin sheet with changes and additional instructions. Check your product package.

Release Bulletin

In conjunction with these instructions, see the *MFG/PRO 9.0 Release Bulletin* for additional utilities required for the modules you use. These utilities, which are related to a particular programming patch (ECO), correct possible corruptions in your data.

QAD Web Site

For QAD customers with a Web account, MFG/PRO documentation is available for review or downloading at:

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

To obtain a QAD Web account, go to:

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

Other MFG/PRO Version 9.0 Documentation

- For an overview of new features and software updates, see the *Release Bulletin*.
- For instructions on navigating the MFG/PRO environment, see the *User Interface Guide*.
- For information on the entire system, see the *User Guides*.
- For technical details, see the *File Relationships* and *Database Definitions*.
- For system administration information, see the *System Administration Reference Guide*.
- To view documents online in PDF format, see the *Documents on CD*.

Document Conventions

This document uses the conventions listed in the following table.

If you see:	It means:
monospaced text	A command or file name.
<i>italicized monospaced text</i>	Italicized monospaced text indicates a variable name for a value you enter as part of an operating system command. For example, <i>YourCDROMDir</i> .
indented command line	A long command that you enter as one line (although it appears in the text as two lines).

QAD's Global 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 and conversion information, it cannot consider every possible MFG/PRO computing environment or configuration.

To take full advantage of MFG/PRO's flexibility and potential in your specific environment, contact your QAD support representative for information on the installation and customization offerings supplied by QAD's Global Technical Services. These offerings include performance enhancements as well as technical and administration training.

Converting an Existing Oracle Database

Converting an existing Oracle database requires a qualified Oracle Database Administrator (DBA) be on site, and that adequate PROGRESS expertise is available. If these resources are not available, it is strongly recommended that you work with a QAD-certified Oracle conversion consultant.

These recommendations are based on experience. Please contact QAD's Global Technical Services to evaluate your conversion options.

Installation Overview

This product is defined as MFG/PRO running against an Oracle database installed on an Intel machine running Windows NT. This chapter presents basic concepts that you should understand when completing the installation.

Note MFG/PRO Version 9.0 on Oracle does not support conversions from previous releases of MFG/PRO.

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Installation Summary

Because MFG/PRO Version 9.0 is a client/server product, you perform installations on both the database server and client machines. Installation of client machines typically involves loading MFG/PRO programs to a network file server machine. You can install two types of clients:

- Windows character clients with a character interface (CHUI).
- Windows GUI clients with a graphical user interface (GUI).

Note The MFG/PRO code used for Windows character clients is the same code used to run batch processes. Therefore, it is automatically installed along with the database server files.

Preinstallation

- Install Oracle for the database server.
- Install PROGRESS for the database server and client PCs.
- Set up the network, including Oracle networking (SQL*NET).

Database Server Setup

- Optimize the Windows NT server.
- Create SQL scripts.
- Run SQL Scripts to create Oracle database files and tablespaces.
- Create a new, production schema holder from the original schema holder.
- Load system data.
- Install the Service Pack Server media onto the server, if applicable.

▶ See “Loading Service Pack Media” on page 7.

Loading Client Media

The following major tasks are required to load client media.

For Windows GUI clients:

- Load the Windows GUI client media onto a file server.
- Load the Service Pack Windows Client media onto the file server, if applicable.

For Windows character clients:

- Optionally, load the Windows character client media onto a file server.
- Load the Service Pack Server media onto the file server, if applicable.

Note Because Windows character client code is the same code used to run batch process, it is contained on the Service Pack Server media.

Windows GUI and Character Client PC Setup

- Set up the needed files and start-up icons on the first PC.
- Set up all other PCs; you can use the *express setup* feature.

Loading Service Pack Media

Service Packs contain MFG/PRO product updates issued between releases. Service Packs include important patches, code updates, system administration tools, drivers, and additional components. Service Packs offer a distinct advantage over the single-patch delivery mechanism by bundling a carefully controlled group of fixes and updates in an easily installed and well-documented package.

▶ See the Service Pack installation instructions in your product package for specific procedures.

Service Packs are not offered for every release of MFG/PRO. If your product package does not contain Service Pack media, your release does not currently have a Service Pack.

The following major tasks are required to load Service Pack media.

- Load the Service Pack Server media onto your MFG/PRO server after installation and configuration.
- Load the Service Pack Windows Client media onto each Windows client or onto your network file server, depending upon your MFG/PRO configuration.
- If you have MFG/PRO Windows character clients, load the Service Pack Server media, which contains the updates and fixes for Windows character clients, onto each client or onto a network file server, depending upon your MFG/PRO configuration.

Multiple Language Installation Overview

To install multiple languages, repeat the following installation tasks for each language:

- Load the MFG/PRO NT server CD-ROM on the database server.
- Load the Windows client CD-ROM on the file server.
- Load translated system data and online help.

Another factor in multi-language environments is the language codepage, which controls how PROGRESS stores and retrieves data. A codepage applies to one or more languages; for example, codepage ibm850 applies to all western European languages. Because data storage and retrieval must use a single codepage, the languages in a multi-language environment must be in the same codepage family. The correct codepage for data storage and retrieval is assigned during installation.

MFG/PRO Language Codes

During installation and user setup, you use an MFG/PRO language code to specify which language you are installing. The following table lists all MFG/PRO language codes. (Some languages may not be available for this release.) The language code also appears on the label of your product media.

Table 1.1
MFG/PRO
Language Codes

Language	Code	Language	Code
Arabic	AR	Japanese	JP
Bulgarian	BU	Korean	KO
Chinese (Traditional)	TW	Norwegian	NO
Chinese (Simplified)	CH	Polish	PL
Czech	CZ	Portuguese	PO
Danish	DA	Romanian	RO
Dutch	DU	Russian	RU
Finnish	FI	Spanish (Castilian)	CS
French	FR	Spanish (Latin)	LS
German	GE	Swedish	SW
Greek	GR	Turkish	TU

Language	Code
Hungarian	HU
Italian	IT

Language	Code
US English	US

How Language Sessions Operate

After installation, you assign a language code to each user to determine which language they use. Based on the language code, the user connects to a language-specific set of programs and accesses language-specific system data (menus, messages, and help).

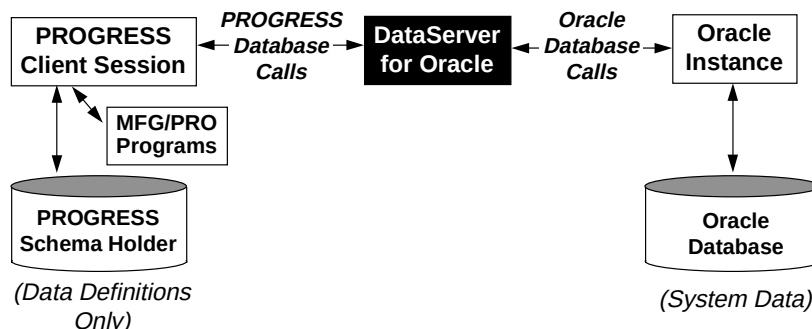
MFG/PRO on Oracle DataServer

MFG/PRO on Oracle runs PROGRESS 4GL programs, but stores and retrieves data within an Oracle database. The link between PROGRESS and Oracle is possible through the PROGRESS DataServer for Oracle.

Note For the purposes of this manual, an Oracle database refers to a logical set of schema objects owned by a particular Oracle user.

The DataServer works in conjunction with a PROGRESS schema holder. The schema holder is a special type of PROGRESS database that has no data—only database definitions. The database definitions map PROGRESS database characteristics to appropriate Oracle schema objects. The data definitions include field names, table names, validation expressions, labels, initial values, and others.

Because PROGRESS client sessions can access the schema holder in read-only mode, you do not need the PROGRESS RDBMS license. The schema holder remains static.

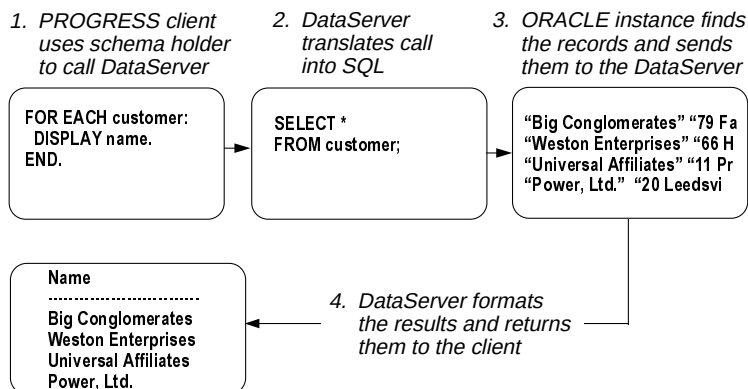


How the DataServer Works

The DataServer program and its components handle all of the steps needed to translate the database requests made by MFG/PRO programs. The DataServer translates only database requests and not other functions of PROGRESS 4GL. The Oracle database works directly with the DataServer and has no other requirements. For each database transaction, the following steps occur:

- The PROGRESS client session uses the schema holder to format a database request.
- The DataServer translates the request into SQL (Structured Query Language) and sends it to the Oracle instance using the Oracle Call Interface (OCI) of the Oracle instance.
- The Oracle instance finds matching records and returns them to the DataServer.
- The DataServer formats the results into a PROGRESS record buffer and returns it to the PROGRESS client.

Note The DataServer and MFG/PRO handle all referential integrity before data is stored in Oracle. Any functions available in PROGRESS but not in Oracle will be appropriately handled by the DataServer.



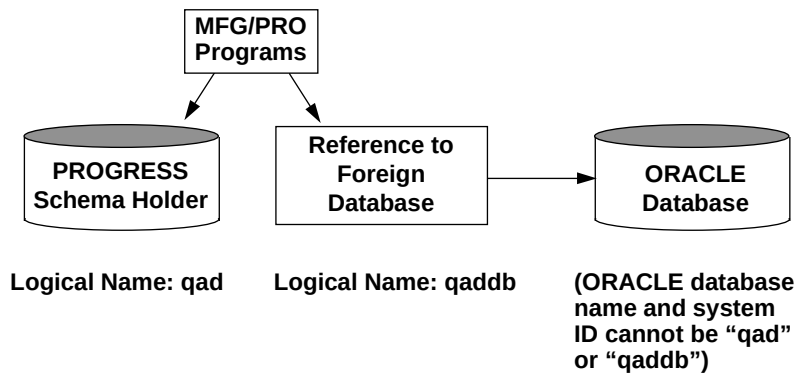
About the Oracle Database

Unlike MFG/PRO on PROGRESS, which includes several default databases, MFG/PRO on Oracle consists of one Oracle database with data segregated across separate tablespaces. For a list of the default tablespaces, refer to “Tablespaces in the Oracle Database” on page 113. For other differences between Oracle and PROGRESS databases, refer to the *PROGRESS DataServer Guide*.

Logical Database Names

In order for programs to work with the DataServer correctly, they must be compiled with two logical database names: one for the Oracle database and one for the PROGRESS schema holder. The standard MFG/PRO programs use the logical names qad for the PROGRESS schema holder and qaddb for the Oracle database (a *foreign database reference*). For this reason, you may *not* use qad, qaddb, or any of the MFG/PRO schema names as the Oracle database name or SID value.

Note Additionally, the Oracle SID must be exactly four characters and must start with an alphabetic character (a through z).



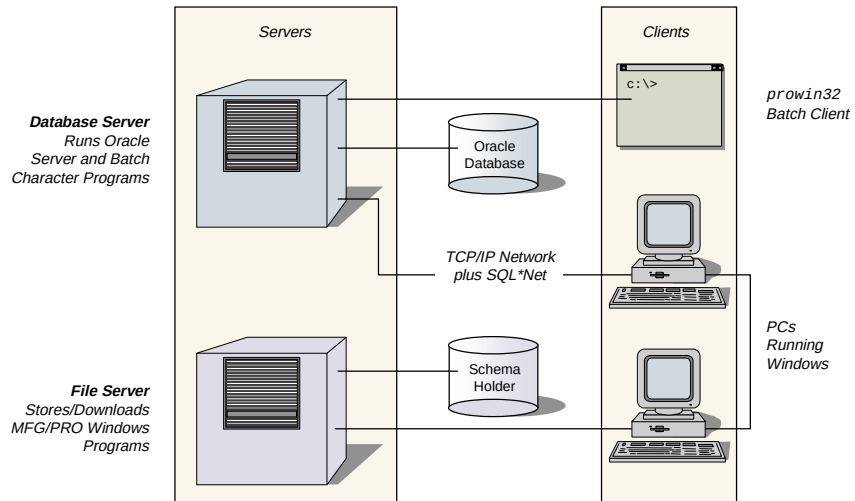
Configuration Overview

A client/server installation is mandatory for running MFG/PRO for Windows. The clients are personal computers (PCs) that run MFG/PRO software programs locally. The server runs the Oracle relational database management system (RDBMS), as well as certain character-based programs for batch processes. The database server is connected to the client PCs and, optionally, a file server using a network.

A network file server is recommended for storing MFG/PRO .r programs that are accessible from the PCs. The .r programs used by the PCs are different from the character-based .r programs loaded on the database server machine. The network file server alleviates the need to store and maintain programs on each PC. Although file server and database server can be the same machine, performance is better with the file server as a separate machine.

Figure 1.1 shows the types of connections you can have in a client/server environment.

Fig. 1.1
Windows NT
Client/Server
Network
Configuration



Warning Do not use an MFG/PRO for Windows client to run MRP, batch reports, and other large processes. This places extra demand on network communications and degrades system performance. Instead, use a batch mode client on the database server.

DataServer and Schema Holder Configuration

The client PCs access the PROGRESS DataServer and schema holder on a local drive or a network file server drive (read only). SQL*Net is a requirement in this configuration because the database calls between the DataServer and the remote Oracle system are in SQL.

By default, the installation loads the PROGRESS schema holder database on the network file server. Having the schema holder on each PC offers the best performance, but you may want to keep it on a network drive (read only) for easier maintenance. With the schema holder on the network, the system incurs a delay only during the start-up of each MFG/PRO session.

For batch processing, such as MRP and reports, you run character-based programs directly on the database server to avoid adverse network traffic. The batch processes run against a separate copy of the DataServer and schema holder loaded on the database server.

Example Oracle Directory Structure

You should set up your Oracle directory structure so that the data files are spread among various disks.

Figure 1.2 shows an example of an Oracle directory structure.

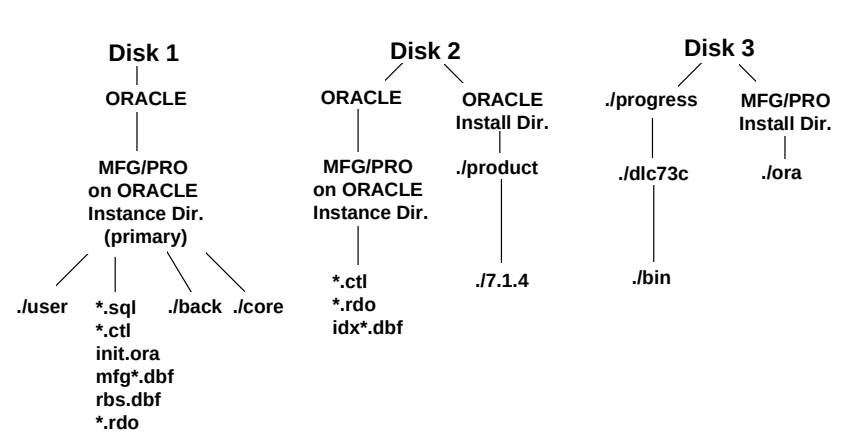


Fig. 1.2
Oracle Directory
Structure

MFG/UTIL

MFG/UTIL is the installation and system management tool for MFG/PRO, which performs most of the server and client installation processes. It is loaded on your server during installation. There is also a Windows version of MFG/UTIL loaded when you set up each client PC.

With the MFG/UTIL system management tools, you can compile programs, create dump and load procedures, update schemas, and create start-up and shutdown icons for databases and clients.

MFG/UTIL Log Files

MFG/UTIL logs the progress, results, and any errors encountered for most operations. These logs are displayed on the screen as the functions are progressing. They are also saved in an ASCII text file for later examination. Each time MFG/UTIL runs a prolonged task such as compiling or loading a .df file, it creates a new log file.

The most recent log file is always called `mfgutil.log`. Older log files are named with the convention `mfgulog.xxx`, where `xxx` is a number from 001 through 999. The lower the number, the older the file. For example, these files are listed newest to oldest:

```
mfgutil.log  
mfgulog.002  
mfgulog.001
```

MFG/UTIL does not delete or purge any log files. If you want to delete any older log files, use standard operating system commands.

Database Sets

One of the functions of MFG/UTIL is to configure start-up parameters using the concept of *database sets*. A database set defines the connection parameters for a group of databases. In the case of MFG/PRO on Oracle, the required databases are the PROGRESS schema holder database and the Oracle database.

Optionally, you can also include custom side databases.

You can set up different database sets for different purposes. For example, you may have one database set that connects to a production database and schema holder, and one that connects to a training database and schema holder. In this case, both database sets could connect to the same schema holder but different Oracle databases.

MFG/UTIL uses the database set information to create client start-up icons. It also creates a Windows initialization file (for example, `progress.svg`) and a start-up parameter file (for example, `producti.pf`). The parameter file contains the required connection parameters for your databases.

MFG/PRO and PROGRESS Directories

Table 1.2 lists the default directory names for various MFG/PRO and PROGRESS components.

If you use the Windows NT file system (NTFS) and compression, all of the files will fit on one 2GB disk drive. However, for optimum performance, spread your files and databases across multiple disk drives.

Function	Location	Default Directory
PROGRESS NT Server	NT Server	c : \DLC
ProVISION SA	NT Server (Intel-based)	c : \DLC
PROGRESS for Windows and PROGRESS Character Client	Client PCs	c : \DLC
MFG/PRO for Windows NT Server	NT Server	c : \MFGNTSVR

Table 1.2
PROGRESS and
MFG/PRO Default
Directories

Function	Location	Default Directory
MFG/PRO Client File Server	File Server	c:\QADGUIFS
MFG/PRO for Windows GUI or Character Client Working Directory	Client PCs	c:\QADCLI

User License Overview

MFG/PRO user licensing tracks user counts on MFG/PRO and alerts QAD customers to license violations. Additionally, user licensing alerts customers to the expiration of MFG/PRO evaluation software.

License utilities do not currently restrict the total number of users that can log into MFG/PRO. This means that a user is not prevented from logging in when the total number of licensed users is exceeded. User counts are tracked according to the two licensing schemes QAD currently sells: concurrent and named users.

Note The user license utility applies only to MFG/PRO modules licensed by user count. For example, it does not apply to the EDI module.

User Licensing System

When QAD ships an order, a license code is supplied for each site. This license code, which is comprised of several numbers, identifies to MFG/PRO the number of users for which the site is licensed.

When the software is first installed, the first user logging into MFG/PRO (typically, the system administrator) is prompted to enter the supplied license code.

When a user logs in and the number of logged in users exceeds licensed users, two error messages display. The user must press OK or Enter to exit each message.

When a user logs in within 10 days of evaluation software's expiration date, a warning displays. After expiration, no users can log in and the customer must contact their distributor or QAD for a renewal or temporary license code.

User Licensing Programs

The programs related to user licensing are on the Database Management Menu (36.16). They are:

- License Registration (36.16.10): program to modify the license code
- License Violation Report (36.16.11): a report showing system logins that violate the user license count
- User Inquiry (36.16.12): a browse to monitor the activity of users

Named and Concurrent User Licensing

The user count is calculated differently depending on whether you purchased concurrent or named user licensing. In concurrent user licensing, each concurrent login to MFG/PRO is counted as a concurrent user. If a single user logs into multiple MFG/PRO sessions simultaneously, each login is counted separately. In named user licensing, each physical user logging into MFG/PRO is counted as one user, regardless of how many simultaneous sessions they have.

Table 1.3 is an example of QAD licensing schemes.

Physical Users	Named User License Count	Concurrent User License Count
John logs into an MFG/PRO session.	Counts as one user.	Counts as one user.
Mary logs into an MFG/PRO session.	Counts as one user.	Counts as one user.
Mary logs into another MFG/PRO session.	Does not count as an additional user.	Counts as one user.
Total Physical Users: 2	Total User Count: 2	Total User Count: 3

Table 1.3
Licensing Schemes

Online Help Options

During installation and implementation, keep in mind the two mechanisms for displaying online help about MFG/PRO: the help database and Windows hyperlink files (WinHelp). Although the display methods differ, the help content is the same.

Table 1.4
Comparison of
Online Help

Method	Source	Interface	Custom Support
Help Database	Database mfghelp.db	Character or Windows GUI clients in any language	Add custom help using Field Help Maintenance (36.4.13)
Windows Hyperlink Help (WinHelp)	The .hlp files under: <i>WinInstallDir/Language Dir/help</i>	Only Windows GUI clients in English	Currently does not allow custom help

You can control which type of help displays for each user through User Interface Profile (36.20.4).

Do not confuse a similar maintenance program, Window Help Maintenance (36.4.21), with the Windows hyperlink help. Window Help Maintenance controls a look-up feature called scrolling windows and does not affect the Windows hyperlink help.

CHAPTER 2

System Requirements and Sizing

An Oracle installation requires planning for adequate system resources. This chapter provides approximate guidelines as well as more detailed formulas you can use to generate an accurate estimate of hardware requirements for your installation.

Minimum System Requirements 20

Network Design and Optimization 25

Routing Code: 10-15000
Operation: 20
Standard Operation: 10:30
Work Center: Machine
Description: INSPEC PER PROX-005
Machines per Op: 1
Overlap Units: 1
Queue Time: 1.0
Wait Time: 0.0
Setup Time: 0.0

Routing Maintenance (Main Screen)

Minimum System Requirements

The following are the recommended *minimum* configurations for MFG/PRO Version 9.0 on Oracle for Windows NT.

General Requirements

- Compared with MFG/PRO on PROGRESS, you will need two to three times more hardware resources—CPU capacity, memory, and disk space—and more system performance tuning.
- The system administrator must be a certified Oracle database administrator and must know how to manage PROGRESS client processes.

Database Server Hardware–Minimum Requirements

- Must run Microsoft Windows NT Server Version 4.0.
- Must be at least P6 Intel Pentium Pro machine with 128MB (or larger) RAM. If Intel-based, it should be SMP-capable with at least one 200MHz processor. Two processors are recommended if you plan to run concurrent batch processing.
- ISO9660 CD-ROM drive.
- 32-bit Windows NT-supported network card.
- It is also *highly* recommended to configure the server with a 4mm DAT tape drive for database backups.
- Should be directly connected to a high-speed network backbone.

Database Server Software

Note Listed here are PROGRESS version *numbers* only. Contact your PROGRESS or MFG/PRO sales representative for the specific *lettered* release best suited to your hardware.

- Microsoft Windows NT Server Version 4.0 is required.
- PROGRESS Version 8.3 DataServer for Oracle on Windows.
- PROGRESS Version 8.3 ProVISION or 4GL for MS-Windows, single-user license. ProVISION or 4GL is required to run administrative options.

- MFG/PRO Version 9.0 server media.
- Oracle7 for Windows NT, Version 7.3.x or higher (if higher, check whether it is compatible with the PROGRESS DataServer). Server Manager, SQL*PLUS, and PRO*C will be used. You also need SQL*Net V2.1 or higher, along with the appropriate protocol adapters.
- Additional Recommendation: Windows NT Resource Kit is strongly recommended. The resource kit provides additional tools for managing the Windows NT environment.

File Server

The software used by Windows GUI clients can be installed on each client PC for best performance, or on a shared network drive for easier maintenance. If you use a network file server, the recommended network operating system is Microsoft Windows NT. Keep in mind that PROGRESS requires additional steps for network setup. For more information, see the PROGRESS installation instructions.

Windows GUI Client Hardware—Minimum Requirements

The recommended configuration for the client workstation is:

- 166MHz (or faster) Intel Pentium processor
- RAM: 32MB
- Super VGA video
- 32-bit network card

Windows GUI Client Software

▶ See “File Server” on page 21 for details.

This software can be installed on each client PC or a shared network drive.

Note Listed here are PROGRESS version *numbers* only. Contact your PROGRESS or MFG/PRO sales representative for the specific *lettered* release best suited to your hardware.

- Microsoft NT Workstation 4.0, Windows 95 or 98.
- PROGRESS Version 8.3 DataServer for Oracle on Windows.
- PROGRESS Query Version 8.3 is required to run the enhanced browses.
- MFG/PRO: Version 9.0 Windows media. The Windows software must correspond to the same release of the server software.
- Oracle for the Client: Version 7.3.x or higher. If higher than Version 7.3.x, check whether it is compatible with the PROGRESS DataServer.

Windows Character Client Hardware—Minimum Requirements

- 90MHz (or faster) Intel Pentium processor.
- RAM: 16MB for Windows 95 or 32MB for Windows NT workstation.
- Super VGA video.
- 32-bit network card.

Windows Character Client Software

This software can be installed on each client PC or a shared network drive.

▶ See “File Server” on page 21 for details.

Note Listed here are PROGRESS version *numbers* only. Contact your PROGRESS or MFG/PRO sales representative for the specific *lettered* release best suited to your hardware.

- Microsoft NT Workstation, Windows 95 or 98.
- PROGRESS Win32 Intel-Character Client, Version 8.3.
- PROGRESS Query Version 8.3 is required to run the enhanced browses.
- PROGRESS Version 8.3 DataServer for Oracle on Windows.
- MFG/PRO Windows character client media, shipped on the MFG/PRO Version 9.0 for Windows NT Server CD-ROM.

Network

- Software: The network should be a WINSOCK-compliant 1.1 TCP/IP protocol stack, such as MS TCP/IP or PC-TCP from FTP software.
- Topology: 10Mbit Ethernet or 16Mbit token ring network or faster. The network should be a high-speed backbone with the client PCs attached via switched shared media segments.
- SQL*Net V2.1 or higher, along with the appropriate protocol adapters.

Disk Space Requirements

Disk space requirements change as your production databases grow or as you reconfigure your configuration for performance. If you are unsure of the actual disk space required, always overestimate the amount needed for installation. Use Table 2.1 on page 24 as a guideline for the initial installation.

These estimates are based on NTFS disk format. If you use a file allocation table (FAT) disk format, you will need more disk space; however, a FAT disk format is not recommended for the database server or file server.

Table 2.1
MFG/PRO Disk
Space
Requirements

To Install...	You should have at least this much available disk space...
MFG/PRO Database Server Software	950MB. An additional 600MB is needed for each additional MFG/PRO language you install, and an additional 300MB space is needed if you load the source code cross-reference data.
MFG/PRO Windows GUI client (on File Server or PC)	650MB, including source code
MFG/PRO Character Client (on File Server or PC)	550MB, including source code
Client PC MFG/PRO Directory	5 to 10MB depending on customization

Memory Size Formula

The memory size formula is:

$$[(6 \times \text{Number_of_Concurrent_Users}) + 32 + (\text{Number_DBs} \times 48)] \times 1.2 = \text{MB}$$

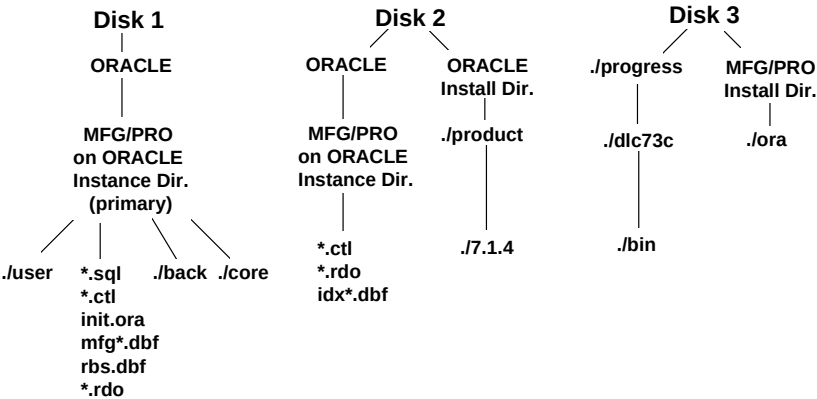
Here is an example with 50 users and 2 production databases:

$$[(6 \times 50) + 32 + (2 \times 48)] \times 1.2 = 519.4\text{MB}$$

Disk Layout for Oracle Database

You should set up your Oracle directory structure so that the data files are spread among various disks. Figure 2.1 shows an example structure.

Fig. 2.1
Oracle Directory
Structure



Network Design and Optimization

An important key to client/server performance is proper network design and flexibility. When designing the network, pay particular attention to configuration flexibility and utilization measurement capability.

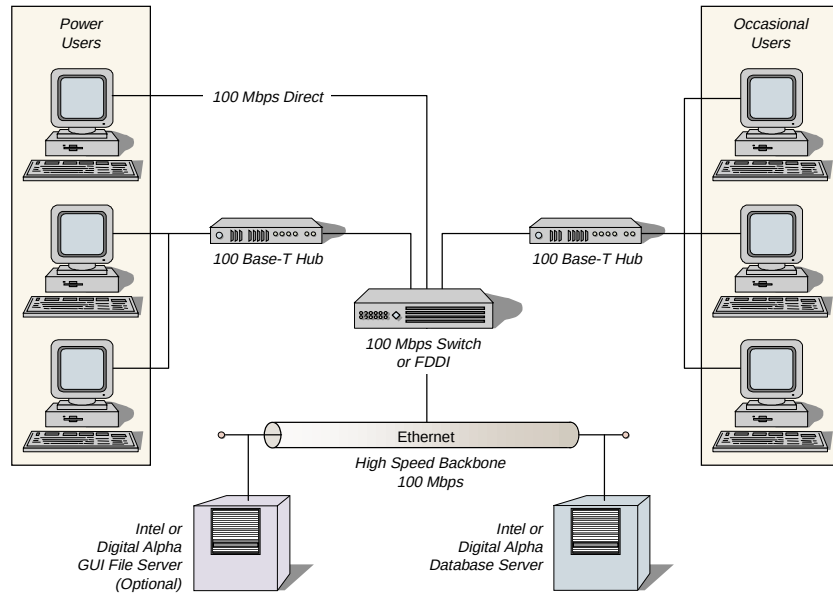
Unfortunately, it is difficult to predict what the access patterns or departmental utilization will be. Network performance is a dynamic and evolving target.

The initial network should consist of a high-speed backbone with switched-shared media segments. Initially you should plan on between 10 and 12 PCs per 10Mbps local-area network (LAN) segment. The usage of each segment should be measured and adjusted as the MFG/PRO users begin to establish their access patterns.

After installation, the network must be constantly measured and adjusted to provide the most appropriate service to each user. For example, you might find that a certain LAN segment is over or under utilized, or you might upgrade a user or group of users from a 10Mbps to a 100Mbps network connection.

There are many ways to design a network to accomplish good client/server response time; Figure 2.2 illustrates a sample network design capable of supporting both power users and occasional users.

Fig. 2.2
Network Design
Example



This sample network configuration is a LAN design. Take additional care if you are planning to have GUI or character mode client/server users log in over a wide area network (WAN). There are other solutions, such as WinFrame[®] by Citrix, that can provide acceptable client/server performance over a WAN.

Database Server Setup

Use this chapter to load MFG/PRO database server media and set up a single database for an Oracle instance. If you want additional MFG/PRO databases associated with the instance—such as training and demonstration—see “Setting Up Multiple Databases” on page 147.

◆ See “Loading Client Media” on page 51.

Note You can simultaneously load Windows client media on a file server while setting up the database server. The Windows client media may take longer than the others, especially if you load MFG/PRO source code.

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Loading MFG/PRO System Data 45

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Installation Assumptions

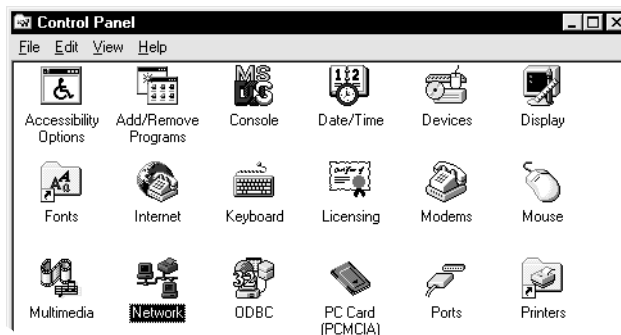
The installation procedures in this section assume that:

- Microsoft Windows NT Server 4.0 is installed on your server.
- TCP/IP is the network protocol.
- The required PROGRESS products are installed on the Windows NT Server: ProVISION, PROGRESS DataServer, and Client Networking.
- Oracle and applicable networking are installed.
- You know the directory name where you will store the MFG/PRO for Windows NT Version 9.0 product. The default directory is MFGNTSVR; you should choose a more descriptive name, such as MFGNTSRV9. This document refers to this directory as *InstallDir*.

Optimizing Windows NT Server

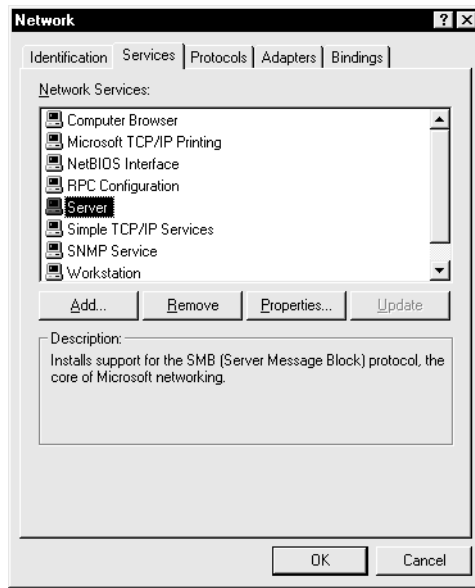
Use the following steps to configure your server to maximize throughput for network applications. This procedure reserves NT resources for your RDBMS and is recommended for client/server applications.

- 1 Choose the Control Panel icon from the Start button's Settings menu.
- 2 From the Control Panel window, select Network.



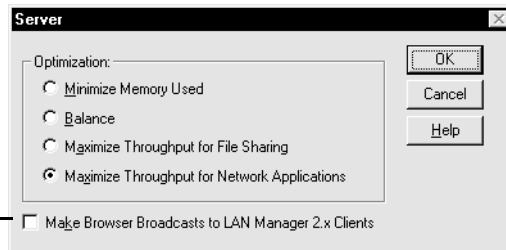
- 3 From the Network window, select the Services tab.

- 4 Highlight Server in the Network Services list and choose Properties.



- 5 In the Server window, select Maximize Throughput for Network Applications and make sure that Make Browser Broadcasts to LAN Manager 2.x Clients is not selected. Choose OK.

Select this check box only if there is a LAN Manager 2.x server on your network and you want that server to browse shared resources on this computer.



- 6 The Network window reappears. Choose Close.

- 7 At this point, the Network Settings Change window appears. You can restart your server now or wait until later.

Note Your changes do not take effect until you restart the server.



Performing Preliminary Setup

In this section, you set up the Oracle installation directory to have full access security for the System user. The System user requires full access in order to start and stop services. This section also guides you through the installation information you must prepare.

- 1 Choose the My Computer icon.
- 2 In the My Computer window, double-click the drive containing the Oracle server installation directory.
- 3 When the drive window opens, highlight the Oracle server installation directory folder, select the File menu, and choose Properties.
- 4 In the Properties window, select the Security tab and choose Permissions.
- 5 When the Directory Permissions window appears, choose the Add button.
- 6 In the Add Users and Groups window, do the following.
 - a Select SYSTEM from the Names list and choose the Add button.
 - b In the Type of Access field, select Full Control.
 - c Choose OK.
- 7 When the Directory Permissions window reappears, verify that the SYSTEM entry shows Full Control in the Name window. Choose OK.

- 8 Verify that the environment variable ORACLE_HOME specifies the Oracle installation directory and ORACLE_SID specifies the desired SID of a new or existing instance. To check environment variables, open the Control Panel and choose the System icon.

Note As an Oracle requirement, the SID must be exactly four characters, no more or less, and must start with an alphabetic character (a through z). Also, do *not* use any of the MFG/PRO schema names, qad, or qadddb as the ORACLE_SID value.

- 9 Determine the following information regarding the Oracle database structure. MFG/UTIL will prompt you for this information and use it to create SQL scripts, which create the Oracle database.

Note As you design your directory structure, see “Disk Layout for Oracle Database” on page 24 and “Tablespaces in the Oracle Database” on page 113.

MFG/UTIL Prompts:

- Oracle Instance Name (it is assumed this is a *new* instance)
- Oracle Database Name (used in the Create Database command, it usually matches the instance name)
- Oracle Home Directory
- Oracle Instance Dir
- Oracle Code-page (defaults based on your language code, but you may want to verify the default)
- Oracle NLS Language
- Oracle NLS Territory
- Location of Control File 1
- Location of Control File 2
- Location of Bkgrd Dump Dir
- Location of Core Dump Dir
- Location of User Dump Dir
- System Datafile Dir

- LogFile 1 Directory
- LogFile 2 Directory
- Directories and Sizes for the following Tablespaces and Indexes:
COMPCONF, CONTROL, GLRPWRTR, GLTDET, GLTRHIST,
GUI, HISTORY, INTRASTAT, MFGHELP, MRPDET,
QADWKFL, RBS, REF (reference), STATIC, TEMP, TOOLS,
TRANSACTION, TRGLDET, TRHIST, USER, WORKFILE

Loading Media and Setting Up SQL Scripts

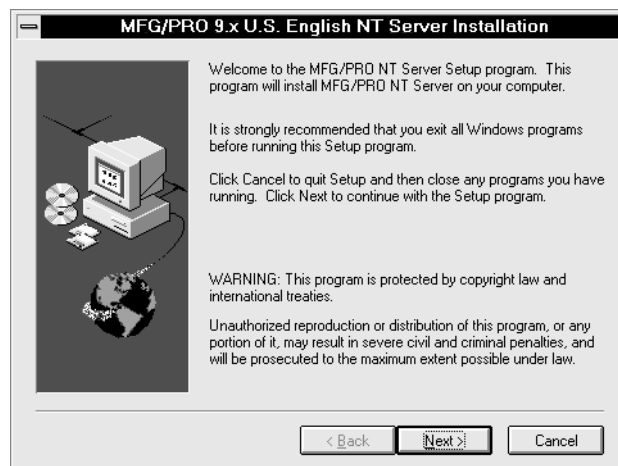
Loading Media

You can start the installation from the File Manager, Explorer, or the Start button. The copy process takes between 45 and 90 minutes, depending on your hardware configuration.

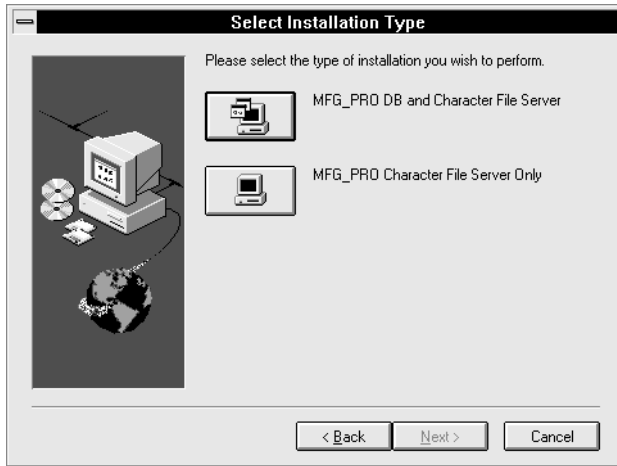
- 1 Insert the MFG/PRO for Windows NT on Oracle Version 9.0 Server CD-ROM in the CD-ROM drive.
- 2 Run the `install.exe` program using File Manager, Explorer, or the Start button.

CD-ROMDriveName:\install.exe

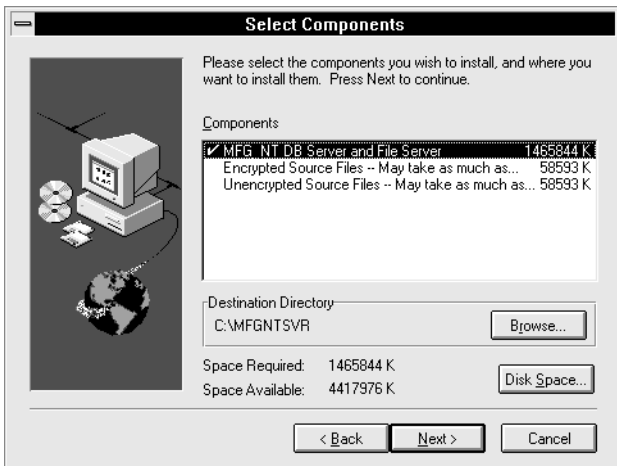
- 3 Choose Next when the Welcome message window appears.



- 4 From the installation type selection, choose the option MFG_PRO DB and Character File Server.

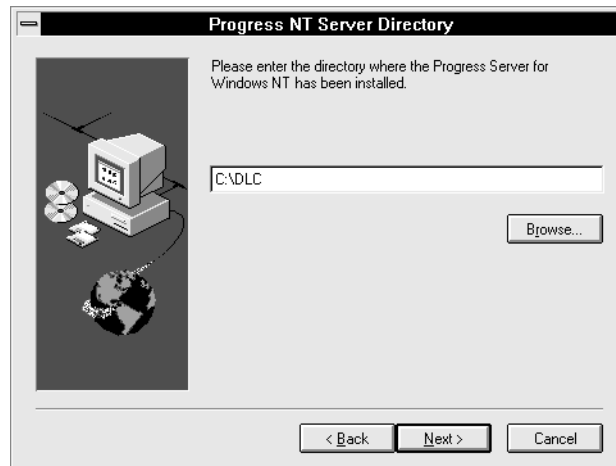


- 5 In the following window, choose the components to install by selecting the item and pressing Space Bar. Also specify the destination directory. Choose Next when you are finished.



Destination Directory	You should specify a directory that identifies the MFG/PRO version; for example, C : \MFGNTSRV90. Choose Browse to select an alternate directory.
Disk Space	This button shows available disk space on any connected drive.

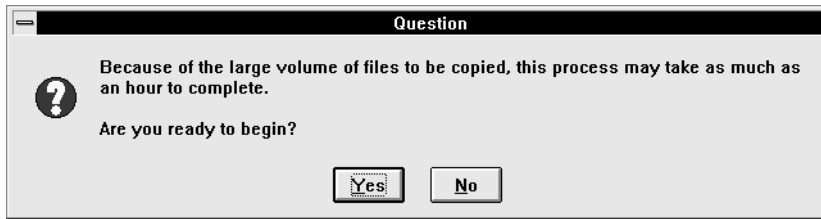
- 6 Specify your PROGRESS NT Server directory when the following window appears. Use the Browse button to search for the directory. Choose Next to continue.



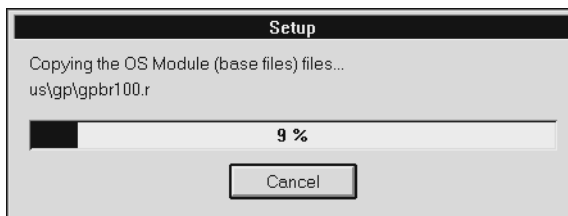
- 7 When the next window appears, specify the directory containing ProVISION. This is the same directory defined in the previous step. Choose Next to continue.
- 8 At the confirmation window, verify that the installation information is correct. Choose Next to begin installing, or choose Back to make changes.



- 9 Choose Yes at the following prompt when you are ready.



During the load, the following window appears.

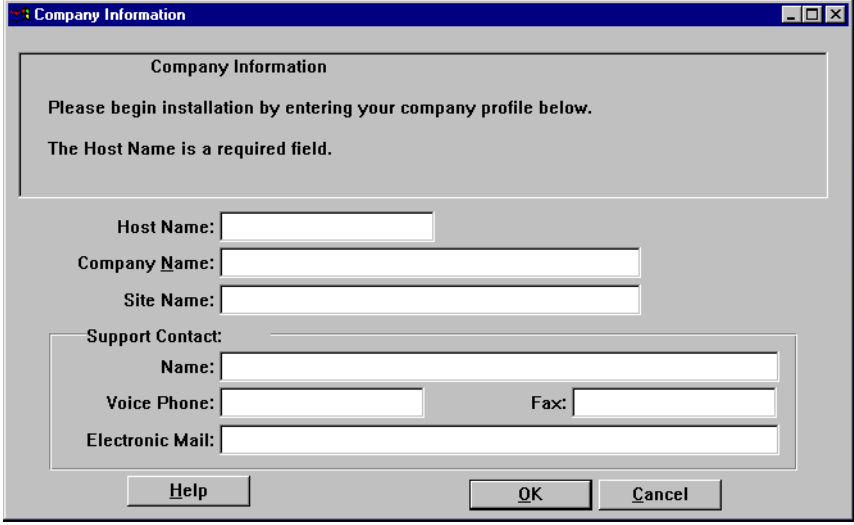


Setting Up SQL Scripts

After the files are copied, MFG/UTIL continues with the task of creating the SQL scripts. To complete the SQL script information, you must provide your Oracle directory structure.

♦ See step 9 in “Performing Preliminary Setup” on page 30.

- 1 When the Company Information window appears, enter at least the Host Name—this is also called the Windows NT Computer Name.



Company Information

Please begin installation by entering your company profile below.

The Host Name is a required field.

Host Name:

Company Name:

Site Name:

Support Contact:

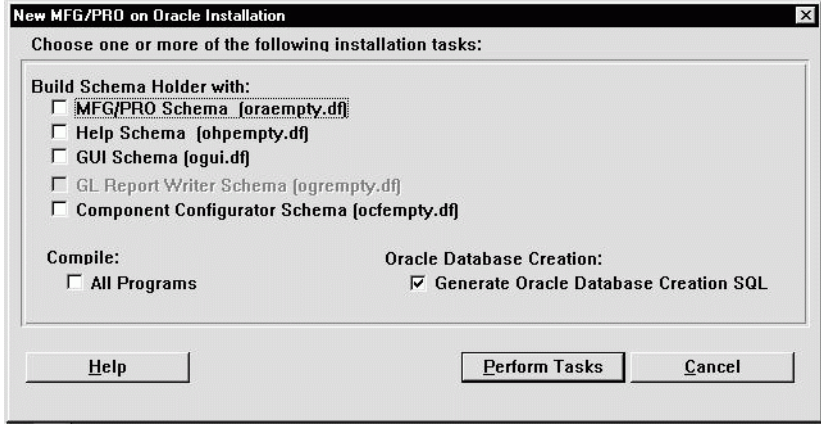
Name:

Voice Phone: Fax:

Electronic Mail:

Help OK Cancel

- 2 When the New MFG/PRO on Oracle Installation window appears, make sure all options are blank (not checked)—except the option Generate Oracle Database Creation SQL.



New MFG/PRO on Oracle Installation

Choose one or more of the following installation tasks:

Build Schema Holder with:

- ☐ MFG/PRO Schema [oraempty.dfl]
- ☐ Help Schema [ohpempty.dfl]
- ☐ GUI Schema [ogui.dfl]
- ☐ GL Report Writer Schema [ogrempty.dfl]
- ☐ Component Configurator Schema [ocfempty.dfl]

Compile: ☐ All Programs

Oracle Database Creation: ☒ Generate Oracle Database Creation SQL

Help Perform Tasks Cancel

- 3 Choose the Perform Tasks button.

- 4 Complete the next window using the following example illustration and table.

Field	Enter
ORACLE Instance Name	Enter a new instance and database name; typically, you use the same name for both. These names are used in the database creation scripts and MFG/PRO start-up scripts. As an Oracle requirement, the SID must be exactly four characters, and must start with an alphabetic character (a through z). Also, do not use any of the MFG/PRO schema names, qad , or qaddb .
Oracle Database Name	
Oracle Home Directory	The home directory you specified earlier defaults; change it if necessary.
Oracle Instance Directory	Enter the primary instance directory containing key files such as init.ora and key sub-directories, such as .\back, .\core, and .\user. This directory name becomes the default for the next set of Oracle file location prompts.
Oracle CODE-PAGE Oracle NLS Language Oracle NLS Territory	These are the values used to build the Oracle database for a given language. The example shown in the following illustration is for English (Language AMERICAN, Territory AMERICA).

Generate Oracle Database Creation SQL Scripts

ORACLE Instance Name: o9X

ORACLE Database Name: o9X

ORACLE Home Directory: d:\orant

ORACLE Instance Dir: g:\ora\o9X

ORACLE CODE-PAGE: WE8ISO8859P1

ORACLE NLS LANGUAGE: AMERICAN

ORACLE NLS TERRITORY: AMERICA

OK Cancel

- 5 In the subsequent windows, you must give the directory paths and sizes for various tablespaces in your Oracle directory structure. Use the following table and Chapter 8, “Tablespaces in the Oracle Database,” on page 113 as reference. If needed, you can later change the sizes using MFG/UTIL.

Tip

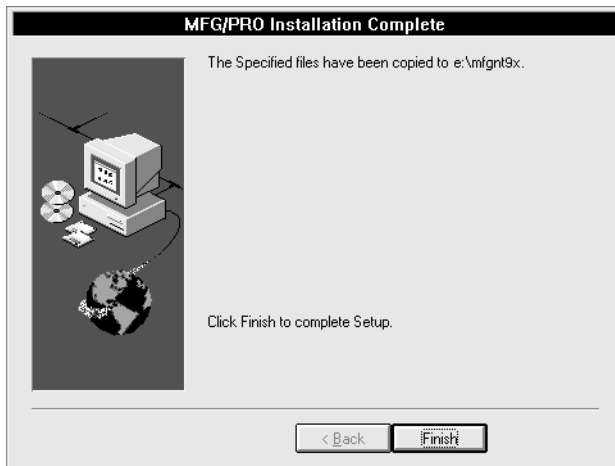
The source code cross-reference is useful for programming. It provides a map of MFG/PRO program relationships.

Warning 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 per language. The default sizes are 40MB for MFGHELP and 45MB for MFGHELP_IDX. Also, if you plan to load source code cross-reference information, add 200MB for MFGHELP and 200MB for MFGHELP_IDX.

Tablespace	Description
RBS	All rollback segments; expect it to grow and contract.
TEMP	Temporary tablespace; use it at your discretion.
TOOLS	DBA default tablespace; use it at your discretion.
USERS	User default tablespace; use it at your discretion.
MFGHELP and MFGHELP_IDX	All help tables and indexes; expect this tablespace to be static.
GUI and GUI_IDX	All MFG/PRO GUI tables and indexes, including browse and view records.
GLRPWRTR and GLRPWRTR_IDX	Tables and indexes used with the General Ledger Report Writer feature.
INTRASTAT and INTRASTAT_IDX	Tables and indexes used with the Intrastat feature.
TRANSACTION and TRANSACTION_IDX	All transaction tables and indexes, such as sales orders; expect large growth in number and size.
HISTORY and HISTORY_IDX	All history tables and indexes; expect large growth in number and size if you have auditing enabled.
STATIC and STATIC_IDX	Tables and indexes with little growth in number or size.
CONTROL and CONTROL_IDX	Control tables and indexes; generally one record per table with little growth in number or size.
REFERENCE and REFERENCE_IDX	Reference tables and indexes such as generalized codes, menus, and messages; expect little growth.
WORKFILE and WORKFILE_IDX	Workfile tables and indexes; some grow and then contract, while others grow continuously.
GLTDET and GLDET_IDX	The General Ledger transactions table (glt_det) and index; data is added to the end of the file.

Tablespace	Description
GLTRHIST and GLHIST_IDX	The General Ledger transaction history table (gltr_hist) and index; data is added to the end of the file if you have auditing enabled.
TRHIST and TRHIST_IDX	The Inventory transaction history table (tr_hist) and index; data is added to the end of the file if you have auditing enabled.
TRGLDET and TRGLDET_IDX	The Inventory Transaction General Ledger Cross-Reference table (trgl_det) and index; data is added to the end of the file.
MRPDET and MRPDET_IDX	The Material Requirements Planning table (mrp_det) and index.
QADWKFL and QADWKFL_IDX	The QAD Workfile table (qad_wkfl) and index; expect large growth in number and size.
COMPCONF	All tables and indexes for the Component Configurator module.

- 6 After you complete the last window, MFG/UTIL closes. Choose Finish at the following window.



- 7 Verify that the following files are in the MFG/PRO installation directory. You can also see `mfgutil.log` for installation transactions.
- `oraempty.db` (empty schema holder database)
 - `crdb1ORACLE_SID.sql` (script to create Oracle database files for a new instance)
 - `crdb2ORACLE_SID.sql` (script to create MFG/PRO tablespaces and database objects)
 - `config.ORACLE_SID` (Oracle parameter file specifying the instance location)
 - `initORACLE_SID.ora` (Oracle start-up parameter file)

Running SQL Scripts to Create the Oracle Database

In this section you create a new instance and new tablespaces and database objects required to run MFG/PRO. You do so by running the following SQL scripts, including those created in the previous section.

SQL Script	Action
<code>crdb1ORACLE_SID.sql</code>	Creates database files for a new instance.
<code>crdb2ORACLE_SID.sql</code>	Creates tablespaces and database objects.
<code>oraempty.sql</code>	Main production MFG/PRO schema.
<code>ogui.sql</code>	Windows interface schema.
<code>ohpempty.sql</code>	Online help schema.
<code>ocfempty.sql</code>	OBCM Configurator schema.

Note If you want to create these tablespaces in an existing instance, do not run `crdb1ORACLE_SID.sql`. You must also determine and make appropriate changes to the script `crdb2ORACLE_SID.sql`, as explained below.

The tablespace sizing that defaults in the SQL scripts is appropriate for loading the MFG/PRO demonstration or training data, but may not be adequate for your production data. Note the following:

- If you plan to load source code cross-reference information, you should have increased the default MFGHELP tablespace and index size according to the warning on page 38. The cross-reference information provides a map of how MFG/PRO programs and other components relate to each other.
- If you plan to load production data into Oracle from a source other than MFG/PRO, you must modify the SQL scripts to ensure that the Oracle database is properly set up.
- If you plan to load production data from an existing MFG/PRO production database on PROGRESS, you must first modify the tablespace sizes in the SQL script `crdb2ORACLE_SID.sql` to match the number of records in your MFG/PRO database. Use the standard Oracle table sizing algorithm.

◆ See “Tablespaces in the Oracle Database” on page 113.

Warning Loading from versions earlier than MFG/PRO 8.6 is not supported.

- If you have an existing MFG/PRO system and you need to migrate a custom, side database, see “Migrating a Custom Side Database from PROGRESS to Oracle” on page 144.
- 1 Create the directories required for the Oracle database system if you have not already done so.
 - 2 Verify that the `ORACLE_HOME` and `ORACLE_SID` environment variables are set correctly. To check environment variables, open the Control Panel and choose the System icon.
 - 3 Copy the following files from the `InstallDir` to your primary MFG/PRO on Oracle instance directory.

◆ For an example, see “Disk Layout for Oracle Database” on page 24.

- | | |
|-----------------------------------|------------------------------------|
| • <code>config.ORACLE_SID</code> | • <code>crdb1ORACLE_SID.sql</code> |
| • <code>initORACLE_SID.ora</code> | • <code>crdb2ORACLE_SID.sql</code> |
| • <code>oraempty.sql</code> | • <code>ogui.sql</code> |
| • <code>ohpempty.sql</code> | • <code>ocfempty.sql</code> |
| • <code>lvorasp.plb</code> | |

- 4 By default, the SQL files create tablespaces sized for loading the MFG/PRO demonstration or training data. If you plan to load data from a different source, you should examine and edit the SQL scripts so that the tablespaces are sized correctly. Edit the scripts with a text editor or use MFG/UTIL to create revised scripts.
- 5 If you want to create database files for an existing instance instead of a new instance, you must determine and make appropriate changes to the script `crdb2ORACLE_SID.sql` and consolidate the QAD-supplied files `config.Oracle_SID` and `initOracle_SID.ora` with your existing files.
- 6 Open a DOS command window.
- 7 Change to the MFG/PRO-on-Oracle instance directory. Check that the core, user, and back directories exist; if they do not, create them.
- 8 If you want to create a new instance, type the following command in the DOS window. If you want to use an existing instance, skip this step.

```
ORADIM73 -NEW -SID Oracle_SID
        -INTPWD Oracle_Password -STARTMODE auto
        -PFILE InstanceDir\initOracle_SID.ora
```

- 9 Start Oracle Server Manager with the following DOS commands, entered one at a time.

```
set Oracle_SID = Oracle_SID
svrmgr23
```

- 10 When the SVRMGR23 prompt appears, enter the following commands.

```
connect internal\Oracle_Password
startup nomount pfile=InstanceDir\initOracle_SID.ora
```

- 11 If you are using the new instance created in step 8, run the first SQL script with the command below. If you want to create the database in an existing instance, skip this step.

```
@InstanceDir\crdb1Oracle_SID.sql
```

Note The script is finished when the Oracle Server Manager prompt reappears.

- 12 Reconnect and run the next SQL script to create tablespaces, rollback segments, and the Oracle User ID.

```
connect internal\ORACLE_Password@InstanceDir
\crdb2ORACLE_SID.sql
```

Note You can expect some error messages to appear on the screen. They occur because the SQL script performs a drop (delete) command for each object created, even if the object does not yet exist.

- 13 Type `exit` to quit SVRMGR23.
- 14 Examine the list files `crdb1ORACLE_SID.lst` and `crdb2ORACLE_SID.lst` to check for unexpected errors.
- 15 In the following substeps, load the MFG/PRO schemas into the newly created Oracle tablespaces.
 - a In the DOS command window, Oracle instance directory, type the following command and press Enter.

```
sqlplus qad\qad
```

- b A second command window appears with a SQL prompt. Run the SQL scripts using the commands in the following table. Each script takes a few minutes to run; the last script, `oraempty.sql`, takes the longest.

SQL Script Command	Description
@InstanceDir\ogui.sql	GUI objects
@InstanceDir\ohpempty.sql	Help database objects
@InstanceDir\ocfempty.sql	Configurator schema objects
@InstanceDir\oraempty.sql	Main MFG/PRO schema objects

- c While `oraempty.sql` runs, you can perform the next task; however, do not load any data until all SQL scripts are finished.
 - d To close the second command window, type: `quit`.
- 16 Examine the log files for the SQL scripts listed above to check for unexpected errors. The log file names are the same as the SQL script name, but with a `.lst` or `.log` extension. If there is an error, you can safely rerun the SQL scripts `ogui.sql`, `ohpempty.sql`, `oraempty.sql`, and `ocfempty.sql`.

Setting Up an Oracle Alias

Once your Oracle database is created and operational, you need to create an alias for your Oracle SID and start the Oracle Listener.

- 1 Create a new Oracle alias using SQL Net Easy Configuration. You must give an alias name, host, port, and Oracle SID.
- 2 Make sure the Oracle instance is running.
- 3 Start or restart Listener. You can do so by opening a DOS command window and typing the following commands.

```
lsnrctl
set password ORACLE_Password
start
```

- 4 To verify successful start of the appropriate alias, type the following command.

```
status
```

- 5 To exit lsnrctl, type:

```
exit
```

Copying the Schema Holder Under a New Name

The original schema holder was created with the default name oraempty. You must now create a copy of this database with a new name. You must also update the foreign database reference from the default, qaddb, to the actual Oracle database name.

- 1 Start MFG/UTIL by double-clicking the icon in the MFG_NT Server folder on the Start menu.
- 2 Select the DataServer menu, then the Oracle option, and then Create New Schema Holder from Oraempty.
- 3 In the Original Database field, enter the existing schema holder name, oraempty (it should default). Also type the path to oraempty if it is not in your current directory. If needed, select <Db Files> to search for the correct path.

- 4 In the New Database Name field, type a new schema holder name.
- 5 Accept the window, and wait for MFG/UTIL to copy the schema holder (a DOS window appears). Once finished, close the DOS window by typing `exit`.
- 6 In the next window, select the Oracle Database Name field, type the actual Oracle database name, and choose OK.

Important Do not use any of the MFG/PRO schema names, `qad`, or `qadddb` as the Oracle database name. Do not use a number as the first character of the Oracle database name.

- 7 At the following prompt, answer Yes.

Verify Oracle Database Name *YourDBName*:

MFG/UTIL changes the foreign database reference in the schema holder from `qadddb` (the default) to the actual Oracle database name.

- 8 While still in MFG/UTIL, you can continue with the next section.

Loading MFG/PRO System Data

This section explains how to load MFG/PRO data to create either a production, demonstration, or training database. You must load the default data before you can run an MFG/PRO session. The main tasks are:

- Set up Oracle Listener
- Build dump/load procedures
- Load data

This section assumes:

- You have set the Oracle environment variables, such as `ORACLE_HOME` and `ORACLE_SID`.
- The Oracle instance is running, the database is mounted, and the Listener for that Oracle SID is started.

Note Loading online help and source code cross-reference data is documented in Chapter 7, “Additional Setup,” on page 87.

Build Dump/Load Procedures

- 1 Start MFG/UTIL by double-clicking the icon in the MFG_NT Server folder on the Start menu.
- 2 Select the Database menu and choose Create Dump and Load Procs.
- 3 In the Single Database Connection window, complete the fields according to the following table.

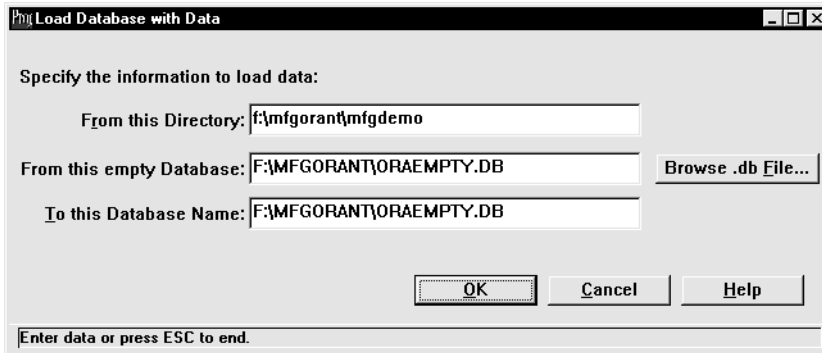
Field	Enter
Physical Database Name	Type oraempty.
Local Host Connection	Select this option.
Database Path	Type the path of the MFG/PRO installation directory (also referred to as <i>InstallDir</i>).
Additional Parameters	Type the parameters: -ld qad -R0

- 4 Choose OK to begin the process. Once the procedures are built, choose Close in the log window.

Main Data Load

- 1 From within MFG/UTIL, select the Database menu and choose Load Data from Directory. See the following table and example illustration as you complete the fields.

Field	Enter
From this Directory	Enter the path to the Version 9.0 installation directory and either the mfgdemo, mfgtrain, or mfg (system) directory: \InstallDir\mfgdemo Data in mfgdemo creates a demonstration database, data in mfgtrain creates a training database, and data in mfg creates a production database with the default menu names, messages, and codes. MFG/UTIL loads all .d files in the specified directory with a corresponding table name in the destination database.
From this Empty Database	In both fields, enter the path and name of the schema holder oraempty.db.
To this Database Name	



Load Database with Data

Specify the information to load data:

From this Directory: f:\mfgorant\mfgdemo

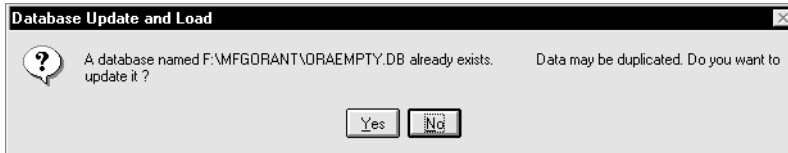
From this empty Database: F:\MFGORANT\ORAEMPTY.DB Browse .db File...

To this Database Name: F:\MFGORANT\ORAEMPTY.DB

OK Cancel Help

Enter data or press ESC to end.

- 2 Choose OK, and answer Yes to the following prompt.



Database Update and Load

? A database named F:\MFGORANT\ORAEMPTY.DB already exists. Data may be duplicated. Do you want to update it?

Yes No

- 3 The Single Database Connection window appears automatically. See the following table and example illustration as you complete the fields. Choose OK when finished.

Field	Enter
Physical Database Name (-db)	Enter the path and schema holder name oraempty.db . It is located directly under the MFG/PRO installation directory.
Client/Server Network Connection, Host Name, Service Name	This option should be blank; it is not used on this platform.
Local Host Connection	Choose a local host connection (meaning the database is on the same machine as your PROGRESS session).
Single-User Connection	This setting has no effect in the Oracle environment.

Database Path	You can leave this field blank, provided you have the path entered in the Physical Database Name field.
Additional (Startup) Parameters	Type the following parameters in this order: -ld qad -RO -db <i>ORACLEdbName</i> -ld qaddb -dt ORACLE -U qad@ <i>ORACLE_Alias</i> -P qad

Single Database Connection

Connect To a Database

Physical Database Name:

☐ Client/Server Network Connection
☒ Local Host Connection

☒ Single-User Connection

Host Name (-H):

Service Name (-S):

Database Path:

Additional Parameters:

- 4 When the load is complete, choose Close from the Installation Log window.
- 5 Load gui data by repeating the previous steps, starting from “Main Data Load” on page 46. However, in the field From this Directory, enter:

`\InstallDir\gui`

Note Loading the gui data is required in Version 9.0.

- 6 Load Configurator data using the same steps; however, in the field From this Directory, enter:

`\InstallDir\cfg`

Note Loading the Configurator data is required to use the Component Configurator module.

- 7 Exit MFG/UTIL once all data is loaded.
- 8 To verify the load, review the MFG/UTIL log file in the directory *InstallDir*.

Loading Service Pack Media

If your release of MFG/PRO has a Service Pack, use the installation instructions provided with the Service Pack Server media to load and update your new MFG/PRO databases.

▶ See “Loading Service Pack Media” on page 7.

Loading Client Media

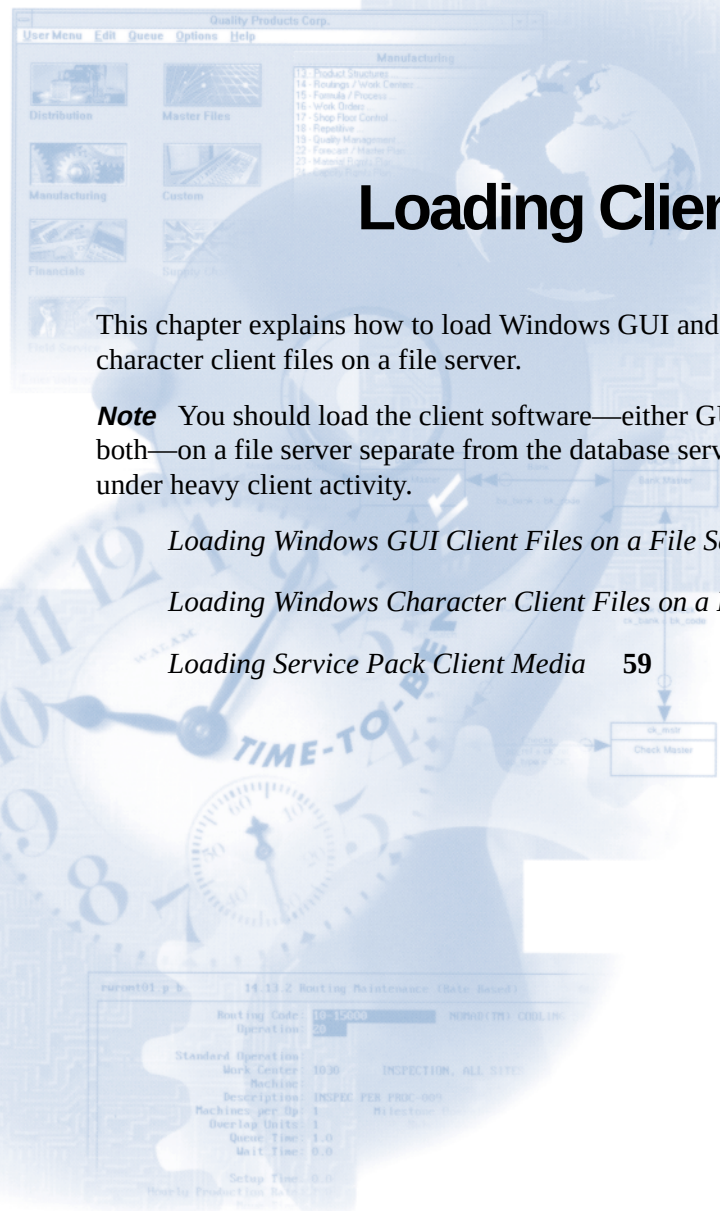
This chapter explains how to load Windows GUI and Windows character client files on a file server.

Note You should load the client software—either GUI, character, or both—on a file server separate from the database server, especially under heavy client activity.

Loading Windows GUI Client Files on a File Server 52

Loading Windows Character Client Files on a File Server 56

Loading Service Pack Client Media 59



param91.p 14.13.2 Routing Maintenance (Main Screen)

Routing Code:	10-15000	NONAD (75) CDR IN:
Operation:	20	
Standard Operation		
Work Center	1030	INSPECTION, ALL SITE
Machines		
Description:	INSPEC PER PROX-000	
Machines per Op:	1	Allocation:
Overlap Units:	1	
Queue Time:	1.0	
Wait Time:	0.0	
Setup Time:	0.0	
Ready for Production:	0.0	

Loading Windows GUI Client Files on a File Server

Before you install the client files from your CD-ROM, you should:

- Know the logical drive and directory name where you will store the MFG/PRO for Windows files.
- Log on to your network with write permission for this directory.

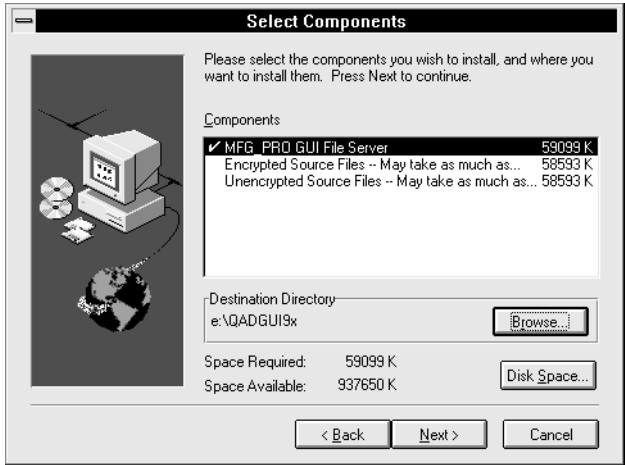
- 1 Insert the MFG/PRO for Windows CD-ROM in the CD-ROM drive of the file server.
- 2 Run the `install.exe` program using File Manager, Explorer, or the Start button.

CD-ROMDriveName:\install.exe

- 3 Choose Next when the welcome message window appears.

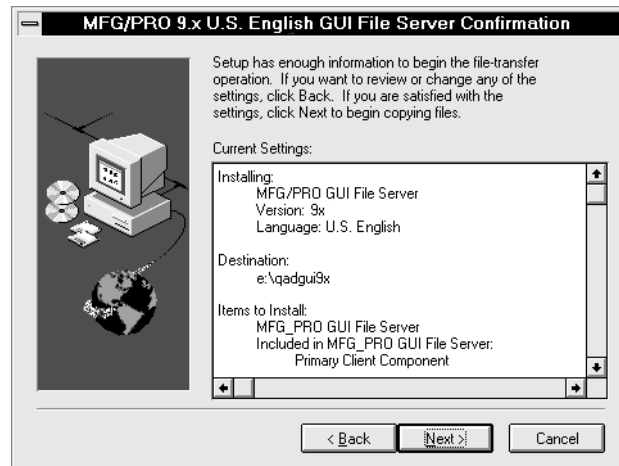


- 4 In the following window, choose the components to install by selecting the item and pressing Space Bar. Also specify the destination directory. Choose Next when finished.

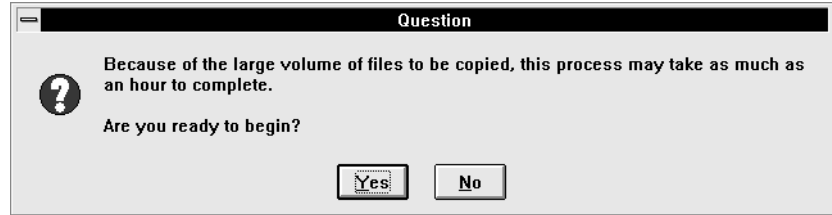


Destination Directory	You should specify a directory that identifies the MFG/PRO version; for example, C:\mfpggui90. Choose Browse to select an alternate directory.
Disk Space	This button shows available disk space on any connected drive.

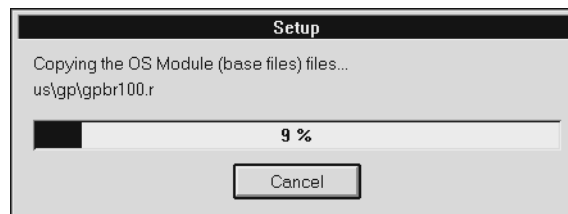
- 5 At the confirmation window, verify that the installation information is correct. Choose Next to begin installing, or choose Back to make changes.



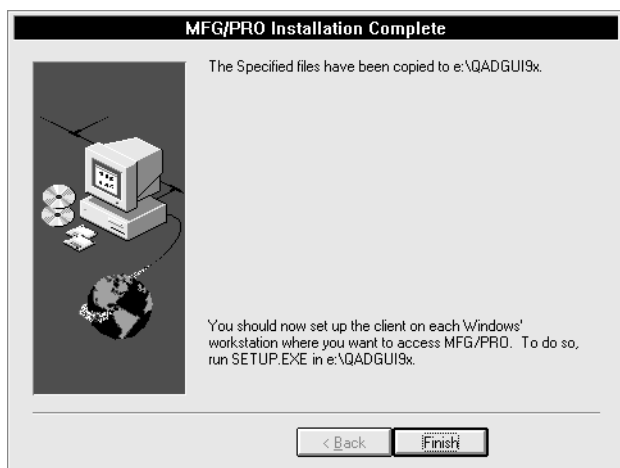
- 6 Choose Yes at the following prompt when you are ready.



During the load, the following window appears.



- 7 After the files are copied, the following window appears; choose Finish.



- 8 If you have multiple languages, repeat the preceding steps for each language, starting with step 1. However, note the following differences.
- Specify a different installation directory; for example, `mfgfrgui` (where `fr` is the French language code).
 - When the second language is loaded, open File Manager or Windows Explorer and find the two-letter language code directory under the new installation directory. For example, `fr` is for French.
 - Copy the language code sub-directory into the first installation directory. The language directories must be on the same directory level.

Loading Windows Character Client Files on a File Server

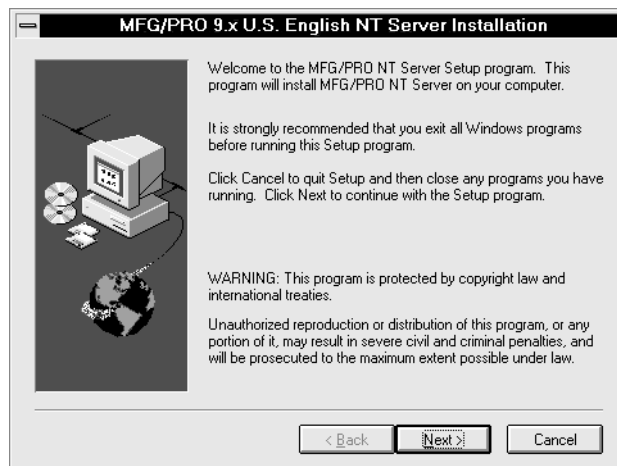
Loading Windows character client media is optional, because it is automatically loaded along with the database server media. However, to improve performance under heavy client activity, you should load Windows character client media on a separate file server machine.

Before you install the client files from your CD-ROM, you should:

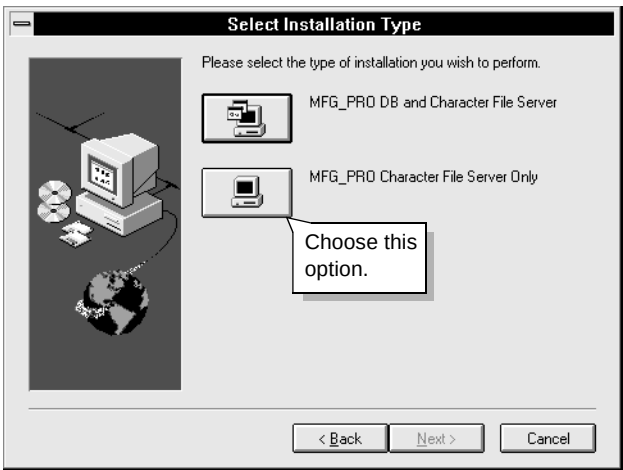
- Know the destination drive and directory name.
 - Log on to your network with write permission for this directory.
- 1 Insert the MFG/PRO for Windows NT Version 9.0 Server CD-ROM in the CD-ROM drive of the file server.
 - 2 Run the `install.exe` program using File Manager, Explorer, or the Start button.

CD-ROMDriveName:\install.exe

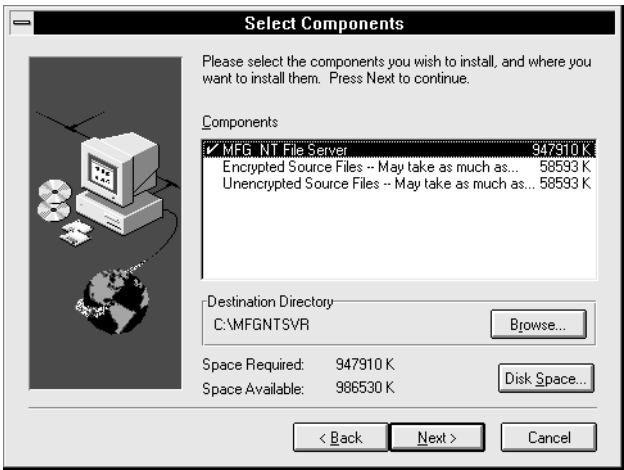
- 3 Choose Next when the Welcome message window appears.



- 4 From the installation type selection, choose the option MFG_PRO Character File Server Only.

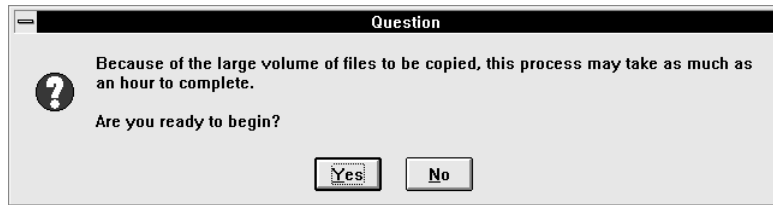


- 5 In the following window, choose the components to install by selecting the item and pressing Space Bar. Also specify the destination directory. Choose Next when finished.

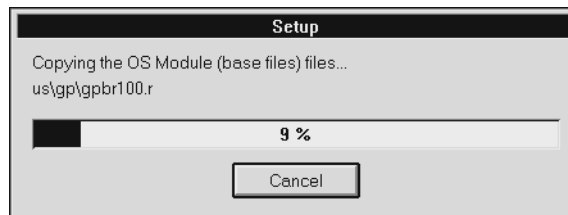


Destination Directory	You should specify a directory that identifies the MFG/PRO version; for example, C:\mfgch90. Choose Browse to select an alternate directory.
Disk Space	This button shows available disk space on any connected drive.

- 6 At the confirmation window, verify that the installation information is correct. Choose Next to begin installing or Back to make changes.
- 7 Choose Yes at the following prompt when you are ready.



During the load, the following window appears.



- 8 After the files are copied, the following window appears; choose Finish.



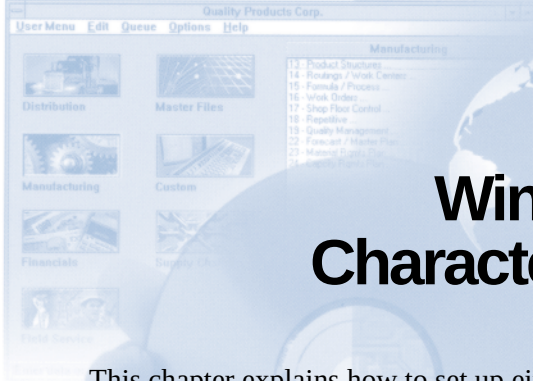
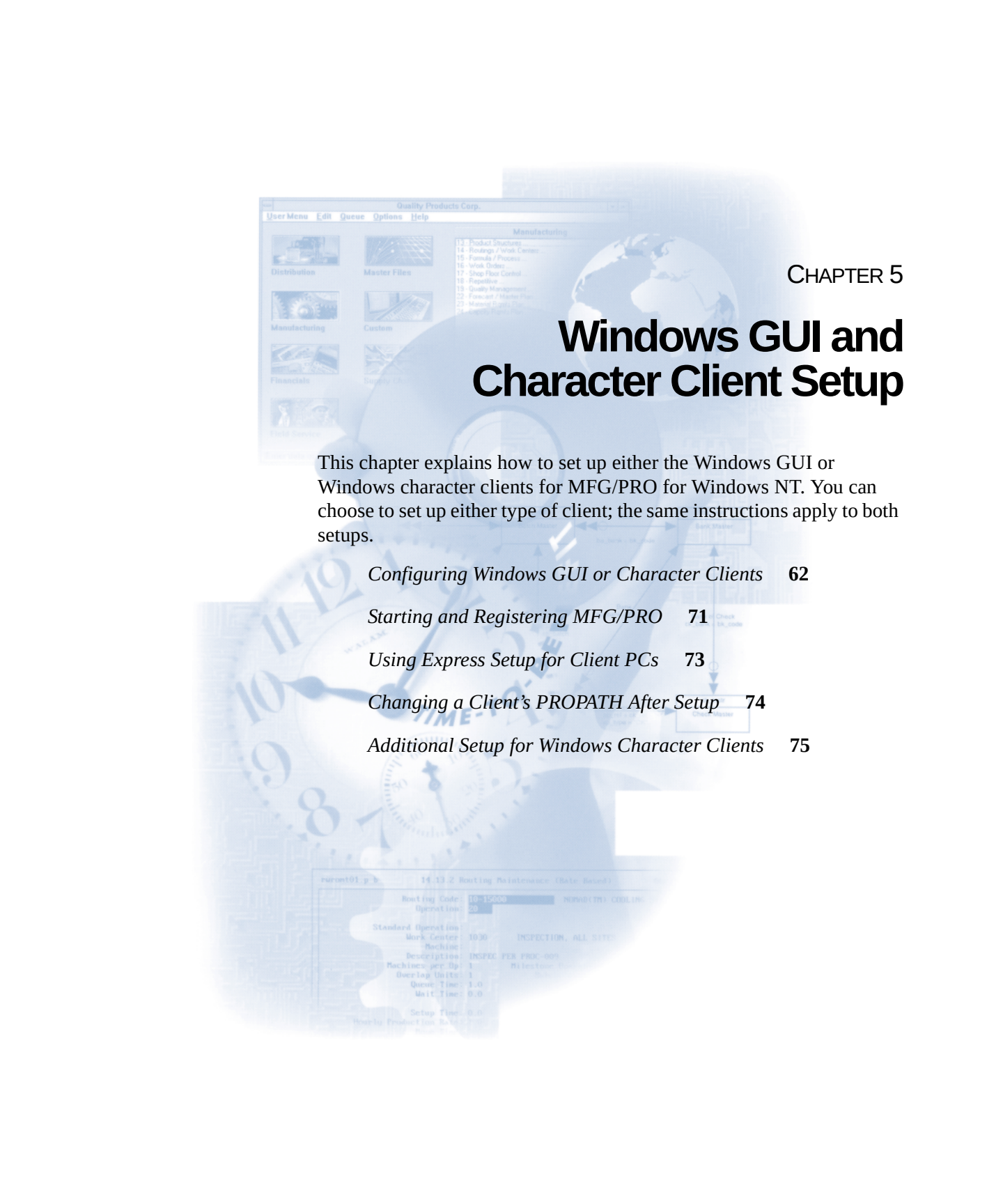
- 9 If you have multiple languages, repeat the preceding steps for each language, starting with step 1. However, note the following differences.
- Specify a different installation directory; for example, mfgchfr (where fr is the French language code).
 - Once the second language is loaded, open File Manager or Windows Explorer and find the two-letter language code directory under the new installation directory. For example, fr is for French.
 - Copy the language code sub-directory into the first installation directory. The language directories must be on the same directory level.

Loading Service Pack Client Media

If your MFG/PRO release has a Service Pack, after installing your MFG/PRO client files, use the installation instructions provided with the Service Pack media to load client update files on your file server.

▶ See “Loading Service Pack Media” on page 7.

Note Because MFG/PRO Windows character client code is the same code used for batch processing, the Service Pack update files for Windows character clients are contained on the Service Pack Server media.



CHAPTER 5

Windows GUI and Character Client Setup

This chapter explains how to set up either the Windows GUI or Windows character clients for MFG/PRO for Windows NT. You can choose to set up either type of client; the same instructions apply to both setups.

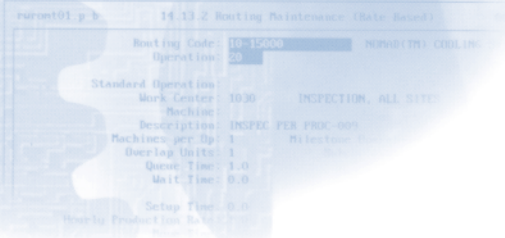
Configuring Windows GUI or Character Clients **62**

Starting and Registering MFG/PRO **71**

Using Express Setup for Client PCs **73**

Changing a Client's PROPATH After Setup **74**

Additional Setup for Windows Character Clients **75**



param91.p 14.13.2 Routing Maintenance (Main Screen)

Routing Code:	10-15000	NONAD(75) CDD IN
Operation:	20	
Standard Operation		
Work Center	1030	INSPECTION, ALL SITE
Machine		
Description	INSPEC PER PROX-000	
Machines per Op	1	Attention: P...
Overlap Units	1	
Queue Time	1.0	
Wait Time	0.0	
Setup Time	0.0	
Ready for Production	0.0	

Configuring Windows GUI or Character Clients

After installing the client files on the file server, you must configure each client PC. The goal of configuration is to copy needed files onto the client PC and create start-up icons. Creating the start-up icons requires setting up database sets.

▶ See “Database Sets” on page 15 for more information.

Once you define a database set for the first time, MFG/UTIL gives you the option of storing your settings on the file server so that subsequent client PC installations can reuse the same settings. This feature is called *express setup*.

Note Express setup works only for clients of the same type. For example, you cannot use the settings for a Windows GUI client to set up character clients. Each client type has its own express setup definition file.

If you encounter an error when running MFG/PRO or need to change the database sets after you first define them, choose Any Database Set from the MFG/UTIL Configure menu, make your changes, and choose Generate User Startup from the Scripts menu.

Note These steps assume you have loaded the Windows client programs onto a file server—not on each client PC.

Setup Prerequisites

Before setting up Windows clients, verify that you have met the following prerequisites.

- You have met the hardware requirements for Windows clients.
- Your network is operating.
- You have loaded the MFG/PRO Windows GUI or character client programs. It is recommended that you load them onto a file server.
- You have installed PROGRESS client software on each client PC or accessible network drive. The required products are Query, DataServer for Oracle, and, if you have Windows character clients, the Win32 Intel Character Client.

- You have installed Oracle software, including SQL*Net, on each PC or an accessible network drive.
- You have set up database aliases for the Oracle SID in the SQL*Net configuration tool.
- You have verified that the `oracle.ini` file, which is in the Oracle installation directory of each PC, contains the correct `nls_lang` value. This setting is in the format:
language_territory.characterset, corresponding respectively to the server variables NLS_LANGUAGE, NLS_TERRITORY, and Code Page.
- You have mapped network drives for any components installed on a file server. Networked components may include PROGRESS, Oracle, MFG/PRO GUI, or MFG/PRO Character media.
- The first client PC has write access to the file server installation directory. Write access is needed to use the express setup feature.

Client Setup

- 1 Start on any PC connected to the network file server. For Windows GUI clients, verify that your display resolution is no greater than 800 x 600dpi. If you are using a higher resolution, follow the procedures for your video card to change the resolution to 800 x 600dpi.

- 2 Start the GUI or character client `setup.exe` program using File Manager, Explorer, or the Start button.

For Windows GUI clients, use the following command, where *WinInstallDir* is the directory containing Windows GUI client media.

InstallDrive:\WinInstallDir\setup.exe

For Windows character clients, use the following command, where *CharInstallDir* is the directory containing character client media.

InstallDrive:\CharInstallDir\character\setup.exe

- 3 Choose Next when the welcome message window appears.

- 4 Accept the default working directory, QADCLI, or specify a different directory. Use the Browse button to select an alternate directory. Choose Next to continue.

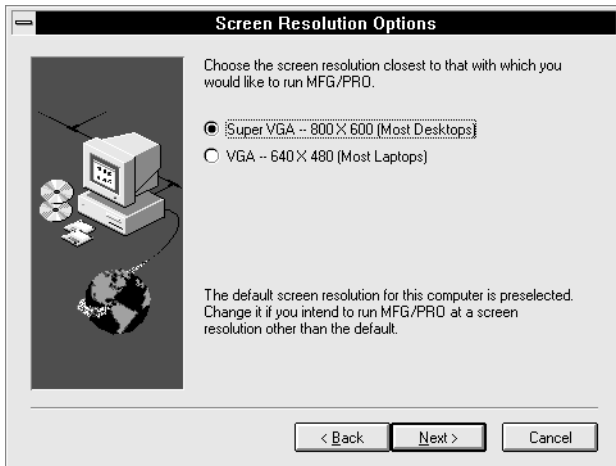


Note If you are installing *both* Windows GUI and character clients, ensure each destination directory is unique. For example, use `mfggui90` for Windows GUI clients and `mfgch90` for Windows character clients.

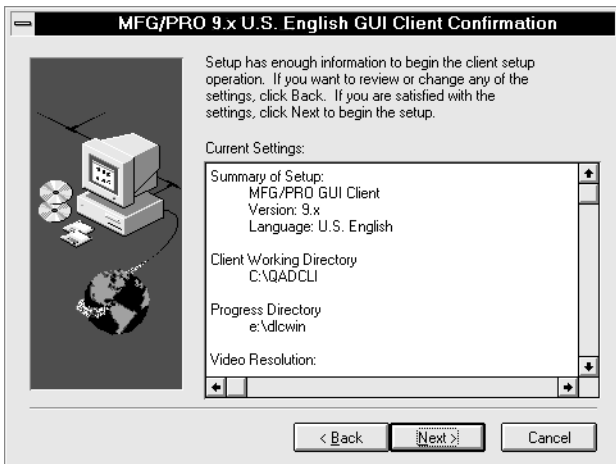
- 5 Specify the appropriate PROGRESS client directory for either Windows GUI or character clients—the example illustration is for Windows GUI clients. Use the Browse button to search for the directory. Choose Next to continue.



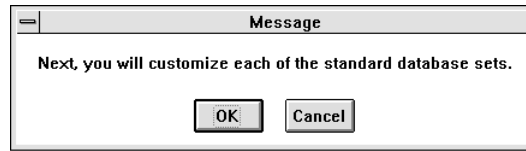
- 6 If you are setting up a Windows GUI client, you are prompted for the screen resolution. Select the display resolution of the PC and choose Next. If you are setting up a Windows Character client, skip this step.



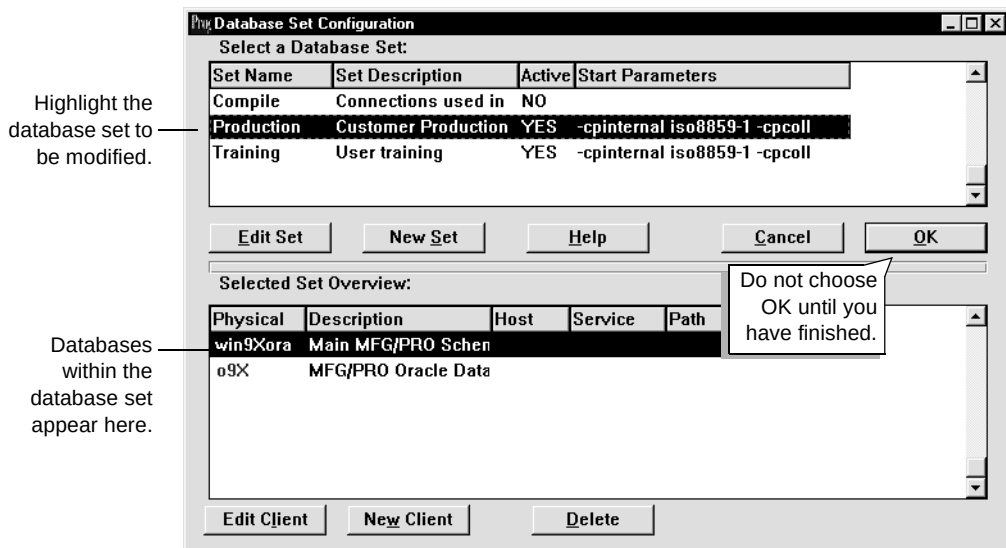
- 7 At the confirmation window, verify that the installation information is correct. Choose Next to begin installing or Back to make changes.



- 8 Choose OK when the following message appears.

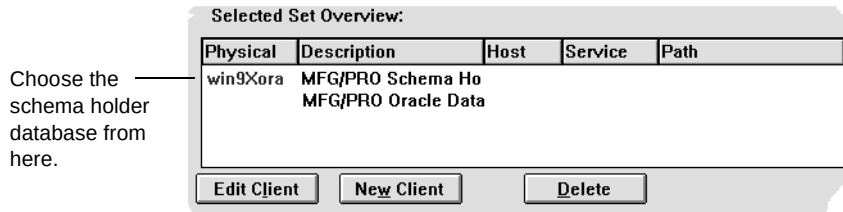


- 9 When the Database Set Configuration window appears, review the following notes to become familiar with this window.



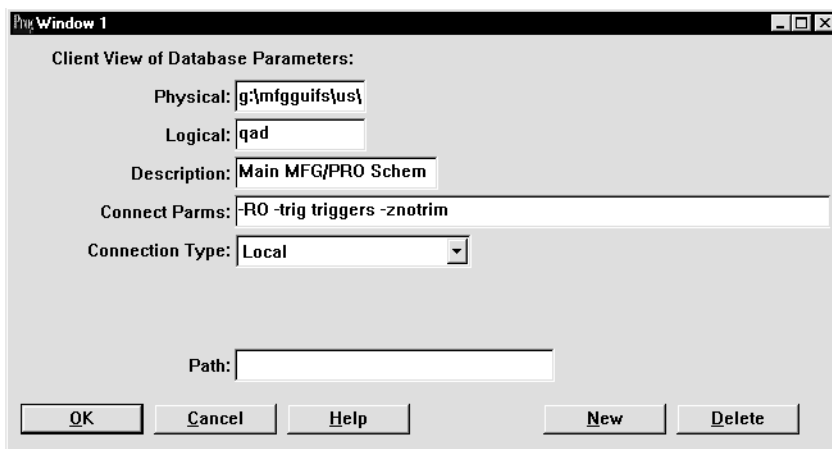
- 10 If the Active flag in the Select a Database Set portion of the Database Set Configuration window is set to Yes, MFG/UTIL will build a start-up icon for that database set. To change the setting of the Active flag, double-click on the database set name. When the Database Sets window appears, click on the Active field to select Yes or No.
- 11 Highlight the Production database set. The global parameters for this set appear to the right. Normally, you do not need to change them, but you can by choosing Edit Set.

- 12 Configure the schema holder database** by selecting win90ora from the Selected Set Overview list and choosing Edit Client.



- a** When the Client View of Database Parameters window appears, complete it using the following table and example illustration.

Field	Enter
Physical	The schema holder win90ora should default. Add in front of it the full directory path. The default location is: <i>WinInstallDir\LanguageDir</i> . For example, the path could be <i>g:\mfgguifs\us\win90ora</i> . If you moved the schema holder to each client PC, specify the local directory.
Logical	Do <i>not</i> change the logical name for any database.
Description	Enter a different description if you want.
Connect Params	Enter any additional PROGRESS connection parameters you want that apply specifically to the schema holder connection.
Connection Type	Choose the Local connection.
Path	Leave this field blank; it is not used.

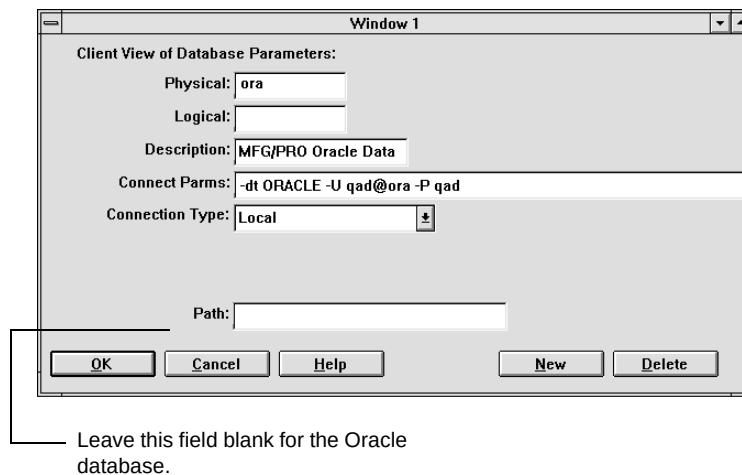


- b** Choose OK in the Client View of Database Parameters window.

- 13 Configure the Oracle database** by selecting the second database item (the default name is blank) in the Database Set Configuration window. Choose Edit Client. The Client View of Database Parameters window displays.

- a** Complete the parameters for the Oracle database according to the following table and example illustration.

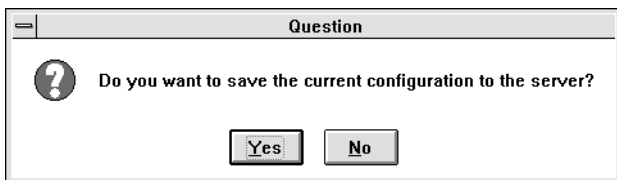
Field	Enter
Physical:	Enter the physical name of your Oracle database.
Logical:	This field should be blank. If an entry defaults, delete it.
Description:	Enter a different description if you want.
Connect Params:	Enter any PROGRESS connection parameters you want that apply specifically when clients connect to this database. You should have at least the following parameters: -dt ORACLE -U qad@ORACLE_SID (replace ORACLE_SID with the actual SID) -P qad
Connection Type:	Choose the Local connection.
Path:	Leave this field blank because the Windows clients do not connect to it directly.



- b** Choose OK in the Client View of Database Parameters window.

- 14 If you want to configure a Demonstration or Training database set, highlight the set name in the Database Set Configuration window and complete the parameters as described in the preceding steps.
- 15 When you have entered information for all the database sets you are installing, choose OK in the Database Set Configuration window.

The following message window appears.



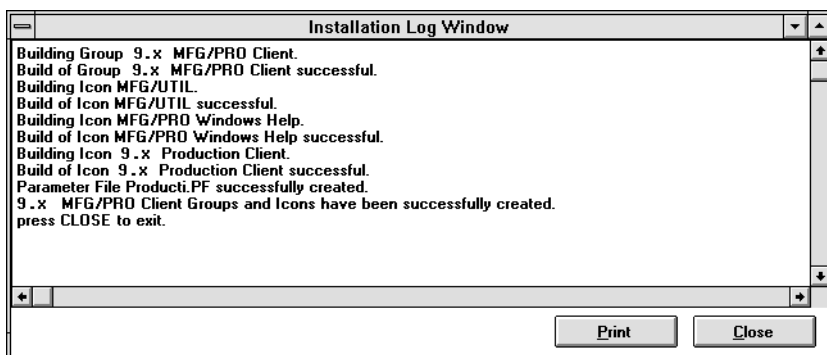
- 16 Choose Yes, to save the current configuration to the file server. This enables you to use the express setup on subsequent clients.

If you choose No, the installation does not save the current configuration to the file server; however, it will be saved to the client working directory of this PC.

For details, see
“Using Express
Setup for Client
PCs” on page 73.

Note If an error occurs, verify your write permission to the file server.

The Installation Log Window appends messages indicating steps completed by the installation program.

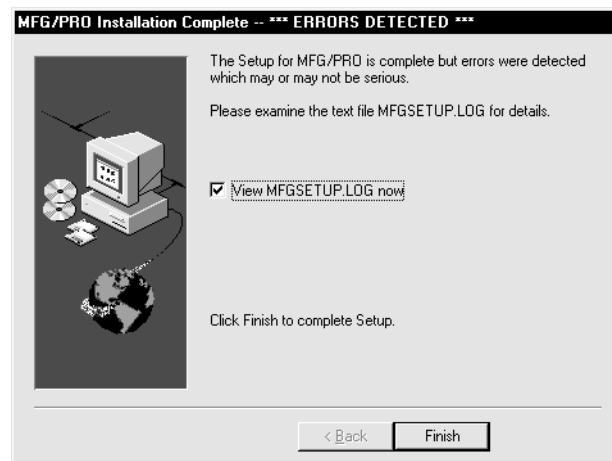


- 17 Choose Close. When the following window appears, choose Finish.



If Files Are Missing

- 1 If the installation program encounters errors, the following window appears. You may, for example, have a permissions problem.



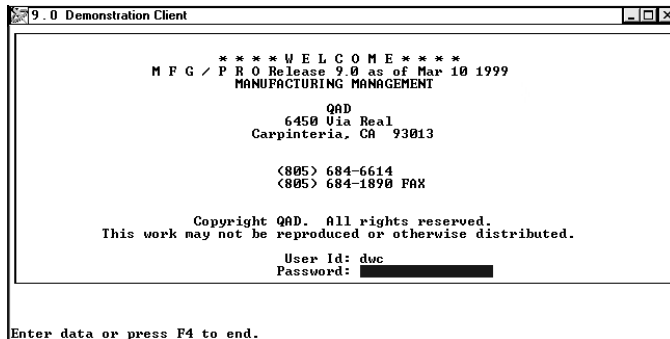
- 2 In this case, choose Finish. The `mfgsetup.log` file appears in the Windows Notepad. Examine the log file, correct the problem, and rerun the setup program.

Starting and Registering MFG/PRO

- 1 Before you test the client PC, ensure that the Oracle instance is running and the database is mounted for the chosen database set.
- 2 Click the MFG Production, Demo, or Training icon in the MFG/PRO program group. The MFG/PRO Sign On window appears.



Windows GUI
client example



Windows
character client
example

- 3 Choose OK or Exit.

Registering the License

▶ For background information on MFG/PRO licensing, see “User License Overview” on page 16.

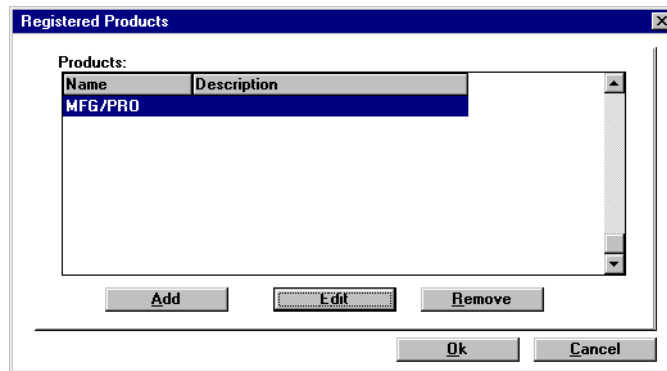
Register your MFG/PRO license the first time you log on. These steps require that you have the license code sheet included with your release media.

- 1 At the MFG/PRO Sign On window, press Return.
- 2 At the License Details window, choose Register.

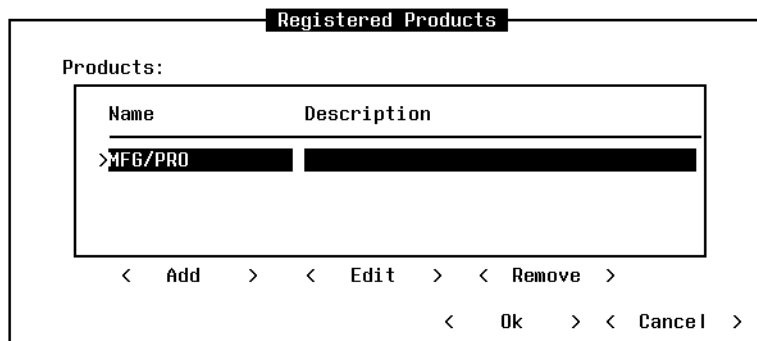
Note For Windows Character clients, to choose a button, press Tab until it is selected, and then press Enter.

- 3 At the Registered Products window, choose Add.

For Windows GUI clients, you should see the following window.



For Windows Character clients, you should see the following screen.



- 4 In the Add Product window, complete the License Code fields by entering the codes from the license code sheet included with your release media. Choose Ok.
- 5 Choose Ok at the Registered Products window.
- 6 When your license code and details display in the License Detail window, choose Ok. You will be returned to the shell.

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

Using Express Setup for Client PCs

The subsequent client installations can use an express setup, based on the settings of the first client installation. This feature is enabled if you answered Yes to the following prompt, just after completing the database set:

Do you want to save the current configuration to the server?

If you answered Yes, the first client settings are stored on the file server so that the other clients can copy them. If necessary, however, you can change the settings on the file server to set up some client PCs differently.

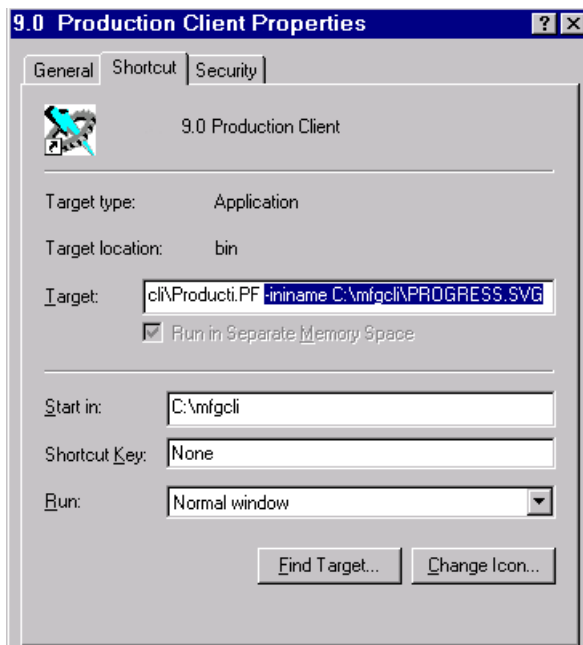
- 1 Repeat steps 1 through 8, starting on page 63, for each subsequent client PC you want to set up. MFG/UTIL completes the rest of the client setup automatically.
- 2 If you want to use different settings than the first client PC, do the following:
 - a Start MFG/UTIL from any client PC by clicking the MFG/UTIL icon.
 - b Select the Configure menu and choose Any Database Set to open the Database Set Configuration window.

- c In the Database Set Configuration window, make your changes.
- d Select the File menu and choose Save Default mfgutil.ini. MFG/UTIL stores your changes in the client administration directory on the file server, as well as on the current machine. Subsequent clients you set up will use these same settings.

Changing a Client's PROPATH After Setup

If you want to modify the PROPATH setting for MFG/PRO clients after installation, complete the following instructions.

- 1 Right-click the client icon and choose Properties.
- 2 From the Properties window, choose the Shortcut tab.



- 3 In the Target field, use the -iname 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.

Additional Setup for Windows Character Clients

This section includes additional information on Windows character clients.

Page Output

The MFG/PRO 9.0 Windows character client will support page output using existing routines and the PROGRESS Quoter function. To use one of the MFG/PRO page output destinations, you must modify the PC operating system path to include the `dlc` and `dlc\bin` locations of your PROGRESS 8.3 installation. For example:

```
c:\dlc83;c:\dlc83\bin
```

Windows Character Client Function Keys

The MFG/PRO 9.0 Windows character client function key commands are different than the Windows GUI client function keys. The main character-based commands are shown in the following table.

Command	Name	Description
F1	Go	Moves to the next frame
F2	Help	Opens a look-up browse. Press a second time to open online help.
F4 or Esc	End	Exits a frame, program, or menu. NOTE: To exit a character client session, you must press F4 from the MFG/PRO Main Menu. You cannot simply close the window.

For a complete list of commands, see the character keyboard commands documented in the *MFG/PRO User Interface Guide*.

Any commands that use the Esc key and a letter are for UNIX character clients only; for example, Esc-m to access menus. In most cases, use the Alt key or the mouse in place of these commands.

CHAPTER 6

Multiple Language Setup

This chapter explains the tasks needed to set up an additional language for MFG/PRO. Repeat all the tasks in this chapter for each additional language. For an overview of the multiple language environment, see “Multiple Language Installation Overview” on page 8.

Multiple Language Assumptions **78**

Loading an Additional Language on the Database Server **78**

Loading an Additional Language for Windows Clients **80**

Updating Translated System Data **81**

Replacing User Interface (GUI) and Configurator Data **83**

Setting Up Users and Testing the Language Installation **86**

Cleaning Up the System **86**

Routing Code	Operation	Standard Operation	Work Center	Machine	Description	Machines per Op	Overlap Units	Queue Time	Wait Time	Setup Time
10-15000	20	10:30	INSPECTION, ALL SITE	INSPEC PER PROX-000		1	1	1.0	0.0	0.0

Multiple Language Assumptions

It is assumed that:

- The installed languages all share the same codepage family.
- There is one production database shared by all language sessions.
- You have completed all MFG/PRO installation tasks for the first language.

Loading an Additional Language on the Database Server

Complete these steps to load the language-specific programs onto the server.

▶ See “Disk Space Requirements” on page 23.

- 1 Verify that you have adequate disk space on the database server.
- 2 To avoid overwriting the settings for your existing server start-up and shutdown icons, you must change the name of the existing MFG/PRO icon folder. For example, add the language code to the folder name. Typically, the folder is located in the following directory.

`\NTSystemDir\Profiles\All Users\Start Menu\Programs`

- 3 Insert the language version of the MFG/PRO for Windows NT Version 9.0 Server CD-ROM in the CD-ROM drive.
- 4 Run the `install.exe` program using File Manager, Explorer, or the Start button.

`CD-ROMDriveName:\install.exe`

- 5 Choose Next when the Welcome message window appears.
- 6 From the installation type selection, choose the option MFG_PRO DB and Character File Server.

- 7 In the selection window, choose the components to install and specify a temporary destination directory for the new language. For example, in the following temporary installation directory, fr is for French.

DriveName:\frInstallDir

Warning This directory must be different from the first language installation directory or you may encounter errors. This temporary directory will be removed when the additional language installation is complete and tested.

For details, see “Cleaning Up the System” on page 86.

- 8 Choose Next when finished.
- 9 Specify your PROGRESS NT Server and ProVISION directories when prompted. Choose Next to continue.
- 10 At the summary window, verify that the installation information is correct. Choose Next to begin installing or Back to make changes.
- 11 Choose Yes at the confirmation prompt.
- 12 When the MFG/UTIL Company Information window appears, choose Cancel. Also cancel all subsequent windows. This part of the installation creates databases and start-up icons, which were already created when you installed the first language.
- 13 Once the second language is loaded, open File Manager or Windows Explorer and find the two-letter language code directory under the temporary language installation directory. For example, fr is for French.

DriveName:\frInstallDir\fr

- 14 Copy the language code sub-directory into your first installation directory. The language directories must be on the same directory level; for example, *InstallDir\us* and *InstallDir\fr*. The us sub-directory is for American English and was the first installation directory.

- 15 Determine which language installation has the most up-to-date data by comparing the date of the `mnt_det.d` file in the `mfg` sub-directory of the first language with the date of the same file in the second language installation.
- 16 If the data from the additional language is the most up-to-date, you must copy the following sub-directories to overwrite the data in the first language installation. However, if the data from the *first* language is more up-to-date, you can skip this step.

Language Sub-Directories

- `gui`
- `mfg`

Note You may want to make back-up copies of these directories before you copy over them.

Loading an Additional Language for Windows Clients

To load language-specific programs for Windows GUI and Character clients onto the file server, repeat the instructions in “Loading Client Media” on page 51.

However, note the following differences.

- Specify a temporary language installation directory; for example, `mfgfrgui` (where `fr` is the French language code).
- Once the second language is loaded, open File Manager or Windows Explorer and find the two-letter language code directory under the temporary installation directory; for example, `mfgfrgui\fr`.
- Copy the language code sub-directory into your first installation directory. The language directories must be on the same directory level; for example, `InstallDir\mfgui` and `InstallDir\mfgfrgui`.

Windows GUI and Character Client Setup

You do not need to run the `setup.exe` program for additional languages, because the start-up icon for the first language will work for all other languages, assuming they share the same codepage family.

Updating Translated System Data

To complete the installation of an additional language, you must update the system data—including online help—with translated data.

If you have custom changes to menu and message settings, be aware that updating translated data overwrites these customizations. If you want these customizations available in your updated system, you must reenter them.

Prerequisite: Before you can load translated online help, you should have increased the size of the MFGHELP tablespace and MFGHELP_IDX index during the database setup.

◆ For details, see the warning on page 38.

Loading Menus and Messages

- 1 Ensure that no other users are on the system.
- 2 Start a MFG/PRO 9.0 session for the first language.
- 3 At the Main Menu, enter:

`mgdload.p`

Warning `mgdload.p` overwrites custom changes to menu and message settings. You must reenter these changes after the program runs.

- 4 When `mgdload` opens, complete the fields according to the following table.

Note To run `mgdload` in report mode, enter Yes in the Count Only field.

Field	Enter
Input Directory	Enter your Version 9.0 installation directory followed by the mfg sub-directory.
Load mnd_det.d	Type Yes in these fields.
Load msg_mstr.d	
Load lng_mstr.d	
Load lngd_det.d	
All other Load fields	Type No.

Field	Enter
Count Only	Type Yes to run the mgdload program in report mode. The program reads and counts the records to be loaded without actually loading them. Use this feature to review the results of the load in the <code>mgdload.log</code> file before executing the load. If you are ready to make the database changes, type No.
Allow Errors	Type Yes.

- 5 Press F2 to start the load.
- 6 At the prompt Enter a password, userid, or group name, you can specify your security information.
- 7 Switch to a file management window and open the `mgdload.log` file in the working directory of the MFG/PRO session. Make sure no errors occurred from the mgdload process. The log file notes the number of records read for each of the files above, the messages changed in `msg_mstr`, and the menus added or removed in `mnd_det`.
- 8 Return to MFG/PRO and exit from mgdload.

Loading Translated Online Help

- 1 Open Field Help Load (36.4.19).
- 2 In the Language field, enter the two-letter language code of the *additional* language installation, such as `fr`.
- 3 Leaving other fields blank, skip to the Load File field and enter the explicit path to the `fieldhlp.fhd` file within the language directory of the language you are adding. For example:
`g:\InstallDir\LanguageCode\fieldhlp.fhd`
- 4 Press F2 to begin the load.

Loading for Other Databases

Repeat steps 1 through 7 in “Loading Menus and Messages” on page 81 for the mfg database, as well as training and demonstration databases, if you use them.

Replacing User Interface (GUI) and Configurator Data

Follow these steps to replace the user interface (GUI) and Configurator data with the most up-to-date cumulative data.

- 1** Have all users logged off your existing MFG/PRO system.
- 2** Log on with an ID that is a member of the Oracle database administration group (usually not root).
- 3** Make sure the Oracle instance is started and the database is mounted.
- 4** Open a DOS command window and change to the MFG/PRO-on-Oracle instance directory.
- 5** Run the following command to truncate gui data.
`sqlplus qad/qad`
- 6** A second command window appears with a SQL prompt. Run the SQL script with the following command.
`guitrunc.sql`
- 7** To close the second command window, type `quit`. Then close the DOS command window.
- 8** Verify the PROGRESS environment variables such as DLC are set.
- 9** Start MFG/UTIL from the database server program group.

- 10 From within MFG/UTIL, select the Database menu and choose Load Data from Directory. See the following table and example illustration as you complete the fields.

Field	Enter
From this Directory	Enter the path to the Version 9.0 installation directory and the gui sub-directory: <code>\InstallDir\gui</code>
From this Empty Database	In both fields, enter the path and name of the schema holder oraempty.db.
To this Database Name	

- 11 Choose OK and answer Yes to the following prompt.

Database Update and Load A database named /mfgpro9x/oraempty.db already exists. Data may be duplicated. Do you want to update it ? <input checked="" type="button" value="Yes"/> No

- 12 The Connect to a Database window appears automatically. See the following table as you complete the fields.

Field	Enter
Physical Database Name (-db)	Enter the schema holder name <code>oraempty.db</code> .
Client/Server Network Connection, Host Name, Service Name	To connect in a client/server environment using PROGRESS networking, choose this option and enter the host and service name.
Local Host Connection	For a local host connection (meaning the database is on the same machine as your PROGRESS session), select this option and complete the following fields.
Single-User Connection	Deselect this option.

Field	Enter
Database Path	Enter the directory path to the schema holder oraempty.db, but do not include the database name.
Additional (Startup) Parameters	Type the following parameters in this order: -ld qad -RO -db <i>ORACLEdbName</i> -ld qaddb -dt ORACLE -U qad@ <i>ORACLE_SID</i> -P qad

Single Database Connection

Connect To a Database

Physical Database Name: ORAEMPTY.DB

☐ Client/Server Network Connection
☒ Local Host Connection

☒ Single-User Connection

Host Name (-H):

Service Name (-S):

Database Path: F:\MFGPRO9x

Additional Parameters: -ld qad -RO -db o8xx -ld qaddb -dt ORACLE -U qad -P qad

OK Cancel Help

- 13 When the load is complete, choose Close in the Installation Log window.
- 14 Load Configurator data by repeating the steps 10 to 13; however, in the first window, From this Directory field, enter:
\InstallDir\cfg
- 15 Exit MFG/UTIL once all data is loaded.
- 16 To verify the load, review the MFG/UTIL log file in the
InstallDir.

Setting Up Users and Testing the Language Installation

In MFG/PRO, you must assign languages to each user. Open User Maintenance (36.3.18) and modify the Language field to the appropriate two-letter language code.

For Windows GUI clients using a non-English language, you must also deactivate the Microsoft WinHelp viewer help display. This way, the help displays from the help database, which contains the translated help. To deactivate WinHelp, open User Interface Profile (36.20.4), select each non-English user, and deselect the WinHelp check-box. (It should be blank.)

Language Test

To test your language installation, start an MFG/PRO session and log on as a user who is set up with the language code you want to test.

Open menu item 1.4.1 (in English, Item Master Maintenance), and verify that the fields and help are translated.

Cleaning Up the System

Once you have completed your language test and verified that your MFG/PRO fields have been translated, delete the temporary language directories you created in “Loading an Additional Language on the Database Server” on page 78 and “Loading an Additional Language for Windows Clients” on page 80.

These directories were created to temporarily hold your additional language information until it was copied into your main installation directory. The temporary language directories are now duplicate directories and are no longer needed. Delete them to provide additional disk space.

CHAPTER 7

Additional Setup

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

Oracle Database Administration **88**

Managing MFG/PRO with MFG/UTIL **89**

Using MFG/UTIL to Compile **90**

Loading or Updating Online Help Data **96**

Loading the Source Code Cross-Reference (Optional) **97**

Batch Processes with PROGRESS Prowin32 Batch Client **99**

Routing Maintenance (Main Screen)

Routing Code:	10-15000	NONAD(75) CDB IN
Operation:	20	
Standard Operation		
Work Center	1030	INSPECTION, ALL SITE
Machine		
Description	INSPEC PER PROX-000	
Machines per Op	1	Attention: P
Overlap Units	1	
Queue Time	1.0	
Wait Time	0.0	
Setup Time	0.0	

Route by Production Build Process

Oracle Database Administration

Use standard Oracle procedures for administering the database, including start-up, shutdown, and backup procedures. The PROGRESS schema holder database will not require as much administration, such as backups, because it does not contain data.

Note If you do need to back up the schema holder, make sure no client sessions are running against it, truncate the before-image file (extension .bi), and use operating system commands to make a copy.

Index Rebuilds: As with any Oracle database, periodic index rebuilds are recommended because the index tends to become fragmented.

Application Security: MFG/PRO on Oracle still relies on the system security available in PROGRESS.

Database Security: You can utilize any of the Oracle database security features in addition to the MFG/PRO security. For example, if you use other tools to access the Oracle database directly, you would probably want to implement Oracle database security.

Upgrades: Before you upgrade Oracle or PROGRESS, check to see if it is compatible with the other components. For example, if Oracle releases a new version, the PROGRESS DataServer may not immediately support it.

Modifying the Oracle Database

If you are 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 change Oracle, you must also change the PROGRESS schema holder. To do this, use the PROGRESS Data Administration tool, DataServer menu, Update/Add Oracle Table Definitions option. 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.

Managing MFG/PRO with MFG/UTIL

Some of the optional MFG/UTIL features you may want to use are listed in the following table. For details on using MFG/UTIL, see the *MFG/PRO System Administration Reference Guide*.

Task	How to Accomplish with MFG/UTIL
Start MFG/UTIL	Double-click the MFG/UTIL icon. For database-related functions, use the icon that is on the server machine. For functions related to client start-up, use the MFG/UTIL icon on a client PC. There are separate copies of MFG/UTIL for Windows GUI clients and Windows Character clients.
Modify MFG/PRO Start-Up Icons	From the MFG/UTIL Configure menu, choose Any Database Set and complete the Database Set Configuration window. To save your changes to the start-up scripts, choose one of the generate options from the Scripts menu.
Compile Code	To compile source programs, select the MFG/UTIL Program menu and choose Compile Procedures. Note: Do not use MFG/UTIL to compile Windows character code.
Generate Oracle Database Scripts	Changes the settings in the SQL scripts, which you run to create the Oracle database. You must answer various prompts, including the directory locations for control files, dump directories, system data files, logfiles, and more. This information affects the scripts: - crdb1ORACLE_SID.sql - crdb2ORACLE_SID.sql - initORACLE_SID.ora - config.ORACLE_SID (where ORACLE_SID is your Oracle system ID).
Create New Schema Holder from Oraempty	Copies the oraempty schema holder to a new schema holder.
Change Oracle Connection Parameters	Alters an existing schema holder to connect to a different Oracle database.

Using MFG/UTIL to Compile

MFG/UTIL provides a compile function that lets you compile against an active database. Use the following instructions to compile.

Important Before compiling MFG/PRO code in an Oracle environment, additional steps must be taken if you are planning to compile under one of the following circumstances.

- You are performing a non-English language compile
- You are compiling all of MFG/PRO
- You are compiling on a Windows character client.

▶ See page 91.

Non-English Language Compile

If you are compiling for a non-English language, you must first create a compile database set. Before beginning the compilation, complete all the instructions in “Multiple Language Setup” on page 77.

Compiling All of the MFG/PRO Programs

Whenever you compile all of MFG/PRO, you must recompile the following programs separately using the parameter `-nojoinbysqldb`. Otherwise, they will generate a run-time error: Bus Error (48). The programs are:

- `rescrp2a.p`
- `rescrp2b.p`
- `rewarp2a.p`
- `rewarp2b.p`

Note For performance reasons, no other programs should be compiled with the `-nojoinbysqldb` parameter.

- 1 In the MFG/PRO installation directory, create a text file named `compspec.wrk`. Using a text editor, enter each of the programs listed above, one to a line. There should be no extra blank lines.
- 2 On a Windows client, add `-nojoinbysqldb` to the end of the shortcut properties for the MFG/UTIL icon. To access the MFG/UTIL icon properties, you can open Windows Explorer and perform a search for `mfg_util`. Once the icon appears in the search, select it, choose Properties from the File menu, and choose the Shortcut tab.

- 3 Start MFG/UTIL. Choose Compile Procedures from the Program menu, select the option Contents of the Work File, and type the work file name you created, compspec.wrk.
- 4 After compiling, remove the -nojoinbysqlldb parameter from the MFG/UTIL icon.

Compiling Character Code

Prior to PROGRESS version 8.3A03 for Windows, compiled character code was not completely portable across platforms. A difference in program frame layouts exists between character r-code compiled on Windows character client machines and UNIX machines.

Important Because many MFG/PRO programs reference, or share, the same program frame layout, run-time errors occur when character code compiled on different machines is mixed.

QAD compiles all MFG/PRO character code on UNIX. The compiled character code (.r extension, referred to as r-code) is initially portable across platforms because all the program frames have the same layout.

A problem arises when users compile programs at their sites, for custom programs or patch implementation. The recompiled programs reference frame layouts specific to the machine where they were compiled. For example, programs compiled on Windows character clients reference Windows frame layouts and can no longer reference the existing UNIX character code frames.

When incompatible code is run, the following PROGRESS error occurs. In this example, *ProgramName* refers to the recompiled program name, and *FrameName* refers to the shared frame the program uses.

ProgramName Shared frame layouts do not match for frame
FrameName. (683)

Solutions

To solve this problem, implement one of the following options.

- Recompile all character programs on a single machine and perform all future compiles on the same machine.

For example, recompile all character code on a Windows character client, and perform all future compiles on that client.

Note This option does not require any additional setup or software.

- Recompile all character programs using the PROGRESS 8.3 `-portableframes` start-up parameter. Perform all future compiles using this parameter. Use the following instructions to implement this solution.

Compiling with the `-portableframes` Parameter

The `-portableframes` parameter enables you to compile on either UNIX or Windows machines. Use the following instructions to implement this solution.

Beginning with PROGRESS Version 8.3A03 for Windows, the `-portableframes` start-up parameter is provided to enable the creation of portable character code from either Windows character clients or UNIX machines.

Important Once this parameter is set, all character code must be compiled using it.

Run-time errors occur if you mix character code compiled with the `-portableframes` parameter and character code compiled without it. If you choose to use the `-portableframes` start-up parameter, you must recompile all MFG/PRO character code with it. Future compiles can be performed on either UNIX or Windows character client machines, but must have the `-portableframes` parameter set.

To implement the `-portableframes` start-up parameter, use the instructions appropriate to the operating system you will compile with.

Important QAD recommends that you recompile all programs during installation. If not, you must recompile all MFG/PRO programs when you compile your first patch or custom program.

- 1 Right-click the Start button.
- 2 Select Open All Users. The Start program group is displayed.
- 3 Double-click on the Programs icon. The individual programs are displayed.
- 4 Double-click the MFG/PRO program folder.
- 5 Edit the properties of the MFG/UTIL icon by performing the following:
 - a Right-click the MFG_UTIL icon and select Properties. From the Properties window, select the Shortcut folder tab.
 - b Add the `-portableframes` parameter to the end of the Target field.
 - c Click Apply to save your changes
- 6 When using PROGRESS 8.3 and MFG/UTIL to compile all—or a large number of—MFG/PRO programs, you may receive the following error.

Error: Insufficient disk space or write access denied (291).

To avoid this error, add the following start-up parameters to the target field after the `-d` and `-yy` parameters and before the `-ininame` parameter.

```
-D 50 -TM 31 -TB 31 -B 100
```
- 7 Perform all MFG/PRO compiles using this MFG/UTIL icon.

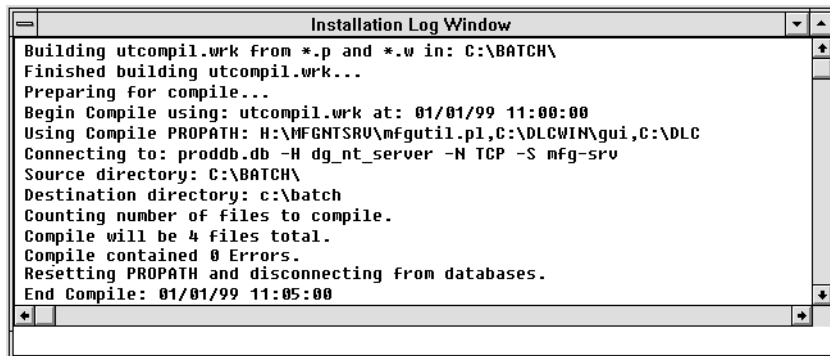
Compiling Code

Once you have implemented solutions to the compile issues that affect you, use the following instructions to compile MFG/PRO code.

- 1 From the MFG/UTIL main menu, select Program, then Compile Procedures.
- 2 In the Source Directory field, enter the source directory where the .p and other source files are located. Using the two radio buttons, you can compile all of the files in the source directory or point to a work file that contains a list of the files to be compiled. If you select the Files listed in work file option, another input field displays. Enter the full path name of the work file in this field.

- 3 Indicate if you want the new .r files saved. If you are performing test compiles, leave this box unchecked until you are ready to do your final compile. In the Destination directory field, enter the full path name of the destination directory.

- 4 If you choose to save the compiled files, do the following substeps.
 - a Enter or accept the default for the two-letter language code in the Language field. It is appended to the end of the directory you specify in the Destination directory field.
 - b Choose the MFG/PRO default option or the flat destination option. With the default option, your compiled .r code is placed in a series of two-letter sub-directories based on the first two letters of the program name. Also, if you compile triggers, they appear under a .triggers sub-directory. With the flat destination option, all .r code is placed directly under the destination directory, with no language code directory appended.
 - 5 The compile process must connect to an active database. In the Use this database set field, select a database set to run the compile against. If you have configured a compile database set, you should select that set; otherwise, select any database set that already has database servers started for it.
- Note** If you are compiling for a non-English language, the database set must contain a schema holder with translated labels loaded.
- 6 Choose Compile.
 - 7 During the compile, an Installation Log Window displays the current status.



```
Installation Log Window
Building utcompil.wrk from *.p and *.w in: C:\BATCH\
Finished building utcompil.wrk...
Preparing for compile...
Begin Compile using: utcompil.wrk at: 01/01/99 11:00:00
Using Compile PROPATH: H:\MFGNTRU\mfgutil.pl,C:\DLCWIN\gui,C:\DLC
Connecting to: proddb.db -H dg_nt_server -N TCP -S mfg-srv
Source directory: C:\BATCH\
Destination directory: c:\batch
Counting number of files to compile.
Compile will be 4 files total.
Compile contained 0 Errors.
Resetting PROPATH and disconnecting from databases.
End Compile: 01/01/99 11:05:00
```

- 8 When the compile ends, choose Print or Close.

Note MFG/UTIL saves the settings you entered in the Compile Procedures Files window so that you can reuse or modify them for the next compile.

Loading or Updating Online Help Data

You can load or update field help data into the Oracle instance after you create the instance and set up an MFG/PRO client. This help data displays in a database-driven help window and not the Windows help viewer. The advantage to using the help database is that you can add custom help.

- 1 Ensure that the Oracle database server, the DataServer, the Schema Holder, and the networking software (if any) are running.
- 2 Start an MFG/PRO client session and, from the MFG/PRO Main Menu, open Field Help Load (36.4.19).
- 3 In the Language field, enter the language code of your first language. (The language code should be listed on the product media.)
- 4 Skip to the Field Help Load File field, leaving all others blank, and enter the full path to the help file `fieldhlp.fhd`.

Drive:\InstallDir\LanguageDir\fieldhlp.fhd

For example:

G:\mfgpro90\us\fieldhlp.fhd

Note If you enter an uninstalled language code, the following message displays: “Field Help file not found. Continue with English?” Respond Yes to load the default English field help file. Respond No to return to the Language field and enter a language code. If you input an invalid language code a second time, the default field help data file is loaded.

- 5 Accept the default value in the following field:
Skip loading help with lower status: yes
- 6 Press Go to begin the load process.
As the load proceeds, the number of records that have been read and loaded displays on the screen.

- 7
- Load help for any other languages, using the appropriate language code in the Language field and Field Help Load File field.

Loading the Source Code

Cross-Reference (Optional)

The source code cross-reference information provides a map of how the MFG/PRO programs and other components relate to each other. Loading this data is optional. It substantially increases the size of the help tablespace. Load the cross-reference data only once for all languages.

There are six help cross-reference .d files located in the *InstallDir\mfghelp* sub-directory. The file names are:

- xd_mstr.d
- xmi_mstr.d
- xm_mstr.d
- xf_mstr.d
- xp_mstr.d
- xm_mstr.d

Warning Before you load this data, make sure you increased the default MFGHELP tablespace and index size in the MFG/UTIL prompts to the recommended size.

See the warning on page 38.

- 1
- From within MFG/UTIL, select the Database menu and choose Load Data from Directory. See the following table to complete the fields.

Field	Enter
From this Directory	Enter the path to the Version 9.0 installation directory, followed by the mfghelp directory: <i>InstallDir\mfghelp</i>
From this Empty Database	In both fields, enter the path and name of the schema holder oraempty.db.
To this Database Name	

- 2
- Choose OK, and answer Yes to the following prompt.

Database Update and Load

A database named /mfgpro9x/oraempty.db already exists. Data may be duplicated. Do you want to update it ?

Yes

No

- 3 The Connect to a Database window appears automatically. See the following table and example illustration as you complete the fields.

Field	Enter
Physical Database Name (-db)	Enter <code>oraempty.db</code> .
Client/Server Network Connection, Host Name, Service Name	To connect in a client/server environment using PROGRESS networking, choose this option and enter the host and service name.
Local Host Connection	For a local host connection (meaning the database is on the same machine as your PROGRESS session), select this option and complete the following fields.
Single-User Connection	This setting has no effect in the Oracle environment.
Database Path	Enter the directory path to the schema holder <code>oraempty.db</code> , but do not include the schema holder name itself.
Additional (Startup) Parameters	Type the following parameters in this order: <code>-ld qad</code> <code>-RO</code> <code>-db ORACLEdbName</code> <code>-ld qaddb</code> <code>-dt ORACLE</code> <code>-U qad</code> <code>-P qad</code>

Single Database Connection

Connect To a Database

Physical Database Name:

☐ Client/Server Network Connection
☒ Local Host Connection

☒ Single-User Connection

Host Name (-H):

Service Name (-S):

Database Path:

Additional Parameters:

- 4 When the load is complete, choose Close from the Installation Log window.

Batch Processes with PROGRESS Prowin32 Batch Client

In an MFG/PRO for Windows NT Version 9.0 environment, you can significantly improve performance of certain functions by using the PROGRESS Prowin32 Batch Client. This client can be used to process long-running batch jobs such as regenerative MRP or provide continuous *Hotbatch* processing for background operations such as printing large reports.

The examples in this section illustrate how to set up batch processing to run a regenerative MRP against the `mfgdemo` database and set up Hotbatch processing.

Overview

Setting up the batch process consists of implementing a pre-compiled BATCH.P program to be called by Prowin32. The sections that follow describe the following activities:

- Editing the Batch Program and Input Control File
To meet your specific requirements, you must modify the sample batch program and input the control file provided in this release.
- Copying and Editing the progress.ini File
The `progress.ini` file (which you rename `progress.bch`) controls your batch processing environment variables, such as the `PROPATH`.
- Modifying the batch.pf File
This file must point to your production database.
- Creating Unique Batch Directories
Each batch file must have its own directory.
- Defining Batch IDs for MRP and Hotbatch
An example MRP batch ID is explained, as well as a Hotbatch batch ID for running continuous batch processes.

- Submitting Batch Jobs in MFG/PRO

Once you define the batch IDs, you can schedule items in MFG/PRO.

- Scheduling Batch Jobs in Windows NT

You can schedule the batch jobs using an icon, the Windows NT AT command, or the Windows NT Resource Kit scheduler.

◆ For instructions, see “PROGRESS ProControl Utility” on page 131.

Note If you are using ProControl to start your databases, it is critical for batch processes that you set up the ProControl environment setting ACCESS=all.

Editing the Batch Program and Input Control File

MFG/PRO for Windows NT Version 9.0 includes a pre-compiled batch control program. Below is a listing of the batch control program. The batch program is in the *InstallDir*\BATCH directory.

Statements in batch Program	Comments
INPUT from batchin.inp.	Defines the input control file.
OUTPUT to batchout.out.	Defines an output file for MFG/PRO screens. This can be very useful for debugging.
PAUSE 0 BEFORE-HIDE.	Standard programming convention.
RUN MF.P.	Calls the MFG/PRO main program.
INPUT CLOSE.	Cleanup.
OUTPUT CLOSE.	Cleanup.

There are two sample batch control files in the sub-directory *InstallDir*\batch:

- mrpbatch.inp (intended for MRP batch processes)
- hotbatch.inp (intended for continuous background processing)

To use either of these sample files, you must first copy or rename the selected file to `batchin.inp`.

Statements in mrpbatch.inp Control File	Comments
" "	Positional field.
"mgbatch.p"	Call the mgbatch program.
"mrp"	Call the MRP Batch ID.
.	Escape.
.	Escape.
"Y"	Log off confirmation.

Statements in hotbatch.inp Control File	Comments
" "	Positional field.
"mgbatch.p"	Call the mgbatch program.
"hotbatch" - - - - - "yes" "30"	Schedule the hotbatch Batch ID.

If you choose to set up both hotbatch and mrpbatch, you must put each batch control file, along with all other batch processing files, in separate directories. You need a unique directory for each control file because the control file name, `batchin.inp`, is the same in all cases.

Note The minimum files required in each batch directory are: `batch.pf`, `batch.r`, `batchin.inp`, and `progress.bch`.

Copying and Editing the progress.ini File

- 1 Copy the `DLC\bin\progress.ini` file to the following location.
InstallDir\batch\progress.ini.
- 2 Rename the extension of the copied file to `progress.bch`.
- 3 Open the copy of the `progress.bch` file in a text editor.

- 4 In the [Startup] section, modify the PROPATH entry to point to your *InstallDir* directory and the *InstallDir\triggers* directory.

Example Original PROPATH

```
PROPATH=., c:\DLC\PROBUILD\EUCAPP, c:\DLC\PROBUILD\
EUAPP\EUC.PL
```

Example Modified PROPATH. In the following example *mfgntsvr* refers to the MFG/PRO database server's installation directory.

```
PROPATH=., d:\mfgntsvr, d:\mfgntsvr\triggers
```

Note This sets your batch PROPATH to point to the MFG/PRO Windows NT character code.

- 5 Save your changes.

Modifying the batch.pf File

This section describes how to modify a copy of the standard *batch.pf* file to use as the batch start-up parameter file. This file is used during batch processing to point to your production database and to set certain PROGRESS environment variables. You will find the *batch.pf* file in the *InstallDir\batch* sub-directory.

- 1 Open *batch.pf* in a text editor.

Sample File:

```
-db your-production-database -mmax 8192 -l 4096 -T
your-temp-drive
```

- 2 Change *-db your-production-database* to point to the location of your production database. Use the full path.

Example:

```
-db d:\mfgntsvr\mfgdemo.db
```

- 3 Change *-T your-temp-drive* to point to a temp file location.

Example:

```
-T c:\temp
```

- 4 Specify the location of your gui database using the following line.

```
-db your-gui-database -ld qadgui
```

Example:

```
-db d:\mfgntsvr\gui.db -ld qadgui
```

- 5 Add the `-cpinternal`, `-cpcoll`, and `-cprcodein` database connection parameters. Use the settings appropriate for your language.

The following example applies to most Western European language systems.

```
-cpinternal iso8859-1 -cpcoll basic -cprcodein iso8859-1
```

- 6 Save the `batch.pf` file.

Note If you change the location of your databases, make sure the `batch.pf` file is also changed to reflect the new database locations.

Creating Unique Batch Directories

As an example of creating batch processes for various batch jobs, you will create unique directories for your Hotbatch and MRP batch jobs. Depending on your business, other batch directories might be set up for daily, weekly, and monthly batch processes.

- 1 With Windows NT Explorer or File Manager, create Hotbatch and MRP directories under *InstallDir*\batch.

```
InstallDir\batch\mrp
```

```
InstallDir\batch\hotbatch
```

- 2 Copy the *InstallDir*\batch\hotbatch.inp file to your Hotbatch directory and rename it `batchin.inp`.
- 3 In your Hotbatch directory, open the `batchin.inp` file in a text editor.
- 4 Change the last variable in the final line from 30 to 300.

```
"hotbatch" - - - - - "yes" "300"
```

The batch ID hotbatch will now be run every 300 seconds.

- 5 Copy the *InstallDir*\batch\mrpbatch.inp file to your MRP directory and rename it batchin.inp.
- 6 Copy the remaining batch files into both directories.

Batch Process Files

- batch.pf
- batch.r
- progress.bch

Both your Hotbatch and MRP directories should now contain the required batch files: batchin.inp, batch.pf, batch.r, progress.bch.

Defining Batch IDs for MRP and Hotbatch

Use the following steps to define the MRP batch job.

- 1 Start an MFG/PRO client session against your production database. In this example, we are using *mfgdemo* as the production database.
- 2 Log in and select menu item Batch ID Maintenance (36.14.1).
- 3 In Batch ID Maintenance, complete the following steps.
 - a Create a Batch ID called MRP. Enter the MRP Batch ID name, and press Enter.
 - b Enter the Permanent and Priority fields.

Batch ID Maintenance

User Menu Edit Queue Options Help

Batch ID: MRP

Permanent: no

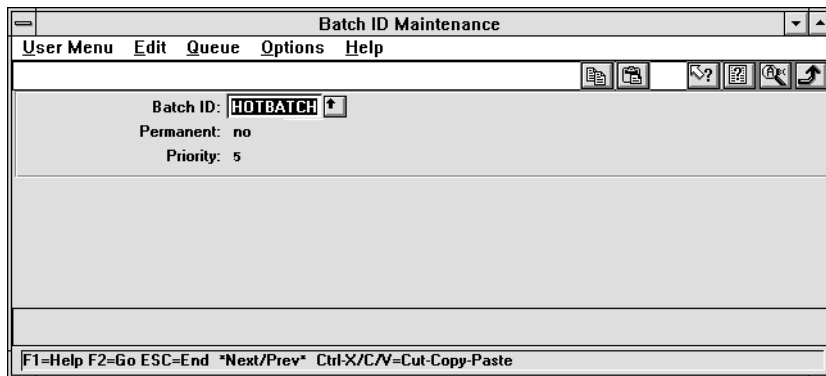
Priority: 10

F1=Help F2=Go ESC=End F5=Delete Ctrl-X/C/V=Cut-Copy-Paste

Note In this example, the Permanent field is set No and the Priority field is set to 10. This is the priority that this Batch ID runs in relationship to concurrent batch processes. Priority 10 is the highest.

Use the following steps to define the Hotbatch batch job.

- 1 In Batch ID Maintenance (36.14.1), complete the following steps to add a new Batch ID record.
 - a Create a Batch ID for a Hotbatch batch job.



- b Set the Permanent field to No. If the Permanent field is set to Yes for hotbatch jobs, they will run continuously at the rate specified in the batchin.inp file (for example, every 300 seconds).

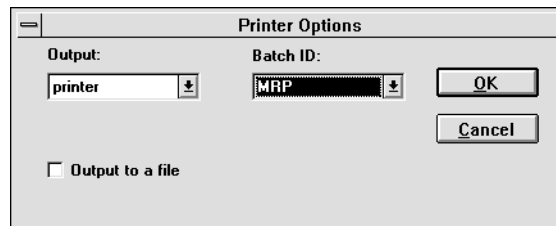
Note To shut down a continuous batch process without shutting down the associated databases, use the Windows NT Task Manager (Ctrl + Shift + Esc) to end the PROGRESS application.

- c Press Go to add the new Batch ID record.
- 2 When the process is completed, press End.

Submitting Batch Jobs in MFG/PRO

These steps explain how to set up batch jobs using the examples of Regenerate Materials Plan (MRP batch ID) and Control File Report (Hotbatch batch ID).

- 1 From the main menu, select Regenerate Materials Plan (23.2).
- 2 At the Regenerate Materials Plan window, enter a site range of 1000 to 5000, then choose Print.
- 3 At the Print Options window, select your output device, select the MRP Batch ID, and choose OK.

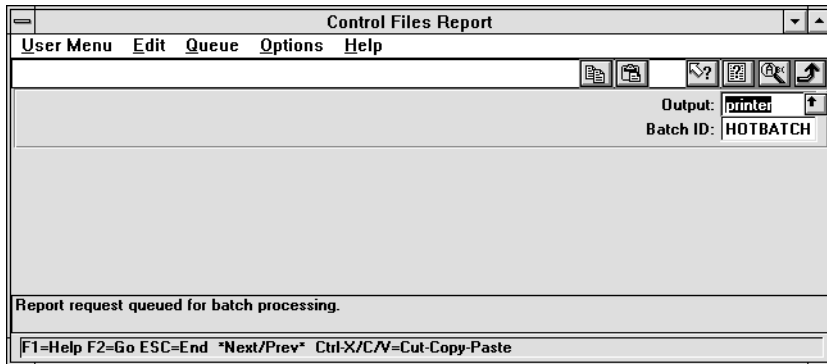


- 4 Exit from Regenerate Materials Plan. The MRP request is now queued for batch processing.

Hotbatch Batch ID Example

- 1 Select any report; for example, Control Files Report (36.17.6).

- 2 In the Control Files Report window, select your output device, select the Hotbatch batch ID, and press Go.



Your Report is now scheduled for background printing under control of the batch processor.

- 3 You can check the status of your batch requests by selecting Batch Request Detail Maintenance (36.14.3).

Scheduling Batch Jobs in Windows NT

To schedule a batch job, it is recommended you use a .BAT (batch) file. Once you set up this file, you can use either or both of the example techniques shown in this section:

- Using an icon (launches the process on demand)
- Using the AT command (launches the process at a scheduled time)

You can also use the Microsoft NT Resource Kit to schedule batch processing. See that product's documentation for details.

Note You must have the Oracle database mounted in order for the batch process to work.

Set Up .bat File

These steps are required whether you use the icon or AT command method of scheduling.

- 1 In a text editor, create a .bat (batch) file with the following text. Replace variable directories and names as appropriate.

```
REM Ensure Environment Variables are set correctly
    set ORACLE_HOME=OracleHomeDir
    set ORACLE_BIN=OracleHomeDir/bin
    set ORACLE_SID=OracleInstanceName
    set PATH=%PATH%;%ORACLE_BIN%
    set DLC=ProgressDir
    set PATH=%PATH%;%DLC%\bin;

REM Change to Drive Where MFG/PRO is installed
    InstallDrive:

REM Change to batch directory for MFG/PRO
    cd InstallDir\batch

REM Start Batch Session (all one line)
    ProgressDir\bin\prowin32.exe
        -iname InstallDir\batch\progress.bch
        -pf InstallDir\batch\batch.pf
```

- 2 Use any name for the .bat file. The subsequent steps refer to this file as *BATFileName.bat*.

Using an Icon

Use these steps if you choose to set up a shortcut icon that launches MFG/PRO batch processing on demand.

- 1 Create a new batch client shortcut with the following properties in the Shortcut tab.

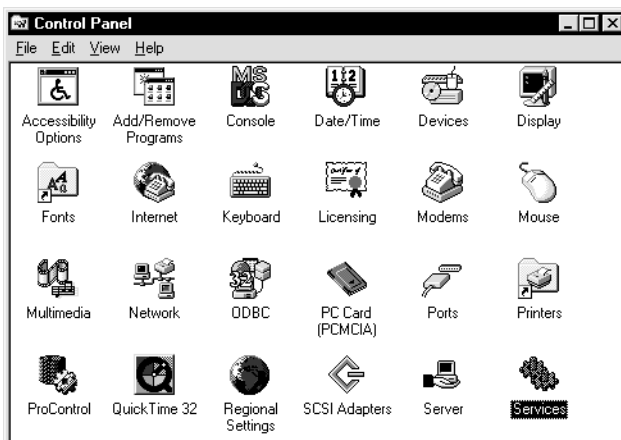
Target:	<i>InstallDir\batch\BATFileName.bat</i>
Start In:	<i>InstallDir\batch</i>

- 2 You can now call the batch process by clicking the new batch icon. To track the process, use the Window NT Task Manager, Applications tab.

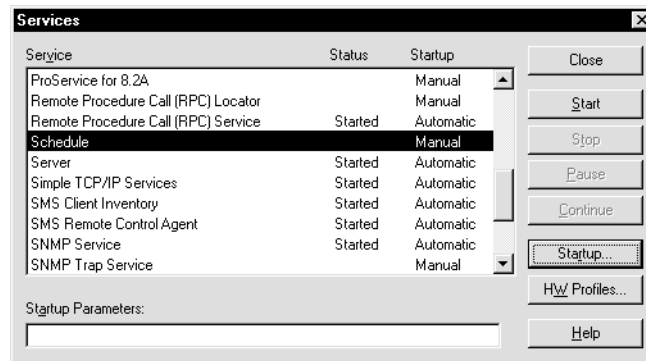
Using the AT Command

Use these steps if you choose to set up MFG/PRO batch processing on a scheduled basis.

- 1 From the Control Panel, select Services.



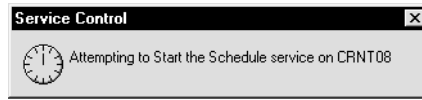
- 2 From the Services window, highlight Schedule and choose the Startup... button.



- 3 In the Service window, do the following.
 - a Select Automatic under the Startup Type so that the service is always running.
 - b Select Allow Service to Interact with Desktop (the box should be checked). This setting is required for the batch program to run. Choose OK.



- 4 When the Services window reappears, make sure Schedule is still highlighted and choose Start. The following window appears as this service starts.



- 5 Verify that "Started" appears in the Schedule status, and choose Close.
- 6 To schedule the batch job with the AT command, open the DOS Command Prompt window and enter the appropriate AT syntax. Use the following examples as guidelines. For more information on the Windows NT AT command, see Microsoft's Windows NT documentation or online help.

To run the batch job every weekday at 7 pm, type the following *as one command line*:

```
at 19:00 /interactive /every:M,T,W,Th,F  
    "BatchDir/BATFileName.bat"
```

To run the batch job once at 6 pm the same day, type the following:

```
at 18:00 /interactive "BatchDir/BATFileName.bat"
```

- 7 To view the schedule of batch jobs, type:
at

Tablespace

Below are the default tablespaces created by the installation, along with the associated tables. Use this list when estimating the tablespace sizes.

Other Tablespaces 128

Tablespaces with MFG/PRO Production Data

The following tablespaces and indexes are associated with the main MFG/PRO schema objects that hold production data.

CONTROL and CONTROL_IDX: Control tables and indexes; generally one record per table with little growth in number or size.

adc_ctrl	Address Control File
apc_ctrl	Accounts Payable Control File
arc_ctrl	Accounts Receivable Control File
bic_ctrl	Service/Support Contract Billing Control
bl_ctrl	Master Bill of Lading Control File
cac_ctrl	Service/Support Call Master Control
cfc_ctrl	Cash Flow Control File
clc_ctrl	Compliance Control File
cmc_ctrl	Customer Control File
co_ctrl	General Ledger (Company) Control File
drp_ctrl	DRP Control File
ecc_ctrl	Engineering Change Control File
egc_ctrl	Service/Support Engineer Schedule Control File
emc_ctrl	Employee Control File
esc_ctrl	Service/Support Escalation Control File
euc_ctrl	Service/Support End User Number Control
fac_ctrl	Final Assembly Control File
fas_ctrl	Fixed Asset System Control File
ffc_ctrl	Forecast Calculation Control File
gl_ctrl	System/Account Control File
icc_ctrl	Inventory Control File
mfc_ctrl	Control File Data—Interim
mrpc_ctrl	MRP Control File
opc_ctrl	Shop Floor Operation History Control File
ops_ctrl	Operations Planning Control File
pgc_ctrl	Service/Support Pager Control File
pic_ctrl	Pricing Control File
poc_ctrl	Purchase Order Control File
prc_ctrl	Payroll Control File

CONTROL and CONTROL_IDX: Control tables and indexes; generally one record per table with little growth in number or size.

qcc_ctrl	Quality Order Control File
qoc_ctrl	Sales Quotation Control File
rmc_ctrl	RMA Control File
rpc_ctrl	Repetitive Control File
sac_ctrl	Service Contract Control File
seoc_ctrl	Service Engineer Order Control File
soc_ctrl	Sales Order Control File
spc_ctrl	Salesperson Control File
src_ctrl	Service Request Control File
sroc_ctrl	Service/Repair Order Control File
svc_ctrl	Service/Support Management Control File
txc_ctrl	Tax Control File
usrc_ctrl	User Control

GLRPWRTR and GLRPWRTR_IDX: Tables and indexes used with the General Ledger Report Writer feature.

dbgr_ver	Database Revision Control File
gr_ctrl	G/L Report Writer Control File
gra_mstr	Analysis Code Master File
grac_det	GLRW Account Balances
grad_det	Analysis Code Detail File
gral_det	Analysis Code Link-File Detail
gras_det	Analysis Code -- GL-Code Selection Detail File
grbg_det	GLRW Budgeted Account Balances
grc_mstr	Column Group Master
grcd_det	Column Group Detail File
grdf_mtx	Definition Matrix
grfn_mstr	GL Report Writer Function Master
grhd_det	Row/Column Sequence Detail File
gri_mstr	Report Image Master File
grib_det	Break Group Detail File
gric_det	Image Column Detail File
grid_det	Report Image Detail File
grig_mtx	Report Image Matrix
gril_det	Analysis Code -- Explosion-Level Detail File

GLRPWRTR and GLRPWRTR_IDX: Tables and indexes used with the General Ledger Report Writer feature.

grit_wkf	Analysis Code -- Item Type Workfile.
grqd_det	General Ledger Calendar -- Fiscal Quarter Detail File
grr_mstr	Row Group Master
grrd_det	Row Group Detail
grtx_det	GLRW Header Text-String Detail File
grv_det	GLRW Account Balances
grx_mstr	Report Content Master File
grx1_wkfl	Analysis Code Explosion Workfile
grx2_wkfl	Row/Column Explosion Workfile
grx3_wkfl	Hierarchy Explosion Workfile

GLTDET and GLDET_IDX: The General Ledger transactions table (glt_det) and index; data is added to the end of the file.

GLTRHIST and GLHIST_IDX: The General Ledger transaction history table (gltr_hist) and index; data is added to the end of the file if you have auditing enabled.

HISTORY and HISTORY_IDX: All history tables and indexes; expect large growth in number and size if you have auditing enabled.

cah_hist	Service/Support Call History
cmh_hist	Sales History—Customer
cph_hist	Sales History—Customer-Item
fnh_hist	Service/Support Field Notification History
ftch_hist	Service/Support Trace History File
ibh_hist	Sales Order Configuration Bill History
idh_hist	Invoice History Detail
ih_hist	Invoice History Master File
iph_hist	Pricing History File
itmh_hist	Service/Support Call Item History
mph_hist	Master Specification Test History
op_hist	Shop Floor Operation History
pgh_hist	Service/Support Paging History
pih_hist	Pricing History File
prh_hist	Purchase Order Receipt History
pth_hist	Sales History—Products

HISTORY and HISTORY_IDX: All history tables and indexes; expect large growth in number and size if you have auditing enabled.

rhd_hist	RMA Detail History
sadh_hist	Service Contract Detail History
sah_hist	Service Contract History Master
salh_hist	Service/Support Contract Limit History
sfh_hist	Service/Support Billing History
sph_hist	Sales History—Salesperson
vph_hist	Voucher/Purchase Receipts History

INTRASTAT and INTRASTAT_IDX: Tables and indexes used with the Intrastat feature.

csid_det	Controlled Substance Item Detail File
csim_mstr	Controlled Substance Item Master File
ie_mstr	Import/Export Master
iec_ctrl	Import/Export Control File
ied_det	Import/Export Detail
ieh_hist	Import/Export History

MRPDET and MRPDET_IDX: The Material Requirements Planning table (mrp_det) and index.

QADWKFL and QADWKFL_IDX: The QAD Workfile table (qad_wkfl) and index; expect large growth in number and size.

REFERENCE and REFERENCE_IDX: Reference tables and indexes such as generalized codes, menus, and messages; expect little growth.

code_mstr	Code Master
fldf_mstr	Field Default Master
flh_mstr	Field Help Program Master
lngd_det	Language Detail
mnd_det	Menu Detail
mne_det	Menu Program Execution Detail
mnt_det	Menu Title Detail
msg_mstr	Message Master

STATIC and STATIC_IDX: Tables and indexes with little growth in number or size.

ac_mstr	Account Master
acm_mstr	Average Cost Master for Co-Products/By-Products
act_mstr	Alternate Container Master
acx_mstr	Account Cross-Reference Master
ad_mstr	Address Master
al_mstr	Allocation Account Master
ald_det	Allocation Account Detail
asc_mstr	Account Sub-Account Cost Center Master
ast_mstr	Asset Master
bg_mstr	Budget Master
bgd_det	Budget Detail
bk_mstr	Bank Master
bom_mstr	Product Structure (Bill of Material) Master
bt_mstr	Payroll Deduction Base Type Master
btd_det	Payroll Deduction Base Type Detail
cal_det	Calendar Detail
caq_mstr	Service/Support Call Queue Master
cas_mstr	Service/Support Call Status Master
cb_mstr	Cash Book Master
cc_mstr	Cost Center Master
ccd_mstr	Service/Support Call Fault Code Detail
ccd1_det	Cost Center—Account Validation Detail
ccd2_det	Cost Center—Sub-Account Validation Detail
cdf_mstr	Service/Support Call Defaults
cf_mstr	Cash Flow Master
chm_mstr	Service/Support Call History Master
cls_mstr	Class Master
cm_mstr	Customer Master
com_mstr	Commodity Code Master
cost_cal	Cost Set Calendar
cp_mstr	Customer Item Master
cpc_mstr	Customer Period Calendar Master File
cpcd_det	Customer Period Calendar Detail File
cref_mstr	Service/Support Cross-Reference Master

STATIC and STATIC_IDX: Tables and indexes with little growth in number or size.

cs_mstr	Cost Set Master
csa_mstr	Controlled Substance Authority File
csbd_det	Customer/Supplier Bank Detail
csc_mstr	Controlled Substance Customer File
csil_mstr	Individual License Master File
csld_det	Individual License Detail File
cslm_mstr	General License Master File
css_mstr	Controlled Substance Site File
cssi_det	Cost-Site Detail
cst_mstr	Fixed Asset Custodian Master
ct_mstr	Credit Terms Master
ctd_det	Credit Terms Detail
ctry_mstr	Country Master
dbk_mstr	Depreciation Book Master
dbv_mstr	Database Revision Control File
dc_mstr	Database Connection Master
ded_mstr	Deduction Master
dpc_mstr	Depreciation Convention Master
dpr_mstr	Depreciation Method Master
dprt_det	Depreciation Method Table Detail
dpt_mstr	Department Master
dptd_det	Payroll Department Detail
ea_mstr	Earnings Master
eca_mstr	Engineering Change Approval Master
ecm_mstr	Engineering Change Master
ect_mstr	Engineering Change Type Master
ed_mstr	Employee Deduction Master
egd_det	Service/Support Engineer Schedule Detail
egs_det	Service/Support Engineer Problem/Skills Detail
elm_dflt	Cost Element Defaults
emp_mstr	Employee Master
emsg_mstr	Service/Support Engineer Message Master
en_mstr	Entity Master
eng_mstr	Service/Support Engineer Master
es_mstr	Service/Support Escalation and Repair Master

STATIC and STATIC_IDX: Tables and indexes with little growth in number or size.

esh_mstr	Service/Support Engineer Schedule Master
ess_mstr	Service/Support Engineer Status Master
eu_mstr	Service/Support End User Master
eud_det	Service/Support End User Detail
ex_mstr	Currency Exchange Master
exc_mstr	Consolidation Currency Exchange Master
excd_det	Consolidated Exchange Rate Detail
fal_mstr	Fixed Asset Location Master
fcc_mstr	Service/Support Charge Code Product Line
fcd_mstr	Service/Support Charge Code Defaults
fcg_mstr	Service/Support Charge Code Master
fct_mstr	Service/Support Call Types
fis_mstr	Invoice sort categories
fkt_mstr	Service/Support Kit Master
flp_plan	Family Line Planning File
flpw_mstr	Field Security Master
fm_mstr	Format Position Master
fn_mstr	Service/Support Field Notification Master
fnd_det	Service/Support Field Notification Detail
fpc_mstr	Service/Support Contract/Repair Pricing
fpci_mstr	Service/Support Price Indexing Master
fpd_cost	Family Item Cost File
fpst_mstr	Return Status Master
fr_mstr	Freight List Master
frcd_det	Freight Charge Detail
frd_det	Freight Rate Detail
frm_mstr	Freight Rate Master
frzd_det	Freight Zone Detail
fsc_mstr	Service Category Master
fsh_mstr	Service/Support Holiday master
fspi_det	Service/Support Contract Price Indexing
ft_mstr	Freight Terms Master
ftrc_mstr	Service/Support Trace Master
ftxd_det	Federal Income Tax Tables Detail
fwk_mstr	Service/Support Work Code Master

STATIC and STATIC_IDX: Tables and indexes with little growth in number or size.

glc_cal	General Ledger Calendar
glr_mstr	General Ledger Report Master
glrd_det	General Ledger Report Detail
hd_mstr	Holiday Master
hlp_mstr	Help Master
ild_det	Item Location Detail
in_mstr	Inventory Master
ind_det	Independent Demand File
is_mstr	Inventory Status Master
isd_det	Inventory Status Detail
iss_mstr	Service/Support Installed Base Structure
it_mstr	Item Status Master
itm_det	Service/Support Call Item Detail
its_mstr	Item Site Load Master
itsd_det	Item Site Load Detail File
kb_mstr	Kanban Card Master Details
kbd_det	Kanban Card Details
ln_mstr	Line Master
lng_mstr	Language Master
loc_mstr	Location Master
lot_mstr	Lot Master File
ls_mstr	Address List Detail
ma_mstr	Mirror Account Master
max_mstr	Maximums Master
maxt_det	Maximum Table Detail
mnp_det	Service/Support Custom Program Detail
mp_mstr	Master Specification Record
mpd_det	Master Specification Detail
mpp_det	Service/Support Custom Program Parameter File
ocm_mstr	Service/Support On Call Master
opm_mstr	Standard Operation Master
pac_mstr	Purchase Approval Code Master
pal_mstr	Pallet Master
pald_det	Pallet Detail
pc_mstr	Price List Master

STATIC and STATIC_IDX: Tables and indexes with little growth in number or size.

pcd_det	Purchase Order Line Cost Element Detail
pf_d_det	Service/Support Item/Site Data
pgm_det	Program Detail File
pi_mstr	Price List Master
pid_det	Price List Detail
pj_mstr	Project Master
pl_mstr	Product Line Master
pld_det	Product Line Detail
plsd_det	Product Line Sales Detail
plt_det	Product Line Tax Detail
pou_det	Point of Use Detail
pp_plan	Product Line Plan
pq_mstr	Product Line Requirements
pr_mstr	Printer Master
prb_mstr	Service/Support Problem Master
prbd_det	Service/Support Problem Detail
prd_det	Printer Detail
ps_mstr	Product Structure Master
pt_mstr	Item Master
pta_det	Associated Item Detail
ptls_det	Item-Lot/Serial Attribute Detail
ptp_det	Item Planning Data Detail
ptqa_det	Item Quantitative Analysis Detail
ptr_det	Item Routing Detail
pts_det	Item Substitute Detail
ptt_det	Item Tax Detail
ptv_det	Parts Statistical Value Detail
qc_mstr	Quality Control Order Master
qcd_det	Quality Control Order Detail
qcs_mstr	Quality Sampling Pattern Master
qr_test	Quality Order Test Step File
qro_det	Quality Inspection Routing Detail
reg_mstr	Service/Support Region Master
req_det	Requisition Detail
rnd_mstr	Rounding Method Master

STATIC and STATIC_IDX: Tables and indexes with little growth in number or size.

ro_det	Routing Operation Detail
rps_mstr	Repetitive Production Schedule
rs_mstr	Resource Master
rsd_det	Resource Requirements Detail
rsn_ref	Reason Code Master
sal_mstr	Service/Support Contract Limits
sb_mstr	Sub-Account Master
sbc_mstr	Service/Support Billing Cycle
sbd_det	Sub-Account—Account Validation Detail
sca_mstr	Service Contract Additional Options
sd_mstr	Sales Order Discount Master
seq_mstr	Sequence Master—Line Scheduling
sfb_det	Service/Support Billing Detail
sft_mstr	Shift Master
shm_mstr	Shipping Schedule Master
shop_cal	Shop Calendar
si_mstr	Site Master
sm_mstr	Source Matrix Master
sop_det	Cost Simulation Operation Detail
sp_mstr	Salesperson Master
spd_det	Salesperson Commission Detail File
ssd_det	Source of Supply Detail
ssm_mstr	Source of Supply Master
st_mstr	State Tax Master
std1_det	State Tax Detail—Type 1
std2_det	State Tax Detail—Type 2
sv_mstr	Service Agreement Terms & Conditions Master
tag_mstr	Physical Inventory Tag Master
tax_mstr	Tax Master
taxd_det	Tax Details
tbl_mstr	SSM Parent/Child Relationship Master
tm_mstr	Transportation Master
trl_mstr	Trailer Master
trld_det	Trailer Tax Detail File
txbd_det	Tax Base Detail

STATIC and STATIC_IDX: Tables and indexes with little growth in number or size.

txe_mstr	Tax Environment Master
txed_det	Tax Environment Detail
txhd_det	Tax History Detail
txz_mstr	Tax Zone Master
typ_mstr	Fixed Assets Type Master
tzo_mstr	Service/Support Time Zone Master
tzod_det	Service/Support Time Zone Detail
ufd_det	Function Key/User Detail
um_mstr	Alternate Unit of Measure Master
upd_det	Printer/User Detail
usr_mstr	User Master
vp_mstr	Vendor Item Master
vt_mstr	Value Added Taxes Master
wc_mstr	Work Center Master
wcr_route	Work Center Routing Standards
whl_mstr	Warehouse Location Master
wk_mstr	Work Location Master
wkc_mstr	Workmen's Compensation Master

TRANSACTION and TRANSACTION_IDX: All transaction tables and indexes, such as sales orders; expect large growth in number and size.

abd_det	Asset Book Detail
abs_mstr	ASN/BOL/Shipper Master
accd_det	Asset Cost Change Detail
acd_det	Account Total Detail
adp_det	Auto Deposit Detail
alm_mstr	Auto Lot Master File
an_mstr	Analysis Code Master
anl_det	Analysis Code Link Detail
ans_det	Analysis Code Selection Detail
anx_det	Analysis Code Exploded Detail
ap_mstr	Accounts Payable Master
ar_mstr	Accounts Receivable Master
ard_det	Accounts Receivable Detail
atp_det	Available-to-Promise Detail

TRANSACTION and TRANSACTION_IDX: All transaction tables and indexes, such as sales orders; expect large growth in number and size.

aud_det	Audit Detail
ba_mstr	Batch Master
bc_mstr	Batch Control Master
bcd_det	Batch Control Detail
bdl_mstr	Batch Data Load Master
bdld_det	Batch Data Load Detail
ca_mstr	Service/Support Call Master
cd_det	Master Comments
chg_mstr	Line Changeover Master
ck_mstr	Check Master—Accounts Payable
ckd_det	Check Detail—Accounts Payable
cksd_det	Check Status Detail
cmt_det	Transaction Comments
dm_mstr	Drafts Management
dprd_det	Depreciation Detail
ds_det	Distributed Site Order Detail
dsd_det	Distributed Site Requisition Detail
dsr_mstr	Distributed Site Requisition Master
dss_mstr	Distributed Site Order Master
ecd_det	Engineering Change Detail—Item Masters
ecd1_det	Engineering Change Detail—Product Structures
ecd2_det	Engineering Change Detail—Routings
ecd3_det	Engineering Change Detail—Text Files
ecd9_det	Engineering Change Detail—Approvals
ecl_list	Engineering Change—Master Lists
edd_det	Employee Deduction Detail
eead_det	Employee Earnings Detail
ega_mstr	Service/Support Engineer Availability Master
egt_mstr	Service/Support Engineer Tracking Master
erd_det	Employer Paid Deduction Detail
ers_mstr	Evaluated Receipts Settlement Table
exd_det	Exchange Rate Detail
fc_det	Seasonal Build Detail
fcs_sum	Forecast Summary
ff_mstr	Forecasting Master File

TRANSACTION and TRANSACTION_IDX: All transaction tables and indexes, such as sales orders; expect large growth in number and size.

fh_mstr	Family Hierarchy Master
fp1_plan	Family Plan -- Production Backlog & Cost
fp2_plan	Family Plan -- Production Inventory & Order
fp3_plan	Family Plan -- Production & Shipment
fslp_pln	Simulation Line Planning File
fsp1_pln	Family Plan -- Simulation Backlog & Cost
fsp2_pln	Family Plan -- Simulation Inventory & Order
fsp3_pln	Family Plan -- Simulation Production & Shipment
glcd_det	General Ledger Calendar Detail
ib_det	Service/Support Installed Configuration Detail
ip_mstr	Item Specification Master
ipd_det	Item Specification Detail
iro_det	Item Routing Cost Detail
isb_mstr	Service/Support Installed Base Item Detail
lad_det	Allocation Detail By Location
ld_det	Inventory Detail By Location
lnd_det	Line Detail
mps_mstr	Master Production Schedule
oa_det	Action Message Detail
opgl_det	Shop Floor Operation-General Ledger Detail
pck_det	Payroll Check Detail
pfc_det	Production Forecast
pk_det	Pick List Detail
po_mstr	Purchase Order Master
pod_det	Purchase Order Detail
qo_mstr	Sales Quotation Master
qob_det	Sales Quotation Configuration Bill
qod_det	Sales Quotation Detail
qps_det	Quality Test Bill Detail
rbm_mstr	Retrobill Master
rdf_mstr	Service/Support Returns Defaults
rma_mstr	RMA Order Master
rmd_det	RMA Detail Lines
rq_mstr	Requirements Master
sa_mstr	Service Contract Master File

TRANSACTION and TRANSACTION_IDX: All transaction tables and indexes, such as sales orders; expect large growth in number and size.

sad_det	Service Contract Detail
sap_det	Service Contract Preventive Maintenance Detail
sar_mstr	Service Contract Serial Number Master
sc_mstr	Cost Simulation Master
sch_mstr	Schedule Master—Release Management
schd_det	Schedule Detail—Release Management
sct_det	Cost Simulation Total Detail
scx_ref	Scheduled Order Cross Reference
shd_det	Shipping Schedule Detail
shft_det	Shift Detail File
shtr_det	Shipment Trailer Detail
so_mstr	Sales Order Master
sob_det	Sales Order Configuration Bill
sod_det	Sales Order Detail
spt_det	Cost Simulation Item Detail
sr_wkfl	Serial Number Workfile
sro_mstr	Service/Repair Order Master
srr_mstr	Service Request Master
swc_det	Cost Simulation Work Center Detail
te_mstr	Transaction Export Master
trcs_det	Transaction Cost Detail
tx2_mstr	Tax Master
tx2d_det	Tax Details
vd_mstr	Vendor Master
vo_mstr	Voucher Master
vod_det	Voucher Detail
vpo_det	Voucher Purchase Order Detail
wo_mstr	Work Order Master
wod_det	Work Order Detail
wr_route	Work Order Routing
ytd_det	Employee Year-To-Date Totals Detail

TRGLDET and TRGLDET_IDX: The Inventory Transaction General Ledger Cross-Reference table (trgl_det) and index; data is added to the end of the file.

TRHIST and TRHIST_IDX: The Inventory transaction history table (tr_hist) and index; data is added to the end of the file if you have auditing enabled.

WORKFILE and WORKFILE_IDX: Workfile tables and indexes; some grow and then contract, while others grow continuously.

dmw_wkfl	Draft Management Workfile
egw_wkfl	Service/Support Engineer Selection Work File
fsd_det	Service/Support Work Order Serial Number Workfile
gltw_wkfl	General Ledger Work File
lotw_wkfl	Lot Number Workfile
usrw_wkfl	Workfile (Available for Users)

Other Tablespaces

The following tablespaces and indexes augment the main MFG/PRO schema objects.

COMPCONF: All tables and indexes for the Component Configurator module.

BR_MST	FLDR_MST	PROC_DET
BRD_DET	GRP_DET	PROL_DET
CON_MST	LNK_DET	VAR_DET
FLC_DET	NAV_MST	

GUI and GUI_IDX: All MFG/PRO GUI tables and indexes, including browse and view records.

BRW_MSTR	OBC_MSTR	TBRD_DET
BRWF_DET	OBCD_DET	UIP_MSTR
BRWT_DET	OBCL_DET	USS_MSTR
DRL_MSTR	OBCV_DET	UTD_DET
FLC_MSTR	PWC_MSTR	VUE_MSTR
GRFD_DET	PWCD_DET	VUF_DET
MNDS_DET	TBR_MSTR	VWJ_DET
MNTS_DET		

MFGHELP and MFGHELP_IDX: All help tables and indexes; expect this tablespace to be static.

FLHD_DET	XD_MSTR	XMI_MSTR
FLHK_MSTR	XF_MSTR	XP_MSTR
FLHM_MST	XM_MSTR	XPI_MSTR

RBS: All rollback segments; expect it to grow and contract.

SYSTEM: All system tables; use it at your discretion.

TOOLS: DBA default tablespace; use it at your discretion

TEMP: Temporary tablespace; use it at your discretion.

USERS: User default tablespace; use it at your discretion.

CHAPTER 9

PROGRESS ProControl Utility

You can continue managing your MFG/PRO database through the batch files that were created when you installed MFG/PRO for Windows NT. However, databases started using this method are processes and do not run as registered NT services. When you start a PROGRESS Version 8 database with a batch file, you will receive the following PROGRESS warning message: This broker will terminate when the session ends. (5405). This means that the database process will be terminated if you log off of the NT Database Server.

To provide better NT Database Server security and allow for enterprise-wide management of the MFG/PRO databases you should implement ProControl. This chapter gives you the basic information needed to manage your databases as registered NT services using the PROGRESS Version 8 ProControl Utility.

ProControl Overview **132**

Example Database Setup Using ProControl **133**

ProControl Event Logging **141**

Other Capabilities **141**

ProControl Overview

The ProControl utility is a graphical tool supplied with PROGRESS NT Server that enables you to run PROGRESS processes as registered NT services.

ProControl lets you perform these tasks on a local or remote NT host.

- Start and stop ProService.
- Start and stop PROGRESS databases.
- Start and stop PROGRESS DataServer processes.
- Set PROGRESS environment variables.
- Start PROGRESS batch processes.
- Start PROGRESS AppServer processes.

Note All of these tasks result in changes to the NT registry.

Using ProControl to perform these tasks ensures that PROGRESS processes run as registered NT services. Note that you can use the standard set of commands (like BPRO, MBPRO, etc.) from the command line; however, PROGRESS processes started in this way will not run as NT services.

The PROGRESS NT server stores server-specific environment information in the NT registry. Each time you use ProControl to perform an Insert, Copy, or Remove operation within one of the ProControl folders, it updates the appropriate subkey of the PSC subkey of the registry key HKEY_LOCAL_MACHINE. Also, when you use ProControl to perform a remove operation, ProControl removes the registry entries but does not delete the files from the system.

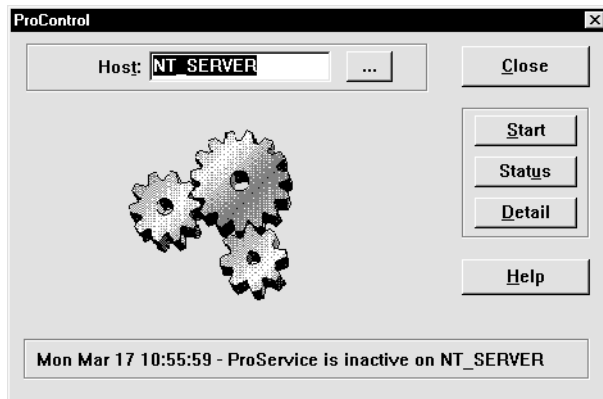
Example Database Setup Using ProControl

Follow this example to learn the basic steps needed to set up the MFG/PRO databases with ProControl.

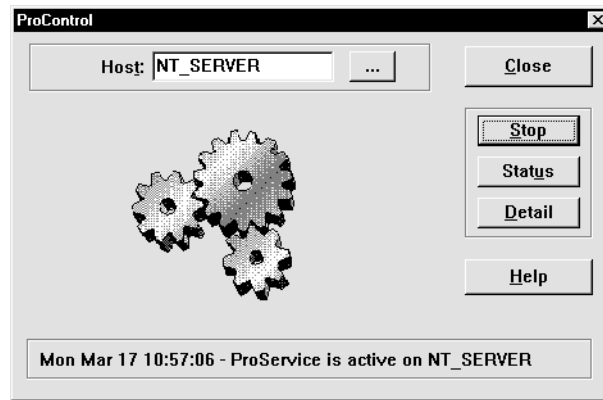
- 1 To start ProControl, do one of the following steps.
 - a Double-click the ProControl icon from the Control Panel or the PROGRESS Program Group. The ProControl icon looks like this:



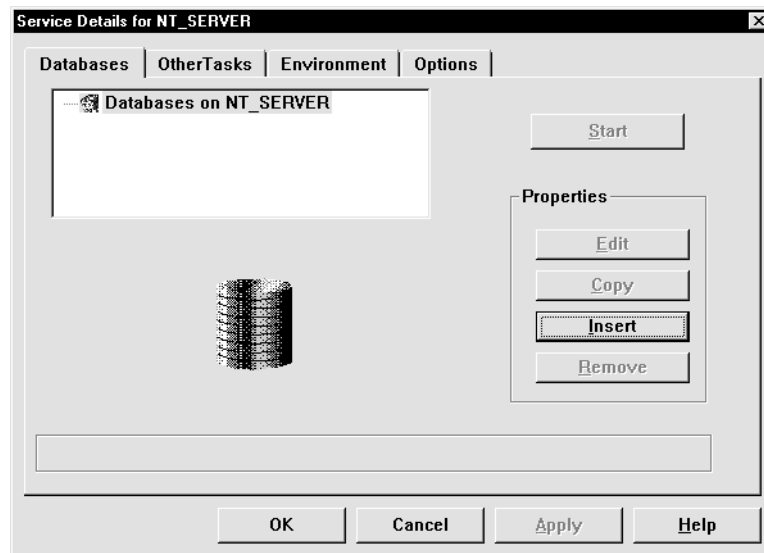
- b From the command line, enter this command:
`ProgressDir\bin\proctrl`
- 2 When the ProControl main window appears, choose the Start button to initialize the ProService.



Note The status information area changes from inactive to active.



- 3 Once the ProService is active, press the Detail button to proceed to the ProControl Detail window.
- 4 Become familiar with the folders of the ProControl Detail window, which enable you to manage PROGRESS databases, DataServers, and environment variables, as well as perform other database management tasks.



Refer to the following table for descriptions of these folders.

Folder	Description
Databases	Use to add or modify an entry for a PROGRESS database in the Registry.
Other Tasks	Use to run and manage PROGRESS executables or batch processes.
Environment	Use to globally set PROGRESS environment variables.
Options	Use to manage ProControl features such as setting security access, spawning the NT event viewer, setting access to the DataServers folder, and enabling and disabling graphics animation.

Set Up First Database

- 1 Select the server name and choose the Insert button to open the database setup window.
- 2 When the Database General folder opens, complete the fields, using the example illustration and table that follow.

Insert on NT_SERVER

General | DB Writers | Environment

Identifiers: ☐ AutoStart

Executable Name:

Working Directory:

Physical DB-Name:

Startup Parameters:

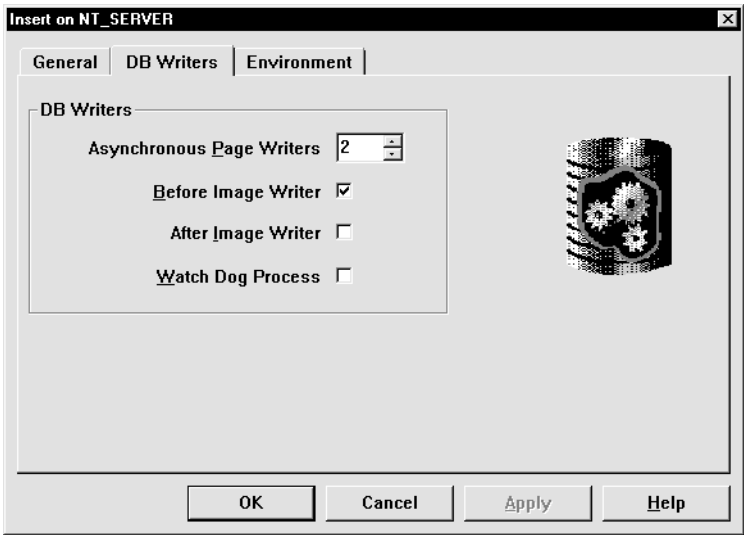
OK Cancel Apply Help

Field	Enter
Identifiers:	Provide a unique name to identify the service at which the database runs. The name must be unique to the host. The identifier can be up to 30 characters long and can include spaces. This enables you to give databases descriptive names. This name can be used with the PCCmd Command.
AutoStart:	Activate to cause PROGRESS to start the database service automatically when you start ProService. Additionally, if you want the database service to start when the host is booted, access Services from the Control Panel program group and double-click ProService. In the Startup Type section of the Service window, choose Automatic.
Executable Name:	Specifies the PROGRESS executable. By default, the _mprosrv executable displays.
Working Directory:	Specifies the directory that the service uses during operations, such as writing before-image and after-image files. If you specify a directory other than the directory in which the database resides, you must specify the database's explicit path name in the Physical DB-Name field.
Physical DB-Name:	Specify the database's physical name. If you do not specify a path name, ProControl appends the directory you specified in the Working Directory field.
Startup Parameters:	Specify the PROGRESS server parameters that you want to apply to this service. If you want the database to be visible to a remote host, specify the Service name (-S) and network type (-N) startup parameters for the database. This information can be taken directly from the server batch files that were created during the MFG/PRO server installation process.

3 Choose Apply to save the database entry.

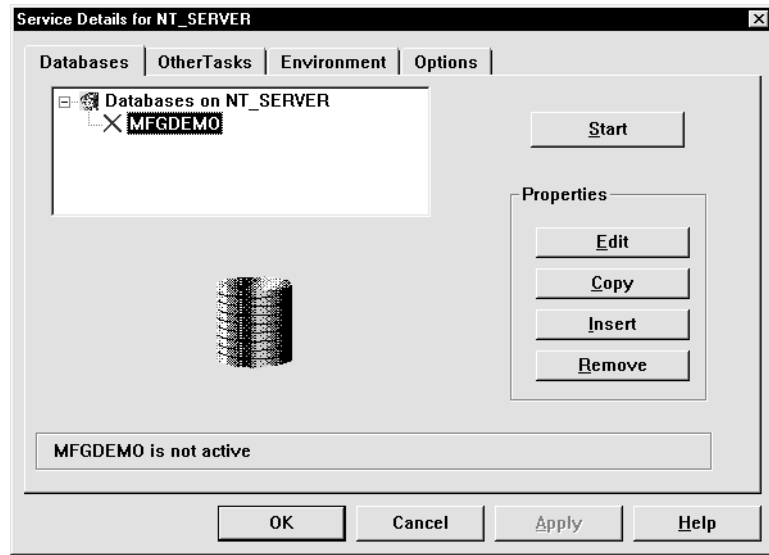
- 4 Choose the DB Writers folder to set values for background writers for an Enterprise server database.

For the main MFG/PRO database, you should initially set Asynchronous Page Writers to 2 and check the Before Image Writer box.



Field	Enter
Asynchronous Page Writers	Specify the number of Asynchronous Page Writers for the Database service. The maximum value is 9, the minimum is 0. You should initially set this number to 2 for your main MFG/PRO database.
Before Image Writer	Select this option to turn on Before Image Writer. See the chapters on recovery and backing up and restoring a database in the PROGRESS Administration Guide for information on before-image files. You should activate this feature for your main MFG/PRO database.
After Image Writer	Select this option to turn on After Image Writer for the database service. Note that you must have specified the after-image Filename (-a) startup parameter for this database.
Watch Dog Process	Select this option to turn on the Watch Dog Process for the database service.

- 5 Choose OK once you have defined a database. The database entry appears in the ProControl Detail window.

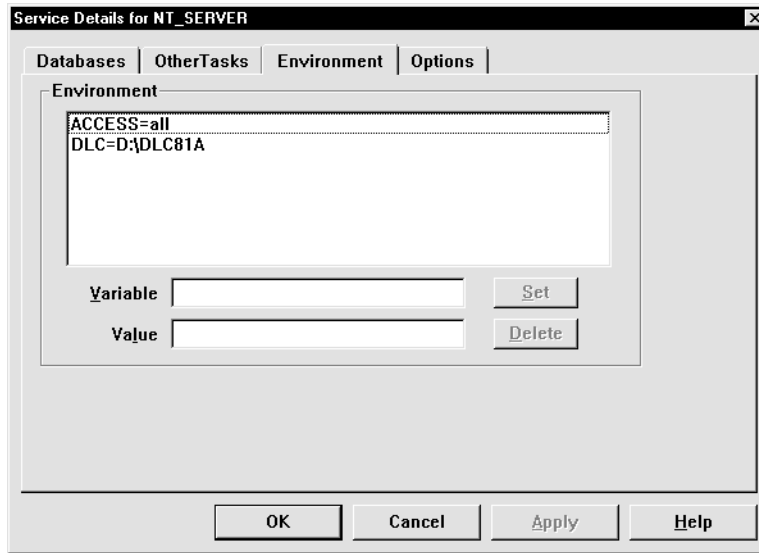


Set Up Other Databases and Global Variables

- 1 Insert the other MFG/PRO databases like the first database. Use the following table as a guideline; it shows the databases and parameters needed for the MFGDEMO database set.

Identifier	Executable Name	Working Directory	Physical DB-Name	Startup Parameters
MFGDEMO	_mprosrv.exe	e:\mfgnt90	mfgdemo	-N TCP -S mfgdemo -B 8000 -L 10000
MFGHELP	_mprosrv.exe	e:\mfgnt90\us	mfghelp	-N TCP -S mfghelp -B 500
GUI	_mprosrv.exe	e:\mfgnt90\us	gui	-N TCP -S gui -B 500
CFG	_mprosrv.exe	e:\mfgnt90\us	cfg	-N TCP -S cfg -B 500

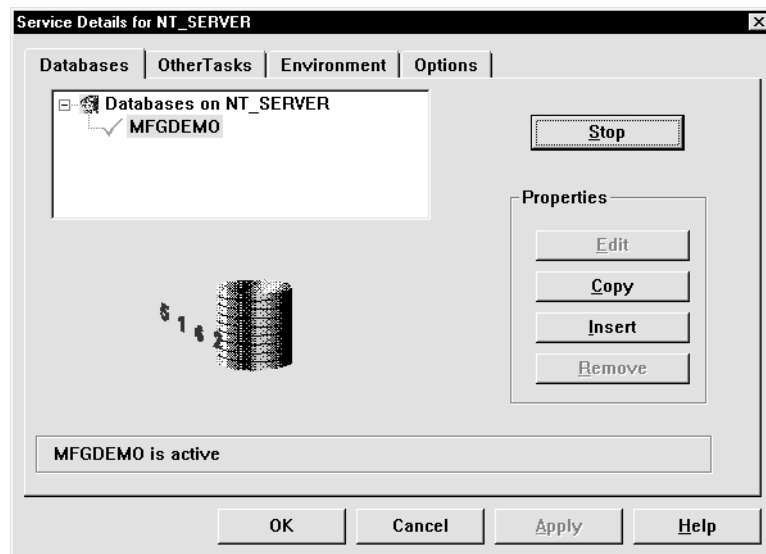
- 2 Set the environmental variable ACCESS=all, along with any other variables, in the Environment tab of the ProControl Detail window. Complete the Variable and Value fields, then choose Set.



Note The ACCESS=all environment value allows processes such as the prowin32 batch processor to access the selected database. By entering it here, the setting applies to all databases. To set a variable for only one database, enter it in the Environment folder of the database setup window.

Start and Stop Databases

- 1 Select the database and choose Start to activate the database service. The database service will remain active until you stop it.



- 2 To stop a database service, select the database and choose the Stop button. You can also use the PCCmd Command; for information, refer to Section 3 of the PROGRESS Version 8 *System Administration Reference*.

ProControl Event Logging

PROGRESS Version 8 ProControl provides the ability to log database service information to the NT Application Event Log. The level of information that PROGRESS writes to the NT Application Event Log is specified using the EVTLEVEL Environment Variable. EVTLEVEL must be set using the ProControl utility. An example is EVTLEVEL = BRIEF. Valid EVTLEVEL parameters are:

- None: No PROGRESS events are written to the NT Event Log.
- Brief: PROGRESS Error and Warning messages are written to the NT Event Log.
- Normal: PROGRESS Error and Warning messages are written to the NT Event Log along with any PROGRESS messages that are normally written to the log file (.lg). This is the default.
- Full: PROGRESS Error, Warning, and Informational messages are written to the NT Event Log along with any message generated by the Message Statement.

You can view information in the NT Application Event log by selecting Event Viewer in the NT Administrative Tools icon group.

Other Capabilities

The ProControl service lets you manage other environments, such as DataServers and AppServers. In addition, you can use the OtherTasks function to run and manage PROGRESS executables or batch processes.

For a detailed discussion of ProControl, please refer to the section “ProControl Utility” in the PROGRESS Version 8 *System Administration Reference*.

Installation Reference

This chapter contains optional instructions related to the MFG/PRO installation.

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Routing Maintenance (Main Screen)

Routing Code:	10-15000	NONAD (75) CDBL IN
Operation:	20	
Standard Operation		
Work Center	1030	INSPECTION, ALL SITE
Machine		
Description:	INSPEC PER PROX-005	
Machines per Op	1	Allocation
Overlap Units	1	
Queue Time	1.0	
Wait Time	0.0	
Setup Time	0.0	

Route by Production Route

Migrating a Custom Side Database from PROGRESS to Oracle

If you need to migrate a side PROGRESS database to an Oracle database, you must use the DataServer utility `protoora.p`. However, this utility can only provide a starting point, and you must perform some additional steps to convert the database correctly.

About Protoora

Because some of the conventions used by `protoora` may not be appropriate for your Oracle database, you *cannot* use the database it creates. For example, the utility creates only one 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 default size value. To correct these problems, you must make various adjustments to the SQL script and rerun it to create a corrected Oracle database.

Protoora in PROGRESS 8.3

Starting in PROGRESS 8.3, `protoora` uses the PROGRESS INITIAL parameter as the ORACLE DEFAULT parameter. The MFG/PRO fields in Table 10.1 cause the PROGRESS 8.3 `protoora` utility to fail during conversion.

Table 10.1
Fields Causing
`protoora` Failure

Field	Table
apc_ckfrm	apc_ctrl
cmf_status	cmf_mstr

Note Depending on the MFG/PRO version, the database you are converting may not have both of these fields. See the following steps for more information.

Both fields are defined as one-character fields with an INITIAL value of “1”. The PROGRESS 8.3 `protoora` utility treats the INITIAL value “1” as a three-character value. Because these fields are defined as one-character fields, `protoora` cannot convert them into the ORACLE schema holders.

Use the following instructions to change the PROGRESS INITIAL value in the `apc_ckfrm` and `cmf_status` fields.

- 1 Create a new `.df` file with the statement appropriate for your MFG/PRO database version you are converting.
 - MFG/PRO 8.5


```
UPDATE FIELD "apc_ckfrm" OF "apc_ctrl"
INITIAL "1"
```
 - MFG/PRO 8.6


```
UPDATE FIELD "apc_ckfrm" OF "apc_ctrl"
INITIAL "1"

UPDATE FIELD "cmf_status" OF "cmf_mstr"
INITIAL "1"
```
- 2 In single-user mode, use the PROGRESS Data Dictionary (UNIX servers) or Data Administration (Windows NT servers) to complete the following steps.

Note Use the data tool that corresponds to the PROGRESS version of the database you are converting. For example, if you are converting a PROGRESS 8.2 database, connect with your PROGRESS 8.2 Data Dictionary.

- a From the Utilities menu, Unfreeze the table or tables.
For example, Unfreeze the `apc_ctrl` and `cmf_mstr` tables for an MFG/PRO 8.6 database.
 - b From the Admin menu, select Load Data and Definitions and choose Data Definitions (`.df` file).
 - c Load the `.df` file you created in step 1.
 - d From the Utilities menu, Freeze the table or tables.
- 3 Convert the database using the `protoora` utility.

Running Protoora

- 1 Run protoora, as described in the *PROGRESS DataServer Guide*.
- 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 you will replace them with corrected ones.

The second half pulls across schema information from the Oracle database to create the PROGRESS schema holder database.
- 3 In the SQL script created by protoora.p, modify the tablespace sizes to match the number of records in your custom side database. Use the standard Oracle tablespace sizing algorithm.

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

- 4 Use the modified SQL script as input into SQL*DBA to create corrected Oracle database objects (tablespaces, tables, etc.).

`sqldba < YourSQLScriptName`
- 5 Remove the incorrect Oracle database objects originally created by protoora.
- 6 While connected to the new schema holder, open the Data Dictionary, choose 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 will need to define a FOREIGN OWNER to the name of the actual Oracle owner.

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

- 10 Once the Oracle database is set up, dump the PROGRESS data into data files (extension .d) and load them into the Oracle database. You can use the PROGRESS Data Dictionary to dump and load data.
- 11 Make sure to test your custom software.

Setting Up Multiple Databases

The instructions for server setup explain how to set up a single database in Oracle. If you want multiple MFG/PRO databases in a single instance, such as mfgdemo and mfgtrain, you need to perform different installation steps.

Starting with MFG/PRO Version 8.6E, optional training databases are available for specific business environments.

MFG/PRO Version 9.0 provides enhanced multiple currency capabilities to support the euro—the single European currency being introduced by the European Monetary Union (EMU). The standard MFG/PRO training database (mfgtrain) does not contain multi-currency instruction appropriate to this new business environment. To provide this instruction, QAD has created the Triangulation training database (tritrain).

This section summarizes the steps required to *add* one or more MFG/PRO databases to an instance that already contains an MFG/PRO database owner. For example, you can add the training database to an instance containing the demonstration database.

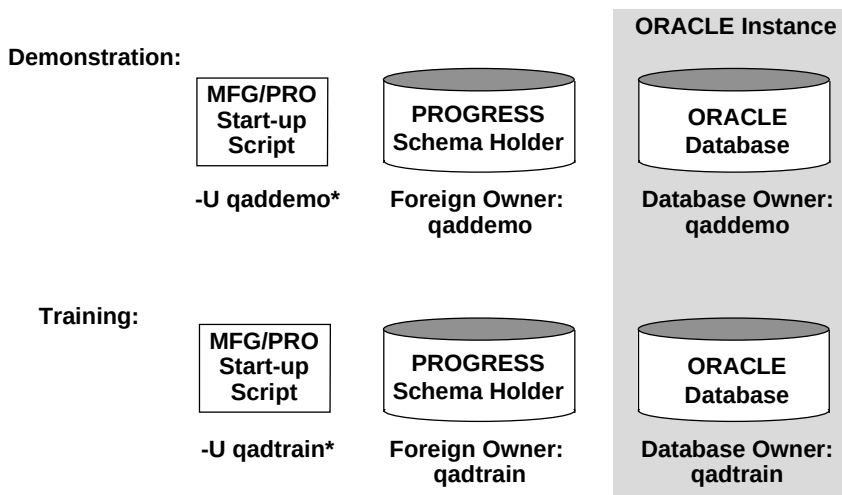
► For details on setting up the MFG/PRO server, see “Database Server Setup” on page 27.

Multiple Database Overview

The recommended setup for multiple databases is to use one instance with multiple database owners, one for each MFG/PRO database. As shown in Figure 10.1, each MFG/PRO database requires its own schema holder, Oracle database owner, and MFG/PRO start-up script (or its own section in a multi-database start-up script).

The schema holder and the start-up script must reference the correct database owner. In the start-up 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. 10.1
MFG/PRO-on-
Oracle Multiple
Database Overview



***Note:** For simplicity, the user and owner are the same in this example.

The main steps to add additional MFG/PRO databases to an instance are:

- Create an empty schema holder that references the new Oracle database owner.
- Edit and run a SQL script to create an additional database owner. Also run the SQL scripts that load the MFG/PRO schemas for that database owner.

- Create an MFG/PRO start-up script that references the new database owner.

Sequences and FOREIGN_OWNER Setting

In addition to the above tasks, you must recompile all MFG/PRO programs against a schema holder with the FOREIGN_OWNER setting of "?" (unknown). This task is needed so that sequence schema objects work correctly.

For most schema objects, the FOREIGN_OWNER setting is associated at run time to the actual Oracle owner name. However, for sequence schema objects, the association occurs during compilation. For this reason, sequence schema objects would fail to associate with the actual Oracle owner name.

Changing the FOREIGN_OWNER to unknown is only needed during compilation. During run time, the FOREIGN_OWNER should reference the actual Oracle owner name.

Adding a Database Owner to the Schema Holder

The first multi-database setup task is to create a schema holder that references your new Oracle database owner.

Note These steps assume you have PROGRESS 4GL or ProVISION.

- 1 Open the PROGRESS Data Dictionary and dump the database definitions from the database `oraempty.db` by choosing Dump Data and Definitions from the Admin menu.
- 2 Exit from the Data Dictionary once the dump is complete. The resulting file should be named `oraempty.df`.
- 3 Copy `oraempty.df` to `oraNewDB.df`, replacing `oraNewDB` with the name of the MFG/PRO database; for example `oratrain`.

- 4 Open the file *oraNewDB.df* in a text editor and make the following modifications:
 - a Change all Oracle database references to your ORACLE_SID.
- Warning** Do not use any of the MFG/PRO schema names, qad, or qadddb as the Oracle database name. Also, do not use a number as the first character of the Oracle database name.
- b Replace all “FOREIGN_OWNER” references from qad to the new database owner name, such as qadtrain.
 - 5 Open the Data Dictionary and create an empty database from the PROGRESS empty.db database by choosing Create from the Database menu.
 - 6 Connect to your new empty.db database by choosing Connect from the Database menu.
 - 7 Load the edited *oraNewDB.df* into the new empty.db database by choosing Load Data and Definitions from the Admin menu.
 - 8 Exit the Data Dictionary and truncate the empty database .bi file.
 - 9 You now have one of the schema holder databases for use in your multiple-database environment. Repeat the preceding steps for each database you want in the instance.

Adding a Database Owner to the Instance

The second multi-database setup task is to add a database owner to the Oracle instance.

- 1 Edit the MFG/PRO example SQL script *crdbtmpl.sql* (or a copy of it) using the general steps that follow. The *crdbtmpl.sql* script is located in the root *InstallDir* directory.
 - a Modify the size of every tablespace to allow for the additional databases. By default, the SQL script is sized for a single demonstration or training database. Therefore, to set up both the demonstration and training databases, you should approximately double the default size allotment.

- b** Modify the variables [NEWUSER] and [NEWPASSWD] to your desired new database owner—making sure to match the FOREIGN_OWNER reference in your schema holder. These variables appear at the end of the SQL script. For example, to add a database owner for a training database, you could use the following lines of script:

```
connect system/manager
create user qadtrain identified by qadtrain;
grant dba to qadtrain;
alter user qadtrain default tablespace tools
temporary tablespace temp;
connect qadtrain/qadtrain
@d1/oracle/rdbms/admin/catdbsyn.sql
```

- c** If you want to set up the multiple database switching feature, your SQL script should also contain a line that grants DBA privileges between all MFG/PRO database owners. For example, to set up the sample MFG/PRO databases newyork, chicago, and seattle, type:

```
grant dba to newyork, chicago, seattle;
```

- 2** Run the edited SQL script `crdbtmpl.sql`.

```
sqldba < crdbtmpl.sql
```

If you have Oracle Version 7.3.2, type the command below instead.

```
svrmgrl < crdbtmpl.sql
```

- 3** Examine the list file `crdbtmpl.lst` for unexpected errors.
- 4** For each database owner, run the following SQL scripts to load the MFG/PRO schemas. For example, to load schemas for an owner “qadtrain,” the commands are:

```
sqlplus qadtrain/qadtrain < ogui.sql
```

```
sqlplus qadtrain/qadtrain < ocfempty.sql
```

```
sqlplus qadtrain/qadtrain < ohpempty.sql
```

```
sqlplus qadtrain/qadtrain < oraempty.sql
```

- 5** Examine the log files for the SQL scripts listed above to check for unexpected errors. The log file names are the same as the SQL script name, but with a `.log` extension.

Adding a Database Owner to Start-Up Scripts

The third multi-database setup task is to modify your MFG/PRO start-up scripts to reference the Oracle database owner or owners. Use a text editor or MFG/UTIL to create the scripts.

For example, the following execution command includes the qadtrain Oracle owner in the -U and -P parameter.

```
exec $DLC/bin/_progres \
/mfgpro/Training -R0 -znotrim -trig triggers \
-db /data/ora/qad -dt ORACLE -U qadtrain \
-P qadtrain -c 100 -Dsrv qt_nolookahead \
-charset undefined -cpcoll basic -Bt 350 -D 100 \
-mmax 3000 -nb 200 -s 48 -p mf.p;
```

Compiling with an Unknown FOREIGN_OWNER

Now that you have added a database owner, you must recompile all MFG/PRO programs against a schema holder with the FOREIGN_OWNER setting of “?” (unknown). This task is required in order for sequence schema objects to work correctly.

- 1 From the PROGRESS Data Dictionary, dump the database definitions of the oraempty database.
- 2 In a text editor, open a copy of the resulting .df file.
- 3 For each CREATE SEQUENCE section in the .df file, replace the FOREIGN_OWNER reference from “qad” to “?”.
- 4 From the PROGRESS Data Dictionary, create an empty database, connect to it, and load the edited .df file.
- 5 Compile all of MFG/PRO.

Adding MFG/PRO Modules

If you purchased add-on modules, QAD typically sends you a complete release including the new modules. Installing the add-on modules involves integrating the programs from the new modules with your existing MFG/PRO installation directory. You do not need to change your production database; it already has the default data for all modules.

Important You should only add modules of the same MFG/PRO version and letter release.

- 1 Load the MFG/PRO add-on server media into a separate, temporary directory. Use the instructions in Chapter 3, “Database Server Setup,” on page 27. However, note the following:
 - Specify the temporary installation directory, not your existing MFG/PRO installation directory.
 - Choose Cancel when the MFG/UTIL Company Information window appears. Also cancel all subsequent windows. This portion of the installation creates databases and start-up icons, which were already created when you installed the first language.
- 2 If you have Windows clients, load the Windows client add-on media into a temporary directory. Refer to Chapter 4, “Loading Client Media,” on page 51. You do not need to set up the client PCs. This function is performed by the `setup.exe` program.
- 3 Back up your existing MFG/PRO system.
- 4 For the database server and Windows client file server, integrate the programs from the add-on media with your existing production system. Use one of the following methods.
 - If you have not made any code modifications, you can copy the language code directory (for example, `us`) from the add-on release into your existing installation directory. This option overwrites your existing programs, both source and compiled.
 - If you have modified MFG/PRO code, copy only the new program sub-directories from the add-on module into your existing installation directory. All program directories appear under the two-letter

language code directory. For example, if you purchased Advanced Repetitive and your language is English, the additional directory is: *TempInstallDir/us/er*.

You can determine the appropriate program directories by comparing the language code directory trees of the add-on installation and your existing installation.

- 5 Recompile MFG/PRO only if you made customizations or if your existing PROGRESS version differs from the PROGRESS version used to compile the add-on release.
- 6 Start MFG/PRO to test the installation. You do not need to modify the start-up scripts.
- 7 If you have multiple languages, repeat the previous steps for each language.
- 8 Remove the temporary installation directories for the database server and Windows client media.
- 9 Refer to the MFG/PRO user guides for instructions on implementing the modules you added.

Glossary

Character Client. See “Windows Character Client.”

Client Machine or Client PC. 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. PROGRESS, regardless of the hardware platform, uses a client process and a server process.

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

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*.

Conversion. Refers to the transition from one numbered release to the next, such as MFG/PRO 8.5 to 9.0. Conversions involve program fixes and, in most cases, major schema changes. (Transitions between lettered releases, which preclude major schema changes, are called updates.)

Database Definitions. Characteristics of a PROGRESS database schema, including field names, table names, validation expressions, labels, initial values, and others.

DBSetName. Name you chose for your database set, used as a suffix to your start-up scripts.

Default Data (System Data). The data that initially populates the menu, messages, printers, language code, and other default data files.

Database Set. A method used by MFG/UTIL to define the connection parameters of a group of databases.

DataServer for Oracle. A PROGRESS product that enables PROGRESS applications to access and store information in an Oracle database.

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*.

Foreign Database Reference. A logical database name used by MFG/PRO programs to connect to the Oracle database. The standard name is *qaddb*.

InstallDir. The directory name where you are installing MFG/PRO. To distinguish between the installation directory of one version and another, this variable is sometimes set, for example, to *ver73dir* and *ver90dir*. Note that the installation directory should be different than the directory where you create your production databases.

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.

General Release. A new release of MFG/PRO that has completed additional testing as a limited release.

LanguageCode. Identifies the language code(s) in a multi-language release.

LanguageDir. A directory containing language-specific files such as programs and help. The directory is named after the language code.

Limited Release. A new release of MFG/PRO that is available only as a standard version, which has undergone beta testing.

Multi-Language Release. A release that supports multiple languages, which may include US English. The US English version in a multi-language release is distinct from the standard release. When you install a multi-language release, you must specify a language code for every language, including English.

Oracle Database. For the purposes of this manual, this term refers to a logical set of schema objects owned by a particular Oracle user.

OracleDBName. The name of your new, unique Oracle database.

Oracle Instance Directory. The primary instance directory containing key files such as `init.ora` and key sub-directories, such as `./back`, `./core`, and `./user`.

ORACLE_SID. The environment variable that defines the system ID for your new Oracle database. In most cases, it should be the same as the actual Oracle database name.

PRO*C. A C-language library that contains the standard Oracle Call Interface (OCI) and becomes part of the DataServer when you build it.

Record. PROGRESS's term for an entry in a table; Oracle's term is *row*.

Row. Oracle's term for an entry in a table; PROGRESS's term is *record*.

Schema Holder. A special type of PROGRESS database that has no data, only database definitions. Because PROGRESS client sessions can access the schema holder in read-only mode, you do not need the PROGRESS RDBMS license.

SchemaHolderName. The name of your production schema holder. The default name is `oraempty`.

SID. See `ORACLE_SID`.

SQL. Structured Query Language used by Oracle. QAD provides SQL files to set up the Oracle database(s) and load the Oracle schema objects.

Standard Release. A release that does not support multiple languages. The files can *not* be translated from US English.

Tablespace. A segment of data in the Oracle database.

Update. Refers to the transition from one lettered release to the next, such as MFG/PRO 8.6B to 8.6C. Updates involve program fixes and some minor schema changes. (Transitions between numbered releases, which can involve major schema changes, are called conversions.)

Windows GUI Client. An MFG/PRO session running in Windows client/server with a graphical user interface (GUI).

Windows Character Client. An MFG/PRO DOS-based session running in Windows client/server with a character interface.

WinInstallDir. Directory where you install the MFG/PRO for Windows files, usually on the file server.

Win32 Intel-Character Client. A PROGRESS product for Windows NT that enables you to run DOS-based sessions in client/server.

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