

# Installation and Maintenance Guide

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Atlas Version 1.2 Installation and Maintenance Guide

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# Chapter 1 Getting Started

This chapter contains:

- An overview of Atlas database usage options (Section 1.1)
- A description of the parts of an Atlas installation (Section 1.2)
- An overview of what needs to be installed for each of the database usage options (Section 1.3)
- Computer requirements to install and run Atlas (Section 1.4)

# 1.1 Atlas database usage options

Atlas has two sets of database usage options, depending on whether Oracle is installed on your system. In both cases Atlas provides the same options to manipulate and use data. The difference is in where data can be loaded from and where data can be saved.

- Atlas basic database usage includes:
  - Reading data from Nanometrics Ringbuffers (using Nanometrics DataServer)
  - Reading from and writing to SEED files
- Atlas database usage with Oracle installed includes, in addition to the basic options:
  - Reading to and writing from an Earthworm database with Atlas extensions

# 1.2 Parts of an Atlas installation

What needs to be installed differs depending on which database usage options you want to use. An Atlas installation will include some or all of these parts:

- Atlas
- Java Standard Edition Runtime Environment
- Hypoinverse
- Oracle Server
- Oracle Client
- An Oracle Database using the Earthworm database schema and Atlas extensions
- Nanometrics Naqs and Nanometrics DataServer



#### Notes:

- (1) Atlas is compatible with these versions of Earthworm: Earthworm 6.0 Earthworm 6.1 References to Earthworm in the Atlas manuals refer generally to either
  - of these compatible versions.
- (2) Atlas has been tested with Oracle9i Database Release 2 (9.2.0.1.0/ 9.2.0.2.1)

#### 1.2.1 Atlas

Atlas is composed of:

- Hypoinverse
- Atlas-specific software

## 1.2.2 Java Standard Edition Runtime Environment (JRE)

Atlas runs in the Java Standard Edition Runtime Environment (JRE). We recommend version 1.4.2\_02 or higher.

## 1.2.3 Hypoinverse

Atlas uses Hypoinverse as its location program. Hypoinverse is written and used by the United States Geological Survey (USGS). Hypoinverse documentation is available for download at ftp://clover.wr.usgs.gov/pub/ehz/klein/hyp2000/. Atlas ships with some default settings that need to be updated for your area. See the Atlas User Guide for more information on Hypoinverse.

## 1.2.4 Oracle

The current version of Atlas has been tested against Oracle9i Standard Edition Release 2. Atlas can be run with Oracle8i Standard Edition.

Oracle includes a server and a client. The server must be installed on the computer where the database is to reside. If Atlas is to be run on the same machine as the Oracle server, you do not need to install the Oracle client. Otherwise, the client must be installed on the same machine as Atlas.

Oracle documentation is available at: http://www.oracle.com/technology/documentation/index.html

## 1.2.5 Oracle database

Atlas can connect to an Oracle database that resides on the same machine as an Oracle server. Atlas can access two types of database:

- A database using the Earthworm database schema, which can be read from but not written to.
- A database using the Earthworm database schema with Atlas Extensions, which can be read from and written to.

#### 1.2.6 Data sources

To get data into Atlas you need at least one of the following types of data source:

• Earthworm, a public domain earthquake detection and acquisition system developed by the USGS. Earthworm is both flexible and complex, which makes it difficult to install. Nanometrics provides a version of Earthworm (CoreEarthworm) that allows relatively easy installation of Earthworm's automatic detection and archiving system. If you choose to install Earthworm yourself, or just want to know more about it, see http://folkworm.ceri.memphis.edu/ew-doc/.

Atlas is compatible with these versions of Earthworm:

- Earthworm 6.0
- Earthworm 6.1
- Nanometrics Naqs acquisition software and Nanometrics DataServer (for more information see the Naqs and DataServer documentation)
- SEED files

## 1.3 Installation overview

This section gives an overview of what needs to be installed for each of the database usage options. In each case, a prerequisite is that the Nanometrics software has been unzipped from the Nanometrics software installation CD. This extracts the Atlas software files to the appropriate directories. For detailed installation instructions see Chapter 2.

#### 1.3.1 Atlas installation with basic database options

Atlas basic installation requirements are:

- Atlas Version 1.2 software has been extracted from the Nanometrics software installation CD
- Java Standard Edition Runtime Environment has been installed on each computer that will run Atlas
- You have this Installation manual for reference during installation
- You have read the Release Notes

To install Atlas for basic database usage options, complete these tasks in this order on the same computer:

- 1. Install Atlas (Section 2.4 on page 20).
- 2. Set up Hypoinverse (Section 2.5 on page 20).

#### 1.3.2 Atlas installation with full database options



**Note** It is highly recommended that the Oracle server be installed on its own computer for this installation option if there are to be several Atlas clients running at the same time.

Atlas installation requirements for full database usage are:

- Atlas Version 1.2 has been extracted from the Nanometrics software installation CD
- Java Standard Edition Runtime Environment has been installed on each computer that will run Atlas
- You have this Installation manual for reference during installation
- You have read the Release Notes
- You have the Oracle9i server installed on a computer
- An Oracle client has been installed on each computer that will run Atlas

To install Atlas for full database usage options, complete these tasks in this order:

- 1. On the computer with the Oracle9i server, create an Earthworm database with Atlas extensions (Section 2.2 on page 12).
- 2. On each computer that will have Atlas running:
  - a) Install Oracle Client (Section 2.3 on page 16).
  - b) Install Atlas (Section 2.4 on page 20).
  - c) Set up Hypoinverse (Section 2.5 on page 20).

# **1.4 Computer requirements**



**Note** Atlas uses the system local settings for number formats, but always uses the SI standard date format (YYYY-MM-DD).

There are three possible installation configurations:

- A computer that has both Atlas and the Oracle Server. This is not recommended if there are going to be many clients.
- A computer that has only the Oracle Server.
- A computer that has only Atlas.

Table 1-1 shows the computer requirements to install and run the configurations listed above. The requirements only take into account running Atlas and all of its components.

Table 1-1 Computer requirements to run various configurations of Atlas

Requirement	Oracle Server and Atlas	Oracle Server	Atlas
Operating system	Windows 2000/XP Professional	Windows 2000/XP Professional	Windows 2000/XP Home or Professional, Windows NT
Windows 2000 Service Pack	Service Pack 2	Service Pack 2	Service Pack 2
Windows NT 4.0 Service Pack	N/A	N/A	5.0 or 6.0a
Minimum processor	Pentium III 600 MHz	Pentium III 600 MHz	Pentium II 450MHz
RAM	512MB	256MB (512 recommended)	256MB
Disk space for Oracle/Atlas	25GB (bigger recommended)	25GB (bigger recommended)	400MB

Requirement	Oracle Server and Atlas	Oracle Server	Atlas
Disk space on system drive for Oracle	100MB	100MB	25MB
Second disk drive for backups	Not required but highly recommended. 25GB	Not required but highly recommended. 25GB	Not required
Video	256 colour	256 colour	256 colour
Screen resolution	1024 x 768	800 x 600	1024 x 768
Removable media	HP CD Writer 9710i	HP CD Writer 9710i	None

Table 1-1	Computer requirements	to run various	configurations	of Atlas	(Continued)
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# Chapter 2 Installation

This chapter gives procedures for:

- Installing Oracle Server (Section 2.1)
- Creating an Earthworm database with Atlas extensions (Section 2.2)
- Installing Oracle Client (Section 2.3)
- Installing Atlas (Section 2.4)
- Setting up Hypoinverse (Section 2.5)

There are three optional installation procedures:

- Creating additional databases (Section 2.6.1)
- Adding database(s) to the Oracle Client (Section 2.6.2)
- Adding Atlas extensions to an existing Earthworm database (Section 2.6.3)



**Note** If you are configuring Atlas to connect to a DataServer or Oracle server that is outside of a firewall, allow access through the firewall at the appropriate connection port (for example, default ports are 28002 for DataServer and 1521 for Oracle).

# 2.1 Installing Oracle Server

The current version of Atlas has been tested against Oracle9i Standard Edition Release 2. Atlas can be run with Oracle8i Standard Edition.

#### Notes:

- 1) If you are installing Oracle9i on a machine from which you uninstalled a previous version of Oracle, there may be some minor differences in initial default values than those displayed for a new installation.
- 2) The procedure for installing Oracle9i server has some minor differences from the 8i server installation. If you require Oracle8i installation instructions, see Appendix A.
- 3) The Oracle installer might add to your path the version of JRE that is included on the Oracle installation CD. If Oracle adds a different version of JRE to your path, delete this addition to the path. (Before installing Oracle Server, ensure that you have installed the version of JRE that you will be using for Atlas.)
- 1. Ensure that all Oracle Server installation requirements are met.

- 2. Install Oracle Server.
- 3. Install the Oracle Patch.

## 2.1.1 Requirements for installing Oracle Server

- You have the 3 installation CDs for Oracle9i Database (or you have downloaded the files from the Oracle website)
- Your computer meets or exceeds the specifications listed in Section 1.4, "Computer requirements," on page 4
- You have completed Table 2-1, "Decision table for installing Oracle Server"
- You have administrator access to the computer
- There is no previous version of Oracle currently installed on the computer

 Table 2-1
 Decision table for installing Oracle Server

ltem	Comment	Suggestion	Choice
Location to install Oracle	Drive should have at least 8GB	C:\oracle	
Name of Oracle Home		OraHome92	
Path to install the Oracle Home	This must be a subdirectory of the Location to Install Oracle	C:\oracle\Ora92	
Name of the database	Maximum 8 characters	Earthwrm (note maximum 8 characters	
Domain Name	Name of your domain (for example, for Nanometrics it would be nanometrics.ca) If you are unsure leave this blank.		
Directory for Database files	Where the database files are kept	[location to install Oracle ]\oradata	
The password for the oracle account sys	This is just the initial password; it can be changed later.	atlas	
The password for the oracle account system	This is just the initial password, it can be changed later.	atlas	

## 2.1.2 Install Oracle Server

Follow the instructions listed below to install Oracle Server. Items in [] refer to choices entered in Table 2-1, "Decision table for installing Oracle Server".

1. Write in a choice for each item in Table 2-1.

- 2. Insert Oracle9i Database CD 1 into the CD drive. This should start Autorun CD if it is enabled on your computer. Otherwise run setup . exe on the CD, from either the Run dialog box or an Explorer window.
  - a) Choose the option Install/Deinstall Products. This will open the Oracle Universal Installer.
  - b) Click Next.
- 3. In the File Locations screen:
  - a) Under Destination Name enter the *[Name of Oracle Home]*. You can either use the suggested destination name or enter a different one.



**Caution** Ensure before proceeding that the Destination Name is the destination you chose. Oracle may default to a drive other than the C: drive based on the amount of space available (see Table 1-1 on page 4 for drive space recommendations).

- b) Under Destination Path enter the *[Path to install the Oracle Home]*. You can either use the suggested destination path or enter a different one.
- c) Click Next. It may take a few minutes for the products to load.
- 4. On the Available Products screen:
  - a) Choose Oracle9i Database 9.2.0.1.0.
  - b) Click Next.
- 5. On the Installation Types screen:
  - a) Choose Standard Edition.
  - b) Click Next. It may take a few minutes for the products to load.
- 6. On the Database Configuration screen:
  - a) Choose General Purpose.
  - b) Click Next.
- 7. On the Oracle Services for Microsoft Transaction Server screen, click Next.
- 8. On the Database Identification Screen:
  - a) In the Global Database Name field, enter *[name of database].[domain name]*. If the domain name part is blank, do not enter the dot.
  - b) The SID is filled in automatically with the [name of database].
  - c) Click Next.
- 9. On the Database File Location screen:
  - a) In the Directory for Database Files field, enter [Directory for database Files]. You can either use the suggested directory or enter a different one.
  - b) Click Next.
- 10. On the Database Character Set screen:
  - a) Choose Use the default character set.
  - b) Click Next. This will bring up a summary screen.
- 11. In the summary screen, click Install. This installs the files and automatically runs some Configuration Tools; these tools do not require any user intervention. This

installation step will take some time (about half an hour to an hour depending upon the speed of your computer).

- 12. When you are prompted to insert the next installation CD:
  - a) Insert the appropriate installation CD.
  - b) On the Disk Location Screen, click OK.
- 13. On the Database Configuration Assistant screen:
  - a) In the SYS Password field, enter [the password for the Oracle account sys]
  - b) In the Confirm SYS Password field, enter [the password for the Oracle account sys]
  - c) In the SYSTEM Password field, enter [the password for the Oracle account system]
  - d) In the Confirm SYSTEM Password field, enter [the password for the Oracle account system]
  - e) Click OK.
- 14. On the End of Installation screen, click Exit.
- 15. On the Do you really want to exit dialog box, click Yes.

Oracle is now installed.

Installation will have left an MS-DOS window titled "Oracle HTTP Server". Atlas does not need the Oracle HTTP Server. You can either leave this, or remove it by running a program to stop the Oracle HTTP Server. This can be run from: Start menu > Programs > Oracle –[*Name of Oracle Home*] > Oracle HTTP Server > Stop HTTP Server powered by Apache

#### 2.1.3 Installing the Oracle Patch

#### 2.1.3.1 Requirements for installing the Oracle Patch

- You have installed the Oracle Server
- You have the Oracle Patch Set 2632931 CD. (A more recent patch set may be available from the Oracle website.)
- You have completed Table 2-2, "Decision table for installing the Oracle Patch"

**Table 2-2** Decision table for installing the Oracle Patch

ltem	Comment	Suggestion	Choice
Location to Install the Oracle Patch files	This need not be kept after installation	C:\temp\oracle_pat ch	
Name of the database	See Table 2-1 on page 8	Earthwrm	
Path to install the Oracle Home	See Table 2-1 on page 8	C:\oracle\Ora92	
Password for the sys account	See Table 2-1 on page 8	atlas	
Name of Oracle Home	See Table 2-1 on page 8	OraHome92	

#### 2.1.3.2 Install the Oracle Patch

Follow the instructions listed below to install the Oracle Patch. Items in [] refer to choices entered in Table 2-2, "Decision table for installing the Oracle Patch".

- 1. Write in a choice for each item in Table 2-2.
- 2. Insert the Oracle Patch Set 2632931 CD into the CD drive. (A more recent patch set may be available from the Oracle website.)
- 3. Run the self-extracting file oracle\_patch\_set\_2632931.exe (from either the Run dialog box or an Explorer window). This will open the Win-Zip self extractor.
  - a) In the Unzip to folder field, enter [Location to Install the Oracle Patch *files*]. You can either use the suggested location or enter a different one.
  - b) Choose UnZip.
  - c) In the dialog box saying it has unzipped correctly, click OK.
  - d) Click Close.
- 4. Edit the file [Location to Install the Oracle Patch

*files]*\oracle\_patch\_environment.bat (by default this file includes the suggested values listed in Table 2-2.) It is very important that the oracle\_patch\_environment.bat file is correct. All of the lines look like this example:

set variable=result

 Table 2-3
 Oracle Patch environment variables

Variable Name	What the result should be
DATABASE_NAME	[Name of the database]
ORACLE_HOME_DIR	[Path to install the Oracle Home]
SYS_PASSWORD	[Password for the sys account]

- 5. Open a command prompt (from Start > Programs > Accessories > Command Prompt).
- 6. Change directories (cd) to [Location to Install the Oracle Patch files].
- 7. Run the file before\_adding\_patch.bat.
- 8. If Earthworm is running, stop Earthworm.
- Stop the ORACLE HTTP Server by running the program Start menu > Programs > Oracle -[Name of Oracle Home] > Oracle HTTP Server > Stop HTTP Server powered by Apache.
- 10. Stop all services that have a name starting with the word Oracle:
  - a) Open the Services tool (Start > Settings > Control Panel > Administrative Tools > Services).
  - b) Right-click on the service name, and then choose Stop from the pop-up menu.
- 11. From the Start menu, run Oracle Installation Products > Oracle Universal Installer). This will open the Oracle Universal Installer.

- 12. On the Welcome Screen, click Next.
- 13. On the File Locations screen:
  - a) Set the Source Path to *[Location to Install the Oracle Patch files]*\patch\disk1\stage\products.jar
  - b) Check the Destination Name and make sure it is [Name of Oracle Home].
  - c) Check the Destination Drive and make sure it is [*Path to install the Oracle Home*].
  - d) Click Next.
- 14. On the Summary screen, click Install.
- 15. On the End of Installation screen, click Exit.
- 16. Restart the computer.
- 17. Open a command prompt, and then:
  - a) Change directories (cd) to [Location to Install the Oracle Patch files].
  - b) Run the file after\_adding\_patch.bat. This will take some time.



**Note** With this patch installed, the release number for Oracle is automatically updated to 9.2.0.2.1.

## 2.2 Creating an Earthworm database with Atlas extensions

- 1. Ensure that all requirements are met for creating an Earthworm database with Atlas extensions.
- 2. Create an Earthworm database with Atlas extensions.

#### 2.2.1 Requirements for creating an Earthworm database with Atlas extensions

- You have either:
  - Installed Oracle on this computer and created a default database as described in Section 2.1
  - Installed Oracle but have not yet created a database, in which case see Section 2.6.1, "Creating additional databases," on page 22
- Atlas Version 1.2 has been extracted from the Nanometrics software installation CD
- Your computer meets or exceeds the specifications listed in Section 1.4, "Computer requirements," on page 4
- You have completed Table 2-4, "Decision table for creating an Earthworm Database with Atlas Extensions"
- You have administrator access to the machine

#### Table 2-4 Decision table for creating an Earthworm Database with Atlas Extensions

ltem	Comment	Suggestion	Choice
Location to Install Oracle	See Table 2-1 on page 8		

Item	Comment	Suggestion	Choice
Path to install the Oracle Home	See Table 2-1 on page 8	c:\oracle\Ora92	
Name of the database	See Table 2-1 on page 8		
Domain Name	See Table 2-1 on page 8		
Location to Install Atlas database source files		C:\nmx\ atlas_database	
The password for the oracle account sys.	The password set when the database was created; see Table 2-1 on page 8. (For Oracle 8i, see Table 3-2 on page 41.)	[The password for the oracle account sys]	
The password for the oracle account system	The password set when the database was created; see Table 2-1 on page 8. (For Oracle 8i, see Table 3-2 on page 41.)	[The password for the oracle account system]	
Location to back up the database	It is preferable that this be a different hard disk than the one Oracle was installed on. See also Section 3.1.2, "Backing up data to disk," on page 32. Important: Ensure the path points to an existing drive otherwise Oracle will not run properly. For example, if there is no D drive, Oracle won't work with the suggested path.	D:\nmx\atlas\ backups	
Location to do full backups to	Should be sub-directory of the backup location	D:\nmx\atlas\ backups\full	
Location to do incremental backups to	Should be sub-directory of the backup location	D:\nmx\atlas\ backups\ incremental	
Location to do control file backups to	Should be sub-directory of the backup location	D:\nmx\atlas\ backups\control	
Location to do export backups to	Should be sub-directory of the backup location	D:\nmx\atlas\ backups\exports	
Location to write archive redo logs to	Should be sub-directory of the backup location	D:\nmx\atlas\ backups\ redo_archive	
Location to write multiplexed oracle files to	Should be sub-directory of the backup location	D:\nmx\atlas\ backups\ multiplexed	
Maximum size of a file for a backup	This is in KBs	500000 (i.e. 500 MB)	

	<b>D</b> · · · · · · ·			<b>D</b> / / ///		( <b>A</b> ) ( <b>C</b> ) ( <b>C</b> )
Table 2-4	Decision table for	creating an	Earthworm	Database with	Atlas Extensions	(Continued)
						· · · · · · · · · · · · · · · · · · ·

Item	Comment	Suggestion	Choice
Time of day to do a full backup at	Using the 24 hour clock	02:00 (i.e. 2 AM)	
Time of day to do an incremental backup at	Using the 24 hour clock	02:00 (i.e. 2 AM)	
Day(s) of the week or month to do a full backup	Runs the command on every specified day or days of the week or month (for example, every Thursday, or the third day of every month). Specify <i>date</i> as one or more days of the week (M,T,W,Th,F,S,Su) or one or more days of the month (using numbers 1 through 31). Separate multiple date entries with commas.	Su (i.e. Sunday)	
Day(s) of the week or month to do an incremental backup	See above	M, T, W, Th, F, S	

					··· - · ·	( <b>a</b> ) (1) (1)
Table 2-4	Decision table for	creating an	Earthworm	Database with	Atlas Extensions	(Continued)

## 2.2.2 Create an Earthworm database with Atlas extensions



**Note** Atlas extensions are part of the Atlas software, which is included on the Nanometrics software installation CD. If Atlas is selected when the Nanometrics software is unzipped, Atlas extension setup files are extracted automatically to C:\nmx\atlas\databaseSetup.

Follow the instructions below to create a database with Atlas extensions. Items in [] refer to choices entered in Table 2-4, "Decision table for creating an Earthworm Database with Atlas Extensions".

- 1. Write in a choice for each item in Table 2-4.
- 2. If the Atlas software has not been extracted yet, insert the Nanometrics software CD into the CD drive, ensure that Atlas is selected, and then click UnZip.
- 3. Open an Explorer Window and go to the directory C:\nmx\atlas\databaseSetup.
- 4. Run the self-extracting file atlas\_database\_oracle9i\_1.1.0.exe. (For Oracle8i, use atlas\atlas\_database\_oracle8i\_1.1.0.exe.) This will open the Win-Zip self extractor:
  - a) In the field Unzip to folder, enter *[location to install atlas database source files]*. You can either use the suggested location or enter a different one.
  - b) Click UnZip.
  - c) In the dialog box saying it has unzipped correctly, click OK.
  - d) Click Close.

# 5. Edit the file [location to install atlas database source files]\set\_environment.bat.

It is very important that the set\_environment.bat file is correct. By default this file includes the suggested values listed in Table 2-4 on page 12. All the lines look like this example (the RESULT part must be all capital letters, except for the sys password):

set variable=RESULT

The backup directories will be created automatically.

Table 2-5	Atlas	environment	variables
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Variable name	What the result should be
DATABASE_NAME	[name of database]
ORACLE_DIR	[location to install oracle]
ORACLE_HOME	[path to install the Oracle Home]
ATLAS_SERVER_DIR	[location to install atlas database source files]
BACKUP_DATABASE_DIR	[location to backup the database to]
FULL_BACKUP_DIR	[location to do full backups to]
INCREMENTAL_BACKUP_DIR	[location to do incremental backups to]
CONTROL_FILE_BACKUP_DIR	[location to do control file backups to]
EXPORT_BACKUP_DIR	[location to do export backups to]
REDO_ARCHIVE_DIR	[location to write archive redo logs to]
MULTIPLEXED_ORACLE_DIR	[location to write multiplexed oracle files to]
MAX_BACKUP_FILE_SIZE	[maximum size of a file for a backup]
INIT_ORA_NAME	[name of init ora file]
FULL_BACKUP_TIME	[time of day to do a full backup at]
INCREMENTAL_BACKUP_TIME	[time of day to do an incremental backup at]
FULL_BACKUP_DAYS	[day(s) of the week or month to do a full backup]
INCREMENTAL_BACKUP_DAYS	[day(s) of the week or month to do an incremental backup]
SYS_PASSWORD	[password for the oracle account sys.]



**Note** The next part of the installation procedure automatically schedules full and incremental backups to the disk locations you specified. These backup procedures are set using the at command and can be removed using either the at command or the Scheduled Tasks control panel. To see instructions for the at command, enter the command at ?.

- 6. Set the schedule task to use the current account when "at jobs" are submitted to back up the database:
  - a) Open the Scheduled Tasks control panel (open Control Panel, then double click on Scheduled Tasks).
  - b) Choose the menu item Advanced > AT Service Account, then choose This Account (the computer\user names should be filled in automatically).
  - c) Enter the password, then confirm the password for this user.

- d) Click OK.
- 7. Set the number of lines to scroll in the command prompt window to a large number (for example, 3000):
  - a) Open a command prompt.
  - b) Click on the icon in the top left hand corner, and choose Properties > Layout > Screen Buffer Size > Height > 3000.
  - c) Choose Apply properties to the current window only, and then click OK.
- 8. Change directories (cd) to *[location to install atlas database source files]*. Run the file setup\_atlas.bat.

The bat file will take 10 to 15 minutes to run. It will be finished when you can see the command line prompt again.

- Several times the bat file will pause for a few minutes while closing and opening the database.
  - If it pauses for more than 5 minutes, stop the bat file (type <Ctrl>-c), reboot the computer, and run the setup\_atlas.bat file again. This will create errors up until the time it pauses; you can ignore these error messages.
- The bat file will run several scripts for which the output displays in the command window.
  - Check to see if any of the output in the command window looks like an error.
- Two log files are generated that can also be checked for errors:
  - Check [location to install oracle]\admin\[name of database]\create\ ewdb\_create\_database.log. (One error message in this log can be ignored; the error message is preceded by a comment explaining that it is ok.)
  - Check [location to install oracle]\admin\[name of database]\create\ atlas\_extensions.log

After the database has been updated, three users have been created in the Oracle database.

- See Section 3.2 on page 40 for the list of users and initial passwords, and instructions on changing the initial passwords. It is strongly recommended that you change the initial passwords.
- 9. Do a full backup. See Section 3.1, "Backing up and restoring your database," on page 31 for a list of what should be backed up for each type of backup done, and for detailed instructions.

## 2.3 Installing Oracle Client

You do not need to install the Oracle Client if it will be run on the same computer as the Oracle Server. If you are installing the client on a different computer than the server, then you will need to perform the following steps:

1. Ensure that all Oracle Client installation requirements are met.

- 2. If a previous version of Oracle is already installed on the computer then uninstall this version of Oracle before you install Oracle9i.
- 3. Install Oracle9i Client.



**Note** If you are installing Oracle9i on a computer that had an earlier version installed and removed, there may be some minor differences in initial default values than those displayed for a new installation.

## 2.3.1 Requirements for installing Oracle Client

- You have the 3 Oracle9i Database installation CDs (or you have downloaded the files from the Oracle website)
- Your computer meets or exceeds the specifications listed in Section 1.4, "Computer requirements," on page 4
- You have completed Table 2-6, "Decision table for installing Oracle Client"
- You have administrator access to the computer
- There is no previous version of Oracle currently installed on the computer

Table 2-6	Decision	table for	installing	Oracle	Client
	Decision		mataning	Ulacie	Chefit

Item	Comment	Suggestion	Choice
Location to install Oracle	Drive should have at least 5GB	C:\oracle	
Name of Oracle Home		OraHome92	
Path to install the Oracle Home	This must be a subdirectory of the [Location to Install Oracle]	D:\oracle\Ora92	
Name of the database created	Maximum 8 characters	[Name of the database] installed on the server, for example, earthwrm See Table 2-1 on page 8	
Domain Name	Name of the domain used in creating the server	[domain name] See Table 2-1 on page 8	
Name of the computer the server is installed on	Name of the computer the Oracle server is installed on		
Net Service Name	The name of the Oracle server (this is how the computer is referred to in Atlas)	[Name of the database created], for example, earthwrm	

## 2.3.2 Install Oracle Client



**Note** You do not need to install the Oracle Client if it will be run on the same computer as the Oracle Server.

Follow the instructions listed below to install Oracle Client. Items in [] refer to choices entered in Table 2-6, "Decision table for installing Oracle Client".

- 1. Write in a choice for each item in Table 2-6.
- 2. Insert the Oracle9i Database CD 1 into the CD drive. This should start the Autorun CD, if it is enabled on your computer. Otherwise run setup.exe on the CD, from either the Run dialog box or an Explorer window.
  - a) Choose the option Install/Deinstall Products. This will open the Oracle Universal Installer.
  - b) Click Next. It may take a few minutes for the products to load.
- 3. On the File Location screen:
  - a) Under Destination Name enter the *[Name of Oracle Home]*. You can either use the suggested name or enter a different one.
  - b) Under Destination Drive enter the *[Path to install the Oracle Home]*. You can either use the suggested path or enter a different one.
  - c) Click Next. It may take a few minutes for the products to load.
- 4. On the Available Products screen:
  - a) Choose Oracle9i Client 9.2.0.1.0.
  - b) Click Next.
- 5. On the Installation Types screen:
  - a) Choose Custom.
  - b) Click Next. It may take a few minutes for the products to load.
- 6. On the Available Products screen:
  - a) Make sure that only the following products are selected:
    - Oracle Network Utilities 9.2.0.1.0.
    - Oracle JDBC/OCI Interfaces 9.2.0.1.0.
  - b) Click Next.
- 7. On the Component Locations screen, click Next.
- 8. On the Summary Screen, click Install.

This installs the files and then automatically runs the Oracle Net Configuration Assistant. This installation step will take some time (up to 10 minutes).

- 9. Choose Perform Typical configuration.
- 10. Click Next.

This opens the first of the Oracle Net Configuration Assistant Net Service Name Configuration screens.

- 11. On the Welcome screen:
  - a) Choose "No, I will create net service names myself. The assistant will help me create one now."
  - b) Click Next.
- 12. On the Database Version screen:
  - a) Choose Oracle8i or later database or service.
  - b) Click Next.

- 13. On the Service Name screen:
  - a) Enter [*Name of the database created*].[*Domain Name*]. If the domain name part is blank, do not enter the dot.
  - b) Click Next.
- 14. On the Select Protocols screen:
  - a) Choose TCP.
  - b) Click Next.
- 15. On the TCP/IP Protocol screen:
  - a) For the Host Name enter the [Name of computer the Oracle server is installed on].
  - b) Choose Use the standard port number of 1521.
  - c) Click Next.
- 16. On the Test screen:
  - a) Choose Yes, perform a test.
  - b) Click Next.

If the connection tests okay, "Connecting...Test successful" will be displayed in the Connecting screen Details display.

If the connection does not test okay:

- Ensure that the user name and password are correct (set during Oracle server installation; see Table 2-1 on page 8). Click Change Login to check and reenter the values in the Change Login dialog box.
- If the user name and password were correct, click back to the Net Service Configuration Screen and ensure that the Host Name and port number are correct.
- 17. On the Connecting screen, click Next.
- 18. On the Net Service Name screen:
  - a) Enter the *[Net service name]*. This will default to the *[Name of the database created]*.
  - b) Click Next.
- 19. On the Another Net Service Name screen:
  - a) Choose No.
  - b) Click Next.
- 20. On the Done screen, click Next, and then click Finish.

This will take you back to the Oracle Universal Install End of Installation Screen.

- 21. Click Exit.
- 22. On the Do you really want to exit dialog box, click Yes.

The Oracle Client is now installed.

# 2.4 Installing Atlas

#### 2.4.1 Requirements for installing Atlas

- Atlas Version 1.2 has been extracted from the Nanometrics software installation CD.
- If you are going to use the full database usage options, you are installing Atlas on a computer that has either the Oracle Server or an Oracle client installed.
- You have administrator access to the computer.

## 2.4.2 Install Atlas

- 1. If the Atlas software has not been extracted yet, insert the Nanometrics software CD into the CD drive, ensure Atlas is selected, and click UnZip.
- 2. Open an Explorer Window, and go to the directory C:\nmx\atlas\bin.
- 3. Right click on startatlas.exe and choose Create Shortcut.
- 4. Drag the Shortcut to startatlas.exe to the desktop.
- 5. Rename the shortcut if desired.

# 2.5 Setting up Hypoinverse

#### 2.5.1 Requirements for setting up Hypoinverse

• You have downloaded, and have become familiar with, the Hypoinverse documentation.

## 2.5.2 Set up Hypoinverse

Atlas is shipped with minimal requirements to run Hypoinverse, the location program used by Atlas. To calculate locations and magnitudes that are correct for your region, you will need to set up Hypoinverse.

- 1. Read the Hypoinverse documentation (this is available for download at ftp://clover.wr.usgs.gov/pub/ehz/klein/hyp2000/).
- 2. Develop a velocity model for your area.

This model may be a simple layer cake model or may be a complex model with velocity gradients. The model may also vary from place to place.

- 3. Prepare velocity model files for use by Hypoinverse.
- 4. Update station information.
- 5. Configure magnitude calculation parameters.

## 2.5.2.1 Velocity models

#### 2.5.2.1.1 Atlas demonstration velocity model

The velocity model shipped with Atlas is for demonstration purposes only. It is in the file Nmx\Atlas\user\hypoinverse\AtlasCrustalModel.hyp. The file contains a list of commands that set the velocity model. The file is called every time hypoinverse is run and directs hypoinverse to files in: Nmx\Atlas\user\ hypoinverse\models for data.

#### 2.5.2.1.2 Layercake velocity model

➤ To use a simple layercake model, use the file models\CrustalModel.crh as a template. This file contains a title on line 1, then a series of velocity pairs starting at zero depth. Velocities must increase with depth; depth must start at zero. Set the name of this file using the CRH command in AtlasCrustalModel.hyp.

#### 2.5.2.1.3 Models using buried low velocity zone or velocity gradients

To use a buried low velocity zone or velocity gradients, or to speed up location processing, you may use travel time tables that are shown in the models directory in the files ncg.crt and lew.crt.

- To create files in this format, download the program TTGEN from ftp://swave.wr.usgs.gov/pub/outgoing/klein/ttgen. Instructions for using this program are in the Hypoinverse documentation.
- To set the travel time table, use the command CRT in AtlasCrustalModel.hyp.
- ➤ To further refine the velocity model using station delays that add time shifts to arrival times, see examples of delay files: models\ncg.del and lew.del. These are files that list station names, networks, and shifts in seconds.
  - To use these delays, use either the DEL command in AtlasCrustalModel.hyp, or set delays in the station file (see Section 2.5.2.2).

#### 2.5.2.1.4 Models that change from place to place

- To have a velocity model that changes from place to place, set the following two commands in AtlasCrustalModel.hyp:
  - NOD command: specifies the location and radius of where the model will be applied, as well as the radius of a transitional annulus.
  - MUL command: gives the model number that applies everywhere that no other model is set. There may be a mix of velocity tables (CRH) and travel time tables (CRT).

#### 2.5.2.2 Station information

Hypoinverse utilizes station information including location, weighting, and delays.

Atlas creates the file Nmx\Atlas\user\hypoinverse\

AtlasStations.hinv upon location, from data in memory using default values if there are non-zero latitude, longitude, and elevation available. If location information is not available, the picks associated with a station are not used.

• To edit the station information, edit the file UserStations.hinv in the same location as AtlasStations.hinv.

UserStations.hinv is created when Hypoinverse is run the first time. Atlas then concatenates stations from UserStations.hinv with stations in memory and puts the results in AtlasStations.hinv. This results in repeated stations, but Hypoinverse ignores repeated occurrences of the same station, channel, and network.

#### 2.5.2.3 Magnitude settings

Hypoinverse calculates an amplitude and a duration magnitude if picks are available. There are several methods you can use to adjust the type, station-specific, and distance terms for each magnitude calculation; refer to the magnitude sections of hyp2000.doc for more information.

Atlas ships with settings that direct Hypoinverse to calculate primary duration and amplitude magnitudes. The magnitudes calculated are the traditional duration magnitude, Md, and a peak to peak amplitude magnitude. Both calculations use the Eaton (BSSA, 1992) log(Ao) relation for the distance term. Station weights are ignored. The amplitude magnitude assumes the values picked are in mm. There is quite a lot of latitude to change these parameters. The magnitude commands are set in Atlas.hyp. There are also station-specific data that may be set in the station file mentioned earlier as well as magnitude correction, attenuation, and calibration files. See the Hypoinverse documentation for more information.

# 2.6 Optional installations

There are three optional installations available:

- Creating additional databases to create additional databases after the initial installation has been done.
- Adding database(s) to the Oracle Client to enable Atlas to access a database created after the initial installation.
- Adding Atlas extensions to an existing Earthworm database to update an existing Earthworm database with a subset of the Atlas extensions.

#### 2.6.1 Creating additional databases



**Note** Creating additional databases for Oracle9i has some minor differences from the same task for Oracle8i. If you require instructions for creating additional databases for Oracle8i, see Appendix A.

This procedure allows you to make additional databases. Additional databases can be used for several purposes, for example:

• Import data exported from another database

- Store interesting events
- Allow different people to work on copies of the same event

#### 2.6.1.1 Requirements for creating an additional database

- You have the 3 Oracle9i Database installation CDs (or you have downloaded the files from the Oracle website)
- Atlas Version 1.2 has been extracted from the Nanometrics software installation CD
- Your computer has free 10 to 15GB of disk space
- This is the computer that the Oracle Server has been installed on
- You have completed Table 2-7, "Decision table for creating additional databases"
- You are using the same account that the server was installed with

#### **Table 2-7** Decision table for creating additional databases

Item	Comment	Suggestion	Choice
Location to install Oracle	See Table 2-1 on page 8	c:\oracle	
Path to install the Oracle Home	See Table 2-1 on page 8	c:\oracle\Ora92	
Name of the database	Maximum 8 characters	Earth3 (note maximum 8 characters)	
Domain Name	Name of your domain. (For example, for Nanometrics Inc it would be nanometrics.ca.) If you are unsure leave this blank.		
Location to Install Atlas database source files	This <b>must</b> be different from any previous locations	C:\nmx\atlas_database3	
The password for the oracle account sys	The password set when the database was created; see Table 2-1 on page 8.	[The password for the oracle account sys]	
The password for the oracle account system	The password set when the database was created; see Table 2-1 on page 8	[The password for the oracle account system]	

ltem	Comment	Suggestion	Choice
Location to back up the database to	It is preferable that this be a different hard disk than the one Oracle was installed on. This should be a different directory than is used for the Atlas database source files. See Section 3.1, "Backing up and restoring your database," on page 31 for more information on backups. Important: Ensure the path points to an existing drive otherwise Oracle will not run properly. For example, if there is no D drive, Oracle won't work with the suggested path.	D:\nmx\atlas\backups3	
Location to do full backups to	Should be a sub-directory of the backup location	D:\nmx\atlas\backups3\ full	
Location to do incremental backups to	Should be a sub-directory of the backup location	D:\nmx\atlas\backups3\ incremental	
Location to do control file backups to	Should be a sub-directory of the backup location	D:\nmx\atlas\backups3\ control	
Location to do export backups to	Should be a sub-directory of the backup location	D:\nmx\atlas\backups3\ exports	
Location to write archive redo logs to	Should be a sub-directory of the backup location	D:\nmx\atlas\backups3\ redo_archive	
Location to write multiplexed Oracle files to	Should be a sub-directory of the backup location	D:\nmx\atlas\backups3\ multiplexed	
Maximum size of a file for a backup	This is in KBs	500000 (i.e. 500 MB)	
Time of day to do a full backup at	Using the 24 hour clock	02:00 (i.e. 2 AM)	
Time of day to do an incremental backup at	Using the 24 hour clock	02:00 (i.e. 2 AM)	

 Table 2-7
 Decision table for creating additional databases (Continued)

Item	Comment	Suggestion	Choice
Day(s) of the week or month to do a full backup	Runs the command on every specified day or days of the week or month (for example, every Thursday, or the third day of every month). Specify <i>date</i> as one or more days of the week (M,T,W,Th,F,S,Su) or one or more days of the month (using numbers 1 through 31). Separate multiple date entries with commas.	Su (i.e. Sunday)	
Day(s) of the week or month to do an incremental backup	See above	M, T, W, Th, F, S	

**Table 2-7** Decision table for creating additional databases (Continued)

#### 2.6.1.2 Create an additional database

Follow the instructions listed below to create another database. Items in [] refer to choices entered in Table 2-7, "Decision table for creating additional databases".

- 1. Write in a choice for each item in Table 2-7.
- 2. From the Start menu choose: Start > Programs > Oracle [Name of Oracle Home] > Configuration & Migration Tools > Database Configuration Assistant. The Database Configuration Assistant might open behind other applications, but it does show up on the Windows task bar.
- 3. On the Welcome screen, click Next.
- 4. On the Step 1 of 8, Operations screen:
  - a) Choose Create a database.
  - b) Click Next.
- 5. On the Step 2 of 8, Database Templates screen:
  - a) Choose General Purpose.
  - b) Click Next
- 6. On the Step 3 of 8, Database Identification screen:
  - a) In the Global Database Name field, enter [name of database].[domain name]. If the domain name part is blank, do not enter the dot.
  - b) The SID is filled in automatically with the [name of database].
  - c) Click Finish.
- 7. On the Summary Screen, click OK This opens the Database Configuration Assistant screen that will guide you through creating the database. This will take a few minutes.
- 8. On the Database Configuration Assistant screen:
  - a) In the SYS Password field, enter [the password for the Oracle account sys].

- b) In the Confirm SYS Password field, enter [the password for the Oracle account sys].
- c) In the SYSTEM Password field, enter [the password for the Oracle account system].
- d) In the Confirm SYSTEM Password field, enter [the password for the Oracle account system].
- e) Click Exit.
- 9. Follow the procedure in Section 2.2, "Creating an Earthworm database with Atlas extensions," on page 12, but use the information provided in Table 2-7, "Decision table for creating additional databases," on page 23.
- 10. For Atlas Clients that are not located on this computer, follow the instructions in Section 2.6.2.

## 2.6.2 Adding database(s) to the Oracle Client

To enable Atlas to access a database that was not created during the initial installation, use the procedure described in this section. This only needs to be done if any of these 3 conditions is true:

- The database was not created during the initial installation (Atlas can access already the database that was created during the initial installation)
- The database has just been created by using the procedure in Section 2.6.1, "Creating additional databases", and you have clients on computers other than the server computer
- This is a database that was created on another system

#### 2.6.2.1 Requirements for adding an Oracle Client database

- You have completed Table 2-8, "Decision table for adding a database to the Oracle Client"
- You have administrator access to the computer

#### **Table 2-8** Decision table for adding a database to the Oracle Client

ltem	Comment	Suggestion	Choice
Name of Oracle Home	See Table 2-6 on page 17	[Name of Oracle Home]	
Name of the database created	Maximum 8 characters	The name of the database to be installed	
Domain Name	Name of the domain for the database		
Name of the computer the Oracle server is installed on	Name of the computer the database is installed on		
Net Service Name	How you wish to refer to this database in Atlas (this is how the computer is referred to in Atlas)	[Name of the database created], for example, earth2	

#### 2.6.2.2 Add a database to the Oracle Client

Add a database to the Oracle client on each computer where Atlas will need to access the database. Follow the instructions listed below to add a database to the Oracle client. Items in [] refer to choices entered in Table 2-8, "Decision table for adding a database to the Oracle Client".

- 1. Write in a choice for each item in Table 2-8.
- 2. From the Start menu choose: Start > Programs > Oracle [Name of Oracle Home] > Configuration Migration Tools > Oracle Net Configuration Assistant. The Oracle Net Configuration Assistant might open behind other applications, but it does show up on the Windows task bar.
- 3. On the Welcome screen:
  - a) Choose Local Net Service Name configuration.
  - b) Click Next.
- 4. On the Oracle Net Configuration Assistant: Net Service Name Configuration screen:
  - a) Choose Add.
  - b) Click Next.
- 5. On the Database Version screen:
  - a) Choose Oracle8i or later database or service.
  - b) Click Next.
- 6. On the Service Name screen:
  - a) Enter [*Name of the database created*].[*Domain Name*]. If the domain name part is blank, do not enter the dot.
  - b) Click Next.
- 7. On the Select Protocols screen:
  - a) Choose TCP.
  - b) Click Next.
- 8. On the TCP/IP Protocol screen:
  - a) For the Host Name enter the [Name of computer the database is installed on].
  - b) Choose Use the standard port number of 1521.
  - c) Click Next.
- 9. On the Test screen:
  - a) Choose Yes, perform test.
  - b) Click Next.

If the connection tests okay, "Connecting...Test successful" will be displayed in the Connecting screen Details display. If the connection does not test okay, try and change the login information (click the Change Login button and enter the ewdb\_main username and its password).

10. Click Next.

- 11. On the Net Service Name screen:
  - a) Enter the *[Net service name]*; this will default to the *[Name of the database created]*.
  - b) Click Next.
- 12. On the Another Net Service Name screen:
  - a) Choose No.
  - b) Click Next.
- 13. On the Done screen, click Next.

14. On the Oracle Net Configuration Assistant: Welcome screen, click Finish.

The Database is now available for use with Atlas.

#### 2.6.3 Adding Atlas extensions to an existing Earthworm database

This procedure allows the updating of an existing Earthworm database with a few Atlas extensions. Note that this only adds the Atlas extensions and does not include other features that would be performed with a full Atlas installation, such as setting up the database to do backups.

- 1. Ensure that all requirements are met for adding Atlas Extensions to an Earthworm Database.
- 2. Create the Earthworm Database with Atlas Extensions.

#### 2.6.3.1 Requirements for adding Atlas Extensions to an Earthworm database

- Atlas Version 1.2 has been extracted from the Nanometrics software installation CD
- Your computer meets or exceeds the specifications listed in Section 1.4, "Computer requirements," on page 4
- You have completed Table 2-9, "Decision table for adding Atlas extensions to an Earthworm database"
- You have administrator access to the computer and this was the account Oracle was installed with

ltem	Comment	Suggestion	Choice
Location to install atlas db extensions to	A location to install the update files to	C:\nmx\ atlas_db_extensions	
Name of the database to update	Maximum 8 characters		
User Name	Name of the user who owns the earthworm schema in the database	Usually ewdb_main	
Password	Password for the user name	Set initially to main	

Table 2-9 Decision table for adding Atlas extensions to an Earthworm database

Item	Comment	Suggestion	Choice
Sys Password	The password for the sys account	[The password for the oracle account sys]	
Location of Oracle	The location where Oracle is installed	[Location to install Oracle], for example, C:\oracle	

 Table 2-9
 Decision table for adding Atlas extensions to an Earthworm database (Continued)

#### 2.6.3.2 Add Atlas extensions to an Earthworm database



**Note** Atlas extensions are part of the Atlas software, which is included on the Nanometrics software installation CD. If Atlas is selected when the Nanometrics software is unzipped, Atlas extension setup files are extracted automatically to C:\nmx\atlas\databaseSetup.

Follow the instructions listed below to add Atlas extensions to an Earthworm database. Items in [] refer to choices entered in Table 2-9, "Decision table for adding Atlas extensions to an Earthworm database".

- 1. Write in a choice for each item in Table 2-9.
- 2. If the Atlas software has not been extracted yet, insert the Nanometrics software CD into the CD drive, ensure Atlas is selected, and click UnZip.
- 3. Open an Explorer Window, and go to the directory C:\nmx\atlas\databaseSetup.
- 4. Run the self-extracting file atlas\_database\_oracle9i\_1.1.0.exe. (For Oracle8i, use atlas\atlas\_database\_oracle8i\_1.1.0.exe.) This will open the Win-Zip self extractor:
  - a) In the Unzip to folder enter *[location to install atlas db extensions to]*. You can either use the suggested location or enter a different one.
  - b) Click UnZip.
  - c) Click OK in the dialog box saying it has been unzipped correctly.
  - d) Click Close.
- 5. Open a command prompt, and change directories (cd) to [location to install atlas *db extensions to*].
- 6. Run the file add\_atlas\_extensions.bat, with the following parameters in this order: [Name of the database to update] [user name] [password] [sys password] [Location of Oracle]. For example, add\_atlas\_extensions earth2 ewdb\_main main Atlas c:\oracle

# Chapter 3 Maintenance

This chapter contains:

- Information on how to back up and restore your database (Section 3.1)
- Information on how to change an Oracle user password (Section 3.2)
- Recommendations for periodic maintenance (Section 3.3)

# 3.1 Backing up and restoring your database

## 3.1.1 Overview

## 3.1.1.1 About backups

A backup is a copy of information. This copy can include important parts of your database such as the control file and data files. A backup is a safeguard against unexpected data loss and application errors: If you lose the original information, then you can use the backup to reconstruct it.

There are two type of backups, physical and logical:

- Physical backups are copies of the actual database files (physical backups are created using the full, incremental, and control-file backup procedures).
- Logical backups contain data that you extract using the Oracle Export utility and then store in a binary file (logical backups are created using the Export data procedure described in Section 3.1.2.4).

## 3.1.1.2 About Oracle backups and recovery

To understand the basics of backup and recovery, you need to understand how Oracle records changes to a database. Every time a change is made, Oracle generates a record of both the changed and original value in the redo log buffer in memory. This record is called a redo record. Oracle keeps records of both committed and uncommitted changes in redo log buffers.

Oracle frequently writes the redo log buffers to the on-disk online redo log. The online redo log contains at least two online redo log files. Oracle writes to these logs in a circular fashion: First it writes to one log file, then switches to the next available file when the current log is full, then back to the other file, and so forth.

Oracle begins archiving the redo information in the non-current online redo log file by copying the file to specified locations on disk. The online and archived redo logs are crucial for recovery because they contain records of all changes to the database.

#### 3.1.1.3 About Atlas backups

Atlas comes with four types of backups:

- A full backup: This does a complete backup of all of the files in the system. This also does an incremental backup.
- An incremental backup (an incremental backup also does a control file backup):
  - In Oracle9i, this does a complete backup of the redo logs.
  - In Oracle8i, this backs up the archived redo logs but does not back up information found in the current redo logs, so it is not quite up to date.
- A control file backup: This backs up the control file that contains information on what has been backed up.
- An export backup: This does a logical backup of the system.

All of these backup and recovery procedures create log files that can be found in *[loca-tion to create an earthworm database with Atlas extensions]*\logs\. (See also Section 2.6.3.1, "Requirements for adding Atlas Extensions to an Earthworm database," on page 28, and Oracle documentation at

http://www.oracle.com/technology/documentation/index.html.)

#### 3.1.2 Backing up data to disk

This section describes the different methods of backing up data:

- Full backup
- Incremental backup
- Control file backup
- Logical backup (exporting data)



#### Caution

- These backup procedures only copy the database to specified locations on disk. Copy the disk backups to some removable medium such as CD or tape to avoid losing the backed up data if the disk fails. (Read each section below for a list of what should be backed up for each type of backup done.)
- 2) Backups will continue to use disk space until no disk space is left, and then no backup will be done unless old backup files are deleted. Delete old backup files to make room for new backups.

Once you do a full backup, all of the full and incremental backups made previously are no longer needed (unless you want to restore to an older copy of the information).

#### 3.1.2.1 Do a full backup

A full backup does a complete backup of the database. This is automatically set up to run at specific intervals (see entry [Day(s) of the week or month to do a full backup] in Table 2-1 on page 8, and entry [time of day to do a full backup at] in Table 2-4 on

page 12). You may also wish to do a full backup when you have made significant changes to a database, for example when it is first created.

1. Run the bat file [location to install atlas database source files]\backup\_scripts\full\_backup.bat. This will take some time, depending on the size of the database.

This will back up the files to *[location to do full backups to]*. The full backup may contain multiple pieces, each of which is of the size *[maximum size of a file for a backup]*.

2. Check the log file at *[location to install atlas database source files]*\logs\full\_backup.log, to see whether the backup procedure worked.

Only the most recent full backup log file is kept.

- 3. Running the full\_backup also does an incremental and control file backup. Check these log files as well:
  - [location to install atlas database source files]\logs\incremental\_backup.log
  - [location to install atlas database]\logs\control\_file\_backup.log
- 4. Back up these directories onto removable media (see, for example, Section 3.1.4 on page 39):
  - [location to do full backups to]
  - [location to do incremental backups to]
  - [location to do control file backups to]
- 5. After you have backed up these directories to removable media, delete all files from these directories:
  - [location to do full backups to]
  - [location to do incremental backups to]
  - *[location to do control file backups to]*

#### 3.1.2.2 Do an incremental backup



**Caution** Incremental backups will not work in Oracle9i unless the Oracle patch has been installed. See also Section 2.1.3, "Installing the Oracle Patch," on page 10.

An incremental backup backs up the redo logs. (Note that for Oracle8i, this procedure only backs up the archived redo logs, but any recent changes that are only in the active redo logs are not backed up.) The active redo logs are being multiplexed to *[location to write multiplexed oracle files to]* (see Table 2-4 on page 12).

This procedure is set up to run automatically at specific intervals (see entries [day(s) of the week or month to do an incremental backup] and [time of day to do an incremental backup at] in Table 2-4 on page 12). An incremental backup also happens every time a full backup is done.

 Run the bat file [location to install atlas database source files]\backup\_scripts\incremental\_backup.bat. This will take a few minutes, depending on how many changes you have made since the last incremental backup.

This will back up the files to *[location to do incremental backups to]*. The incremental backup may contain multiple pieces, each of which is of the size *[maximum size of a file for a backup]*.

2. Check the log file at *[location to install atlas database source files]*\logs\incremental\_backup.log.

Only the most recent incremental backup log file is kept. If no archived logs were created since the last incremental backup the following error message will appear in the log:

This is OK.

- 3. An incremental\_backup also does a control file backup. Check this log file as well:
  - [location to install atlas database]\logs\control\_file\_backup.log
- 4. Back up these directories onto removable media (see, for example, Section 3.1.4 on page 39). The files in these directories work in conjunction with the latest full backup:
  - [location to do incremental backups to]
  - [location to do control file backups to]
- 5. After you have backed up these directories to removable media, delete all files from these directories:
  - [location to do incremental backups to]
  - [location to do control file backups to]

#### 3.1.2.3 Do a control file backup



**Note** Generally, there is no need to run a control file backup on its own, as it runs every time a full or incremental backup is done.

A control file stores the information about what has been backed up, in case something needs to be restored. The current active control file is also multiplexed to *[location to write multiplexed oracle files to]* (see Table 2-4 on page 12).

- 1. Run the bat file [location to install atlas database]\ backup\_scripts\control\_file\_backup.bat. This will take a few seconds. It will back up the files to [location to do control file backups to].
- Check the log file at [location to install atlas database]\ logs\control\_file\_backup.log.
   Only the most recent control file backup log file is kept.

- 3. Back up this directory onto removable media (the files in this directory works in conjunction with the latest full backup). (See also Section 3.1.4 on page 39.):
  - [location to do control file backups to]
- 4. After you have backed up this directory to removable media, delete all files from the directory *[location to do control file backups to]*.

#### 3.1.2.4 Export data

Export data does a logical backup of the Earthworm schema database tables. This logical backup can then be imported into another database. This procedure can only be run manually as it requires some user input.

- Run the bat file [location to install atlas database source files]\backup\_scripts\export\_all.bat (see Table 2-4 on page 12). This will take a few seconds. This will back up the files to [location to do export backups to].
- Check the log file at [location to install atlas database source files]\ logs\export\_\*.log (where \* is ewdb, atlas\_extensions, and waveforms).

```
You will see:
Export: Release <release number> - Production on <the date/time>
(c) Copyright <date> Oracle Corporation. All rights reserved.
Password:
```

3. Enter the password for the ewdb\_main Oracle user and press Enter. (For details on how to change the password see Section 3.2 on page 40). You will be prompted for the password three different times.

In addition, you can export different parts of the database by changing export\_all to one of the options listed in Table 3-1.

Name of Export File	What is exported
export_ewdb	Exports all of the earthworm database schema tables except for the waveform
export_atlas_extensions	Exports all of the atlas extensions to the earthworm database schema
export_waveforms	exports all of the waveform data

Table 3-1 File exports

#### 3.1.3 Restoring databases

This section describes the three different methods of recovering data:

- A normal restoring of data
- A restoring of data lost due to a media failure
- Importing data

#### 3.1.3.1 Do a normal restore of data

Do a normal restore of data if you wish to restore the database to the most recently saved information, if there was not a total disk failure. (See also the Oracle documentation Oracle9i Backup and Recovery Guide and Oracle9i Recovery Manager User's Guide and Reference, at http://www.oracle.com/technology/documentation/index.html).

- Copy from removable media the most recent copies of these backups. For locations, see Table 2-4 on page 12. (See also Section 3.1.4.1, "Make a backup CD using an HP CD-Writer 9710i," on page 39):
  - Full backup. This should be restored to *[location to do full backups to]*.
  - Incremental backups (all since the last full backup). This should be restored to *[location to do incremental backups to]*.
  - Control file backups. This should be restored to *[location to do control file backups to]*.
- 2. Run the file [location to install atlas database]\backup\_scripts\ recovery.bat. This will take a few minutes. When prompted for a password, enter [the password for the oracle account sys].
- 3. Important! Check the log file at *[location to install atlas database]*\logs\recovery.log to see whether the restore procedure worked. Only the most recent recovery log file is kept.

#### 3.1.3.2 Restore data lost to disk failure

Follow this procedure when the hard disk that contained Oracle and the Oracle Database crashed.

- 1. Reinstall Oracle Server. Use the same procedure as in Section 2.1 on page 7, but do *not* install a general purpose database when given the choice in step 6 of that procedure:
  - Choose Software only.
- 2. Important! Check the set\_environment.bat file to ensure the SYS\_PASSWORD variable is set correctly (see also Table 2-5 on page 15).
- 3. Reinstall Atlas. Use the procedure in Section 2.4.2 on page 20.
- 4. Copy from removable media the most recent copies of the following backups. For locations, see Table 2-4 on page 12. (See also Section 3.1.4.1, "Make a backup CD using an HP CD-Writer 9710i," on page 39):
  - Full backup. This should be restored to *[location to do full backups to]*.
  - Incremental backups (all since the last full backup). This should be restored to *[location to do incremental backups to]*.
  - Control file backups. This should be restored to *[location to do control file backups to]*.

- 5. Open a command prompt, and then change directories (cd) to [location to install atlas database]\backup\_scripts.
  - If the files you multiplexed to the *[location to write multiplexed oracle files to]* are not present, go to step 7.
- 6. If the files you multiplexed to the *[location to write multiplexed oracle files to]* are still present (that is, they were on another disk):
  - a) Run the multiplexed\_media\_recover.bat file with 1 parameter, the database ID (DBID) of the database:

```
multiplexed_media_recover.bat DBID
```

The DBID is part of the file name in the control file backup directory. The file name is in the form databaseName\_CF\_C-DBID-date-hexNumber. For example, if the file name is

EARTHWRM\_CF\_C-3197844328-20030331-00, then the command would be multiplexed\_media\_recovery.bat 3197844328.

- b) Go to step 8.
- 7. Run the multiplexed\_media\_recover.bat file with 2 parameters, the database ID (DBID) of the database and the last highest sequence number with the most recent date (sequenceNumber):

multiplexed\_media\_recover.bat DBID sequenceNumber.

• The DBID is part of the file name in the control file backup directory. The file name is in the form *databaseName\_CF\_C-DBID-date-hexNumber*. For example, if the file name is EARTHWRM\_CF\_C-3197844328-20030331-00, then the DBID is 3197844328.

View the sequence number file in the control file backup directory to get the correct sequence number. The correct sequence number is the highest sequence number with the latest date, shown in the section List of Archived Log Backups (see Figure 3-1). (The only time the sequence number is not the highest sequence number, regardless of the date, is if there have been multiple media failures.)

```
Figure 3-1 Example: finding the correct sequence number in the sequence number file
```

- - -

Thrd	Seq	Low SCN	Low Time	BS Key	S	#Pieces	#Copies	Tag
					-			
1	1	203978	03-03-28	21	А	1	1	TAG20030329T020051
1	2	281899	03-03-29	27	А	1	1	TAG20030330T022522
1	3	506012	03-03-30	31	А	1	1	TAG20030331T020103
1	4	722602	03-03-31	37	А	1	1	TAG20030331T115544
1 (	5	813838	03-03-31	<b>]</b> 1	А	1	1	TAG20030331T133553
1	1	190578	03-03-28	2	А	1	1	TAG20030328T121720
1	r	202210	00 00 00	۵	7	1	1	۳x~?^^?^?

Therefore, in this example, the command would be: multiplexed\_media\_recovery.bat 3197844328 5

- 8. Important! Check the log file at *[location to install atlas database source files]*\logs\recovery.log to see whether the restore procedure worked. Only the most recent incremental backup log file is kept.
- 9. If the database did not start up correctly run the bat file [location to install atlas database source files]\backup\_scripts\open\_resetlogs.bat. When prompted for a password, enter [the password for the oracle account sys].
- 10. Check scheduled tasks to see whether there are two jobs scheduled to do the backup. If these tasks are not scheduled:
  - Run the bat file
     atlas\_database\backup\_scripts\create\_at\_jobs.bat

#### 3.1.3.3 Import data

Use this procedure to import data that were exported previously. This procedure can only be run manually as it requires some user input.

Only import data to a new database (see Section 2.6, "Optional installations," on page 22). Once the data are in a new database you can use Atlas features to move the information from the new database to an existing one if desired.

- 1. Open a command prompt.
- Change directories (cd) to [location to install atlas database]\backup\_scripts
- 3. Run the bat file import.bat with the parameter *<the file to import>*; for example, to import a file that was just exported.

For example:

import.bat [location to do export backups to]\export\_ewdb.dmp
This will take a few minutes. If the database is not a new database, it is likely that
many errors will be generated.

4. View the log file at *[location to install atlas database]*\logs\import.log. You will see:

Import: Release <release number> - Production on <the date/time>
(c) Copyright <date> Oracle Corporation. All rights reserved.
Password:

5. Enter the password for the ewdb\_main Oracle user and press Enter. (For details on how to change the Oracle password see Section 3.2 on page 40.)

#### 3.1.4 Making a backup CD using an HP CD-Writer 9710i

This section gives a brief overview of how to copy file backups onto a CD. We recommend that you use RW CDs, and for each full backup use a new CD (or more than one if your database is large) and append the incremental backups (including control files) onto the same CD.

#### 3.1.4.1 Make a backup CD using an HP CD-Writer 9710i

- 1. Start up HP Simple Backup, either from the icon on the desktop, or:
  - a) Open Start > Programs > HP CD-Writer > HP CD-Writer.
  - b) Choose HP Simple Backup.
  - c) On the screen indicating that there are two types of blank CDs, click OK.
- 2. On the Simple Backup Screen, click Custom Backup.
- 3. On the Custom Backup Welcome screen, click Next.
- 4. On the Custom Backup Screen:
  - a) Choose the directories and files you wish to write to a CD (see the list in the backup procedures) by checking the box beside each item you wish to back up.
  - b) Click Next.
- 5. On the Custom Backup: Backup Estimates Screen:
  - a) See how many CDs will be needed to store the backup.
  - b) Put a CD into the HP-CD Writer.
  - c) Click Next.

- 6. If the CD is a RW CD and already has some data on it, a dialog box will indicate: "This media contains data. Overwrite will erase all existing data. Do you want to overwrite?"
  - Choose the appropriate option. For example, if you are adding incremental files to a full backup, then choose Append.
- 7. Wait until the Custom Backup is finished, inserting additional CDs if prompted. This step will take a while, particularly if you are using new CDs.
- 8. Click Finish.

#### 3.1.4.2 Restore from a backup CD

- 1. Start up HP Simple Backup, either from the icon on the desktop or from the Start menu:
  - a) Open Start > Programs > HP CD-Writer > HP CD-Writer.
  - b) Choose HP Simple Backup.
- 2. On the screen indicating that there are two types of blank CDs, click OK.
- 3. On the Simple Backup screen, choose Custom Restore.
- 4. On the Custom Restore screen:
  - a) Choose the HP CD-Writer Drive.
  - b) Click Next.
- 5. On the screen Custom Restore: Wait while media is being examined, wait until the next screen appears.
- 6. On the Custom Restore screen:
  - a) Choose which files you wish to restore. This should include:
    - the latest Full Backup
    - all of the Incremental Backups since the last Full Backup
    - the latest Control Backup
  - b) Click Next.
- 7. On the Custom Restore: Choose how to restore screen:
  - a) Choose one of the three options. The first option, Only overwrite older files that already exist on my computer, is recommended.
  - b) Click Next.
- 8. On the Custom Restore: Restoring Files screen, wait until the next screen appears.
- 9. On The Custom Restore: Restore Completed screen:
  - a) Click to view the report if one exists.
  - b) Click Finish.

## 3.2 How to change an Oracle user password

This procedure allows you to change the Oracle user passwords. Table 3-2 lists the main users created for each database and their associated initial passwords.

User Name	Initial Password	Function
sys	<ul> <li>For Oracle 9i, you can change the initial password during server installation. See [password for the oracle account sys] in Table 2-1, "Decision table for installing Oracle Server," on page 8</li> <li>For Oracle8i, the initial password is set by Oracle. Change the password as described in this section.</li> </ul>	Owns the data dictionary. This user is automatically granted the DBA role.
system	<ul> <li>For Oracle 9i, you can change the initial password during server installation. See [password for the oracle account system] in Table 2-1, "Decision table for installing Oracle Server," on page 8</li> <li>For Oracle8i, the initial password is set by Oracle. Change the password as described in this section.</li> </ul>	Used to manage the database, and occasionally to hold tables and packages that support additional features within the database. This user is automatically granted the DBA role.
ewdb_main	main	Owns the Earthworm tables and procedures.
	<ol> <li>Open a command prompt.</li> <li>Change directories (cd) to [location</li> <li>Run the change_password.bat</li> <li>The user name</li> <li>The password to change For example, change_password</li> <li>If the password change was successful User altered</li> <li>(this is the third last line).</li> <li>When prompted for a password, ente</li> <li>If the password change was not succe</li> <li>err pRA-24314: Service handle</li> <li>If this happens reboot the computer a</li> </ol>	<pre>to install atlas database]\scripts. file, giving it two parameters: rd.bat sys new_password ul, the line will be output: r [the password for the oracle account sys]. essful, it might give the error: not initialized und try again.</pre>
22 Dori	odio maintonanco	
J.J Perio		
	In addition to the backing up and deleting lowing cleanup should be done periodicate vary depending on the quantity of data c	g of backups described in Section 3.1, the fol- ally. We suggest once a month, but this will ollected and the quantity of storage space.

Table 3-2 Oracle user names and initial passwords

- 1. Remove events from the database that you are no longer interested in:
  - a) It is strongly suggested that you archive the events using the Export data procedure described in Section 3.1.2.4 on page 35.
  - b) Create a catalog that contains all the events you wish to get rid of.
  - c) Delete all the events in the catalog.

2. On each Atlas Client remove all but the most recent files (if any exist) from the *[location to install atlas client]*\log directory.

# Appendix A Oracle8i Procedures

This section gives instructions for installing the Oracle8i Server, and for creating additional databases for Oracle8i. Other procedures for working with Oracle8i are the same as those for Oracle9i; see the main chapters of this user guide.

# A.1 Installing Oracle8i Server



**Note** Before installing Oracle Server, ensure that you have first installed the version of Java Standard Edition Runtime Environment (JRE) that you will be using for Atlas. If the Oracle installer does not find a previously installed version of JRE, it will add to your path the version that is included on the Oracle installation CD.

- 1. Ensure that all Oracle Server installation requirements are met.
- 2. Install Oracle Server.

## A.1.1 Requirements for installing Oracle8i Server

- You have the Oracle 8i Standard Edition Release 3 (8.1.7) CD
- Your computer meets or exceeds the specifications list in Table 1-1 on page 4.
- You have completed Table A-1 "Decision table for installing Oracle8i Server"
- You have administrator access to the computer
- There is no previous version of Oracle currently installed on the computer

Table A-1 Decision table for installing C	Dracle8i Server
---	-----------------

Item	Comment	Suggestion	Choice
Location to install Oracle	Drive should have at least 5GB	C:\oracle	
Name of Oracle Home		OraHome81	
Path to install the Oracle Home	This must be a subdirectory of the Location to Install Oracle	C:\oracle\Ora81	
Name of the database	Maximum 8 characters	Earthwrm (note maximum 8 characters	

ltem	Comment	Suggestion	Choice
Domain Name	Name of your domain (for example, for Nanometrics it would be nanometrics.ca) If you are unsure leave this blank.		

Table A-1 Decision table for installing Oracle8i Server (Continued)

#### A.1.2 Install Oracle8i Server

Follow the instructions listed below to install Oracle Server. Items in [] refer to choices recorded in Table A-1 "Decision table for installing Oracle8i Server".

- 1. Enter a choice for each item in Table A-1.
- 2. Insert Oracle8i Standard Edition Release 3(8.1.7) CD into the CD drive. This should start Autorun CD if enabled on your computer. Otherwise run setup.exe on the CD (from either the Run dialog box or an Explorer window).
  - a) Select the option Install/Deinstall Products. This will load the Oracle Universal Installer.
  - b) Click Next.
- 3. On the File Locations screen:
  - a) Under Destination Name enter the *[Name of Oracle Home]*. You can either use the suggested destination name or enter a different one.



**Caution** Oracle may default to a drive other than the C: drive based on the amount of space available. Ensure before proceeding that the Destination Name is the destination you chose.

- b) Under Destination Drive enter the *[Path to install the Oracle Home]*. You can either use the suggested destination path or enter a different one.
- c) Click Next. It may take a few minutes for the products to load.
- 4. On the Available Products screen:
  - a) Select Oracle 8i 8.1.7.0.0.
  - b) Click Next.
- 5. On the Installation Types screen:
  - a) Select Typical.
  - b) Click Next. It may take a few minutes for the products to load.
- 6. On the Database Identification Screen:
  - a) In the Global Database Name field, enter [name of database].[domain name]. The domain name part may be blank in which case do not enter the dot.
  - b) The SID is filled in automatically with the [name of database].
  - c) Click Next.

This will bring up a summary screen.

7. In the summary screen, click Install.

This installs the files and automatically runs some Configuration Tools; these tools do not require any user intervention. This installation step will take some time (half an hour to an hour depending upon the speed of your computer).

- 8. On the Oracle Database Configuration Assistant Alert Dialog box, click OK.
- 9. On the End of Installation screen, click Exit.
- 10. On the Do you really want to exit dialog box, click Yes.

Oracle8i Server is now installed.

Installation will have left a MS-DOS window titled "Oracle HTTP Server". Atlas does not need the Oracle HTTP Server. You can either leave this or remove it by running a program to stop the Oracle HTTP Server. This can be run from: Start menu > Programs > Oracle –[*Name of Oracle Home*] > Oracle HTTP Server > Stop HTTP Server powered by Apache.

# A.2 Creating additional databases for Oracle8i

Use this optional installation procedure if you want to make additional databases. Additional databases can be used for several purposes, for example to:

- Import data exported from another database
- Store interesting events
- Allow different people to work on copies of the same event

## A.2.1 Requirements for creating an additional database for Oracle8i

- You have the Oracle 8i Standard Edition Release 3 (8.1.7) CD
- Atlas Version 1.2 has been extracted from the Nanometrics software installation CD
- Your computer has free 10 to 15GB of disk space
- This is the computer that the Oracle Server has been installed on
- You have completed Table A-2 "Decision table for creating additional databases for Oracle8i"
- You are using the same account that the server was installed with

#### Table A-2 Decision table for creating additional databases for Oracle8i

ltem	Comment	Suggestion	Choice
Name of the database	Maximum 8 characters	Earth3 (note maximum 8 characters)	
Domain Name	Name of your domain. (For example, for Nanometrics Inc. it would be nanometrics.ca.) If you are unsure leave this blank.		
Location to Install Atlas database source files	This <b>must</b> be different from any previous locations	C:\nmx\atlas_database3	

Item	Comment	Suggestion	Choice
The password for the oracle account sys	This is just the initial password; it can be changed later (see section 3.2 on page 40).	atlas	
Location to back up the database to	It is preferable that this be a different hard disk than the one Oracle was installed on. This should be a different directory than is used for the Atlas database source files. See section 3.1 "Backing up and restoring your database" on page 31 for more information on backups. Important: Ensure the path points to an existing drive otherwise Oracle will not run properly. For example, if there is no D drive, Oracle won't work with the suggested path.	D:\nmx\atlas\backups3	
Location to do full backups to	Should be a sub-directory of the backup location	D:\nmx\atlas\backups3\ full	
Location to do incremental backups to	Should be a sub-directory of the backup location	D:\nmx\atlas\backups3\ incremental	
Location to do control file backups to	Should be a sub-directory of the backup location	D:\nmx\atlas\backups3\ control	
Location to do export backups to	Should be a sub-directory of the backup location	D:\nmx\atlas\backups3\ exports	
Location to write archive redo logs to	Should be a sub-directory of the backup location	D:\nmx\atlas\backups3\ redo_archive	
Location to write multiplexed Oracle files to	Should be a sub-directory of the backup location	D:\nmx\atlas\backups3\ multiplexed	
Maximum size of a file for a backup	This is in KBs	500000 (i.e. 500 MB)	
Time of day to do a full backup at	Using the 24 hour clock	02:00 (i.e. 2 AM)	
Time of day to do an incremental backup at	Using the 24 hour clock	02:00 (i.e. 2 AM)	

 Table A-2
 Decision table for creating additional databases for Oracle8i (Continued)

Item	Comment	Suggestion	Choice
Day(s) of the week or month to do a full backup	Runs the command on every specified day or days of the week or month (for example, every Thursday, or the third day of every month). Specify <i>date</i> as one or more days of the week (M,T,W,Th,F,S,Su) or one or more days of the month (using numbers 1 through 31). Separate multiple date entries with commas.	Su (i.e. Sunday)	
Day(s) of the week or month to do an incremental backup	See above	M, T, W, Th, F, S	

Table A-2 Decision table for creating additional databases for Oracle8i (Continued)

## A.2.2 Create an additional database for Oracle8i

Follow the instructions listed below to create another database. Items in [] refer to choices recorded in Table A-2 "Decision table for creating additional databases for Oracle8i".

- 1. Write in a choice for each item in Table A-2.
- 2. From the Start menu choose: Start > Programs > Oracle [Name of Oracle Home] > Database Administration > Database Configuration Assistant. The Database Configuration Assistant might open behind other applications, but it does show up on the Windows task bar.
- 3. On the Oracle Database Configuration Assistant screen:
  - a) Select Create a database.
  - b) Click Next.
- 4. On the Select the type of database to create screen:
  - a) Select Typical (recommended).
  - b) Click Next.
- 5. On the Select the method for creating your database screen:
  - a) Put the Oracle 8i Standard Edition (8.1.7) CD in the CD-ROM drive. This will launch the Oracle81 Standard Edition Autorun screen, which you can close or ignore.
  - b) Select Copy existing database files from the CD.
  - c) Click Next.
- 6. On the Database Identification Screen:
  - a) In the Global Database Name field, enter [name of database].[domain name]. The domain name part may be blank in which case do not enter the dot.
  - b) The SID is filled in automatically with the [name of database].

c) Click Finish.

- 7. On the dialog box indicating The datafiles will be copied from ..., click Yes.
- 8. On the dialog box indicating An Oracle database will be created for you ..., click OK.

This will open the Database Creation Progress Screen, and will create the database. This will take 15-30 minutes.

- 9. In the dialog box indicating Database creation completed, click OK.
- 10. Follow the procedure in section 2.2 "Creating an Earthworm database with Atlas extensions" on page 12, but use the information provided in Table 2-7 "Decision table for creating additional databases" on page 23.
- 11. For Atlas Clients that are not located on this computer, follow the instructions in section 2.6.2 "Adding database(s) to the Oracle Client" on page 26.