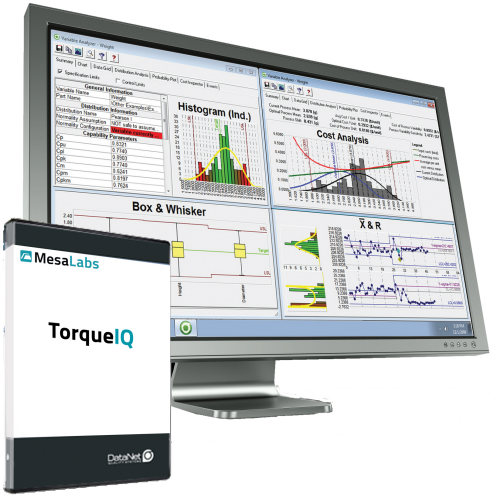
TorqueIQ

WINSPC®
STATISTICAL PROCESS CONTROL

Installation and Configuration Guide



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INTRODUCTION

This guide is for individuals configuring a database for WinSPC, installing and configuring WinSPC on client stations, and implementing the WinSPC application server. It consists of procedures to accomplish these tasks for the following database servers:

- Microsoft SQL Server 2005
- Microsoft SQL Server 2005 Express
- Microsoft SQL Server 2008
- Microsoft SQL Server 2008 Express
- Microsoft SQL Server 2012
- Microsoft SQL Server 2012 Express
- Oracle 10*g*
- Oracle 11*g*

The six Microsoft SQL Server editions are all dealt with in **Chapter 1: Microsoft SQL Server 2005/2008/2012**. A free download of these editions is available from Microsoft's website.

WinSPC is certified to run in a traditional client/server environment and a Microsoft Terminal Services environment. The content in this guide applies to both except where marked by a *Terminal Services* marker, in which case the content applies uniquely to a Microsoft Terminal Services environment. The first appearance of the *Terminal Services* marker is to the right of the following paragraph.

When an implementation involves a Microsoft Terminal Services environment, WinSPC must be installed on the Microsoft Terminal Services server. If the implementation does not also involve a client/server environment, make the Microsoft Terminal Services server your first client. (*First client* simply refers to the first computer on which WinSPC is installed.) If the implementation also involves a client/server environment, it does not matter whether you make the

Microsoft Terminal Services server the first client or an additional client. (*Additional client* means any computer on which WinSPC is installed other than the first client.) Electing to make the Microsoft Terminal Services server the first client means that the procedure for installing WinSPC on the Microsoft Terminal Services server is the procedure detailed in *Phase 2* of the chapter specific to the database server being used in your implementation. Electing to make the Microsoft Terminal Services server an additional client means that the procedure for installing WinSPC on the Microsoft Terminal Services server is the procedure detailed in **Chapter 5: Additional Client Installs and Configurations**.

For WinSPC's hardware requirements and recommended platforms, see **Appendix F: Hardware Requirements and Recommended Platforms**.

DataNet Quality Systems wants your installation and configuration to be a positive experience. Please do not hesitate to contact our Product Support Help Desk at (248)-447-0140 if you have questions concerning any of the information in this guide.

CHAPTER 1: MICROSOFT SQL SERVER 2005/2008/2012

WinSPC is certified to run on the following editions of Microsoft SQL Server: Microsoft SQL Server 2005 Express, Microsoft SQL Server 2005, Microsoft SQL Server 2008 Express, Microsoft SQL Server 2008, Microsoft SQL Server 2012 Express and Microsoft SQL Server 2012. This chapter applies to each of these editions.

The procedure to configure any of these six editions for use with WinSPC is nearly identical to that of the other five. Consequently, where images of Microsoft SQL Server prompts are used for illustration, they are exclusively from Microsoft SQL Server 2005 Express. In addition, where the text of this chapter applies to all editions equally, edition-specific information is omitted in favor of generic titles such as *Microsoft SQL Server* or *SQL Server Management Studio*.

ASSUMPTIONS

The instructions in this chapter are based on the following assumptions:

- Microsoft SQL Server is installed on your database server machine.
- An instance of Microsoft SQL Server has been created for WinSPC and is running. (This instance may be named or unnamed.)
- During the creation of this instance, the authentication mode selected was **Mixed Mode** (**Windows Authentication and SQL Server Authentication**). (WinSPC will not function if the default **Windows Authentication Mode** was accepted.)

- The management and configuration tools appropriate to your edition of Microsoft SQL Server are installed on your database server machine. At a minimum, these include **SQL Server Management Studio** and **SQL Server Configuration Manager**.
- Other than the **Mixed Mode** of authentication and where an exception is clearly noted, the default values presented by your Microsoft SQL Server edition during the setup process were accepted without modification.
- The **no count** option in Microsoft SQL Server is disabled. This option, if enabled, will interfere with WinSPC functionality. It is disabled by default when Microsoft SQL Server is installed. (To locate this option: i. In the **Object Explorer** of **Microsoft SQL Server Management Studio**, right-click the SQL Server instance to be used by WinSPC and select **Properties**; ii. In the **Server Properties** prompt that appears, under **Select a Page**, click **Connections**; iii. under **Default connection options**, scroll down until **no count** is visible.)
- Firewalls between your database server and the client stations to be used for WinSPC are configured to permit database traffic.

- For implementations employing a Microsoft Terminal Services environment, Microsoft Terminal Services is properly installed and configured on the server designated as your Microsoft Terminal Services server and the client stations that will run WinSPC on this server can successfully establish a Remote Desktop Protocol (RDP) connection to the server.
- For editions of Microsoft SQL Server other than SQL Server 2012, the operating system of your database server machine is Windows Server 2003 or Windows Server 2008. For SQL Server 2012, the

operating system of your database server machine is Windows Server 2008.

- The operating system of the client machines to be used for WinSPC is Windows 7, Windows Vista Business or Windows XP Pro. (Images of client machines included in this guide are from Vista Business.)

NOTE: If a default value was modified during the setup Microsoft SQL Server or an operating system is different from that stated here, adapt the instructions in this guide as needed to accommodate the modified value or differing operating system.

Phase 1 of 4 **SERVER CONFIGURATION**

Establish a Server Connection

1. On the database server machine, launch **SQL Server Management Studio**, the default path for which is **Start** > **All Programs** > **Microsoft SQL Server**> **SQL Server Management Studio**.
2. In the **Connect to Server** prompt that appears:
   a. At **Server Type**, accept the **Database Engine** default.
   b. At **Server name**, if a name is not displayed or the name displayed is not the name of the machine on which the instance of Microsoft SQL Server to be used for WinSPC is created, select the correct name from the dropdown list. Depending on your edition of Microsoft SQL Server and the options selected during this edition's setup, the instance for your implementation may be *named* or *unnamed*. If your instance is named, the correct name for this **Server name** field consists of a combination of the server name and the instance name (e.g. TESTSERVER\SQLEXPRESS). If your instance is unnamed, the correct name for this **Server name** field consists of the server name alone (e.g. TESTSERVER). In the event the server name displayed is incorrect and the dropdown list does not contain the correct name:
      i. From the **Server name** dropdown list, select **<Browse for more…>**.
      ii. In the **Browse for Servers** prompt, click the **Network Servers** tab. This automatically initiates a search for servers on your network.

iii. When the search completes, expand **Database Engine** and single-click the desired server name or server name\instance name combination.

iv. Click **OK**.

c. At **Authentication**, select **SQL Server Authentication**.

d. At **Login**, enter **sa**.

e. At **Password**, enter the password assigned to the **sa** login.

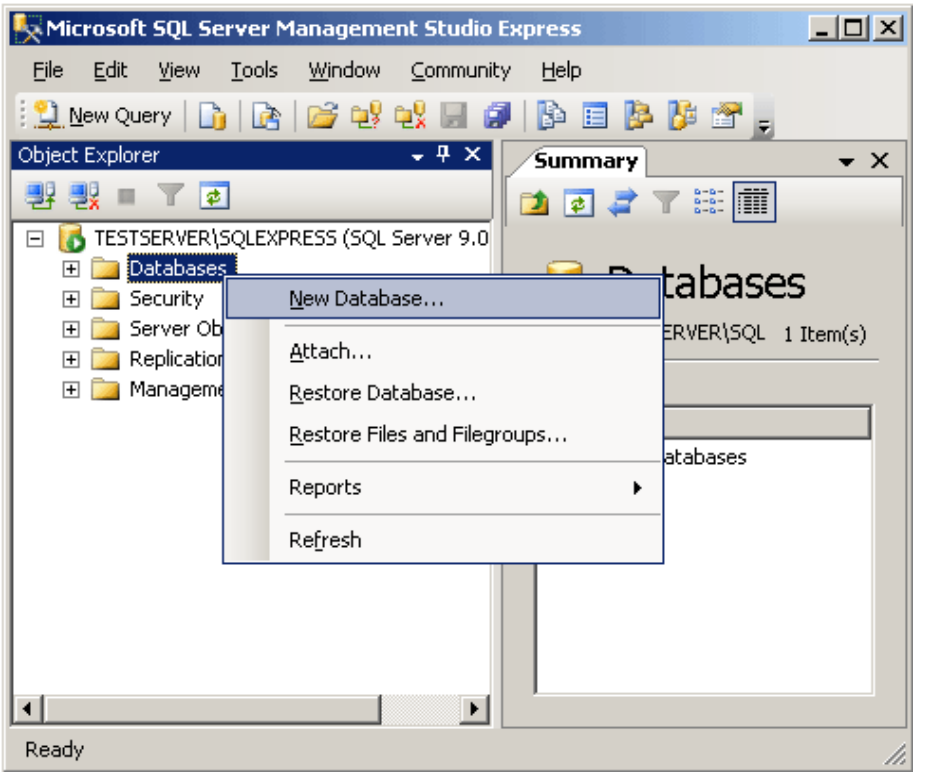
f. Click **Connect**.

NOTE: If the **Connect to Server** prompt is not displayed, click **File > New > Database Engine Query** in **Microsoft SQL Server Management Studio** and complete the preceding substeps in the **Connect to Database Engine** prompt.

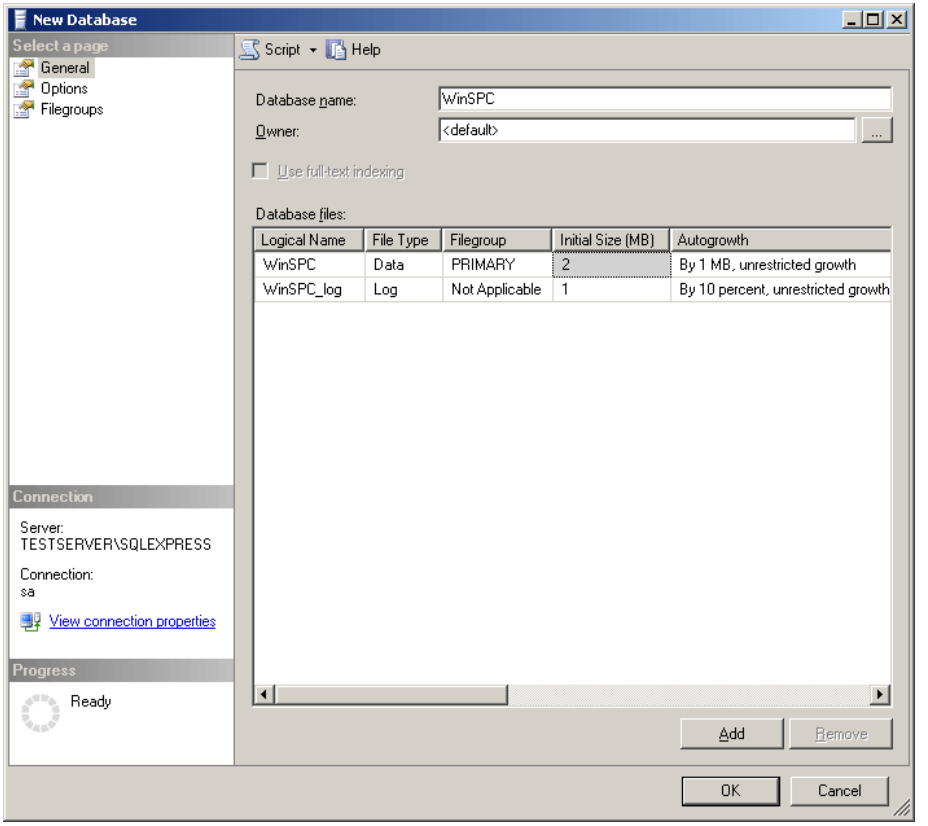
Create a Database

DataNet Quality Systems recommends that a new database be created for the exclusive use of WinSPC. Use of a WinSPC database by other applications is not tested and consequently not certified by DataNet.

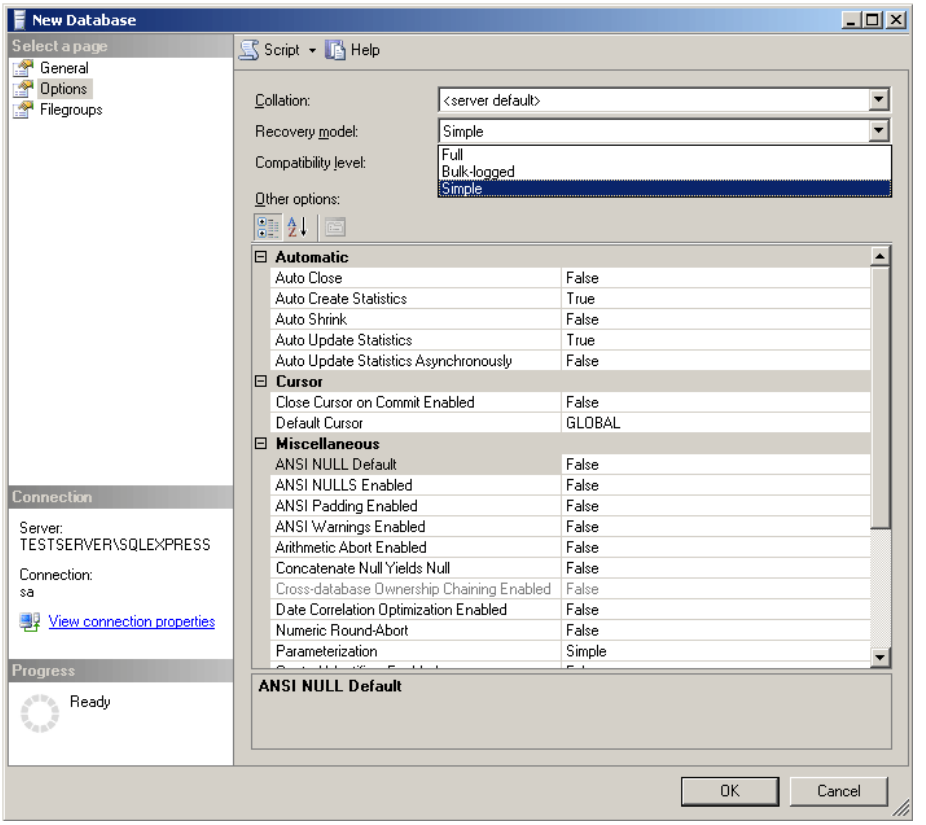
1. In the **Object Explorer** (i.e. the left pane) of **Microsoft SQL Server Management Studio,** right-click **Databases** and, from the shortcut menu, select **New Database**.



2. In the **New Database** prompt, at **Database name,** create and enter a name for the database. (The recommended database name is **WinSPC**.)



3. If you are configuring a full, as opposed to express, version of Microsoft SQL Server, you may want to consider changing the default **Recovery Model** from **Full** to **Simple**. This helps prevent Microsoft SQL Server's transaction log from growing to a point where it interferes with database performance. To change the **Recovery Model** to **Simple**, under **Select a page**, click **Options** and, at **Recovery model** select **Simple**.

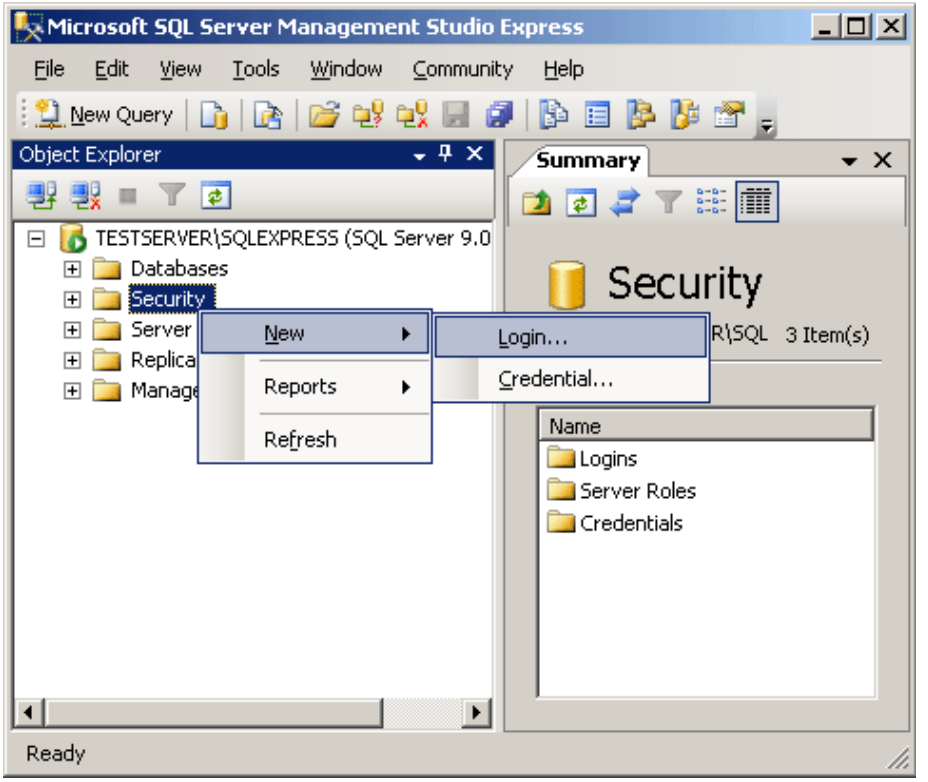


NOTE: According to Microsoft, with the **Recovery Model** set to **Simple**, a database can only be recovered to the time of the most recent backup. This means that data captured between the most recent backup and a failure which necessitates a recovery is lost. If this is an unacceptable risk for your organization, use the **Full** or **Bulk-logged** option and follow Microsoft's recommendations to control the size of your transaction log.

4. Click the **New Database** prompt's **OK** button.

Create a Server Login

1. In the **Object Explorer**, right-click the **Security** folder and select **New** > **Login**.



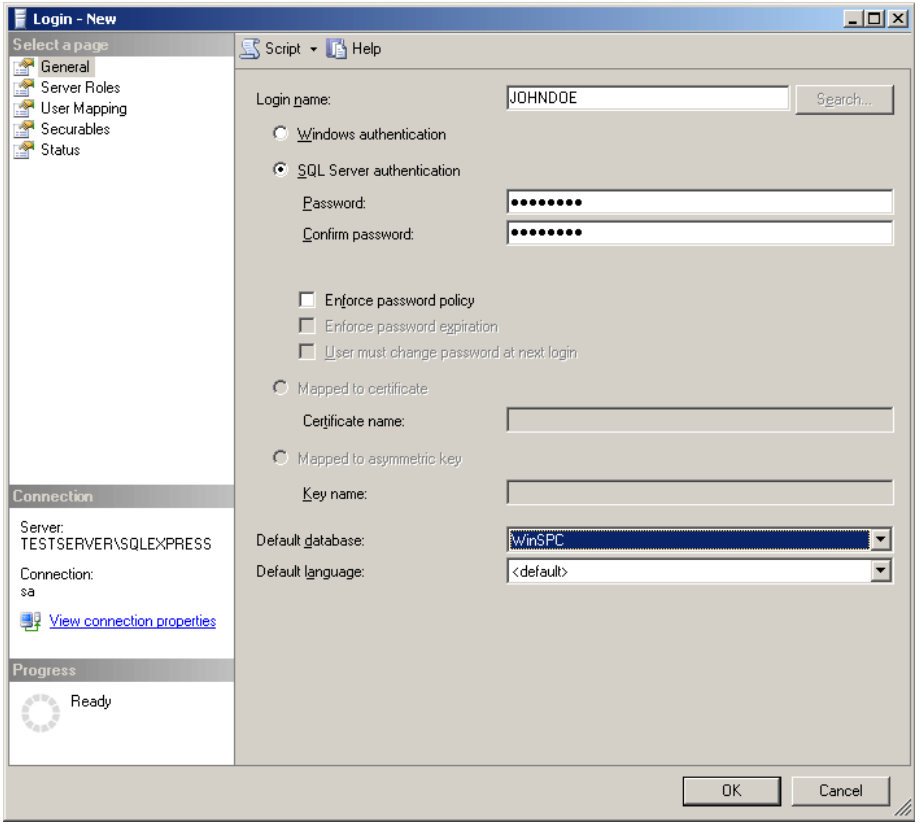
(The **Security** folder referred to here is the one in the root level of the folder for the server or server\instance you are configuring, not a **Security** sub-folder within a database folder under the root **Databases** folder.)

2. In the **Login - New** prompt:
   a. At **Login name**, create and enter a name for the login. (The recommended name is **JOHNDOE**.)
   b. Select **SQL Server authentication**.
   c. At **Password**, create and enter a sufficiently strong password for the login.
   d. At **Confirm password**, reenter the password.

   NOTE: The user name and password entered here will be used by Microsoft SQL Server to authentic WinSPC client stations and allow authenticated stations access to the WinSPC database. This user name and password combination is not directly used by WinSPC users. WinSPC users will, later, be assigned individual user IDs and passwords and will use these individual IDs and passwords to log into the WinSPC application on WinSPC client stations.

   e. Uncheck the **Enforce password policy** check box.

f. At **Default database**, select **WinSPC**.

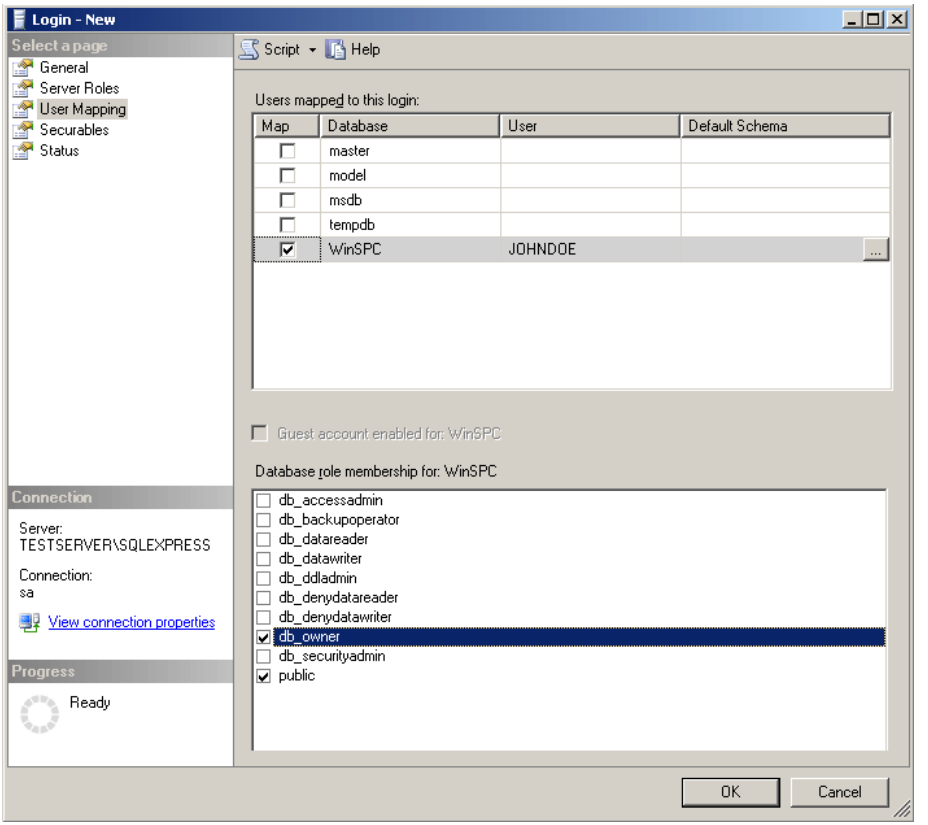


3. Under **Select a page** (top left pane), single-click **User Mapping** and then, in the right portion of the prompt:

   a. Under **Users mapped to this login**, in the **Map** column, check the check box for the newly created WinSPC database.

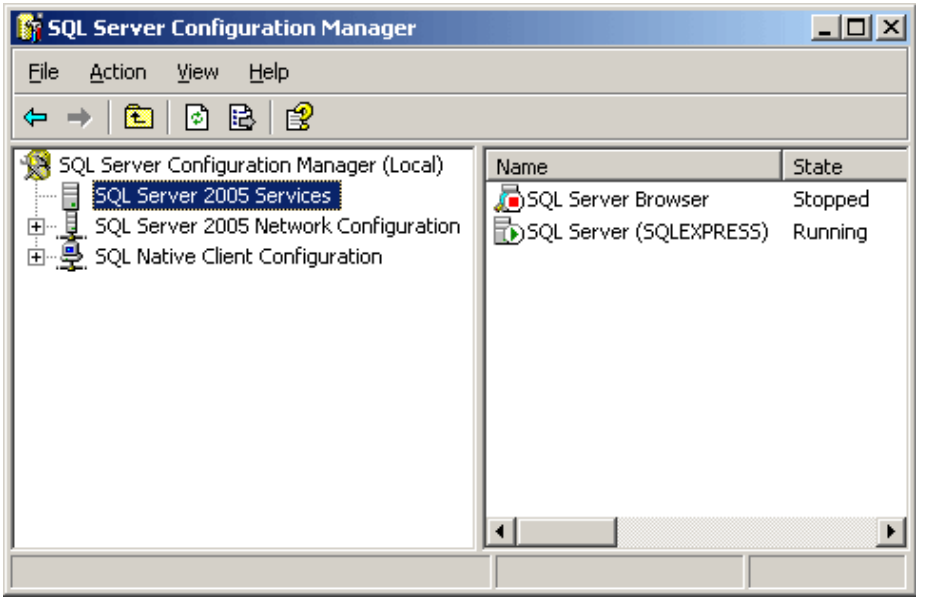
   b. Under **Database role membership for: <Database Name>**, check the **db_owner** check box.

   c. Click **OK.**



Configure the SQL Server Browser Service and Enable a Network Protocol

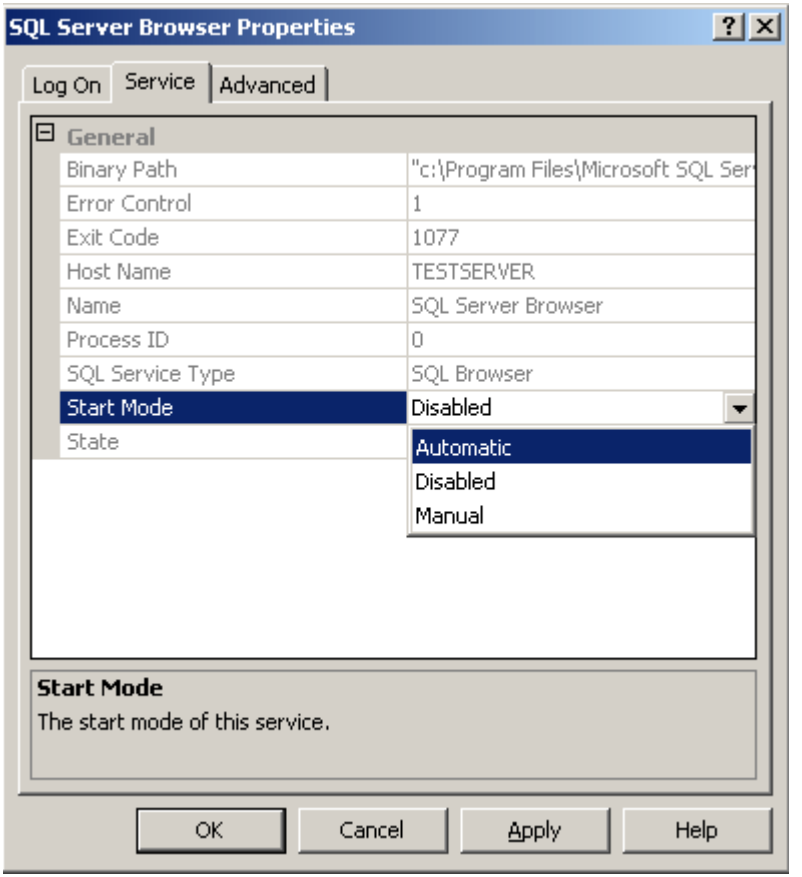
1. Without exiting **Microsoft SQL Server Management Studio**, launch **SQL Server Configuration Manager**, the default path for which is **Start** > **All Programs** > **Microsoft SQL Server** > **Configuration Tools** > **SQL Server Configuration Manager**.
2. If the Microsoft SQL Server instance you are working with *is not* a named instance, go to step 3. If the instance you are working with *is* a named instance, configure the **SQL Server Browser** service. (If you don't know whether the instance is named or unnamed, assume it is named.) To configure the **SQL Server Browser** service:
   a. In the left pane of **SQL Server Configuration Manager**, click **SQL Server Services.**



b. In the right pane, right-click **SQL Server Browser** and select **Properties**.

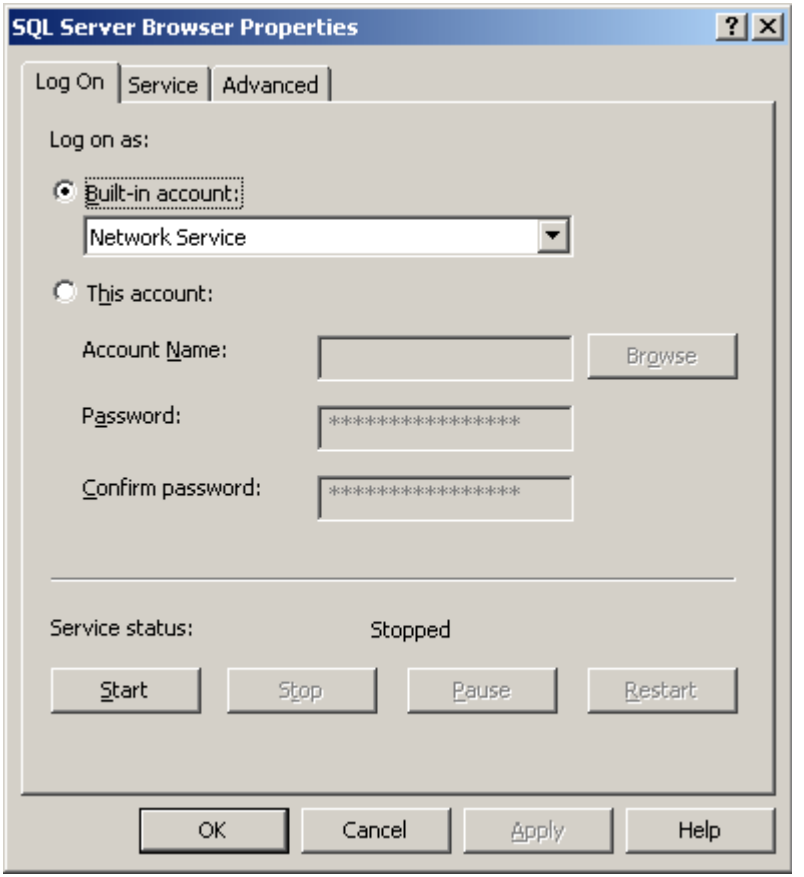
c. In the **SQL Server Browser Properties** prompt, click the **Service** tab.

d. On this tab, to the right of **Start Mode**, click **Disabled** and select **Automatic**.



e. Click the **Apply** button.

f. Click the **Log On** tab and on this tab click the **Start** button.

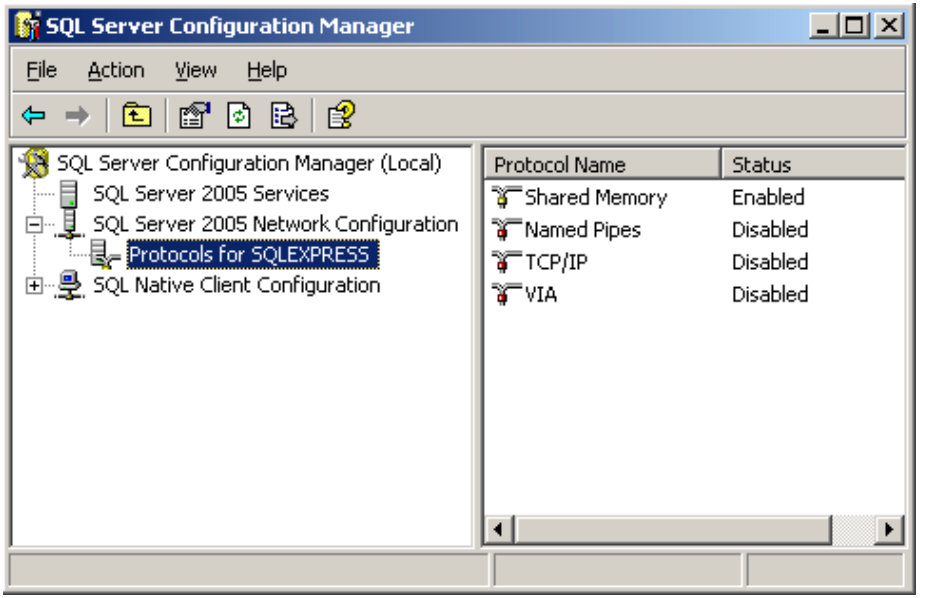


g. Allow the progress bar that appears to complete.

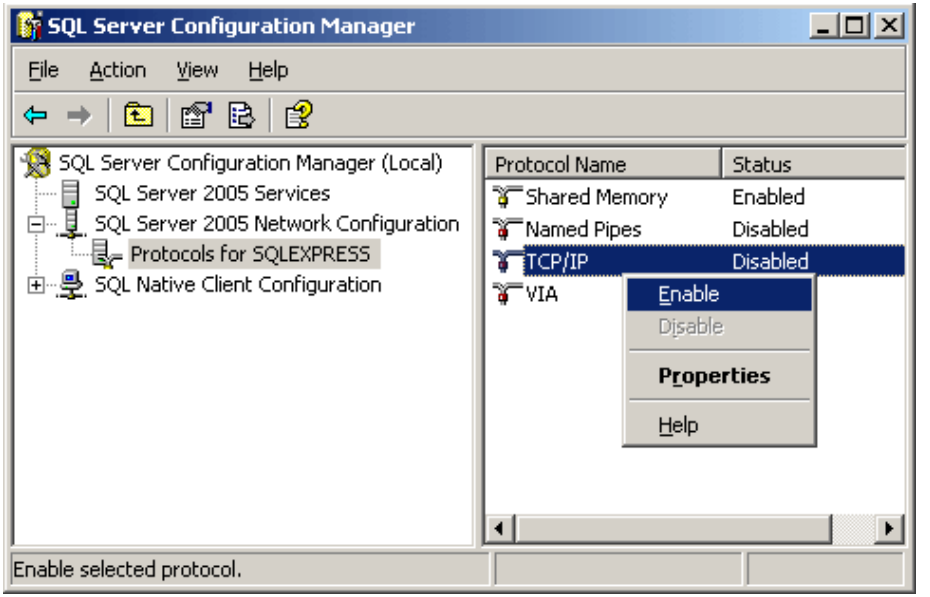
h. Click **OK**.

3. Enable a network protocol. To do this:

   a. In the left pane of **SQL Server Configuration Manager**, expand **SQL Server Network Configuration** and single-click **Protocols for <SERVER OR INSTANCE NAME>**.



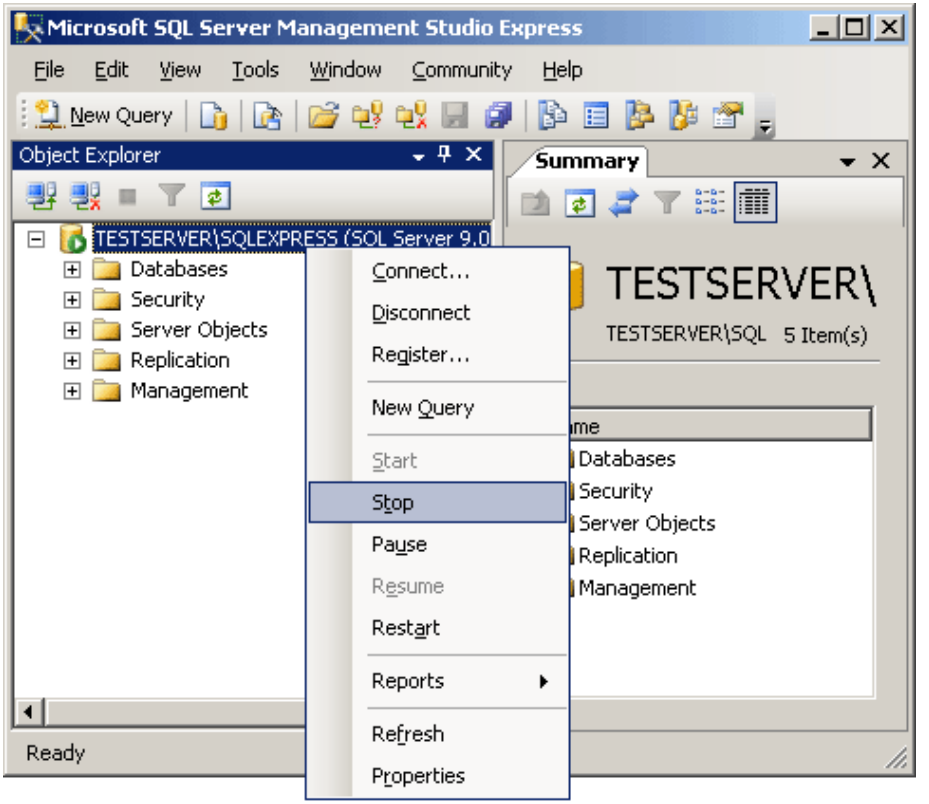
b. In the right pane, right-click either **TCP/IP** or **Named Pipes** and click **Enable**. (WinSPC works with either of these options. If you are unsure of which option to choose, consult your network administrator.)



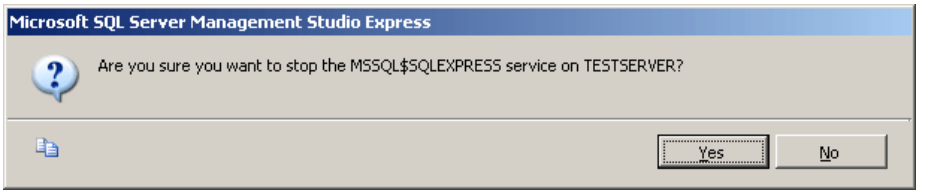
c. In the warning indicating that changes will not take effect until the service is stopped and restarted, click **OK**.

d. Close **SQL Server Configuration Manager**.

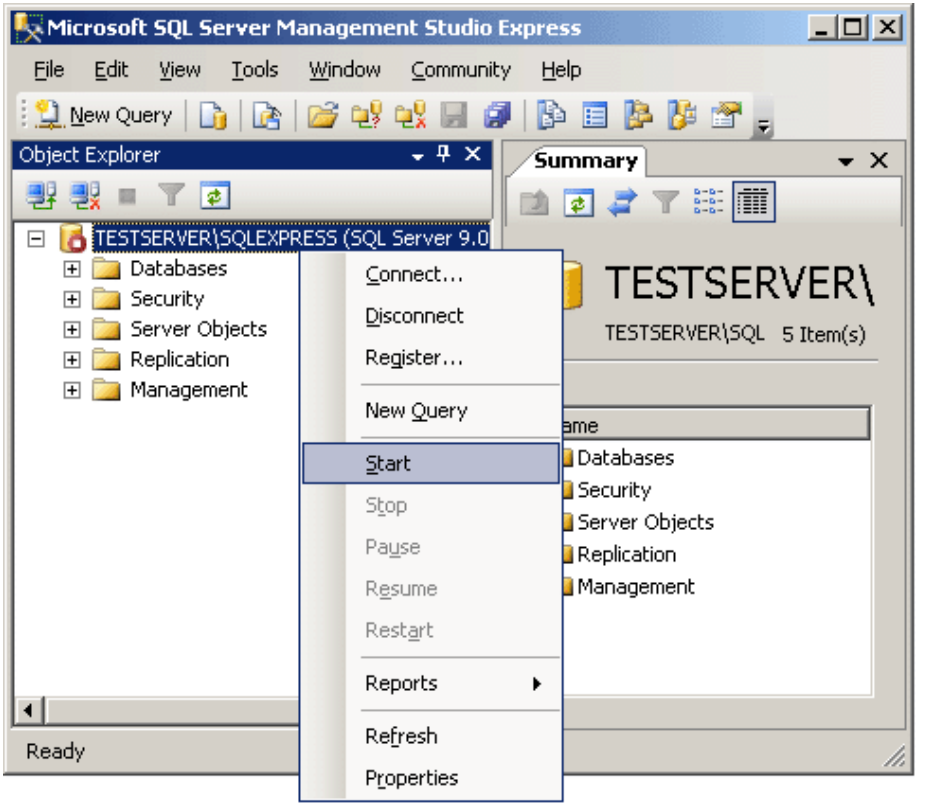
e. In **Microsoft SQL Server Management Studio**, right-click the server you've been configuring and select **Stop**.



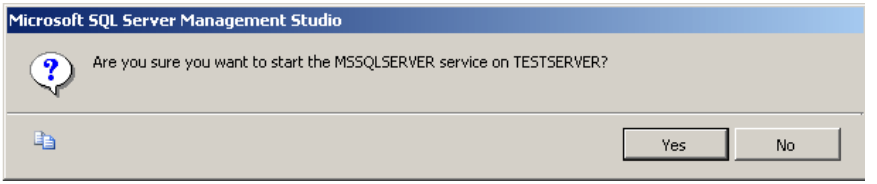
f. In the message box that appears, click **Yes** to confirm you want to stop the service.



g. When the message box closes, right-click the server again and select **Start**.



h. In the message box that appears, click **Yes** to confirm you want to start the service.



i. Click **File > Exit** to close **Microsoft SQL Server Management Studio**.

THIS COMPLETES PHASE 1 OF 4.

GO TO THE NEXT PAGE AND COMPLETE PHASE 2.

FIRST CLIENT INSTALL AND CONFIGURATION (INITIAL STEPS)

Phase 2 of 4

This section concerns the installation and configuration of WinSPC on the first WinSPC client. The first WinSPC client refers to the first computer on which you want to install WinSPC. This computer can be any computer on your network.

If your implementation employs Microsoft Terminal Services, see the discussion on page 1 of this guide for direction on whether to make your first client the Microsoft Terminal Services server or another computer.

1. Create a folder on a network file server accessible by all client stations that will run WinSPC. This folder's primary purpose is to facilitate the installation and configuration of WinSPC on all clients other than the first client. (The recommended name for this folder is **WinSPCRemote**.)
2. Share this folder and grant domain administrators at least the minimum required permissions to it. For file servers running Windows Server 2003, the minimum *Share* permissions are **Change** and the minimum *Security* permissions are **Modify**. For file servers running Windows Server 2008, the minimum *Share* permissions are **Contributor** and the minimum *Security* permissions are **Modify**. (For a procedure on granting *Share* or *Security* permissions, see **Appendix C: Granting Share and Security Permissions.**)

   NOTE: If your WinSPC implementation is part of a workgroup rather than a domain, grant these minimum permissions to the local administrator who will install and configure WinSPC on the first WinSPC client.

3. Log into Windows on the first WinSPC client as a domain administrator who also has local administrator privileges.

   NOTE: If the first WinSPC client is part of a workgroup instead of a domain, log in as a local administrator.

4. Disable User Account Control (UAC) if the operating system on the first client machine has this security feature enabled. Refer to Appendix G for instructions on doing this. You will be given the option of enabling UAC in step 20 of **Chapter 4: First Client Configuration (Final Steps)**.

5. If you downloaded **Install.exe** from www.winspc.com/support/download-winspc:

   a. Transfer this file to the first WinSPC client if it was downloaded to a different computer.

   b. Double-click the file.

   c. If an **Open File – Security Warning** prompt appears, click **Run**.

   d. Go to step 7.

6. If you have the WinSPC CD (whether as a result of receiving it from DataNet Quality Systems or burning it from the **WinSPC.iso** file at www.winspc.com/support/download-winspc) and you did not complete the preceding step:
   a. Insert and run the CD.
   b. On the **WinSPC Version 8.n** setup prompt that appears, click **Install or Upgrade**.

   c. Go to step 7.

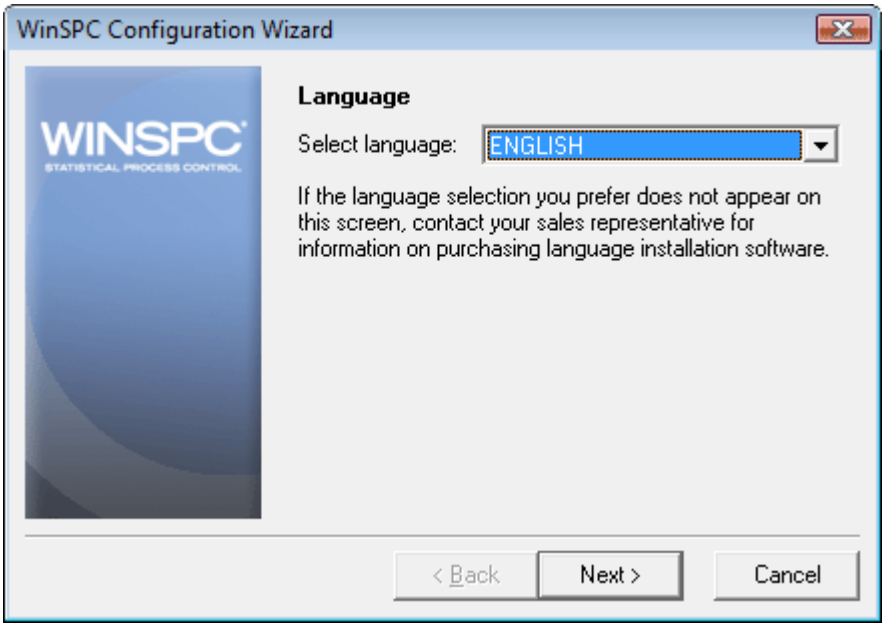
7. Complete the WinSPC Installation Wizard.

   NOTE: The prompts of this wizard are intended to be self-explanatory. Consequently, they are not detailed here. If you have a question about a prompt or want to be directed step-by-step through the wizard, see **Appendix A: The WinSPC Installation Wizard.**

8. If you installed WinSPC from a CD, exit the **WinSPC Version 8.n** setup prompt by clicking **Close** in the upper right corner and remove the CD from the CD-ROM drive.

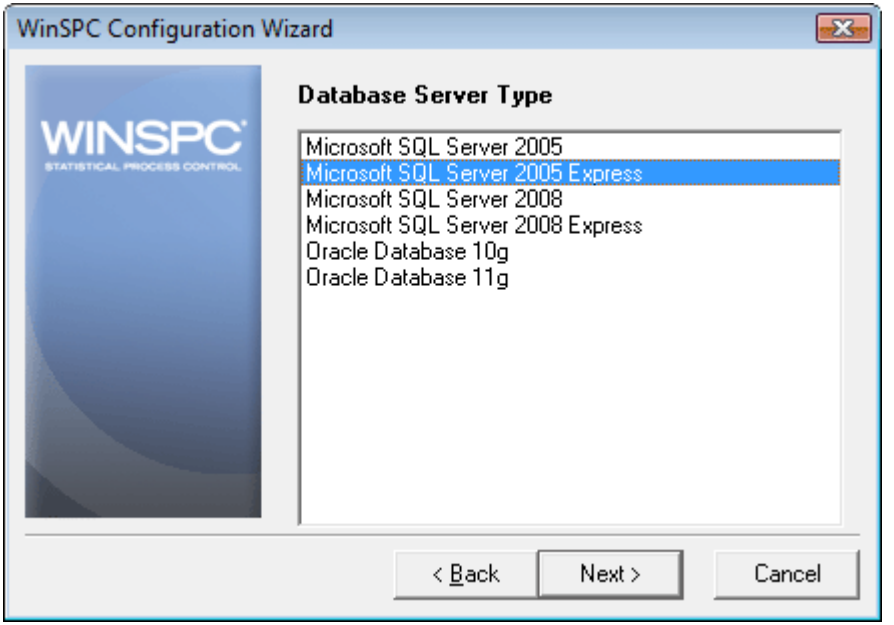
9. Click **Start** > **All Programs** > **WinSPC** > **WinSPC.** This launches the WinSPC Configuration Wizard.

10. On the **Language** prompt, from the **Select language** list, choose a language and click **Next**.



NOTE: The language selected here is the language in which the remainder of the WinSPC Configuration Wizard will run. It also becomes the system-wide default language for WinSPC. (This default language can be changed at any time following the completion of the WinSPC Configuration Wizard. Once the configuration of the first WinSPC client is complete, you can see the **WinSPC Help** for more information on default languages.)

11. On the **Database Server Type** prompt, select your **Microsoft SQL Server** edition and click **Next.**



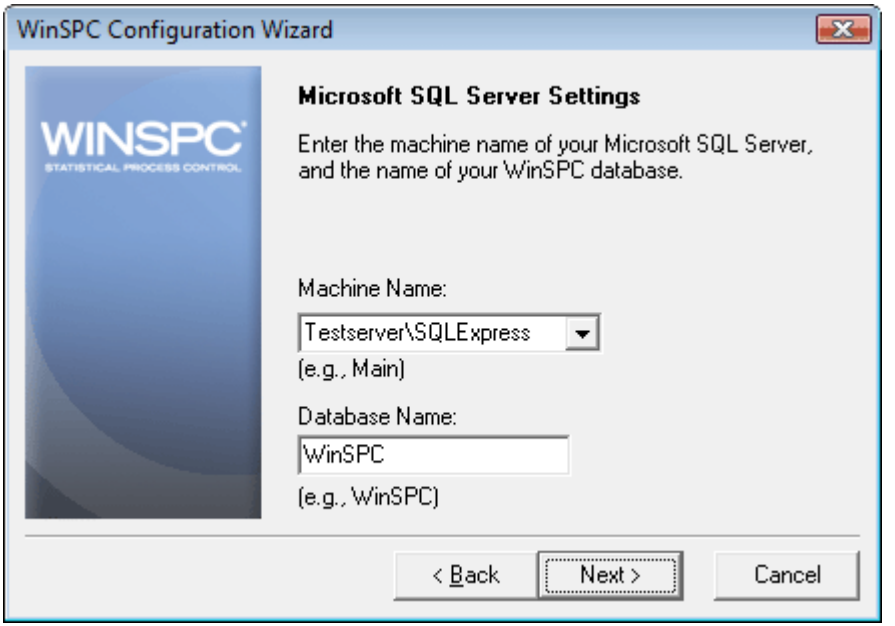
(Although Microsoft SQL Server 2012 and Microsoft SQL Server 2012 Express are supported database servers for WinSPC, these are not included in the above list. Consequently, if the database server you want to use is Microsoft SQL Server 2012, select Microsoft SQL Server 2008. If it is Microsoft SQL Server 2012 Express, select Microsoft SQL Server 2008 Express.)

12. On the **Microsoft SQL Server Settings** prompt:

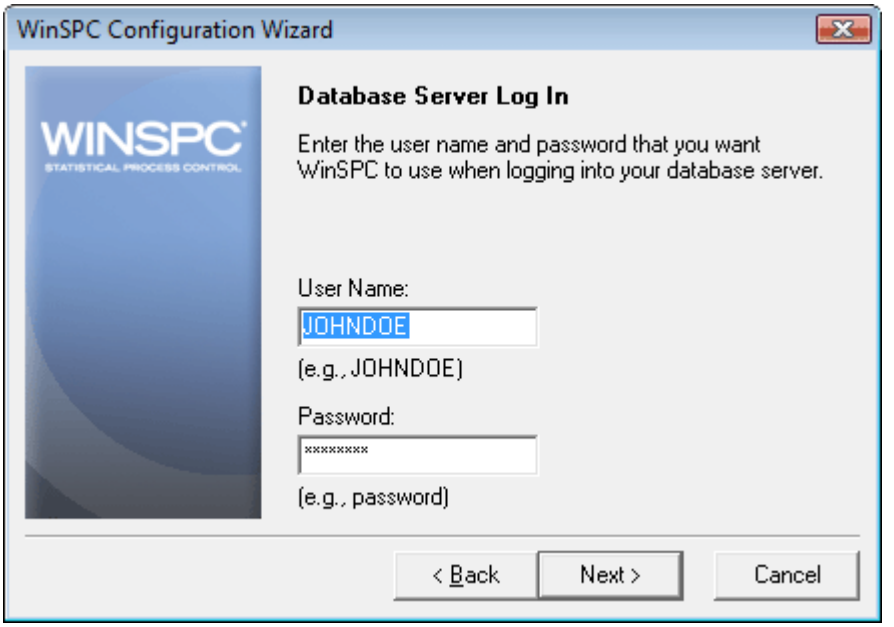
    a. At **Machine Name**, if the instance of Microsoft SQL Server designated for WinSPC is a named instance, enter the name of the machine on which the instance is created and the name of the instance, separating the two by a backslash (e.g. Testserver\SQLExpress). If the instance is an unnamed instance, enter the server name only. If you do not know whether the instance is named or unnamed or if you know the instance is named but are unsure of the name used, contact the server administrator.

    b. At **Database Name**, enter the database name you chose in step 2 of this chapter's **Create a Database** section.

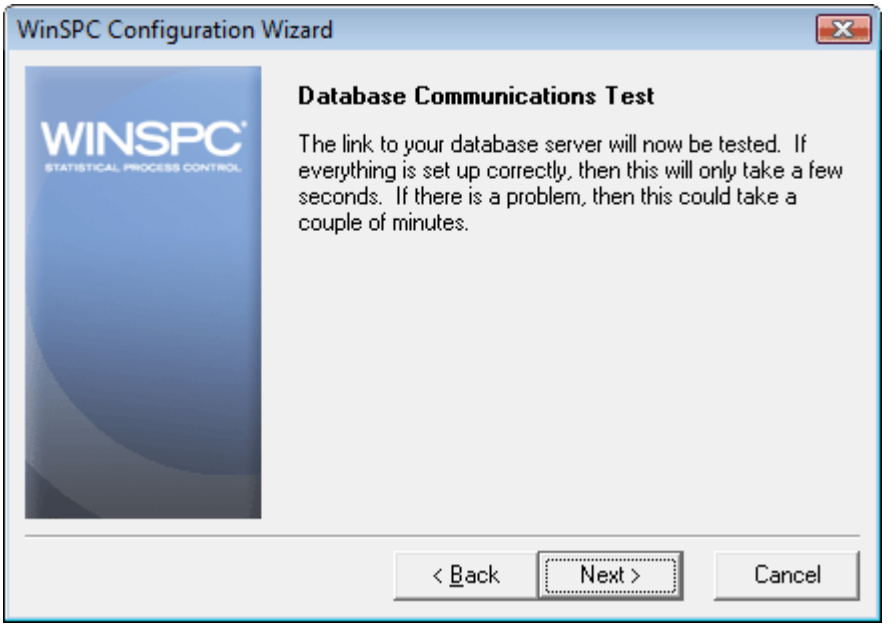
    c. Click **Next.**



13. On the **Database Server Log In** prompt, enter the server **User Name** and **Password** created in step 2 of this chapter's **Create a Server Login** section and click **Next.**



14. On the **Database Communications Test** prompt, click **Next**.



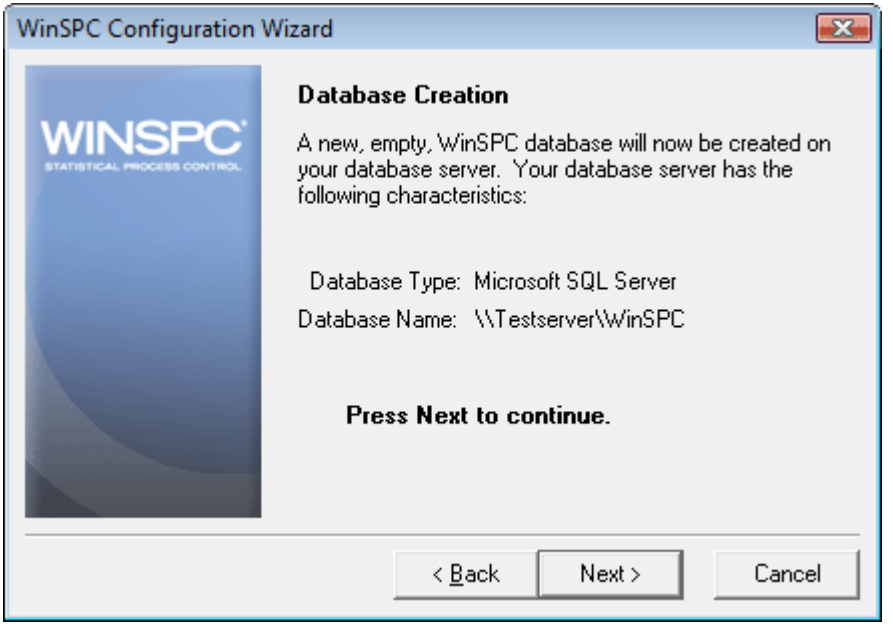
If you get a **Database Communications Error** indicating there is an *invalid connection string attribute*, the communication test failed. The most likely causes of the failure and their remedies are:

- *The database server login was entered incorrectly.* To remedy this, click the **Back** button two times and re-enter the user name and password, ensuring you have the correct user name and password and that these are spelled correctly. Also, since passwords are case sensitive, ensure appropriate capitalization is used for the password. Once you have re-entered the login, click **Next** and advance through the WinSPC Configuration Wizard again, verifying the information on each prompt as you do.

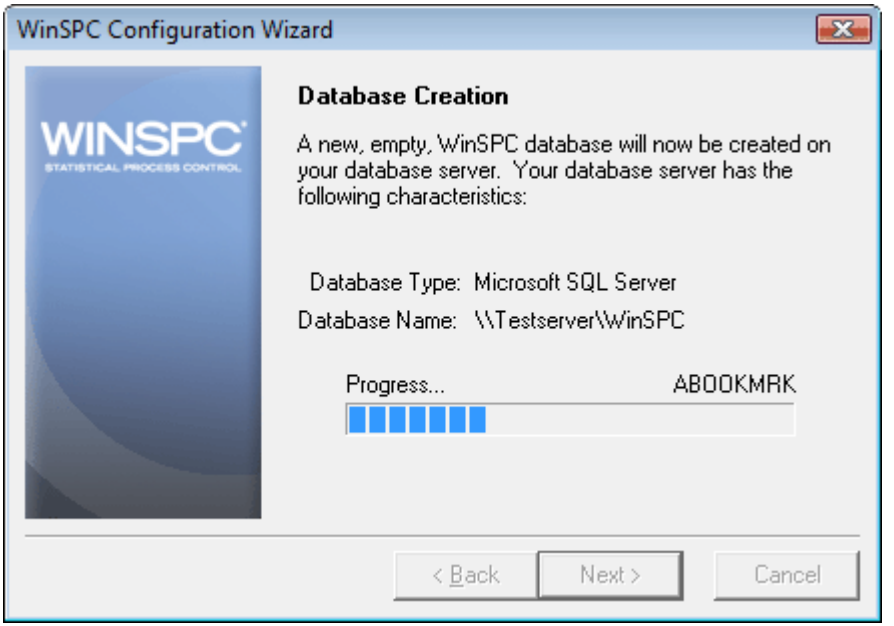
- *The machine name, instance name or database name was entered incorrectly.* To remedy this, click the **Back** button three times and re-enter the machine name, instance name (if you are working with a named instance) and database name, ensuring you have the correct names and that these are spelled correctly. Also, when entering an instance name, ensure it is properly separated from the machine name by a backslash (e.g. Testserver\SQLExpress.) Once you have re-entered the name(s), click **Next** and advance through the WinSPC Configuration Wizard again, verifying the information on each prompt as you do.
- *The instance being used for WinSPC is a named instance but the* SQL Server Browser *service is not configured.* To remedy this, complete steps 1 and 2 of the **Configure the SQL Server Browser Service and Enable a Network Protocol** section earlier in this chapter, then click the **Back** button in the WinSPC Configuration Wizard once and try the database communications test again.
- *A network protocol has not been enabled.* To remedy this, repeat steps 1 and 3 of the **Configure the SQL Server Browser Service and Enable a Network Protocol** section earlier in this chapter, then click the **Back** button in the WinSPC Configuration Wizard once and try the database communications test again.

- *A network protocol was enabled but the instance was not restarted afterwards.* To remedy this, repeat steps 1 and 3e-3h of the **Configure the SQL Server Browser Service and Enable a Network Protocol** section earlier in this chapter, then click the **Back** button in the WinSPC Configuration Wizard once and try the database communications test again.

15. On the **Database Creation** prompt, click **Next**. This creates the WinSPC schema within the WinSPC database.



16. Allow the prompt's progress bar to complete.



17. If you selected a language other than English in step 10 of this section, an **Add Language** prompt appears once the WinSPC schema is created. In this case:

    a. Insert the language disk for the selected language into your floppy drive and click the **OK** button. (Language disks are included in your WinSPC materials. If you didn't order a language disk and, consequently, did not receive one, click the **Cancel** button and complete the WinSPC Configuration Wizard without adding the language. Later, you can order the language disk and, once the disk arrives, add the language using the **Add Language** option on the **Administrator** window's **Tools** menu in WinSPC. Until the language is added, you'll be restricted to running WinSPC in English. The remainder of the WinSPC Configuration Wizard continues to run in the selected language whether or not a language is added from a language disk.)

    b. In the message asking if you want to proceed with the addition of the detected language, click **OK**.

    c. If a message indicating the detected language has already been installed appears, click **OK**.

    d. Allow the **Adding New Language** progress bar to complete.

    e. When the **You may now select the desired language in the System Settings, Station Setup, or User Setup** message appears, click **OK**.

    f. If the **Add Language** prompt reappears, click **Cancel**.

    g. Remove the language disk from the floppy drive.

THIS COMPLETES PHASE 2 OF 4.

GO TO **CHAPTER 4: FIRST CLIENT CONFIGURATION (FINAL STEPS)** AND COMPLETE PHASE 3.

CHAPTER 2: ORACLE 10*g*

ASSUMPTIONS

The instructions in this chapter are based on the following assumptions:

- Oracle Database 10*g* software is installed on your database server.
- An Oracle Database 10*g* global database of the **Enterprise Edition** installation type is created and running on your database server and you have been authorized to use part of this global database for WinSPC.
- Oracle Database 10*g* Client is installed on the first WinSPC client and that installation is of the **Administrator** type (as compared to the **Runtime** or **Custom** types). (The first WinSPC client refers to the first computer on which you want to install WinSPC. This computer can be any computer on your network. If the operating system of this client is Windows Vista Business, you must use the 10.2.0.3.0 edition of Oracle Database 10*g* Client. If the operating system is Windows XP Pro, you may use either the 10.2.0.3.0 edition or the earlier 10.2.0.1.0 edition.)
- The necessary Oracle Database 10*g* Client utilities are installed an all other clients. (If the operating system of an additional client is Windows Vista Business, the necessary utilities are **Oracle Provider for OLE DB** and **Oracle Net** from the 10.2.0.3.0 edition of Oracle Database 10*g* Client. If the operating system is Windows XP Pro, the necessary utilities vary with the edition of Oracle Database 10*g* Client being used. If that edition is 10.2.0.3.0, the necessary utilities are the same as those for Windows Vista Business. If that edition is 10.2.0.1.0, the necessary utilities consist only of **Oracle Provider for OLE DB**. Incidentally, regardless of the operating system or edition of Oracle Database 10*g* Client

installed on your clients, if your organization's intended use of WinSPC includes taking data stored in an Oracle ODBC data source and collecting it into the Oracle database you are configuring for WinSPC, **Oracle ODBC Driver** from Oracle Database 10*g* Client will need to be installed on each WinSPC client to be used in collecting that stored data. Since the presence of this driver presents no complication, DataNet Quality Systems recommends installing it even if the use of WinSPC to collect data from an Oracle ODBC data source is only a possibility. The **Administrator** type of client mentioned in the preceding assumption includes this driver and consequently does not need to separately installed on the first WinSPC client.)

- The default values presented by Oracle Database 10*g* and Oracle Database 10*g* Client during the installation process were accepted without modification.
- Any firewalls between your database server and the client stations to be used for WinSPC are properly configured to permit database traffic.

- For implementations employing a Microsoft Terminal Services environment, Microsoft Terminal Services is properly installed and configured on the server designated as your Microsoft Terminal Services server.

  NOTE: You may find that users who don't have administrative permissions to the Microsoft Terminal Services server are unable to launch WinSPC via a Remote Desktop Protocol session. This is a circumstance specific to Oracle Database 10*g* and Oracle Database 11*g*. It can be remedied by changing the **Permission Capability** on the Microsoft Terminal Services server from **Full Security** to

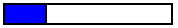
Relaxed Security. Alternatively, consult your network administrator and/or Oracle DBA for other remedies.

- The operating system of your database server machine is Windows Server 2003 or Windows Server 2008.
- The operating system of the client machines to be used for WinSPC is Windows 7, Windows Vista Business or Windows XP Pro. (Images of client machines included in this guide are from Vista Business.)

NOTE: If a default value was modified during the installation of Oracle Database 10*g* or an operating system is different from that stated here, adapt the instructions in this guide as needed to accommodate the modified value or differing operating system.

Prior to beginning this procedure, it's advised that you locate the hostname (or machine name) for the Oracle Database 10*g* machine and the Oracle Database 10*g* global database system identifier (SID), user name and password. Your database administrator should be able to provide this information.

Phase 1 of 4 **SERVER CONFIGURATION**



Create a Tablespace

1. On the first WinSPC client station, launch the **Enterprise Manager Console**. The default path for this is: **Start** > **All Programs** > **Oracle – OraClient10g_home1** > **Enterprise Manager Console**. (See the third assumption at the beginning of this chapter for a definition of the first WinSPC client.)

   NOTE: If the **Enterprise Manager Console** is not listed in the **Start** menu, it is probably because the **Administrator** installation type was not selected when Oracle Database 10*g* Client was installed. In this case, reinstall Oracle Database 10*g* Client, selecting **Administrator** in the **Select Installation Type** prompt and then return to this step.

2. In the **Add Databases To Tree** prompt:

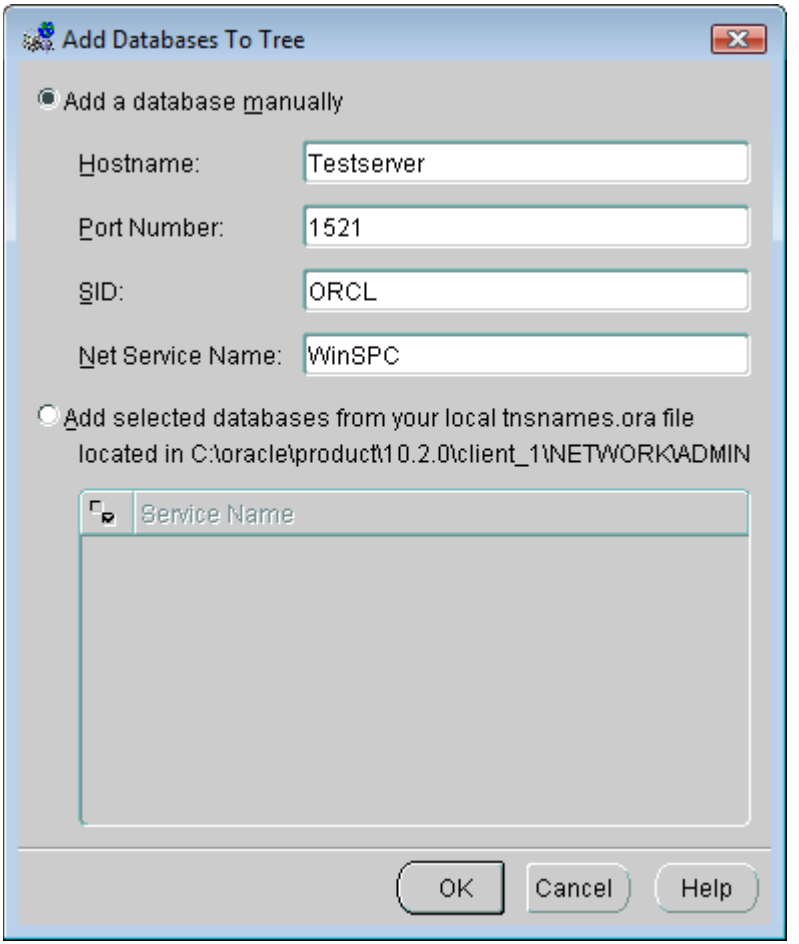
   a. At **Hostname**, enter the machine name of the Oracle Database 10*g* server.

   b. At **Port Number**, accept the default value of 1521 unless your DBA has instructed you to use a different port number.

   c. At **SID**, enter the system identifier for the Oracle global database to be used by WinSPC.

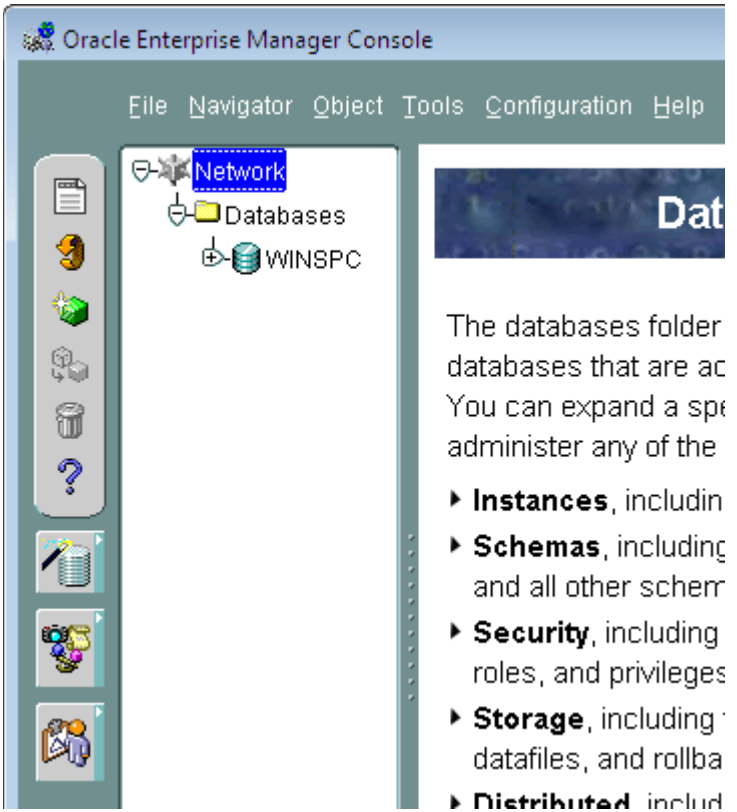
   d. At **Net Service Name**, overwrite the net service name that is automatically created with a name you want to use to uniquely identify the WinSPC net service. (The recommended net service name is **WINSPC**.)

e. Click **OK.**

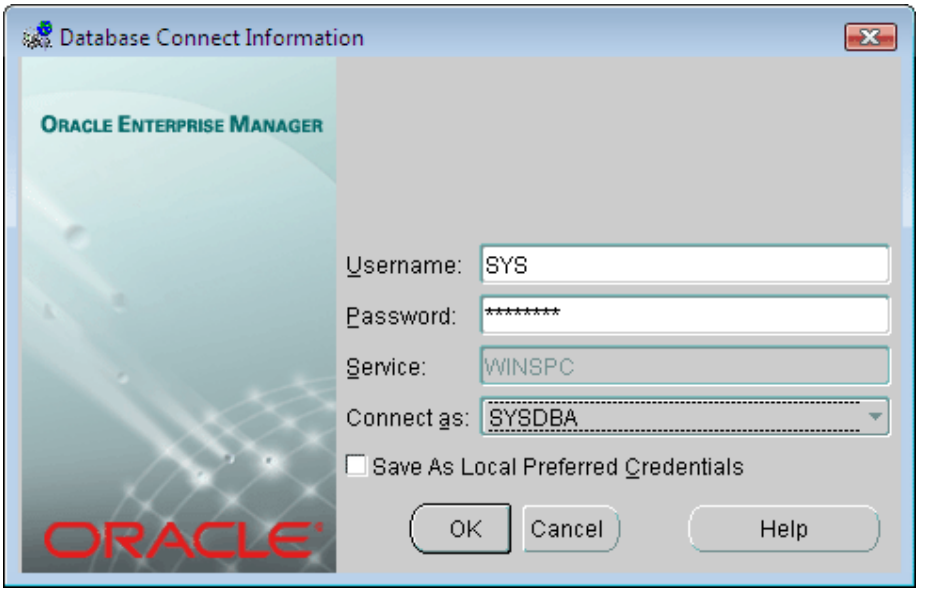


NOTE: If the **Add Databases To Tree** prompt doesn't automatically appear after step 1, it can be displayed by selecting **Add Database To Tree** from the **Navigator** menu in the **Oracle Enterprise Manager Console**.

3. In the left pane of the **Oracle Enterprise Manager Console**, expand **Network** > **Databases** and click the plus sign to the left of the net service name from step 2d.

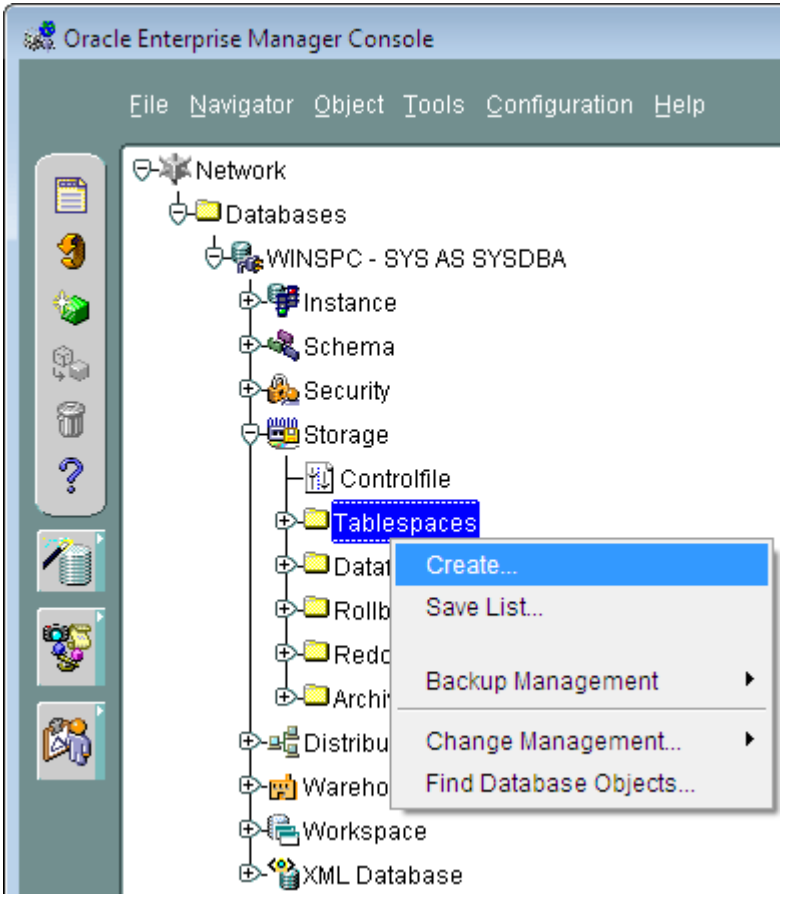


4. In the **Database Connect Information** prompt that is displayed:
   a. At **Username**, enter the username for the global database.
   b. At **Password**, enter the password associated with this user name.
   c. At **Connect as**, select **SYSDBA** from the dropdown list.
   d. Click **OK.**



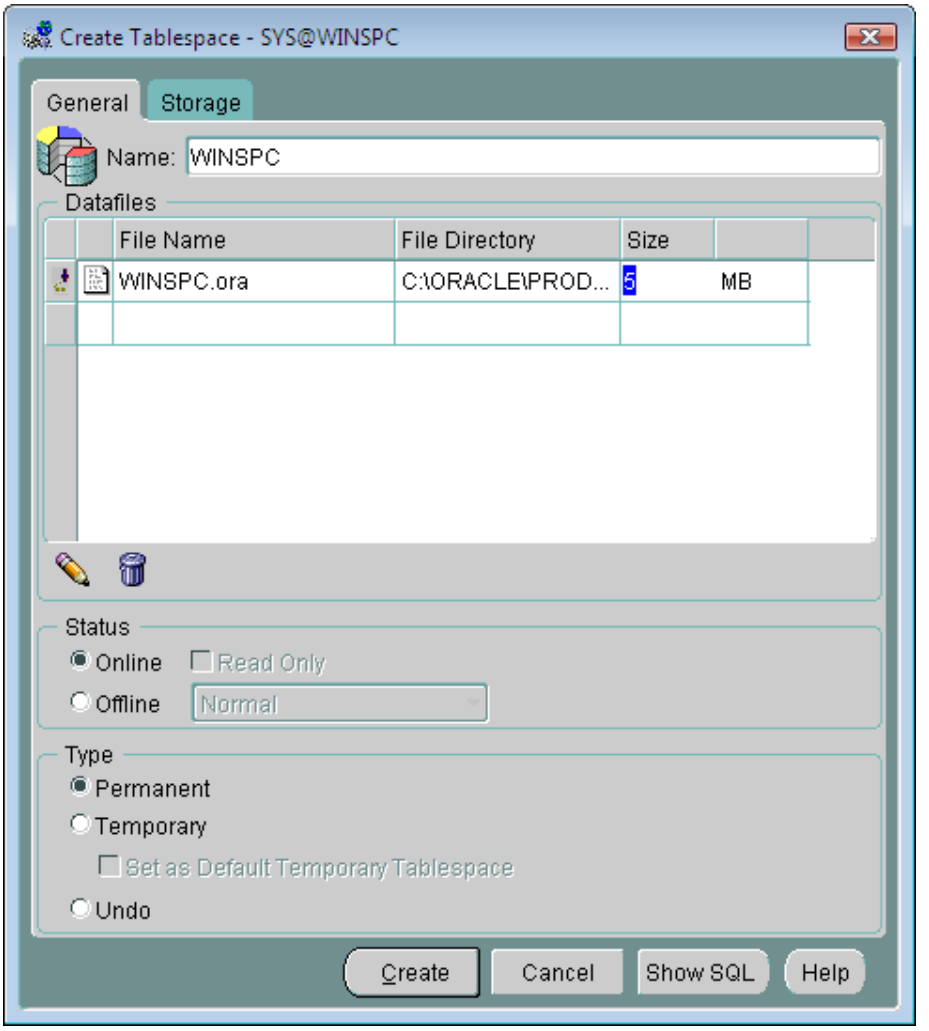
5. In the left pane, beneath the newly added net service name, expand **Storage**, right-click **Tablespaces** and, from the shortcut menu, select **Create**.

   NOTE: If you do not see **Create** on the shortcut menu, press the **ESC** button to exit the menu and right-click **Tablespaces** again.

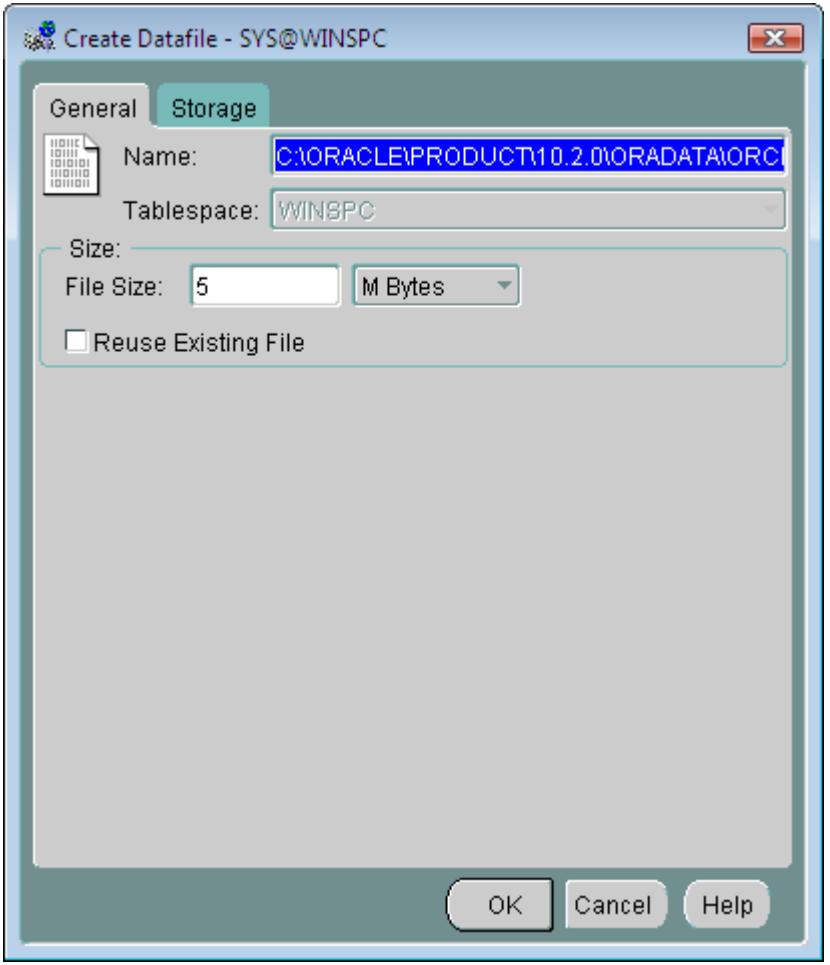


6. In the **Create Tablespace** prompt, on the **General** tab:
    a. At **Name**, create and enter a name for the tablespace to be used for WinSPC. (Notice that, as you enter the name, it is automatically populated into the **Datafiles** section, forming a file name for the tablespace.)

b. At **Size**, double-click **5**.

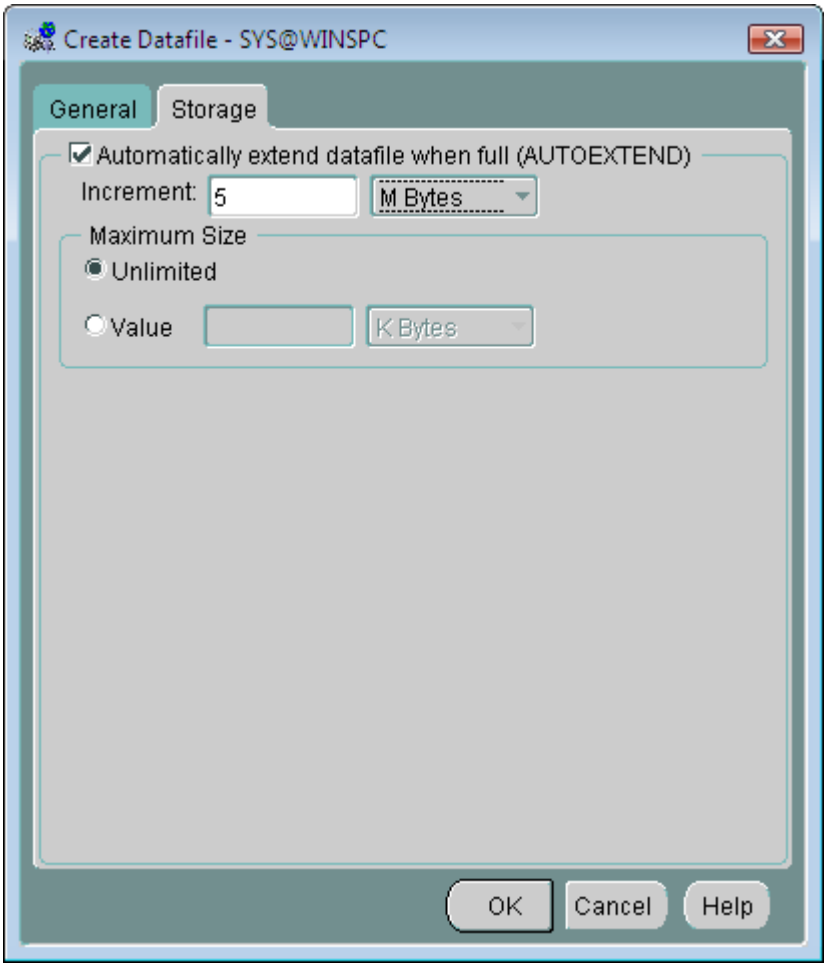


7. In the **Create Datafile** prompt that is displayed, click the **Storage** tab.

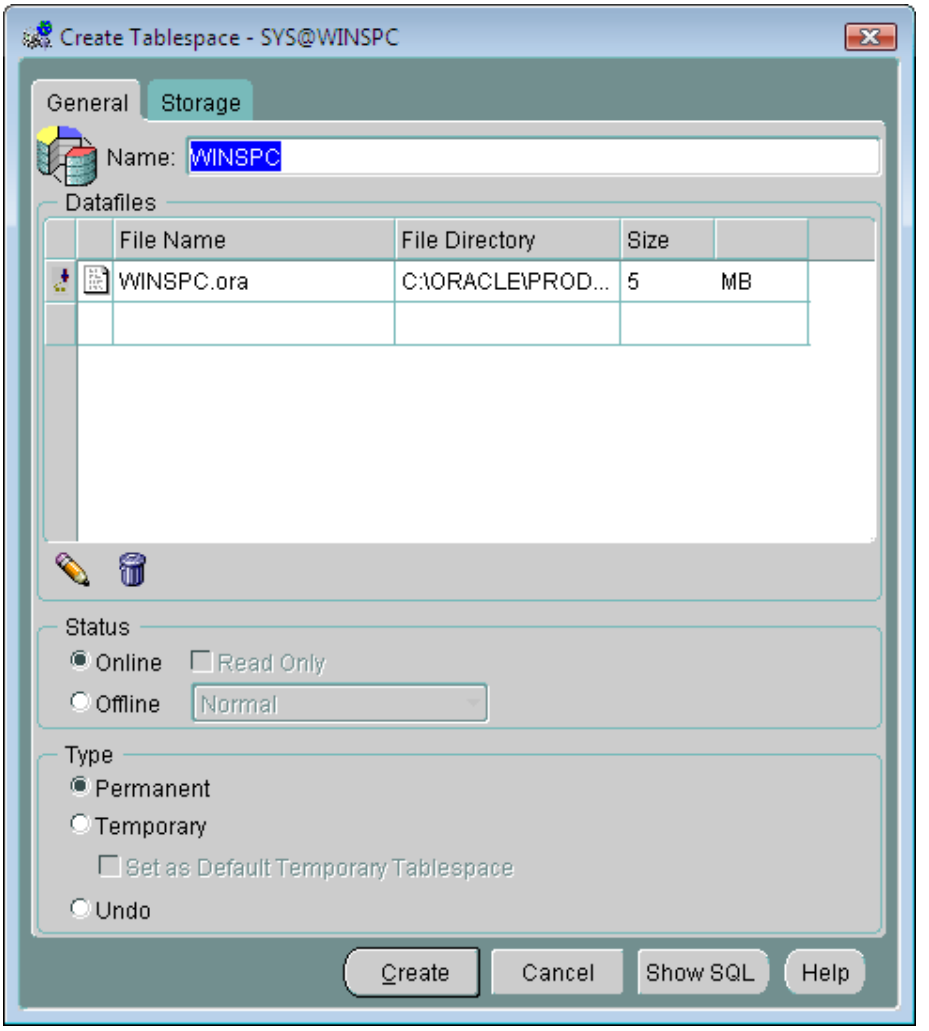


8. On the **Storage** tab:
    a. Check the **Automatically extend datafile when full (AUTOEXTEND)** check box.
    b. Specify **5 M Bytes** as the size by which the datafile should be incremented. (Your database administrator can monitor your database usage and tune this value as needed.)
    c. At **Maximum Size**, accept the default **Unlimited**.

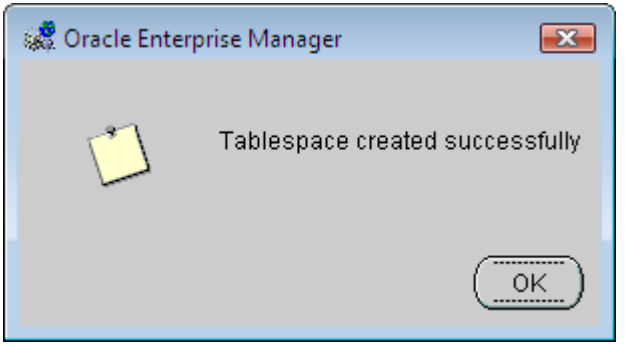
d. Click **OK.**


Create Datafile - SYS@WINSPC
General
Storage
Automatically extend datafile when full (AUTOEXTEND)
Increment:
5
M Bytes
Maximum Size
Unlimited
Value
K Bytes
OK
Cancel
Help

9. In the **Create Tablespace** prompt, click **Create**.

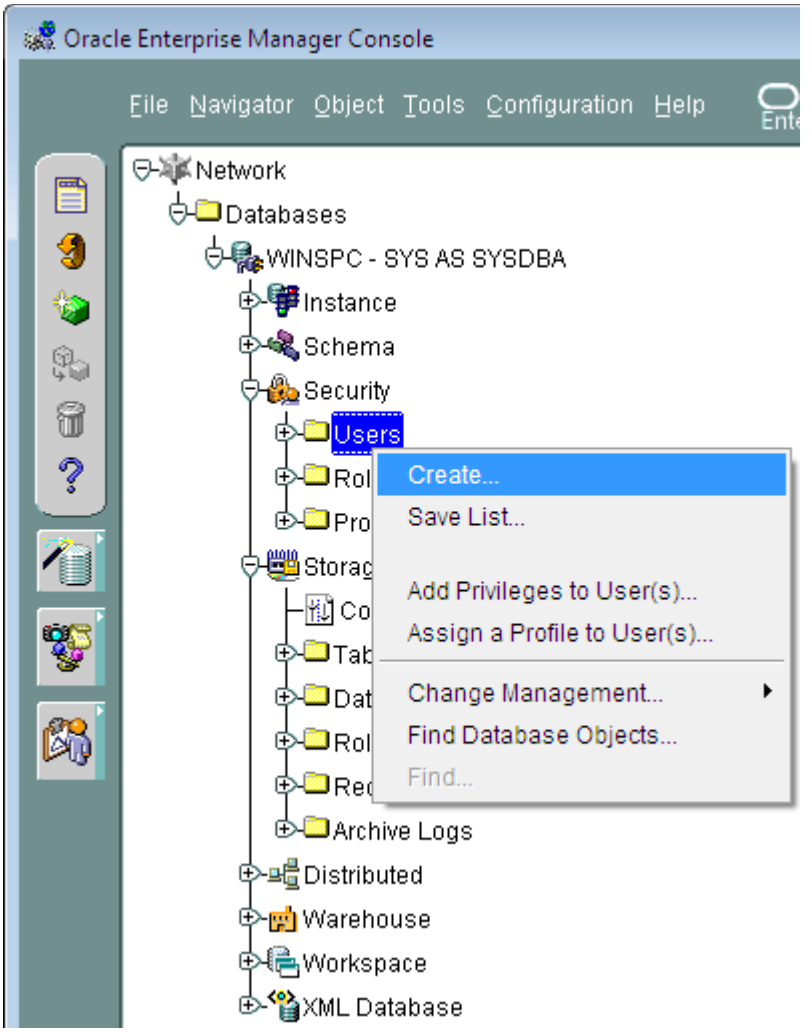


10. When the **Tablespace created successfully** message appears, click **OK**.



Create a Server Login

1. Still beneath the newly created net service name, expand **Security,** right-click **Users** and, from the shortcut menu, click **Create.**



2. In the **Create User** prompt, on the **General** tab:

   a. At **Name**, create and enter a name for the login. (The recommended user name is **JOHNDOE**.)

b. At **Enter Password**, create and enter a sufficiently strong password for the login.

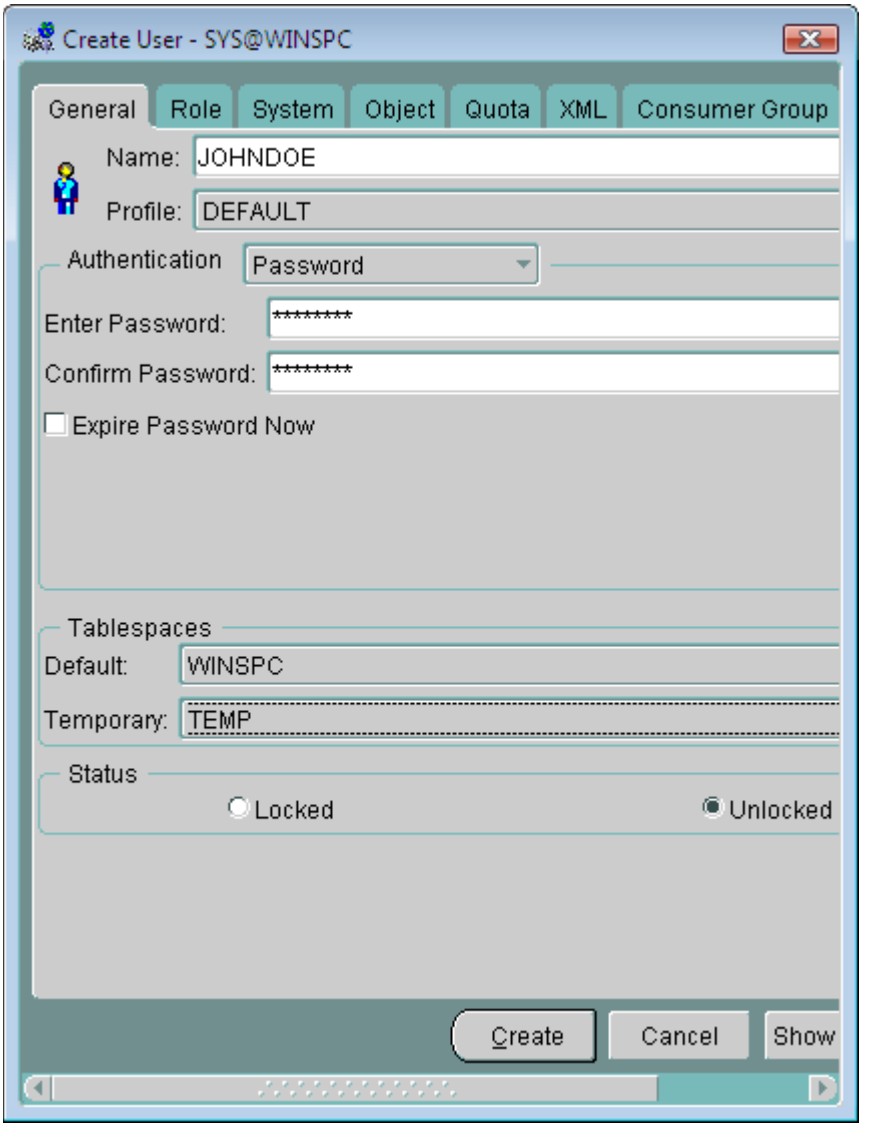
c. At **Confirm Password**, reenter the password.

NOTE: The name and password entered here will be used by Oracle Database 10g to authentic WinSPC client stations and allow authenticated stations access to the WinSPC tablespace. This name and password combination is not directly used by WinSPC users. WinSPC users will, later, be assigned individual user IDs and passwords. They will use these individual user IDs and passwords to log into the WinSPC application on WinSPC client machines.

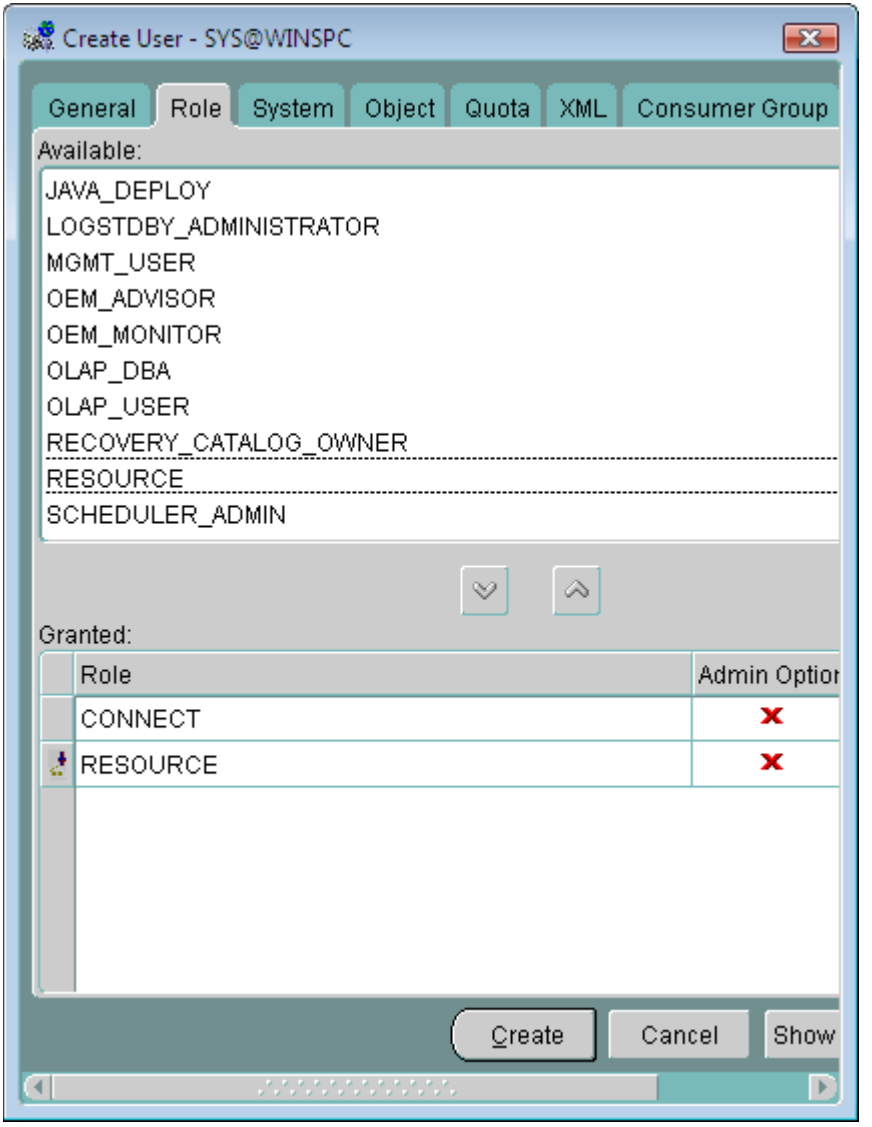
d. In the **Tablespaces** section, at **Default**, select the tablespace name created in step 6a of this chapter's **Create a Tablespace** section.

e. At **Temporary**, select **TEMP**.

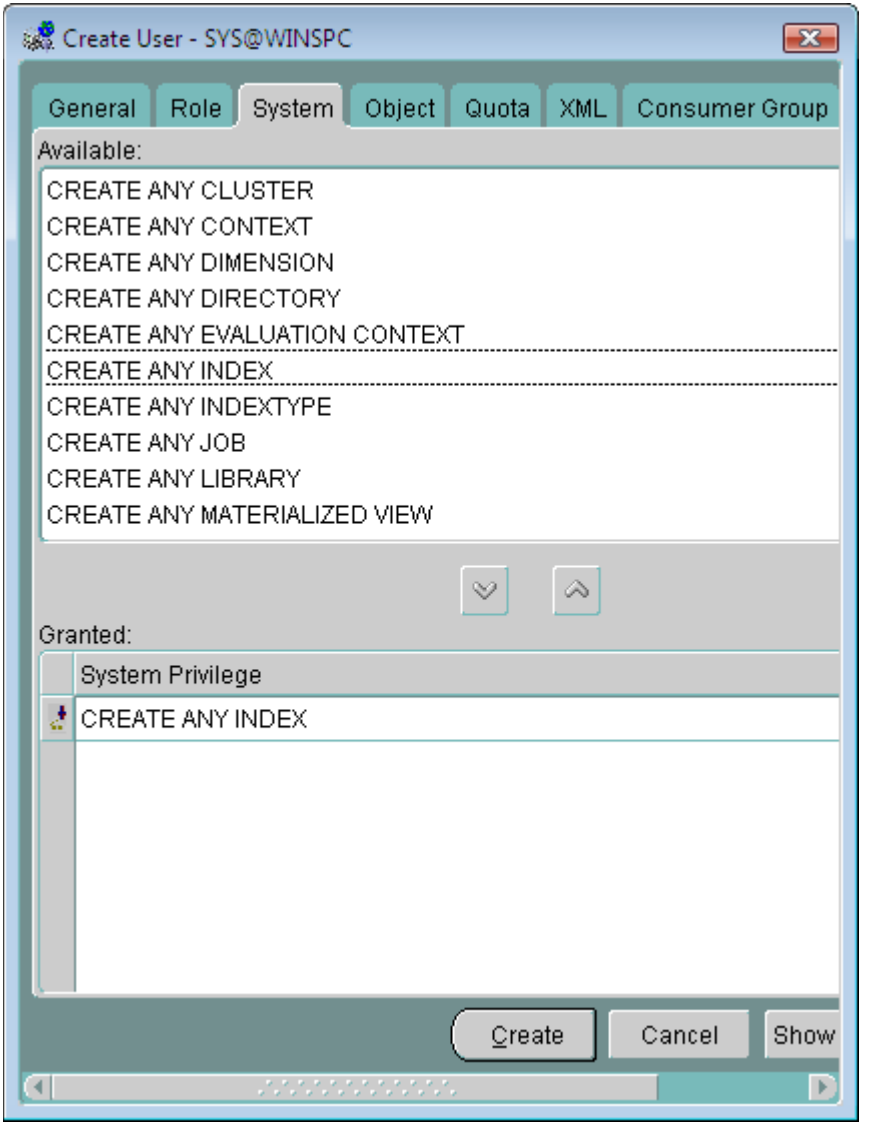
f. Leave **Status** as **Unlocked**.



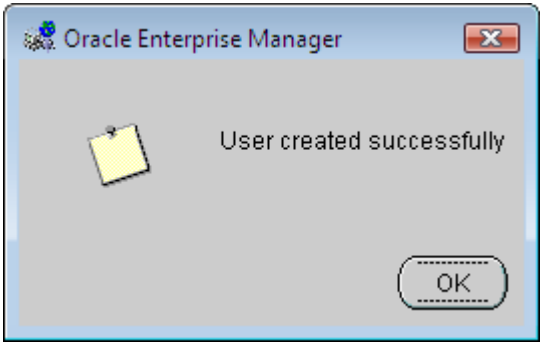
3. Without clicking **Create**, click the **Role** tab and, in the **Available** list, double-click **RESOURCE**. This copies **RESOURCE** to the **Granted** list.


Create User - SYS@WINSPC
General
Role
System
Object
Quota
XML
Consumer Group
Available:
JAVA_DEPLOY
LOGSTDBY_ADMINISTRATOR
MGMT_USER
OEM_ADVISOR
OEM_MONITOR
OLAP_DBA
OLAP_USER
RECOVERY_CATALOG_OWNER
RESOURCE
SCHEDULER_ADMIN
Granted:
Role
Admin Optior
CONNECT
RESOURCE
Create
Cancel
Show

4. Click the **System** tab and, in the **Available** list, double-click **CREATE ANY INDEX**. This copies **CREATE ANY INDEX** to the **Granted** list.


Create User - SYS@WINSPC
General
Role
System
Object
Quota
XML
Consumer Group
Available:
CREATE ANY CLUSTER
CREATE ANY CONTEXT
CREATE ANY DIMENSION
CREATE ANY DIRECTORY
CREATE ANY EVALUATION CONTEXT
CREATE ANY INDEX
CREATE ANY INDEXTYPE
CREATE ANY JOB
CREATE ANY LIBRARY
CREATE ANY MATERIALIZED VIEW
Granted:
System Privilege
CREATE ANY INDEX
Create
Cancel
Show

5. Click **Create.**
6. When the **User created successfully** message appears, click **OK**.

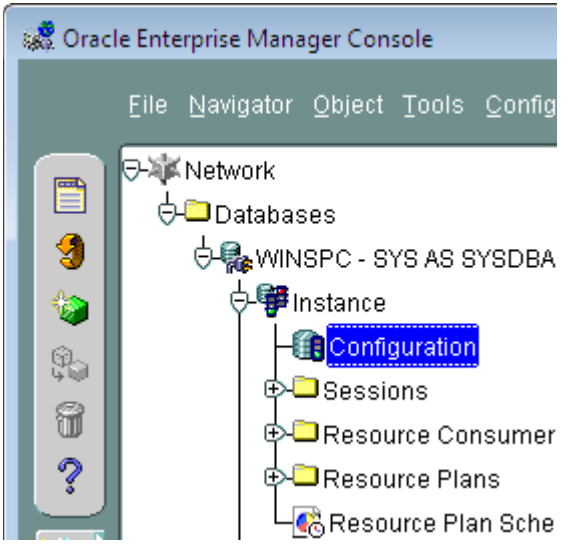


Set the Number of Open Cursors

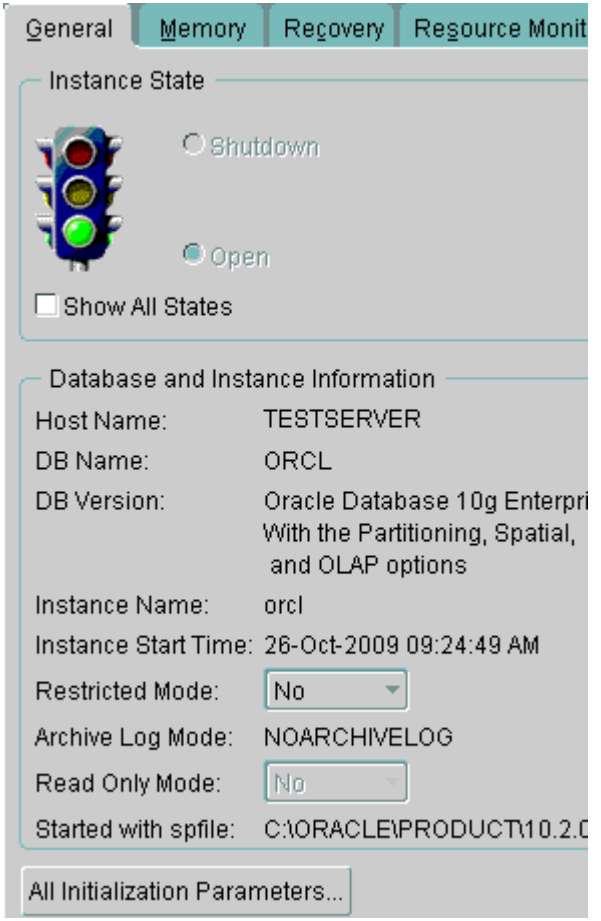
1. Calculate the required number of open cursors using this formula:

   *open_cursors = number of WinSPC licenses * 50*

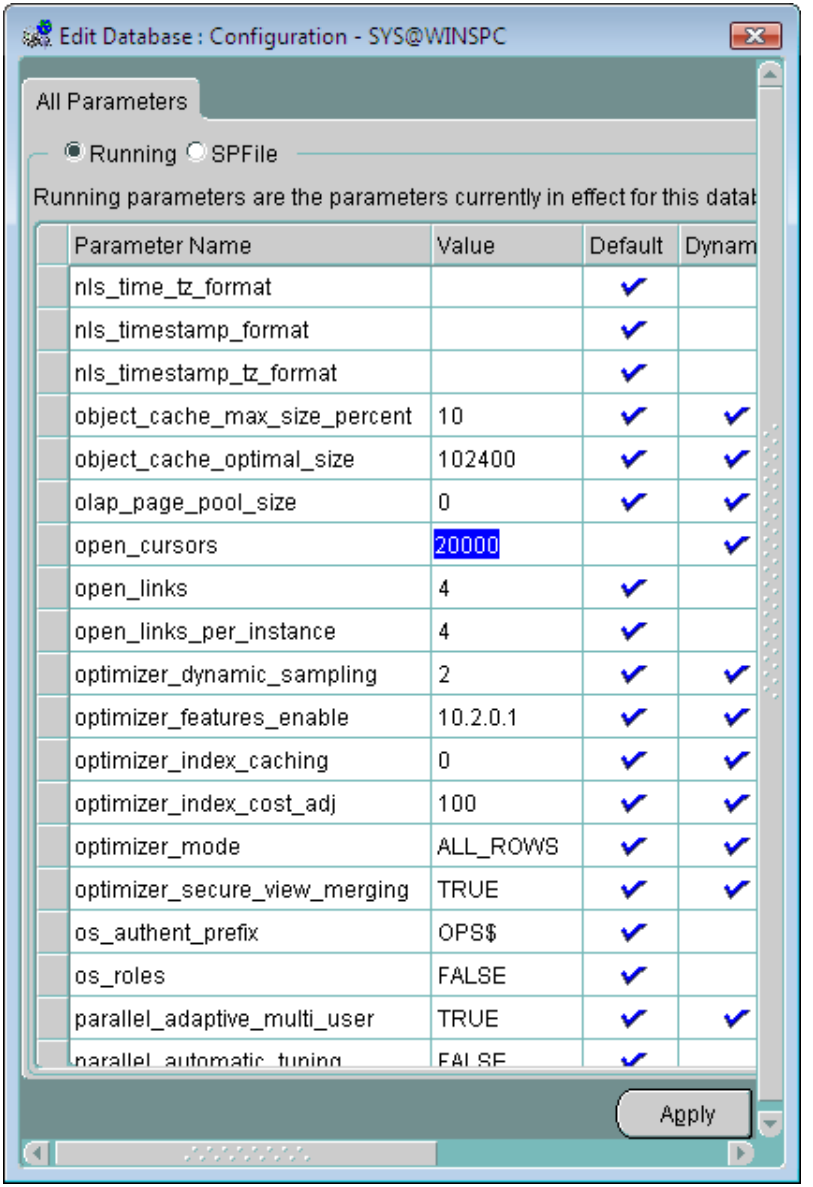
2. Still in the **Oracle Enterprise Manager Console**, in the left pane, expand **Instance** and click **Configuration**.



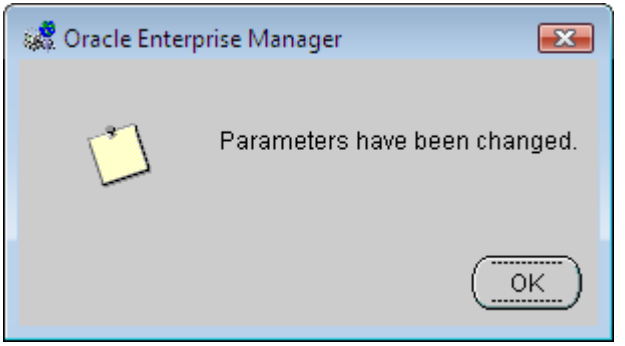
3. In the right pane, click **All Initialization Parameters** toward the bottom of the **General** tab.



4. In the **Edit Database: Configuration** prompt, scroll to **open_cursors,** replace the default number of open cursors in the **Value** column with the number you calculated in step 1 and click **Apply**.


Edit Database : Configuration - SYS@WINSPC
All Parameters
Running
SPFile
Running parameters are the parameters currently in effect for this datab
Parameter Name
Value
Default
Dynam
nls_time_tz_format
nls_timestamp_format
nls_timestamp_tz_format
object_cache_max_size_percent
10
object_cache_optimal_size
102400
olap_page_pool_size
0
open_cursors
20000
open_links
4
open_links_per_instance
4
optimizer_dynamic_sampling
2
optimizer_features_enable
10.2.0.1
optimizer_index_caching
0
optimizer_index_cost_adj
100
optimizer_mode
ALL_ROWS
optimizer_secure_view_merging
TRUE
os_authent_prefix
OPS$
os_roles
FALSE
parallel_adaptive_multi_user
TRUE
Apply

5. When the **Parameters have been changed** message appears, click **OK**.

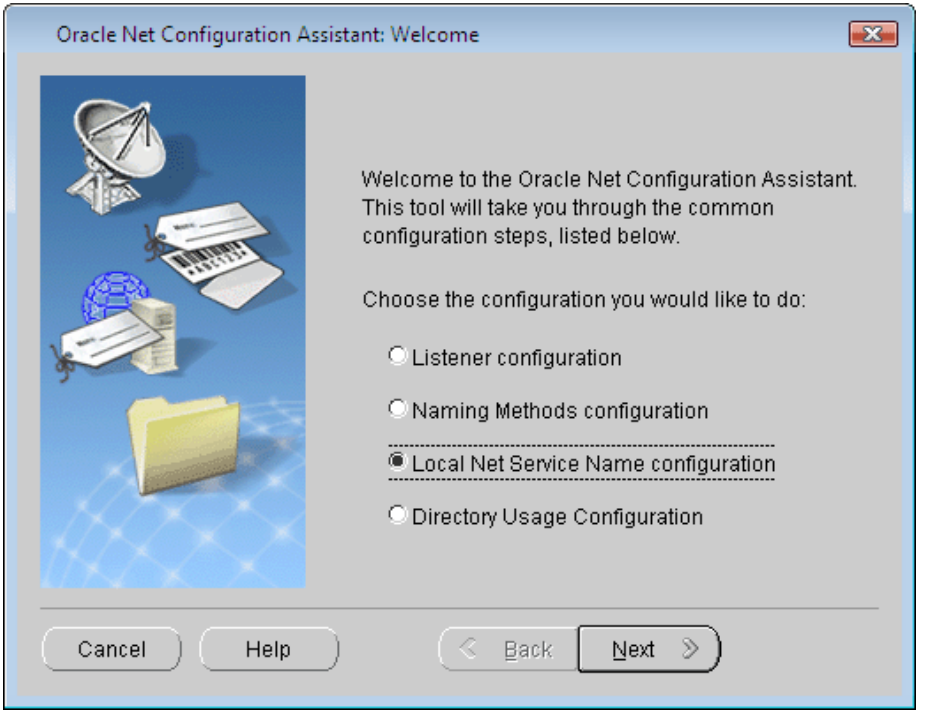


6. Close the **Oracle Enterprise Manager Console** by clicking **File > Exit**.

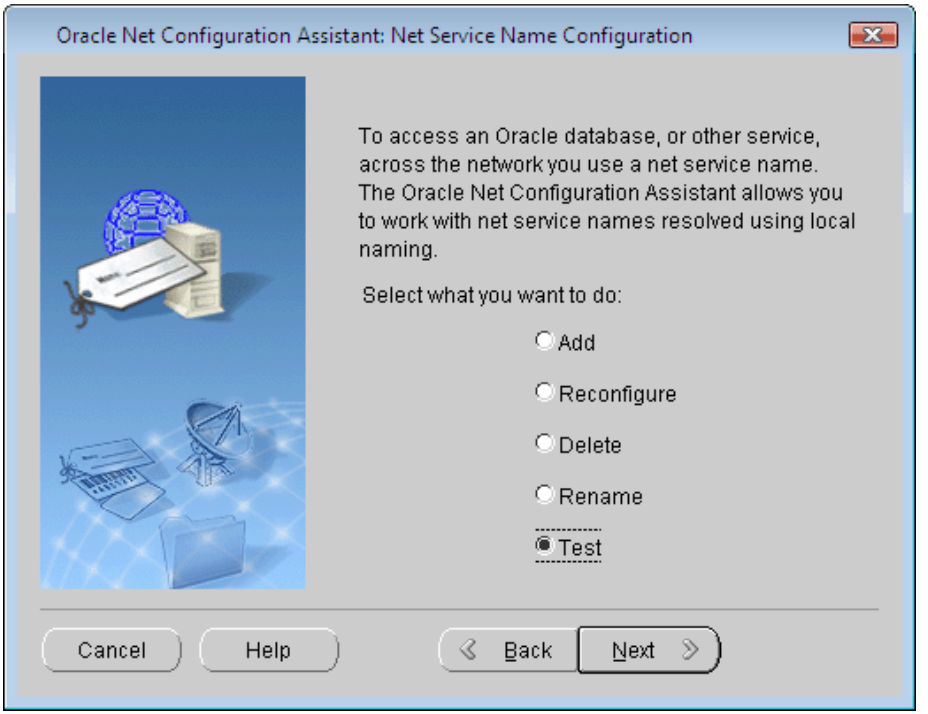
Test the Local Net Service Name

1. Still on the first client machine, click **Start** > **All Programs** > **Oracle – OraClient10g_home1** > **Configuration and Migration Tools** > **Net Configuration Assistant**.

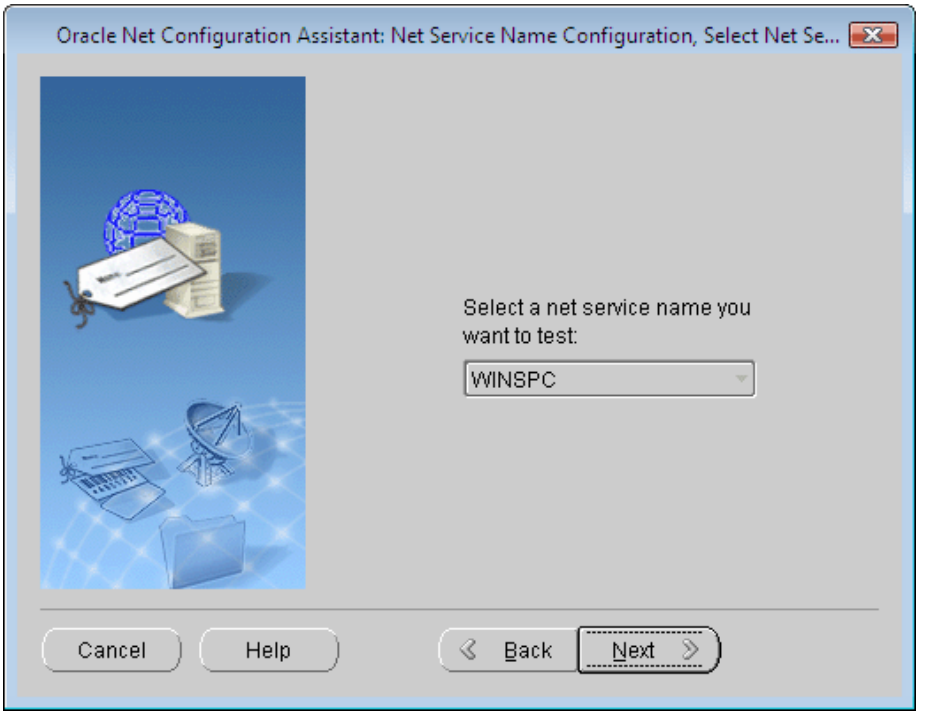
2. In the **Oracle Net Configuration Assistant: Welcome** prompt, select **Local Net Service Name configuration** and click **Next**.



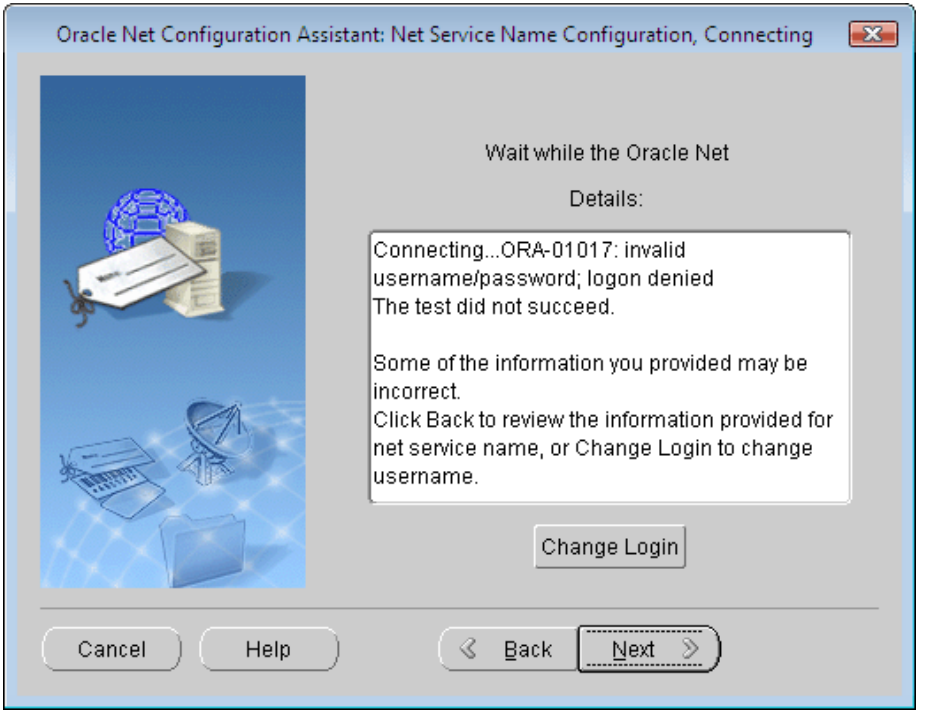
3. Select **Test** and click **Next**.



4. Select the net service name you specified in step 2d of this chapter's **Create a Tablespace** section, if it isn't already selected, and click **Next**.

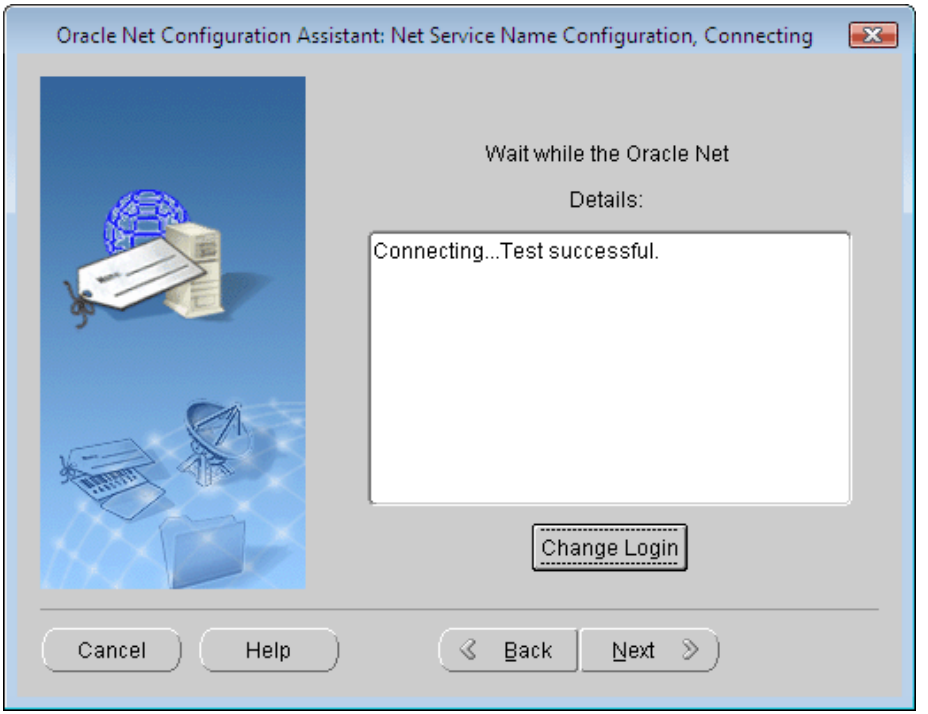


5. In the next prompt, which indicates the test did not succeed, click the **Change Login** button.

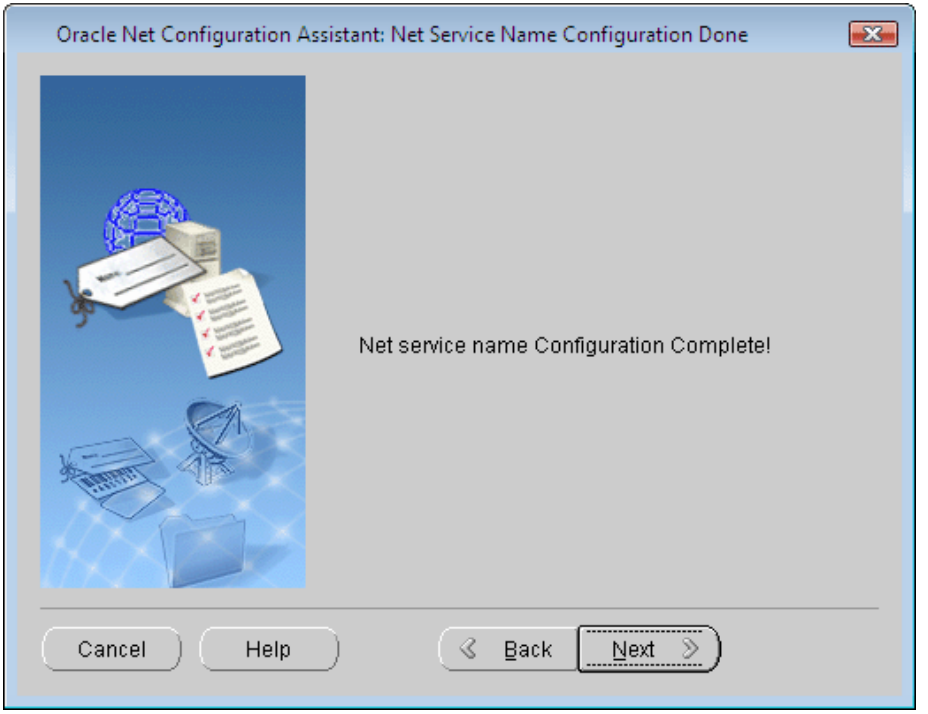


6. In the **Change Login** prompt, replace the default username and password with the username and password you created in step 2 of this chapter's **Create a Server Login** section and click **OK**.

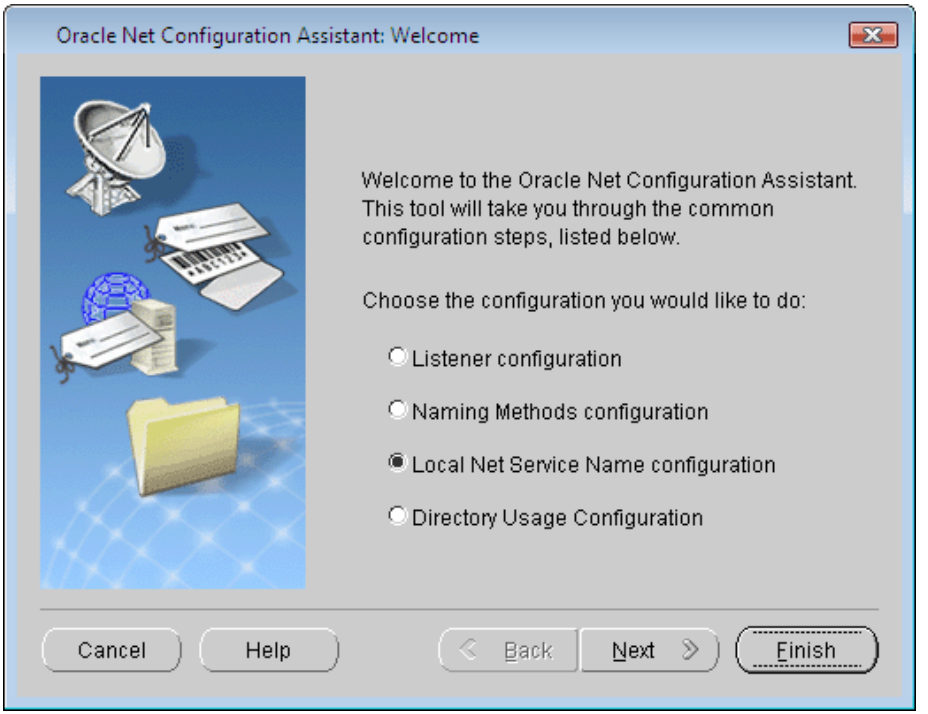
7. When the test is indicated as having succeeded, click **Next**.



8. Click **Next** when the net service name configuration is indicated as complete.



9. On the **Welcome** prompt, click **Finish**.



THIS COMPLETES PHASE 1 OF 4.

GO TO THE NEXT PAGE AND COMPLETE PHASE 2.

Phase 2 of 4

FIRST CLIENT INSTALL AND CONFIGURATION (INITIAL STEPS)

This section concerns the installation and configuration of WinSPC on the first WinSPC client. (See the third assumption at the beginning of this chapter for a definition of the first WinSPC client.)

If your implementation employs Microsoft Terminal Services, see the discussion on page 1 of this guide for direction on whether to make your first client the Microsoft Terminal Services server or another computer.

1. Create a folder on a network file server accessible by all client stations that will run WinSPC. This folder's primary purpose is to facilitate the installation and configuration of WinSPC on all clients other than the first client. (The recommended name for this folder is **WinSPCRemote**.)
2. Share this folder and grant domain administrators at least the minimum required permissions to it. For file servers running Windows Server 2003, the minimum *Share* permissions are **Change** and the minimum *Security* permissions are **Modify**. For file servers running Windows Server 2008, the minimum *Share* permissions are **Contributor** and the minimum *Security* permissions are **Modify**. (For a procedure on granting *Share* or *Security* permissions, see **Appendix C: Granting Share and Security Permissions.**)

   NOTE: If your WinSPC implementation is part of a workgroup rather than a domain, grant these minimum permissions to the local administrator who will install and configure WinSPC on the first WinSPC client station.

3. Log into Windows on the first WinSPC client station as a domain administrator who also has local administrator privileges.

   NOTE: If the first WinSPC client is part of a workgroup instead of a domain, log in as a local administrator.

4. Disable User Account Control (UAC) if the operating system on the first client machine has this security feature enabled. Refer to Appendix G for instructions on doing this. You will be given the option of enabling UAC in step 20 of **Chapter 4: First Client Configuration (Final Steps)**.

5. If you downloaded **Install.exe** from www.winspc.com/support/download-winspc:

   a. Transfer this file to the first WinSPC client if it was downloaded to a different computer.

   b. Double-click the file.

   c. If an **Open File – Security Warning** prompt appears, click **Run**.

   d. Go to step 7.

6. If you have the WinSPC CD (whether as a result of receiving it from DataNet Quality Systems or burning it from the **WinSPC.iso** file at www.winspc.com/support/download-winspc) and you did not complete the preceding step:
   a. Insert and run the CD.
   b. On the **WinSPC Version 8.n** setup prompt that appears, click **Install or Upgrade**.

   c. Go to step 7.

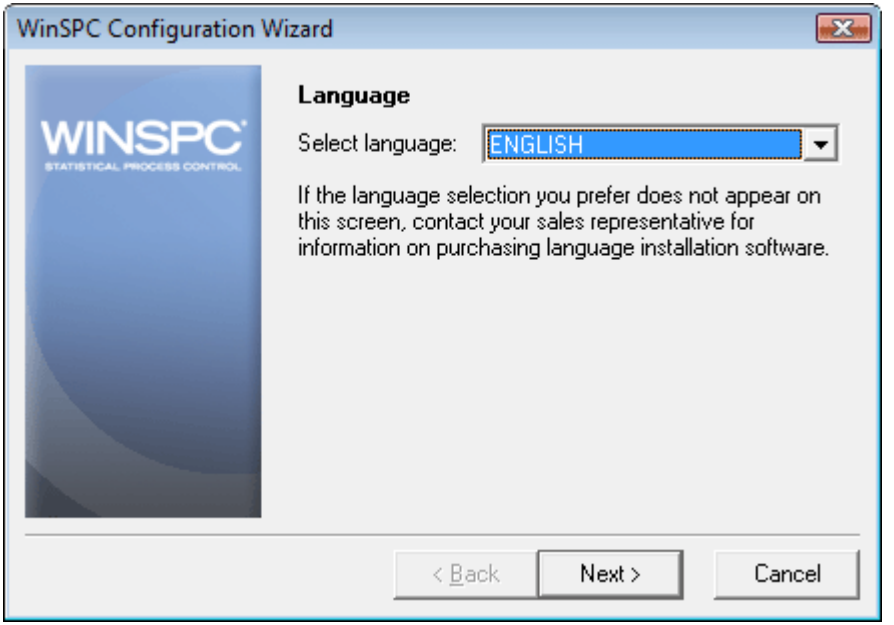
7. Complete the WinSPC Installation Wizard.

   NOTE: The prompts of this wizard are intended to be self-explanatory. Consequently, they are not detailed here. If you have a question about a prompt or want to be directed step-by-step through the wizard, see **Appendix A: The WinSPC Installation Wizard**.

8. If you installed WinSPC from a CD, exit the **WinSPC Version 8.0** setup prompt by clicking **Close** in the upper right corner and remove the WinSPC CD from the CD-ROM drive.

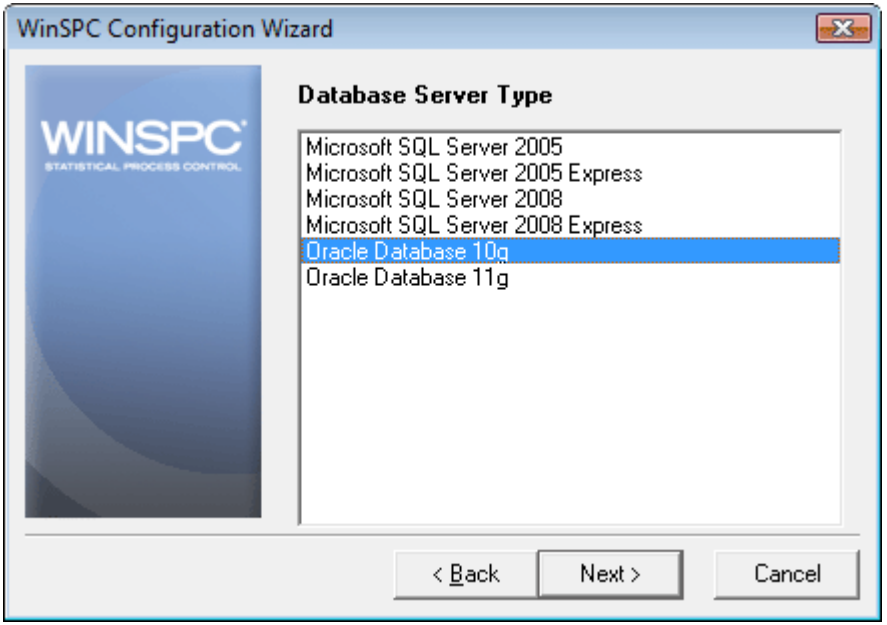
9. Click **Start** > **All Programs** > **WinSPC** > **WinSPC.** This launches the WinSPC Configuration Wizard.

10. On the **Language** prompt, from the **Select language** list, choose a language and click **Next**.

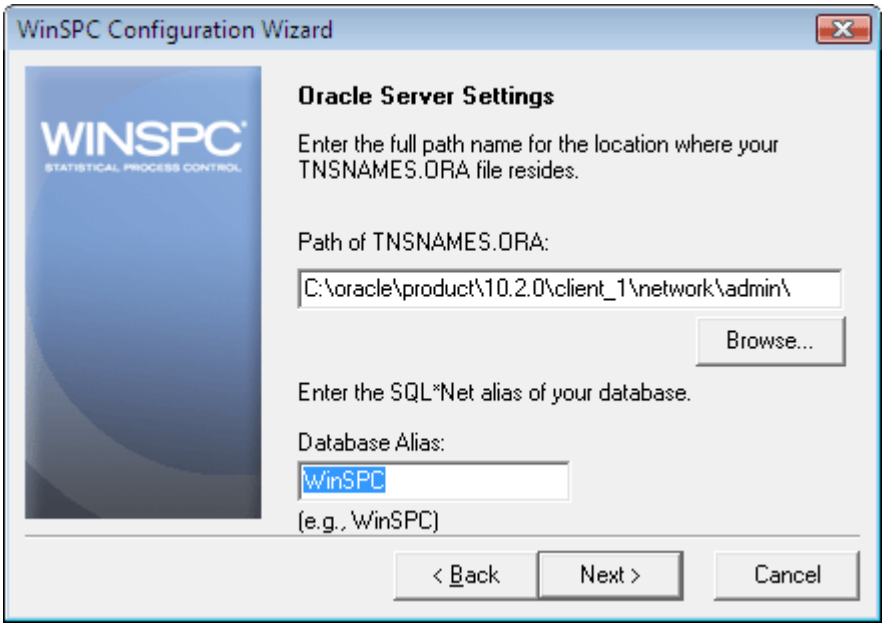


NOTE: The language selected here is the language in which the remainder of the WinSPC Configuration Wizard will run. It also becomes the system-wide default language for WinSPC. (This default language can be changed at any time following the completion of the WinSPC Configuration Wizard. Once the configuration of the first WinSPC client is complete, you can see the **WinSPC Help** for more information on default languages.)

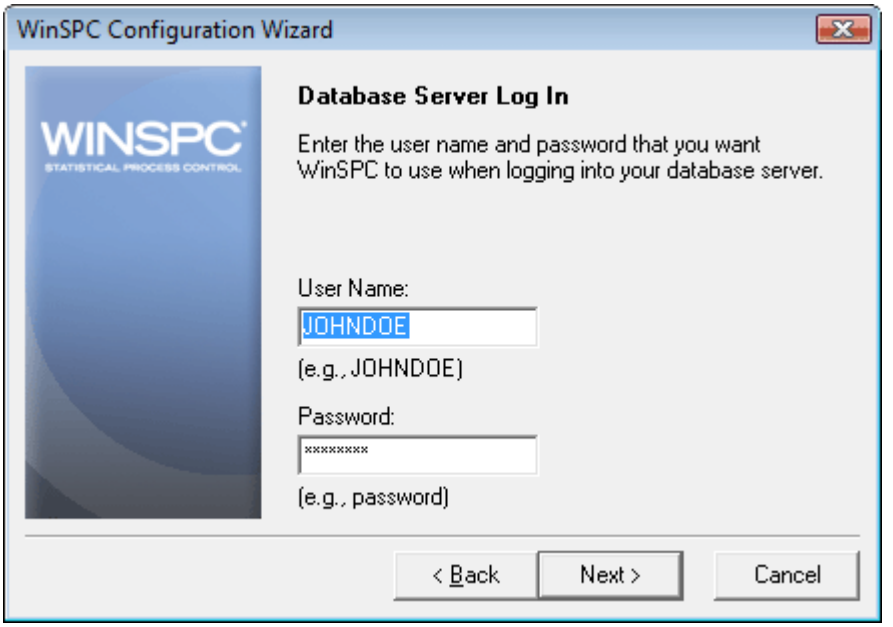
11. On the **Database Server Type** prompt, select **Oracle Database 10g** and click **Next**.



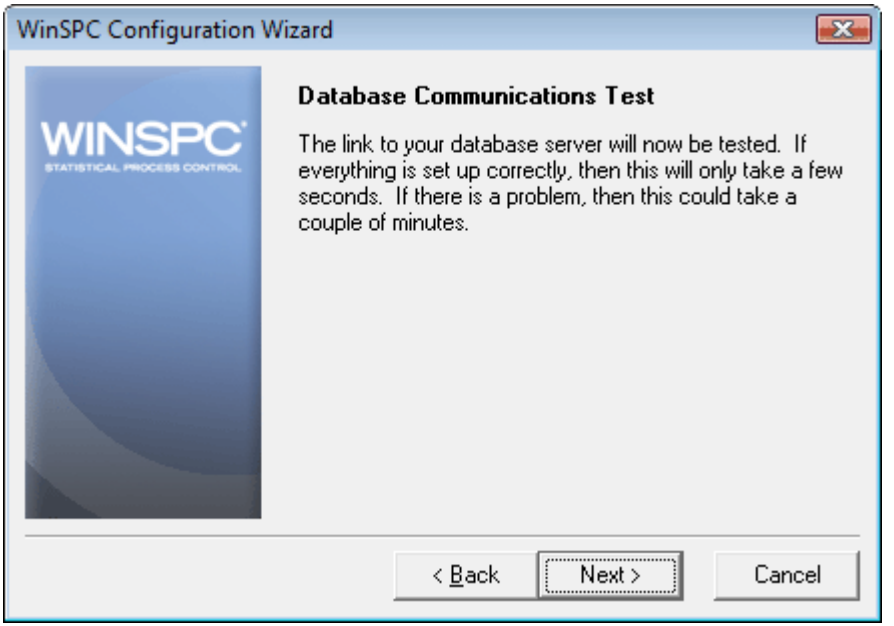
12. On the **Oracle Server Settings** prompt:
    a. At **Path of TNSNAMES.ORA**, accept the default location.
    b. In the **Database Alias** text box, enter the **Net Service Name** you chose in step 2d of this chapter's **Create a Tablespace** section.
    c. Click **Next.**



13. On the **Database Server Log In** prompt, enter the server **User Name** and **Password** created in step 2 of this chapter's **Create a Server Login** section and click **Next**.



14. On the **Database Communications Test** prompt, click **Next**.

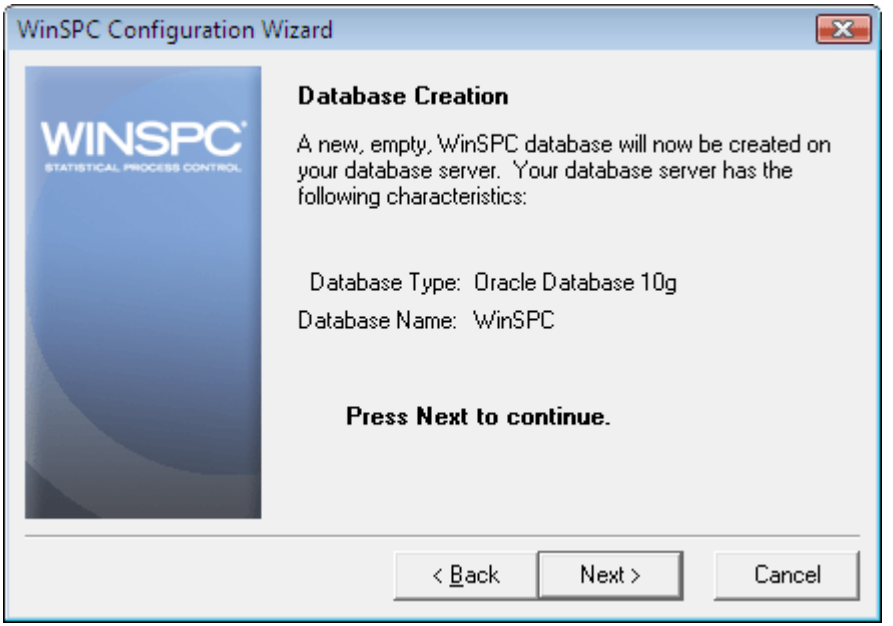


In the event the test fails:

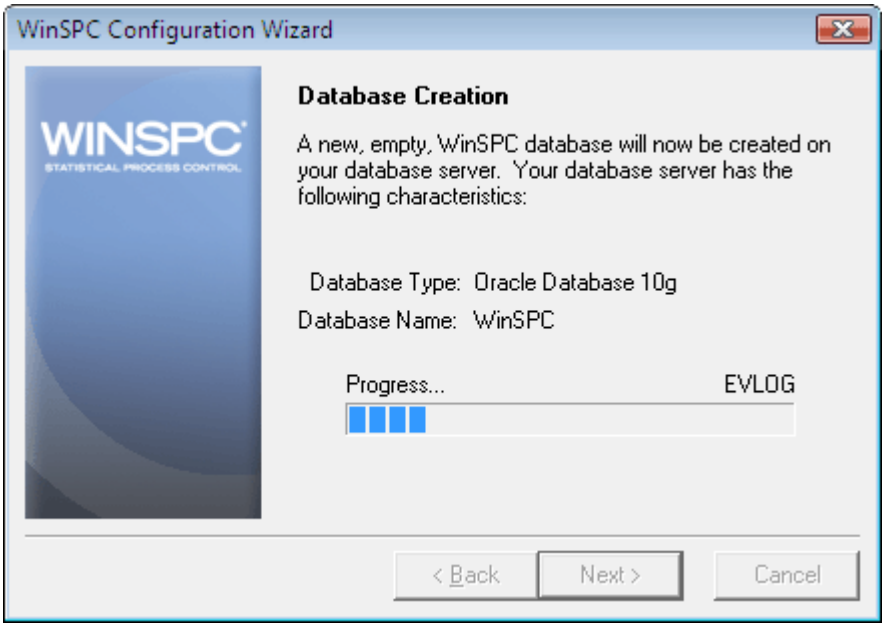
- If the error message displayed reads **ORA-12154: TNS: could not resolve the connect identifier specified.**, click the **Back** button three times and reenter the database alias, ensuring you have the correct name and that it is spelled correctly. Once you've reentered this information, advance through the WinSPC Configuration Wizard again by clicking **Next**, verifying the information on each prompt as you do.

- If the error message reads **ORA-01017: invalid username/password; logon denied**, click the **Back** button twice and reenter the server user name and password, ensuring you have the correct user name and password and that these are spelled correctly. Also, since passwords are case sensitive, ensure the appropriate capitalization is used for the password. Once you've reentered this information, advance through the WinSPC Configuration Wizard again by clicking **Next**, verifying the information on each prompt as you do.

15. On the **Database Creation** prompt, click **Next**. This creates the WinSPC schema within the WinSPC database.



16. Allow the prompt's progress bar to complete.



17. If you selected a language other than English in step 10 of this section, an **Add Language** prompt appears once the WinSPC schema is created. In this case:

    a. Insert the language disk for the selected language into your floppy drive and click the **OK** button. (Language disks are included in your WinSPC materials. If you didn't order a language disk and, consequently, did not receive one, click the **Cancel** button and complete the WinSPC Configuration Wizard without adding the language. Later, you can order the language disk and, once the disk arrives, add the language using the **Add Language** option on the **Administrator** window's **Tools** menu in WinSPC. Until the language is added, you'll be restricted to running WinSPC in English. The remainder of the WinSPC Configuration Wizard continues to run in the selected language whether or not a language is added from a language disk.)

    b. In the message asking if you want to proceed with the addition of the detected language, click **OK**.

    c. If a message indicating the detected language has already been installed appears, click **OK**.

    d. Allow the **Adding New Language** progress bar to complete.

    e. When the **You may now select the desired language in the System Settings, Station Setup, or User Setup** message appears, click **OK**.

    f. If the **Add Language** prompt reappears, click **Cancel**.

    g. Remove the language disk from the floppy drive.

THIS COMPLETES PHASE 2 OF 4.

GO TO **CHAPTER 4: FIRST CLIENT CONFIGURATION (FINAL STEPS)** AND COMPLETE PHASE 3.

CHAPTER 3: ORACLE 11*g*

ASSUMPTIONS

The instructions in this chapter are based on the following assumptions:

- Oracle Database 11*g* software is installed on your database server and the installation type is **Enterprise Edition**.
- Oracle Database 11*g*'s **Starter** database is created and running on your database server and you have been authorized to use this database for WinSPC.
- The **Net Configuration Assistant** from Oracle Database 11*g* Client is installed on the first WinSPC client machine. (The first WinSPC client machine simply refers to the first computer on which you want to install WinSPC. This computer can be any client machine on your network.)
- A 32-bit edition of **Oracle Provider for OLE DB** from Oracle Database 11*g* Client is installed on all client machines which are to run WinSPC (including the first client). The 32-bit edition is required regardless of whether the client machine is 32-bit or 64-bit. (Incidentally, if your organization's intended use of WinSPC includes taking data stored in an Oracle ODBC data source and collecting it into the Oracle database you are configuring, **Oracle ODBC Driver** from Oracle Database 11*g* Client will need to be installed on each WinSPC client to be used in collecting that stored data. Since the presence of this driver presents no complication, DataNet Quality Systems recommends installing it even if the use of WinSPC to collect data from an Oracle ODBC data source is only a possibility.)

- The default values presented by Oracle Database 11g during the installation process were accepted without modification.
- Any firewalls between your database server and the client machines to be used for WinSPC are properly configured to permit database traffic.

- For implementations employing a Microsoft Terminal Services environment, Microsoft Terminal Services is properly installed and configured on the server designated as your Microsoft Terminal Services server.

  NOTE: You may find that users who don't have administrative permissions to the Microsoft Terminal Services server are unable to launch WinSPC via a Remote Desktop Protocol session. This is a circumstance specific to Oracle Database 10*g* and Oracle Database 11*g*. It can be remedied by changing the **Permission Capability** on the Microsoft Terminal Services server from **Full Security** to **Relaxed Security**. Alternatively, consult your network administrator and/or Oracle DBA for other remedies.

- If the edition of **Oracle Database 11g** to be configured for use with WinSPC is **Release 2**, the **Server Class** option was selected during the installation. This option is presented on the **System Class** installation prompt but is not selected by default.
- The operating system of your database server machine is Windows Server 2003 or Windows Server 2008.
- The operating system of the client machines to be used for WinSPC is Windows 7, Windows Vista Business or Windows XP Pro. (Images of client machines included in this guide are from Vista Business.)

NOTE: If a default value was modified during the installation of Oracle Database 11*g* or an operating system is different from that stated here, adapt the instructions in this guide as needed to accommodate the modified value or differing operating system. Prior to beginning this procedure, it's advised that you locate the hostname (or machine name) for the Oracle Database 11*g* machine and the global database name and SYS account password assigned during the installation of Oracle Database 11*g*. Your database administrator should be able to provide this information.

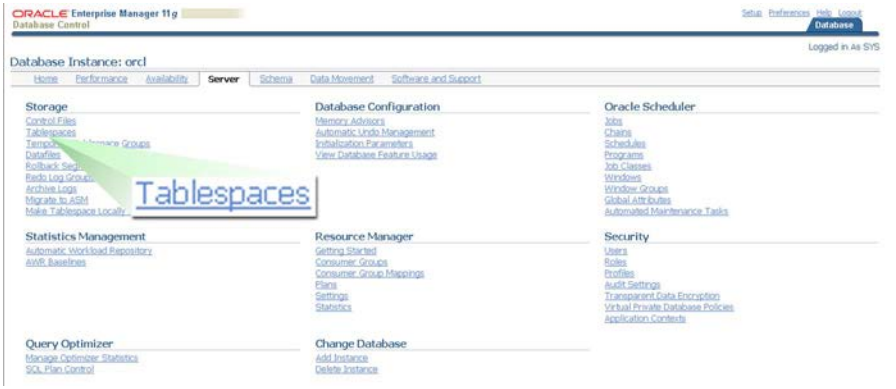
Phase 1 of 4 **SERVER CONFIGURATION**

Create a Tablespace

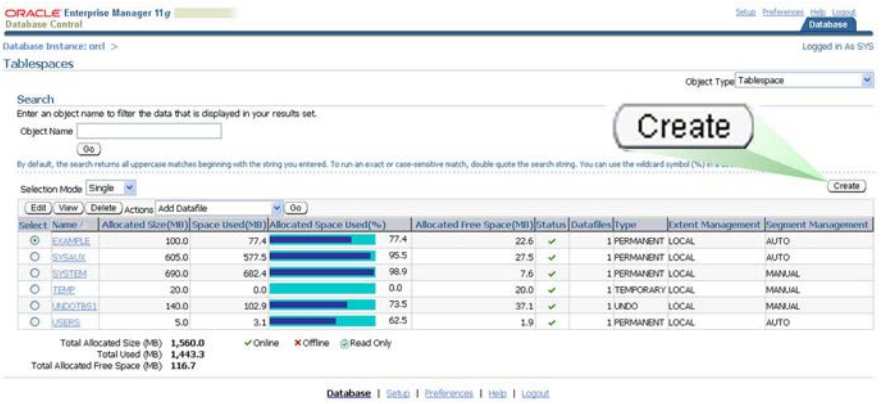
1. On the database server machine, launch **Database Control** for the database to be used by WinSPC. The default path for this is **Start > All Programs > Oracle – OraDB11g_home1 > Database Control - orcl**.
2. On the **Oracle Enterprise Manager 11*g*** login page that is displayed:
   a. At **User Name**, enter **SYS**.
   b. At **Password**, enter the password for the **SYS** user name.
   c. At **Connect As**, select **SYSDBA**.
   d. Click **Login**.

3. On the **Oracle Enterprise Manager 11*g*** page that appears, click **Server**.

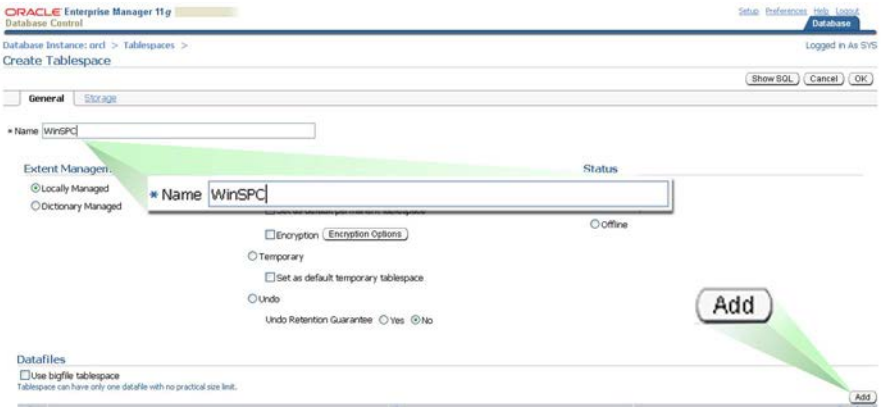
4. On the **Server** page, under **Storage**, click **Tablespaces**.



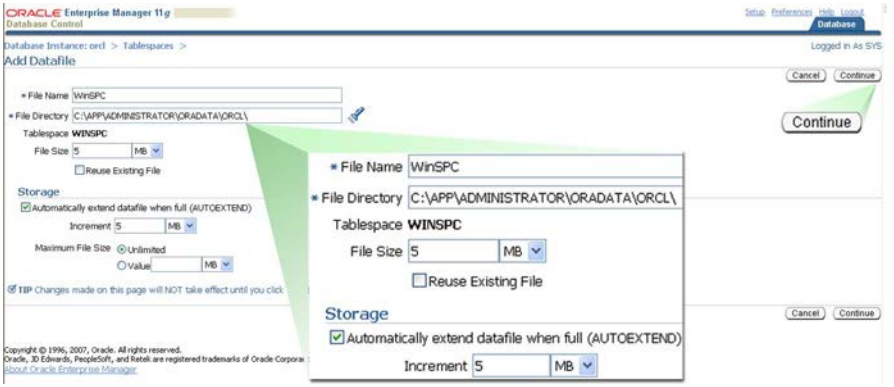
5. On the **Tablespaces** page, click **Create**.



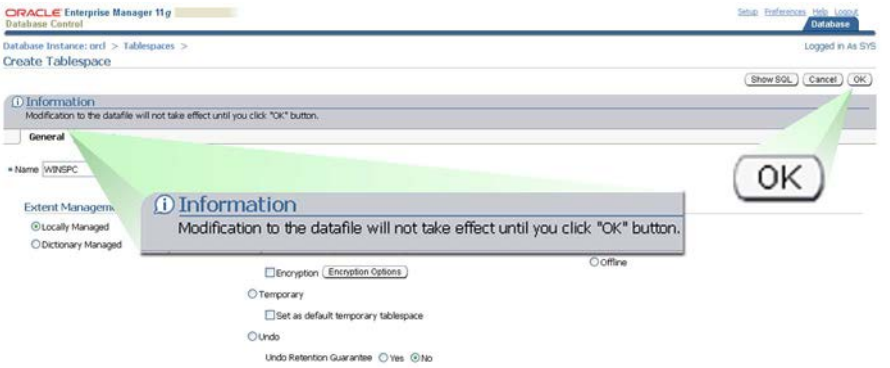
6. On the **Create Tablespace** page, at **Name**, enter a name for the tablespace to be used by WinSPC and then, in the bottom right corner, click **Add**.



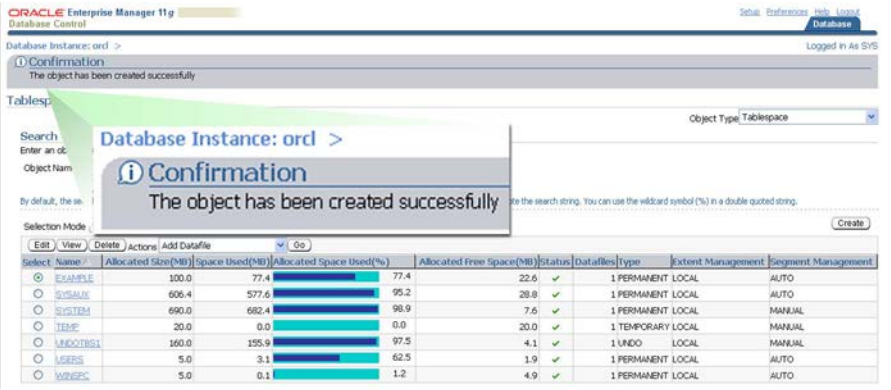
7. On the **Add Datafile** page:
   a. At **File Name**, enter a name for the datafile to be used by WinSPC.
   b. At **File Size**, enter **5 MB**.
   c. At **Storage**, check the **Automatically extend datafile when full (AUTOEXTEND)** check box and specify an **Increment** amount of **5 MB**.
   d. Click **Continue**.



8. On the **Create Tablespace** page, note the **Information** message that is displayed and click **OK**.

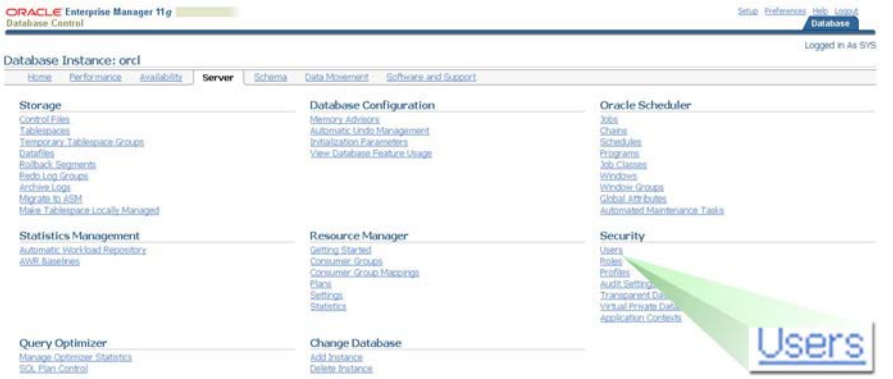


9. On the **Tablespaces** page, note the **Confirmation** message that appears and, directly above it, click **Database Instance**.

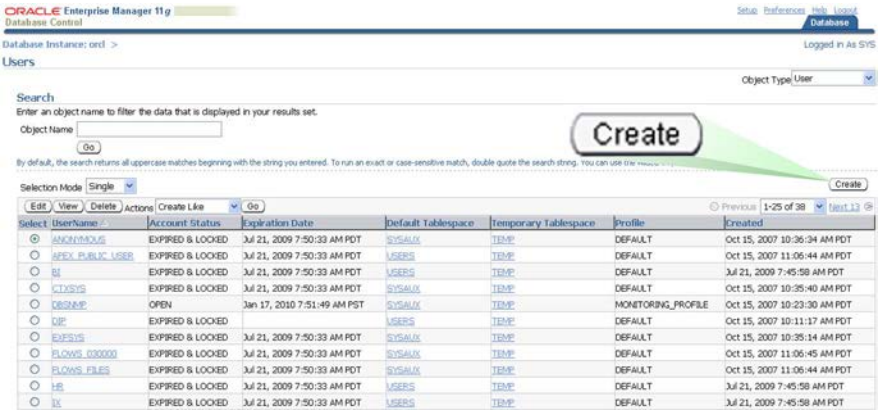


Create a Server Login

1. Back on the **Server** page, under **Security**, click **Users**.



2. On the **Users** page, click **Create**.

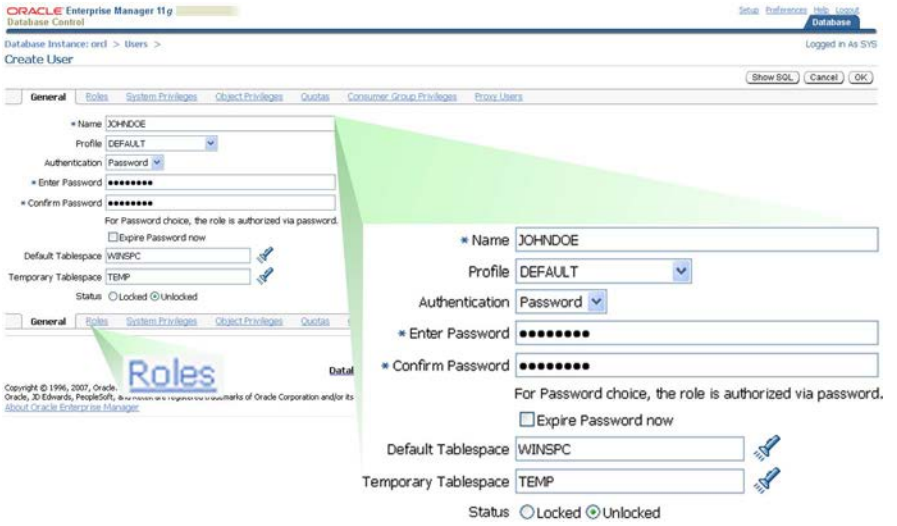


3. On the **Create User** page:
   a. At **Name**, create and enter a name for the login. (The recommended user name is **JOHNDOE**.)
   b. At **Enter Password**, create and enter a sufficiently strong password for the login.
   c. At **Confirm Password**, reenter the password.

   NOTE: The name and password entered here will be used by Oracle Database 11g to authentic WinSPC client machines and allow authenticated machines access to the WinSPC tablespace. This name and password combination is not directly used by WinSPC users. WinSPC users will, later, be assigned individual user IDs and passwords. They will use these individual user IDs and passwords to log into the WinSPC application on WinSPC client machines.

   d. At **Default Tablespace**, enter the tablespace name specified in step 6 of this chapter's **Create a Tablespace** section.
   e. At **Temporary Tablespace**, enter **TEMP**.

f. Without clicking **OK**, click the **Roles** tab.



4. On the **Roles** tab, click **Edit List**.

5. On the **Modify Roles** page, from the **Available Roles** list, select **RESOURCE** and click **Move**.

This moves **RESOURCE** to the **Selected Roles** list.

6. Click **OK**.

7. Back on the **Create User** page, click **System Privileges**.

8. On the **System Privileges** tab, click **Edit List**.

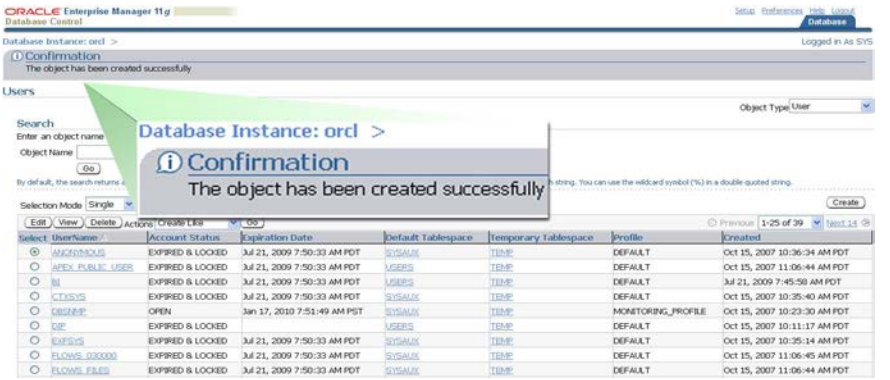
9. On the **Modify System Privileges** page, from the **Available System Privileges** list, select **CREATE ANY INDEX** and click **Move**.

This moves **CREATE ANY INDEX** to the **Selected System Privileges** list.

10. Click **OK**.

11. Back on the **Create User** page, click **OK** again.

12. On the **Users** page, note the **Confirmation** message that appears and, directly above it, click **Database Instance**.

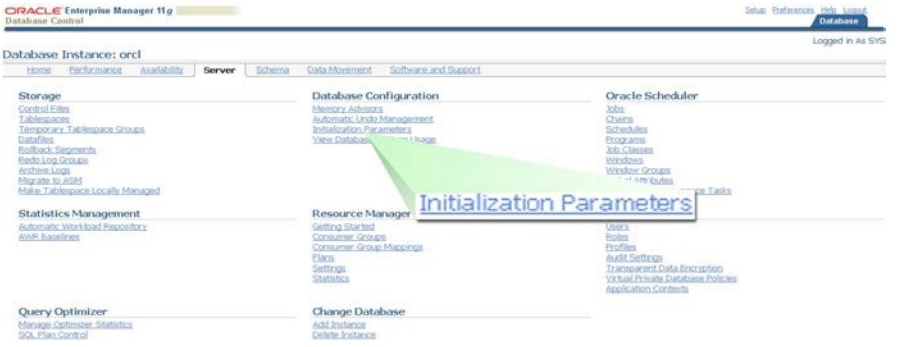


Set the Number of Open Cursors

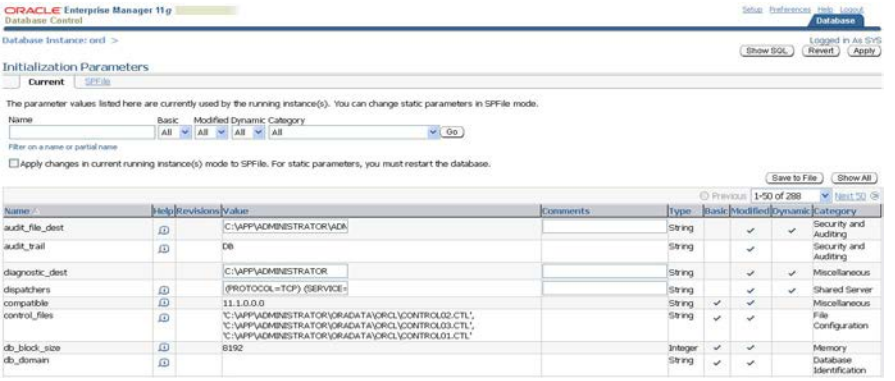
1. Calculate the required number of open cursors using this formula:

   *open_cursors = number of WinSPC licenses * 50*

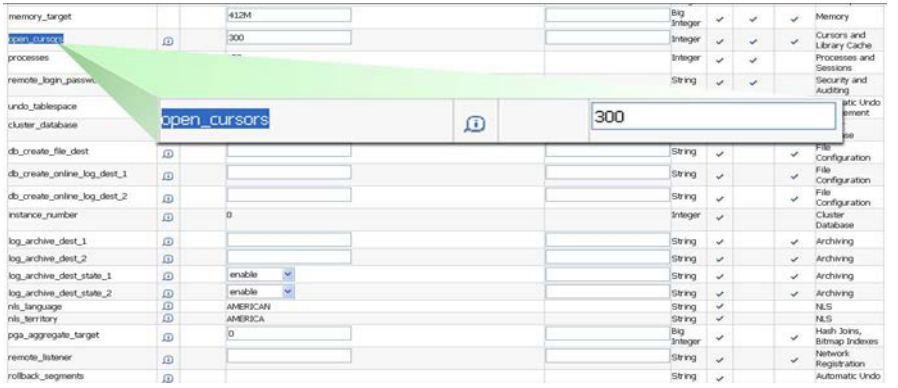
2. On the **Server** page again, under **Database Configuration**, click **Initialization Parameters**.



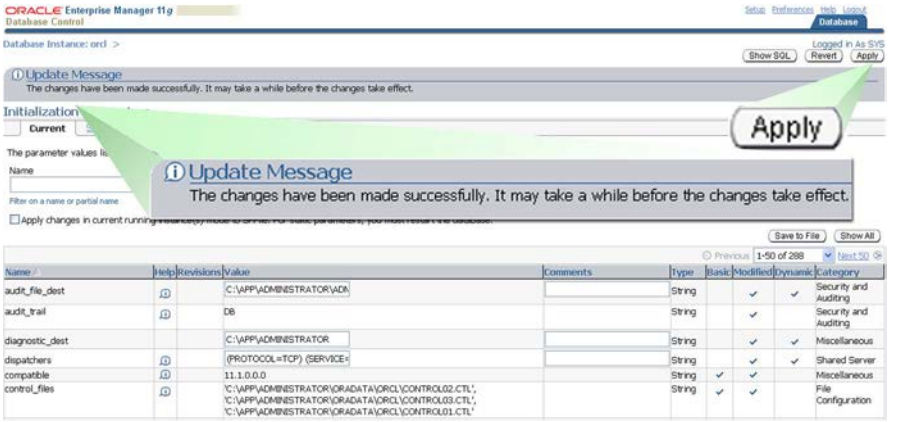
This causes the **Initialization Parameters** page to appear.



3. On this page, scroll down until, in the **Name** column, you see **open_cursors** and, in this row's **Value** column, enter the number you calculated in step 1 of this section.



4. Scroll back up to the top of the page and click **Apply**, noting the **Update Message** that appears as a result.

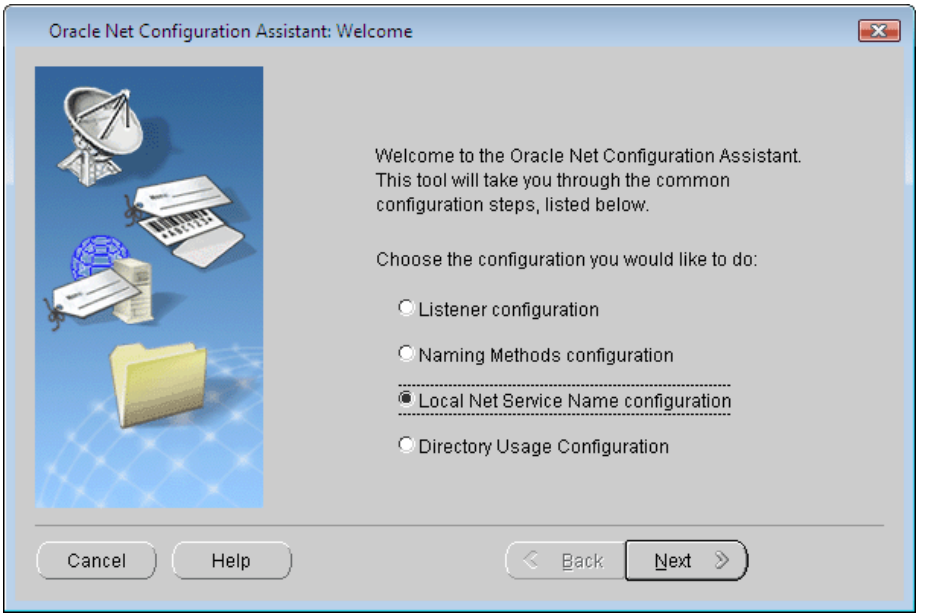


5. Click **Logout** in the top right corner of the **Oracle Enterprise Manager 11*g*** page.
6. Close your browser.

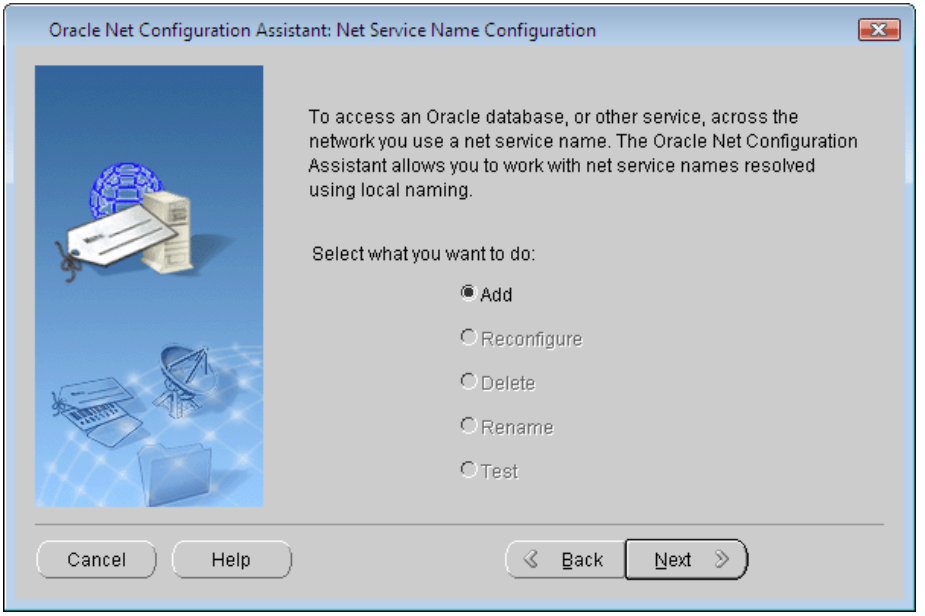
Add the Local Net Service Name

1. On the first client machine, launch **Net Configuration Assistant**, the default path for which is **Start** > **All Programs** > **Oracle – OraClient11g_home1** > **Configuration and Migration Tools** > **Net Configuration Assistant**.

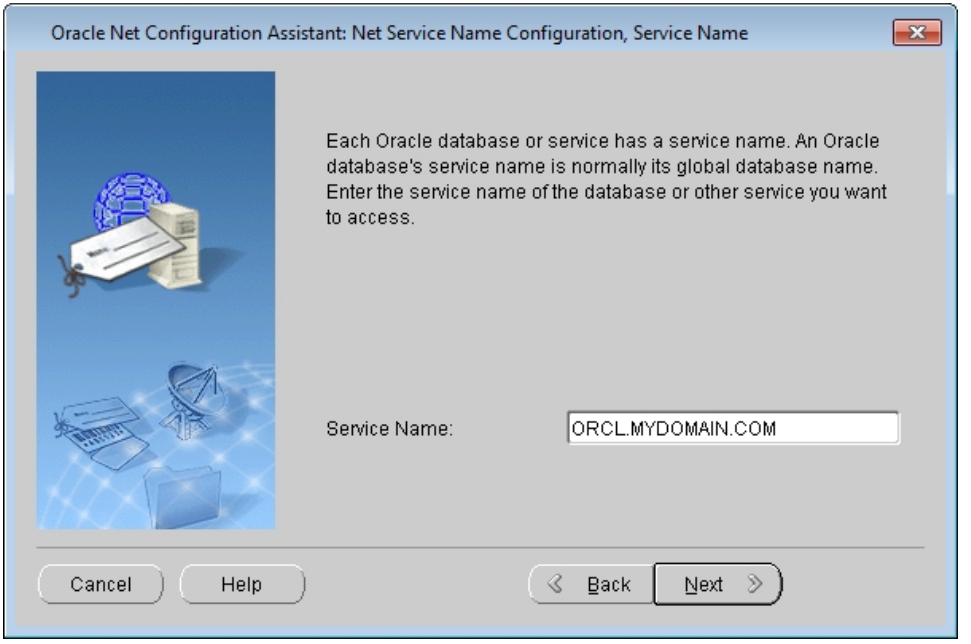
2. In the **Oracle Net Configuration Assistant** prompt, on the **Welcome** prompt, select **Local Net Service Name configuration** and click **Next**.



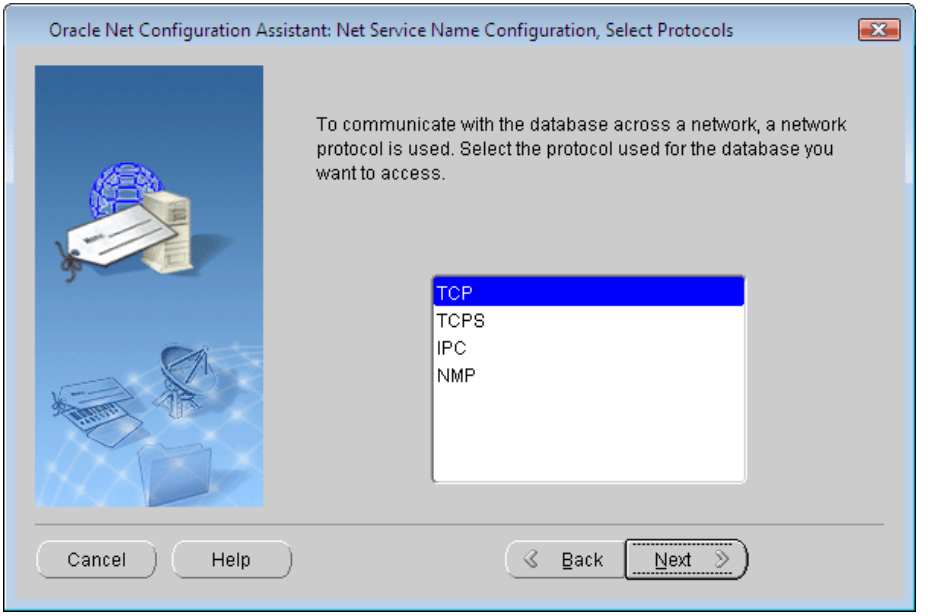
3. On the **Net Service Name Configuration** prompt, accept the **Add** default and click **Next**.



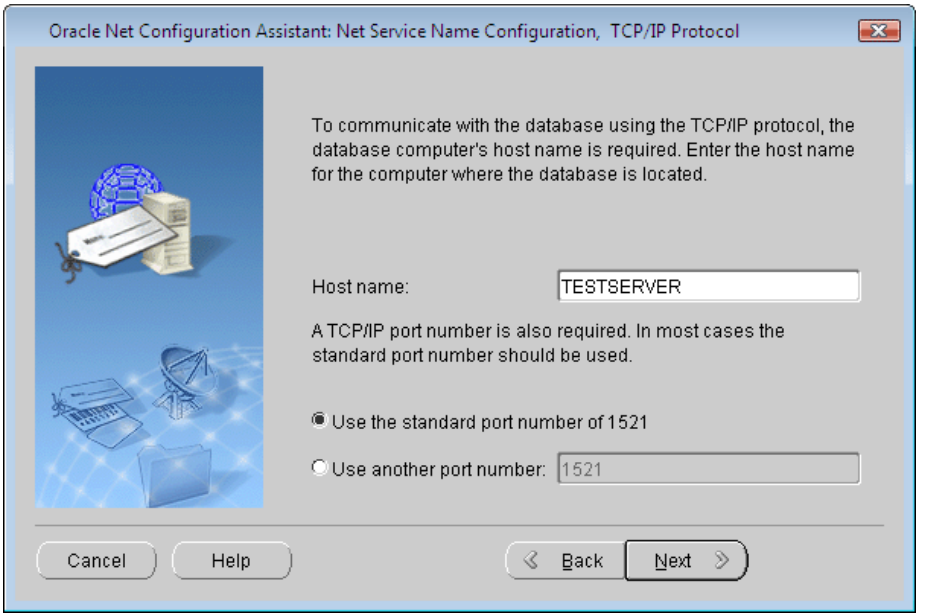
4. On the **Net Service Name Configuration, Service Name** prompt, at **Service Name**, enter the fully qualified service name for the Oracle database and click **Next**. (The fully qualified service name consists of two names separated by a period: the service name assigned during the setup of Oracle 11g Database, which by default is the same as the global database name; and the name assigned to the domain of which the database server is a member.)



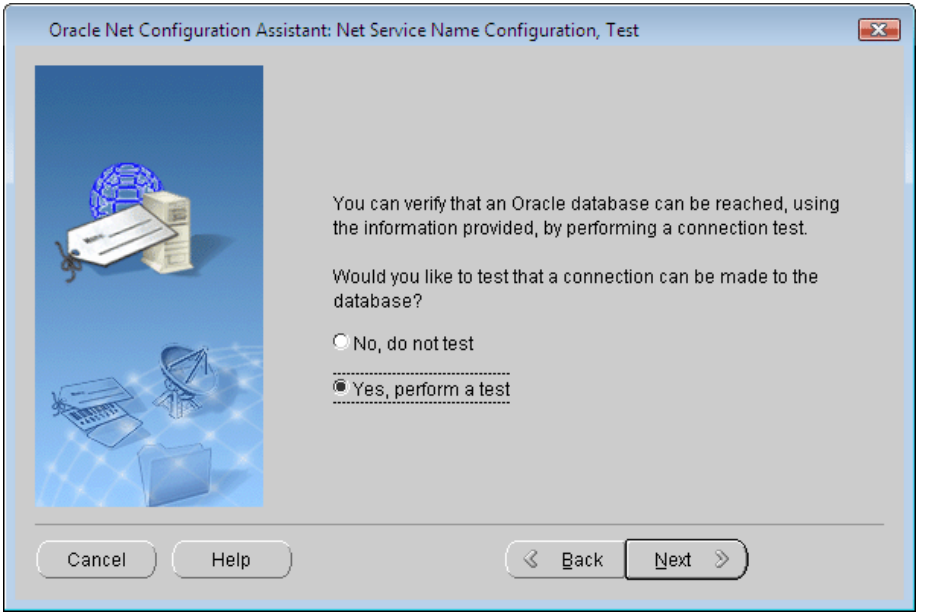
5. On the **Net Service Name Configuration, Select Protocols** prompt, select **TCP** and click **Next**.



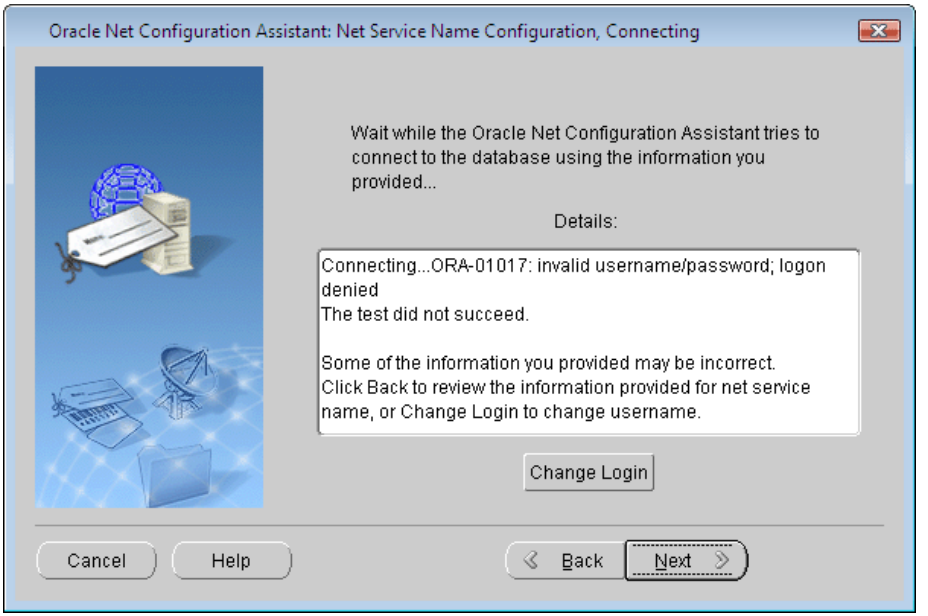
6. On the **Net Service Name Configuration, TCP/IP Protocol** prompt, at **Host Name**, enter the name of the database server machine and click **Next**.



7. On the **Net Service Name Configuration, Test** prompt, select **Yes, perform a test** and click **Next**.

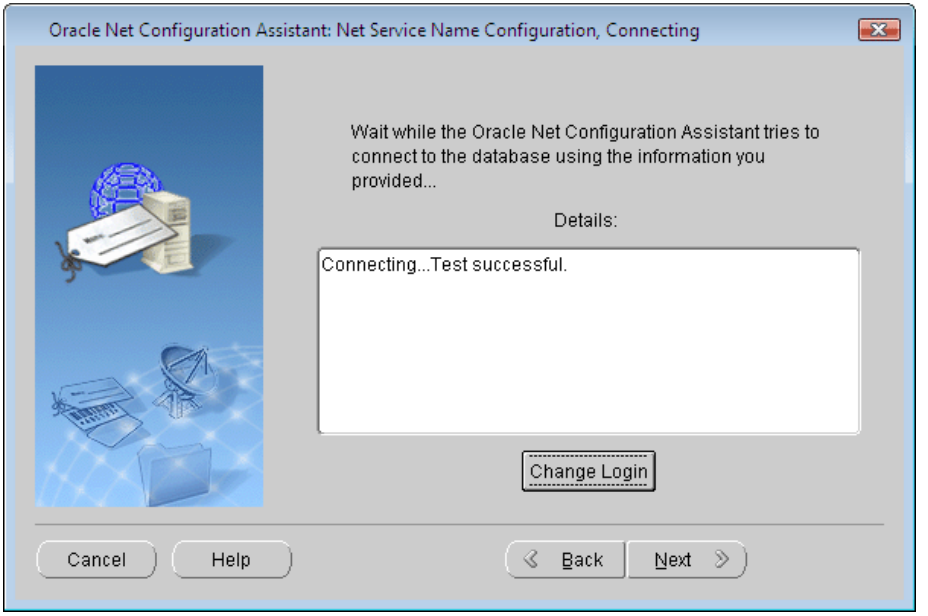


8. On the **Net Service Name Configuration, Connecting** prompt, which indicates the test did not succeed, click the **Change Login** button.

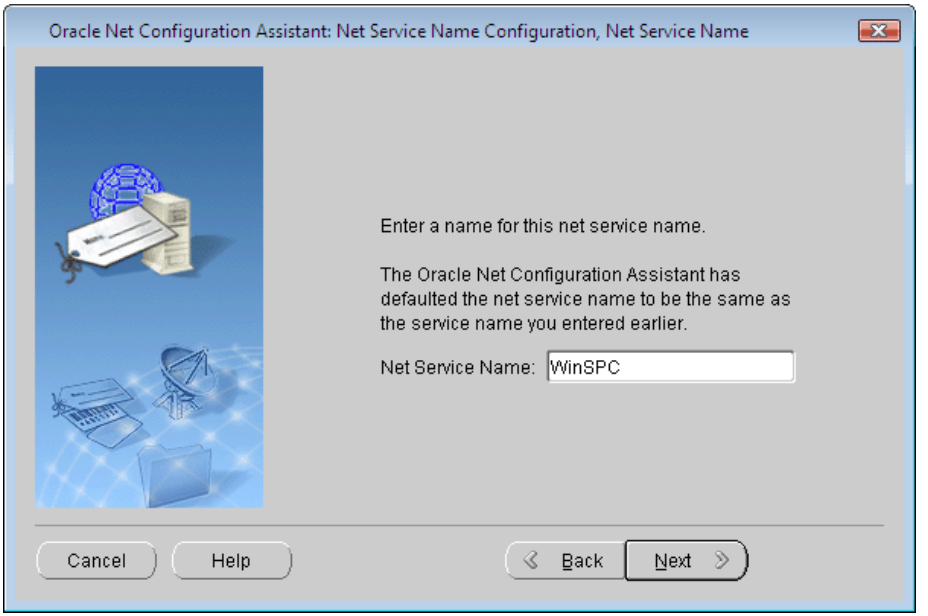


9. In the **Change Login** prompt, replace the default username and password with the username and password you created in step 3 of this chapter's **Create a Server Login** section and click **OK**.

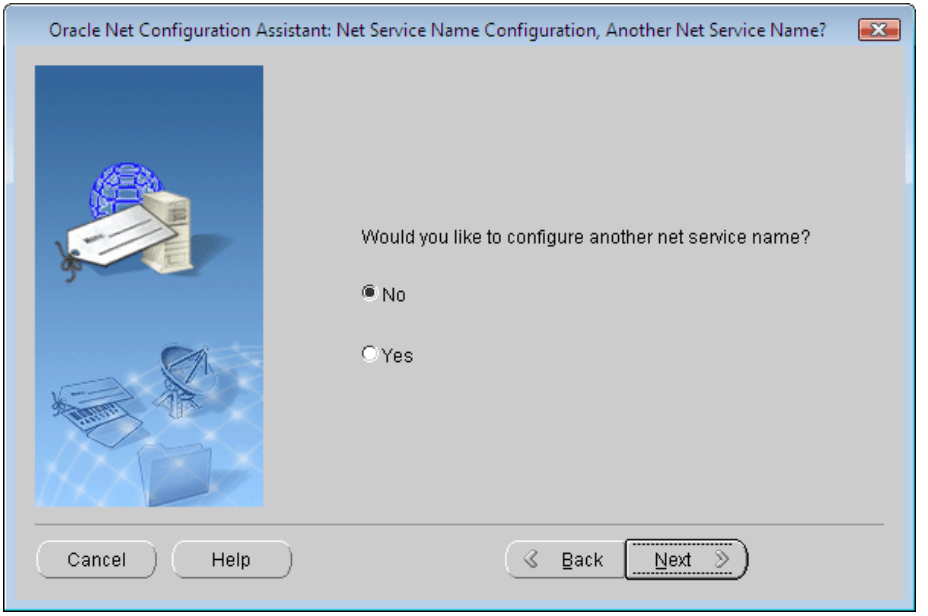
10. On the **Net Service Name Configuration, Connecting** prompt, when the test is indicated as having succeeded, click **Next**.



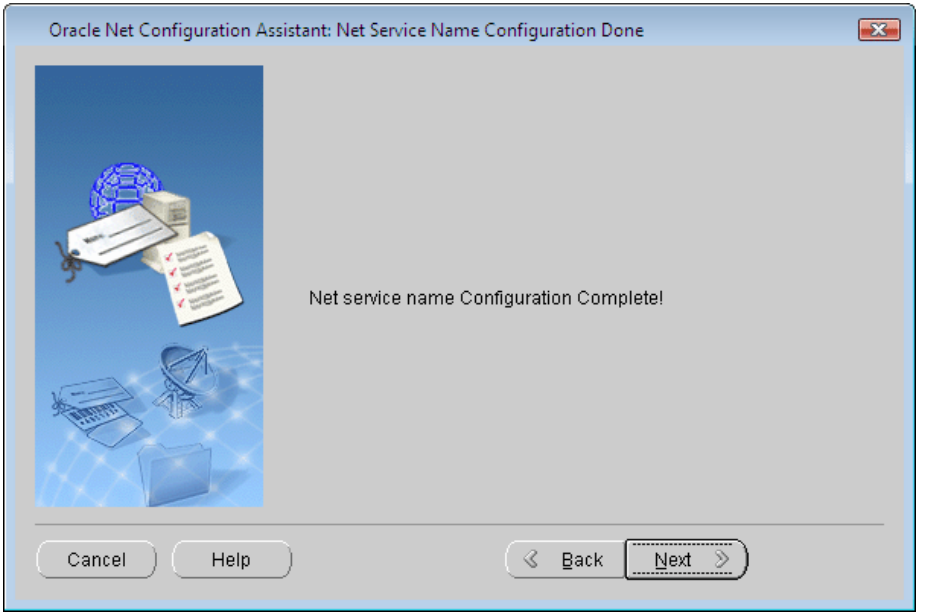
11. On the **Net Service Name Configuration, Net Service Name** prompt, at **Net Service Name**, rename the default net service name and click **Next**. (The suggested name is **WinSPC**.)



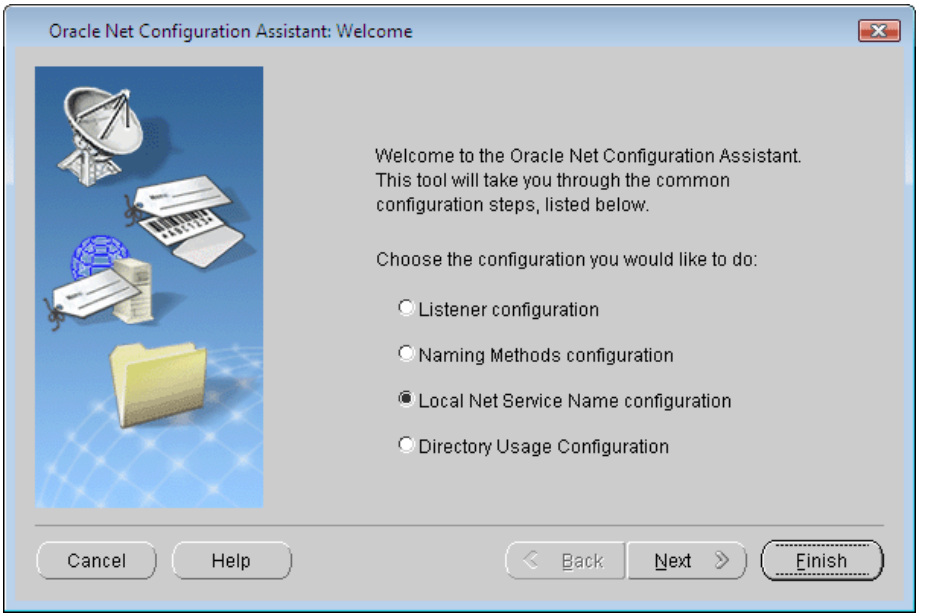
12. On the **Net Service Name Configuration, Another Net Service Name** prompt, accept the **No** default and click **Next**.



13. On the **Net Service Name Configuration Done** prompt, click **Next**.



14. On the **Welcome** prompt again, click **Finish**.



THIS COMPLETES PHASE 1 OF 4.

GO TO THE NEXT PAGE AND COMPLETE PHASE 2.

Phase 2 of 4

FIRST CLIENT INSTALL AND CONFIGURATION (INITIAL STEPS)

This section concerns the installation and configuration of WinSPC on the first WinSPC client. (See the third assumption at the beginning of this chapter for a definition of the first WinSPC client.)


Terminal Services

If your implementation employs Microsoft Terminal Services, see the discussion on page 1 of this guide for direction on whether to make your first client the Microsoft Terminal Services server or another computer.

1. Create a folder on a network file server accessible by all client stations that will run WinSPC. This folder's primary purpose is to facilitate the installation and configuration of WinSPC on all clients other than the first client. (The recommended name for this folder is **WinSPCRemote**.)
2. Share this folder and grant domain administrators at least the minimum required permissions to it. For file servers running Windows Server 2003, the minimum *Share* permissions are **Change** and the minimum *Security* permissions are **Modify**. For file servers running Windows Server 2008, the minimum *Share* permissions are **Contributor** and the minimum *Security* permissions are **Modify**. (For a procedure on granting *Share* or *Security* permissions, see **Appendix C: Granting Share and Security Permissions.**)

   NOTE: If your WinSPC implementation is part of a workgroup rather than a domain, grant these minimum permissions to the local administrator who will install and configure WinSPC on the first WinSPC client machine.

3. Log into Windows on the first WinSPC client machine as a domain administrator who also has local administrator privileges.

   NOTE: If the first WinSPC client machine is part of a workgroup instead of a domain, log in as a local administrator.

4. Disable User Account Control (UAC) if the operating system on the first client machine has this security feature enabled. Refer to Appendix G for instructions on doing this. You will be given the option of enabling UAC in step 20 of **Chapter 4: First Client Configuration (Final Steps)**.

5. If you downloaded **Install.exe** from www.winspc.com/support/download-winspc:

   a. Transfer this file to the first WinSPC client if it was downloaded to a different computer.

   b. Double-click the file.

   c. If an **Open File – Security Warning** prompt appears, click **Run**.

   d. Go to step 7.

6. If you have the WinSPC CD (whether as a result of receiving it from DataNet Quality Systems or burning it from the **WinSPC.iso** file at www.winspc.com/support/download-winspc) and you did not complete the preceding step:
   a. Insert and run the CD.
   b. On the **WinSPC Version 8.0** setup prompt that appears, click **Install or Upgrade**.

   c. Go to step 7.

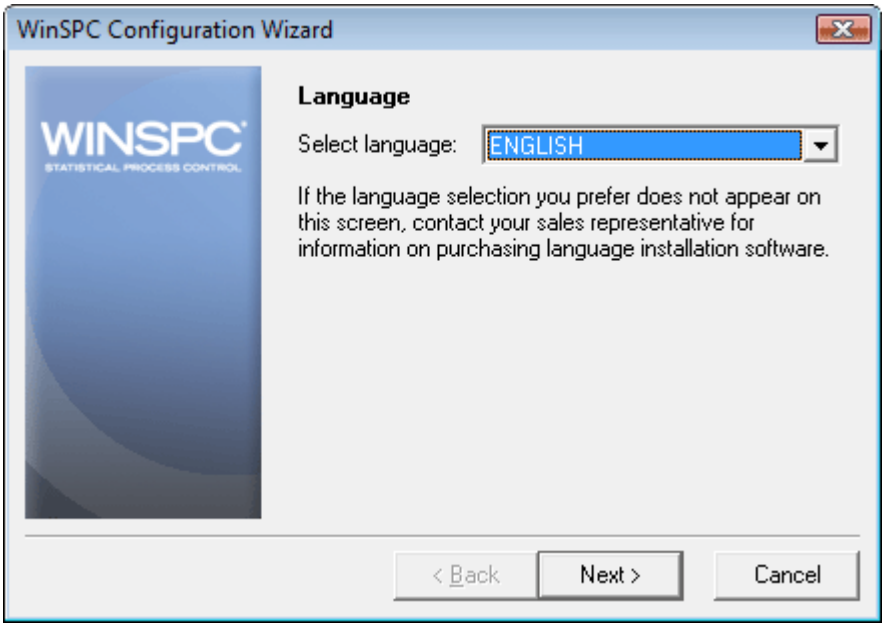
7. Complete the WinSPC Installation Wizard.

   NOTE: The prompts of this wizard are intended to be self-explanatory. Consequently, they are not detailed here. If you have a question about a prompt or want to be directed step-by-step through the wizard, see **Appendix A: The WinSPC Installation Wizard**.

8. If you installed WinSPC from a CD, exit the **WinSPC Version 8.0** setup prompt by clicking **Close** in the upper right corner and remove the WinSPC CD from the CD-ROM drive.

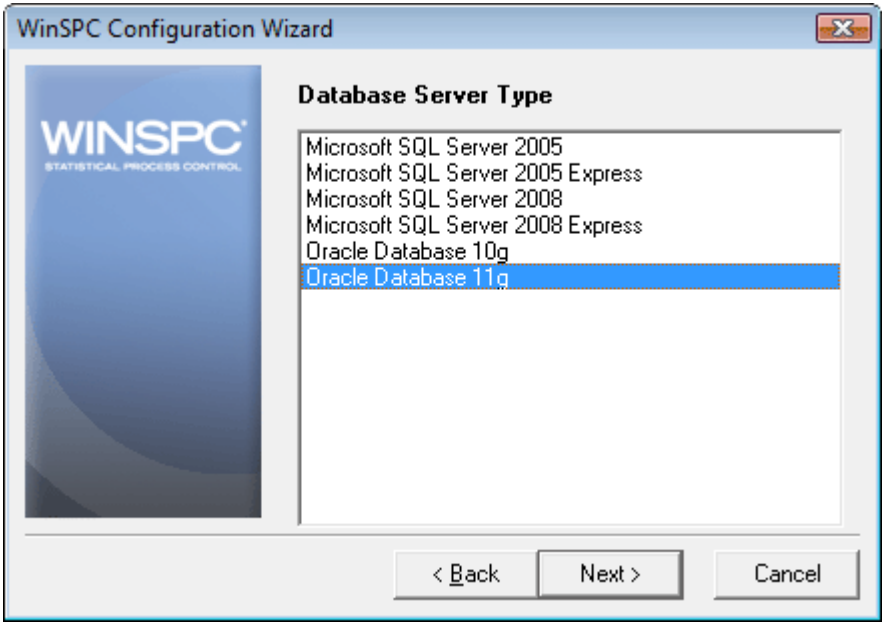
9. Click **Start** > **All Programs** > **WinSPC** > **WinSPC.** This launches the WinSPC Configuration Wizard.

10. On the **Language** prompt, from the **Select language** list, choose a language and click **Next**.

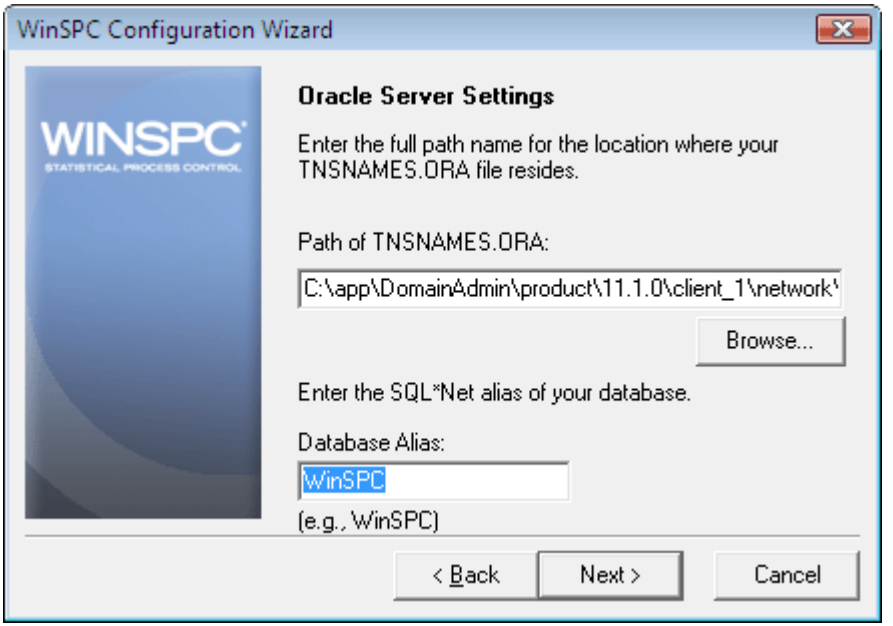


NOTE: The language selected here is the language in which the remainder of the WinSPC Configuration Wizard will run. It also becomes the system-wide default language for WinSPC. (This default language can be changed at any time following the completion of the WinSPC Configuration Wizard. Once the configuration of the first WinSPC client is complete, you can see the **WinSPC Help** for more information on default languages.)

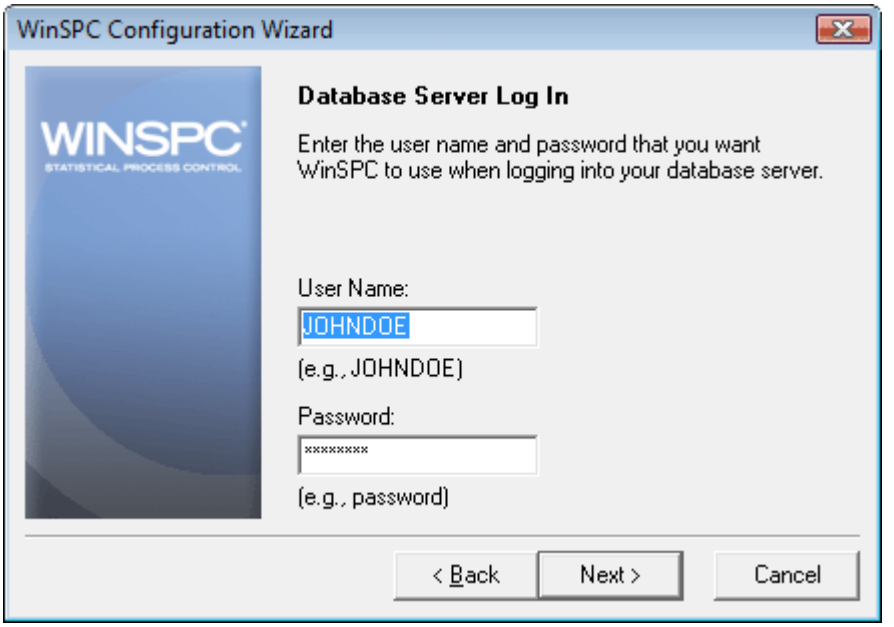
11. On the **Database Server Type** prompt, select **Oracle Database 11*g*** and click **Next**.



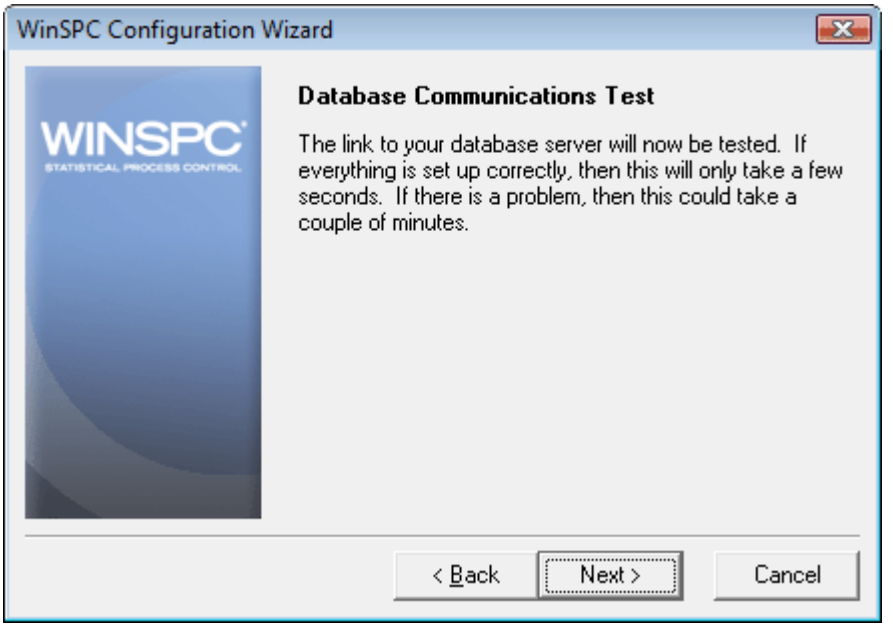
12. On the **Oracle Server Settings** prompt:
    a. At **Path of TNSNAMES.ORA**, accept the default location.
    b. In the **Database Alias** text box, enter the **Net Service Name** you chose in step 11 of this chapter's **Add the Local Net Service Name** section.
    c. Click **Next.**



13. On the **Database Server Log In** prompt, enter the tablespace login **User Name** and **Password** created in step 3 of this chapter's **Create a Server Login** section and click **Next**.



14. On the **Database Communications Test** prompt, click **Next**.

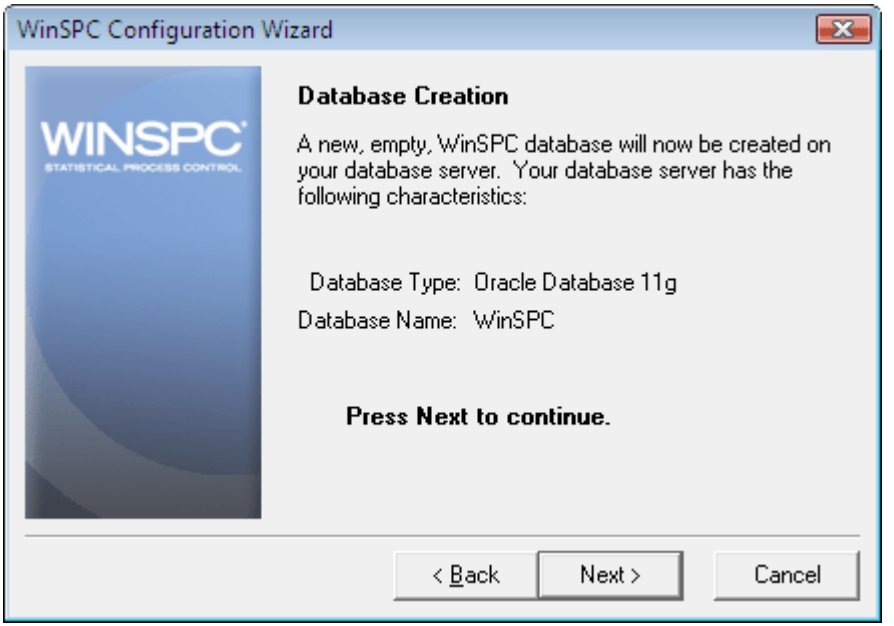


In the event the test fails:

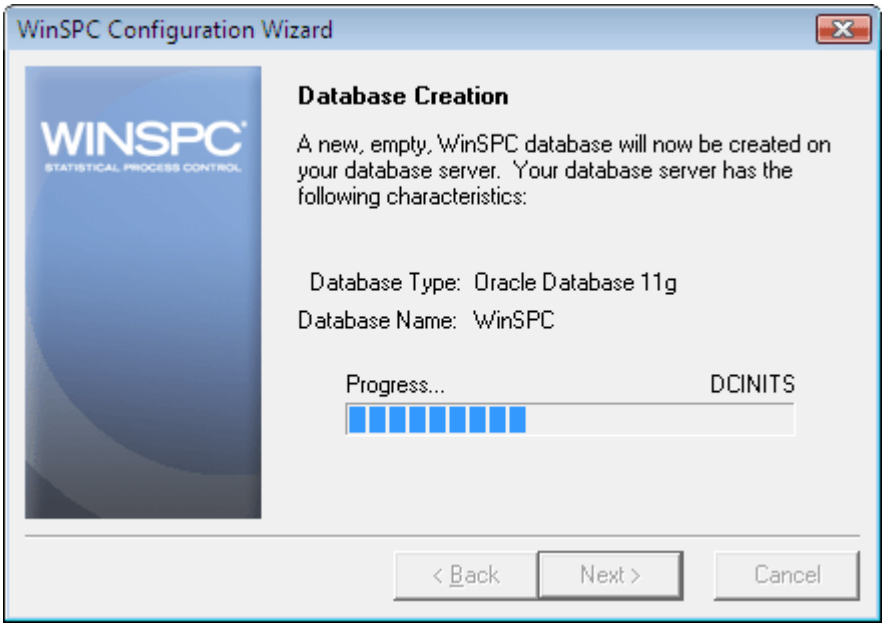
- If the error message displayed reads **ORA-12154: TNS:could not resolve the connect identifier specified**, click the **Back** button three times and reenter the database alias, ensuring you have the correct name and that it is spelled correctly. Once you've reentered this information, advance through the WinSPC Configuration Wizard again by clicking **Next**, verifying the information on each prompt as you do.

- If the error message reads **ORA-01017: invalid username/password; logon denied**, click the **Back** button twice and reenter the server user name and password, ensuring you have the correct user name and password and that these are spelled correctly. Also, since passwords are case sensitive, ensure the appropriate capitalization is used for the password. Once you've reentered this information, advance through the WinSPC Configuration Wizard again by clicking **Next**, verifying the information on each prompt as you do.

15. On the **Database Creation** prompt, click **Next**. This creates the WinSPC schema within the WinSPC database.



16. Allow the prompt's progress bar to complete.



17. If you selected a language other than English in step 10 of this section, an **Add Language** prompt appears once the WinSPC schema is created. In this case:

    a. Insert the language disk for the selected language into your floppy drive and click the **OK** button. (Language disks are included in your WinSPC materials. If you didn't order a language disk and, consequently, did not receive one, click the **Cancel** button and complete the WinSPC Configuration Wizard without adding the language. Later, you can order the language disk and, once the disk arrives, add the language using the **Add Language** option on the **Administrator** window's **Tools** menu in WinSPC. Until the language is added, you'll be restricted to running WinSPC in English. The remainder of the WinSPC Configuration Wizard continues to run in the selected language whether or not a language is added from a language disk.)

    b. In the message asking if you want to proceed with the addition of the detected language, click **OK**.

    c. If a message indicating the detected language has already been installed appears, click **OK**.

    d. Allow the **Adding New Language** progress bar to complete.

    e. When the **You may now select the desired language in the System Settings, Station Setup, or User Setup** message appears, click **OK**.

    f. If the **Add Language** prompt reappears, click **Cancel**.

    g. Remove the language disk from the floppy drive.

THIS COMPLETES PHASE 2 OF 4.

GO TO **CHAPTER 4: FIRST CLIENT CONFIGURATION (FINAL STEPS)** AND COMPLETE PHASE 3.

CHAPTER 4: FIRST CLIENT CONFIGURATION (FINAL STEPS)

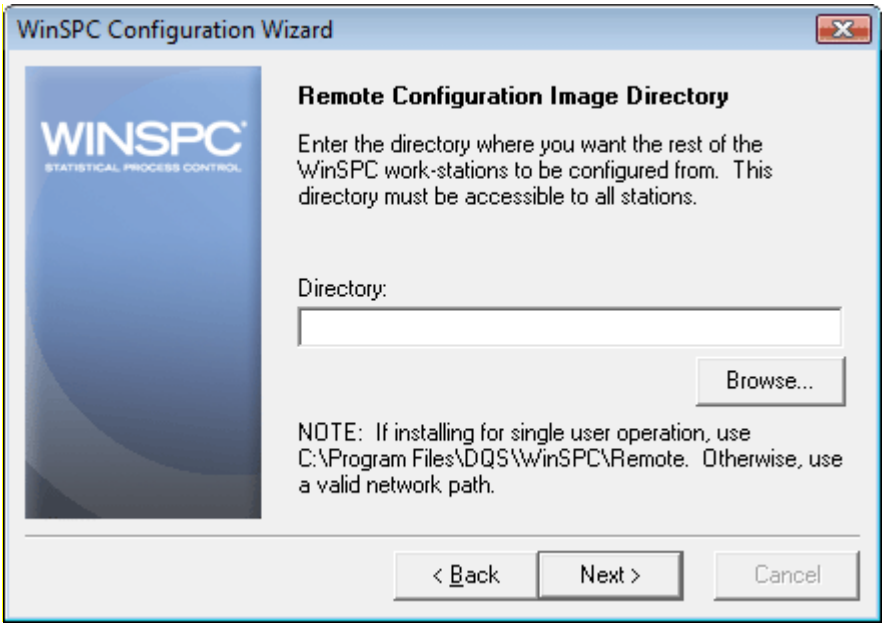
Phase 3 of 4

This chapter consists of the final steps to configure the first WinSPC client. With a few exceptions, these steps are common to all database servers. They begin midway through the WinSPC Configuration Wizard, just after the creation of the WinSPC schema.

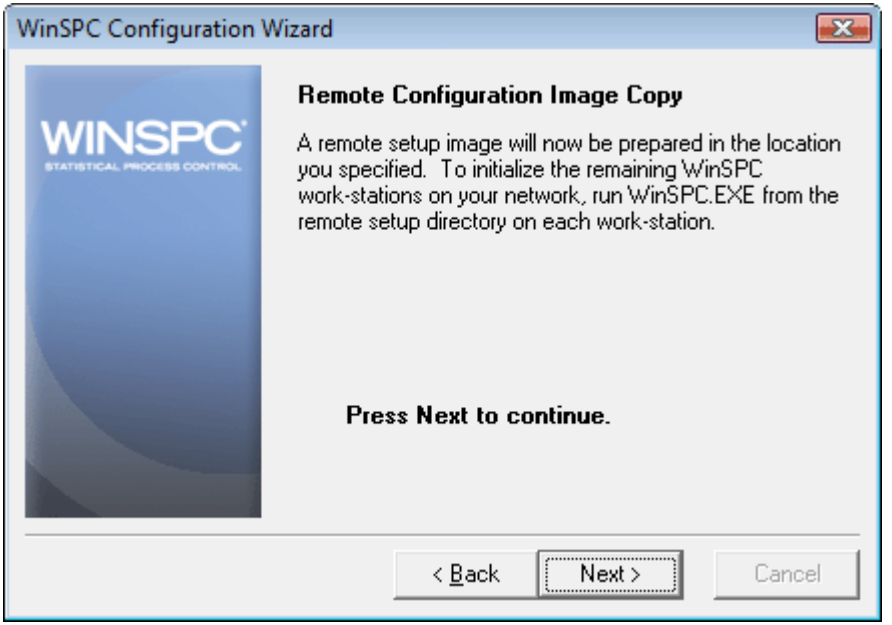
1. On the **Remote Configuration Image Directory** prompt:
   a. Click the **Browse** button.
   b. In the **Directory Selection** prompt that opens, navigate to and select the shared folder created for WinSPC, then click **OK**. This closes the **Directory Selection** prompt and populates the **Directory** text box of the **Remote Configuration Image Directory** prompt with the network path to the shared folder.

      NOTE: The shared folder referred to here is the one created in step 1 of the **First Client Install and Configuration (Initial Steps)** section you completed prior to coming to this chapter.

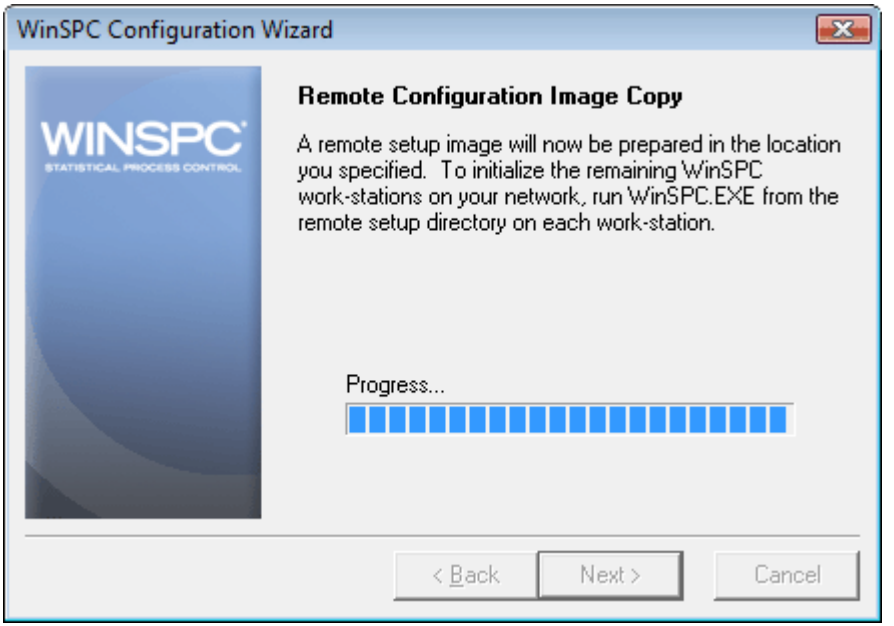
c. Click **Next**.


WinSPC Configuration Wizard
WINSPC
STATISTICAL PROCESS CONTROL
Remote Configuration Image Directory
Enter the directory where you want the rest of the WinSPC work-stations to be configured from. This directory must be accessible to all stations.
Directory:
Browse...
NOTE: If installing for single user operation, use C:\Program Files\DQS\WinSPC\Remote. Otherwise, use a valid network path.
< Back
Next >
Cancel

2. On the **Remote Configuration Image Copy** prompt, click **Next.** This copies the necessary files to the shared folder.



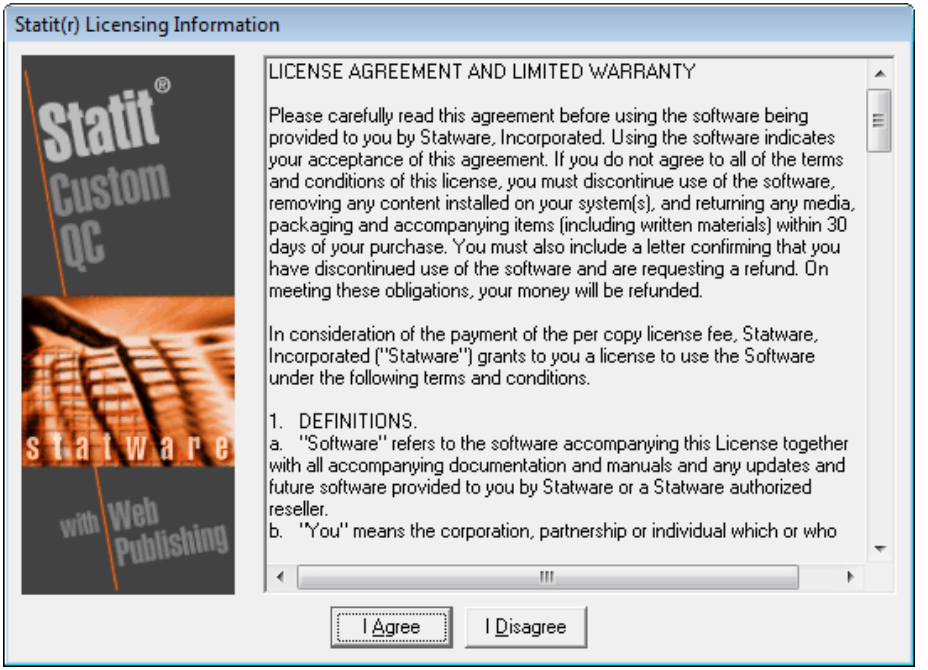
3. Allow the prompt's progress bar to complete.



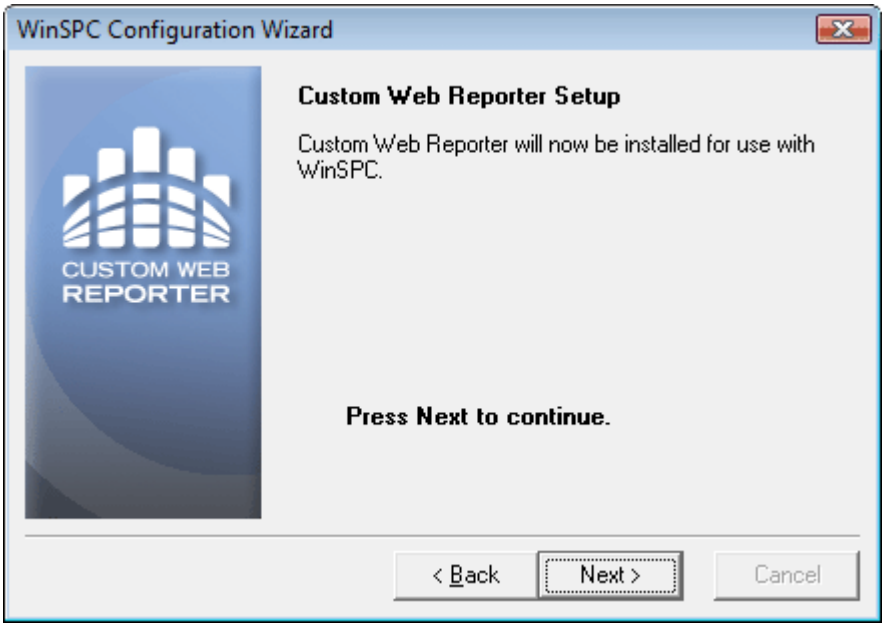
4. On the **Custom Web Reporter Setup** prompt, if you want to install Custom Web Reporter on the first client or you think you may, at some point, want to install and run it on an additional client, click **Next.** Otherwise, click **Skip** and advance to step 8 of this procedure.

Custom Web Reporter is an advanced analytics and web reporting package that can be used with WinSPC. A free 60-day license for it comes with the purchase of WinSPC. For information on purchasing permanent licenses, contact DataNet Quality Systems at 1-866-4WINSPC.

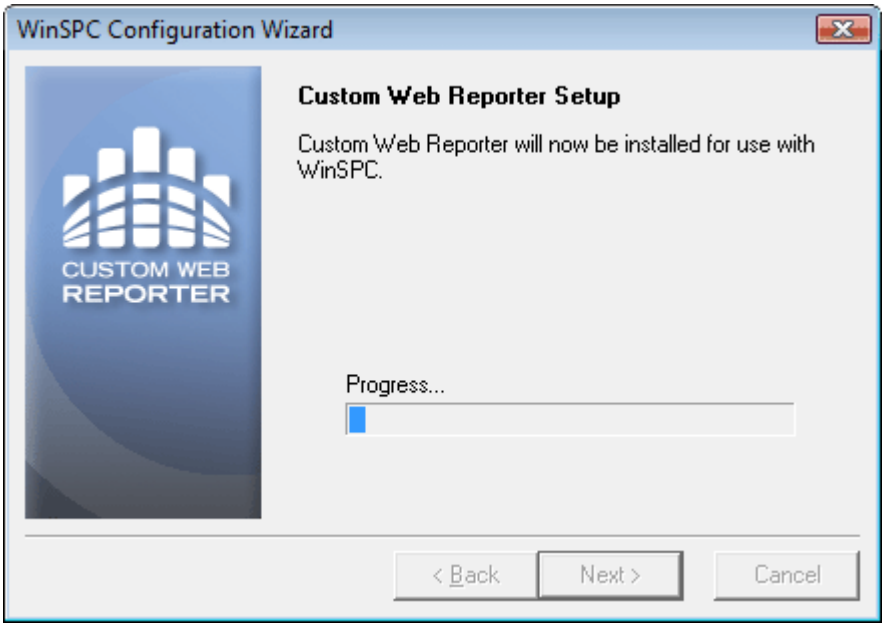
5. On the **Statit(r) Licensing Information** prompt, read the license agreement and, if you agree, click **I Agree**.



6. On this **Custom Web Reporter Setup** prompt, click **Next**. This installs Custom Web Reporter on the first client and copies the installation files for Custom Web Reporter to the shared folder.



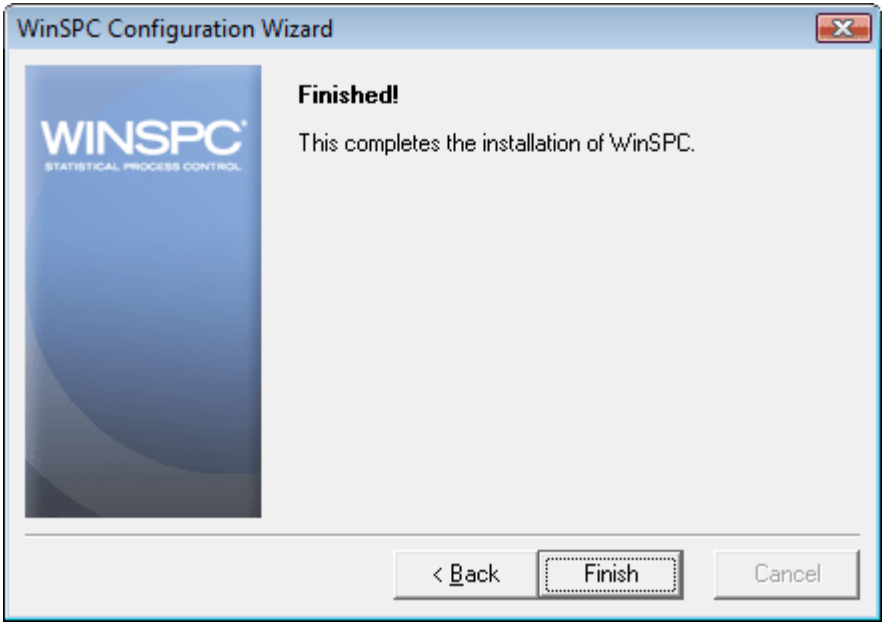
7. Allow the prompt's progress bar to complete.



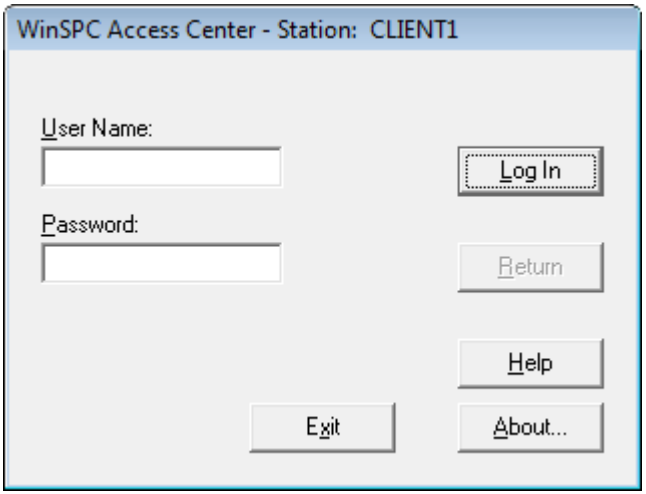
8. On the **System Administrator Password** prompt, create and enter a sufficiently strong, case-sensitive password for the WinSPC **Admin** user in both the **Password** and **Confirm Password** text boxes. Then, click **Next**.

NOTE: This **Admin** user is the only user with complete WinSPC permissions.

9. On the **Finished** prompt that appears, click **Finish**. This causes the WinSPC Configuration Wizard to close.



It also causes the **WinSPC Access Center** to open.

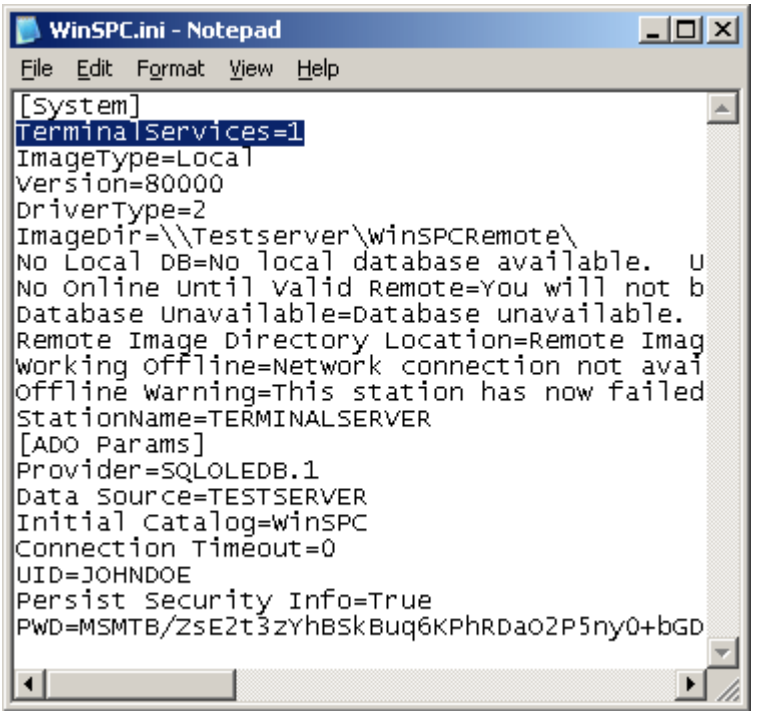


10. In the **Access Center**, click the **Exit** button.
11. If your first client is the Microsoft Terminal Services server:

    a. Navigate to and double-click **winspc.ini**. The default location for this file is on a 64-bit machine is **C:\Program Files (x86) > DQS > WinSPC > winspc.ini**. The default location on a 32-bit machine is **C:\Program Files > DQS > WinSPC > winspc.ini**.

    b. Insert a blank line directly below this file's **[System]** heading.

c. On that line, enter **TerminalServices=1**. This informs WinSPC at startup that the environment is a Microsoft Terminal Services environment.



d. Indicate whether WinSPC is to name stations based on the connecting *station* or the connecting *user*. This is done by specifying either *station* mode or *user* mode as the mode in which WinSPC is to run. In station mode, WinSPC uses the ID of the station RDPing into the Microsoft Terminal Services server as the station name. In user mode, WinSPC uses the ID of the user (i.e. the login ID with which a user logs into Windows on the Microsoft Terminal Services server via a RDP session) as the station name. For example, say *Bob* logs into a

station named *Finishing* and then, via RDP, logs into the Microsoft Terminal Services server as *Sally*. With station mode enabled, WinSPC will use *Finishing* as the station name. With user mode enabled, WinSPC will use *Sally* as the station name. Station mode is the default mode in which WinSPC runs and, consequently, nothing needs to be done to enable it. To enable user mode, directly beneath the **TerminalServices=1** line entered in the preceding step, enter a **UserMode=1** line.

NOTE: To disable user mode in the future and have WinSPC run in station mode, delete the **UserMode=1** line or change it to **UserMode=0**.

e. If you enabled user mode in the preceding step, configure Microsoft Terminal Services to disallow simultaneous sessions from a user. To do this:

   i. On the Microsoft Terminal Services server, launch **Terminal Services Configuration**, the default path for which in Windows Server 2003 is **Start > All Programs > Administrative Tools > Terminal Services Configuration**.

   ii. In the left pane of the **Terminal Services Configuration** prompt, single-click the **Server Settings** folder.

   iii. In the right pane, right-click **Restrict each user to one session** and, from the shortcut menu that appears, click **Yes**.

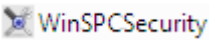
   iv. Close **Terminal Services Configuration**.

f. Save and close **winspc.ini**.

NOTE: The remaining steps of this procedure concern granting permissions for users of WinSPC on the first client. The permissions granted by these steps are the minimum permissions required to run WinSPC. These steps assume your WinSPC implementation employs network domains. If your implementation employs workgroups, instead of completing these steps, complete **Appendix B: WinSPC Security for Workgroups**.

12. If you are logged into Windows on the first WinSPC client machine as anything other than a domain administrator, log out and log back in as a domain administrator. (This is necessary because you will be creating a user group for WinSPC users on the domain controller.)

13. Navigate to the shared folder created for WinSPC and, within this folder's **Utility** folder, double-click **WinSPCSecurity**.



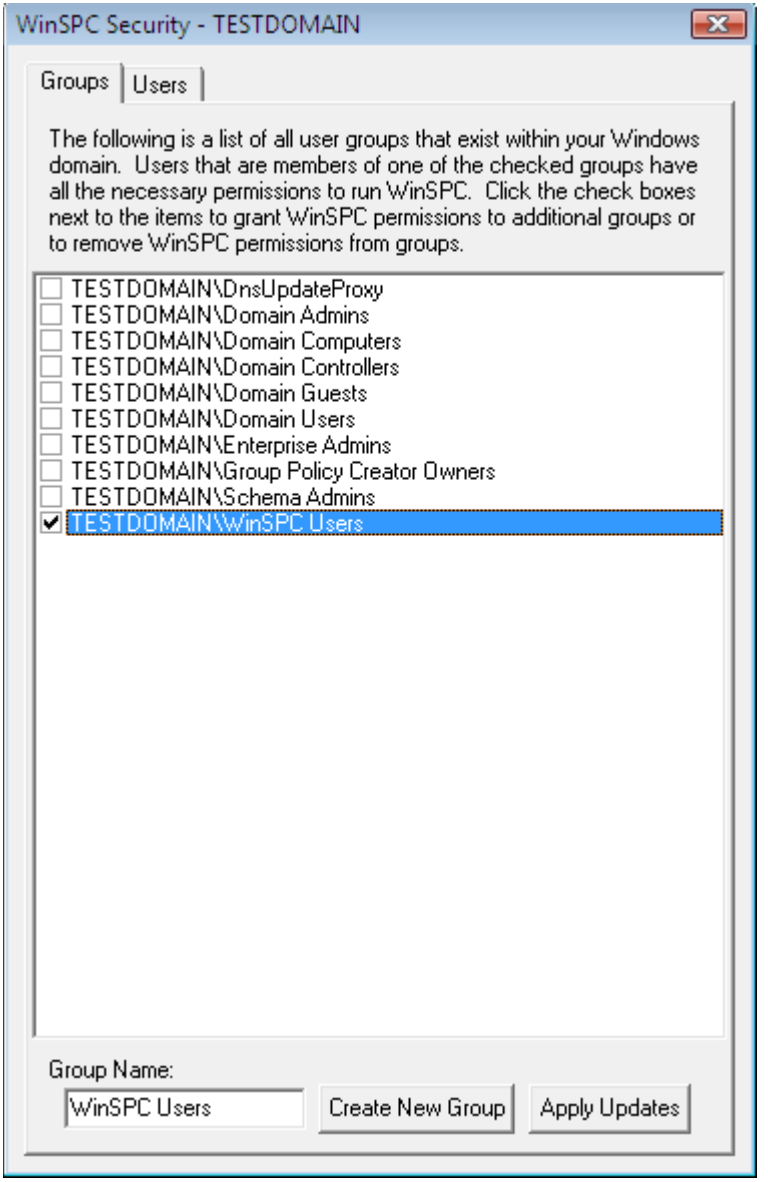
14. In the **WinSPC Security** utility that launches, toward the bottom of the **Groups** tab, at **Group Name**, enter a name for a user group that will consist of WinSPC users. (The recommended name for this user group is **WinSPC Users**.)


WinSPC Security - TESTDOMAIN
Groups
Users
The following is a list of all user groups that exist within your Windows domain. Users that are members of one of the checked groups have all the necessary permissions to run WinSPC. Click the check boxes next to the items to grant WinSPC permissions to additional groups or to remove WinSPC permissions from groups.
TESTDOMAIN\DnsUpdateProxy
TESTDOMAIN\Domain Admins
TESTDOMAIN\Domain Computers
TESTDOMAIN\Domain Controllers
TESTDOMAIN\Domain Guests
TESTDOMAIN\Domain Users
TESTDOMAIN\Enterprise Admins
TESTDOMAIN\Group Policy Creator Owners
TESTDOMAIN\Schema Admins
Group Name:
WinSPC Users
Create New Group
Apply Updates

15. Click the **Create New Group** button.

    This causes the user group to be added to the list of groups above and creates the user group on the domain controller.

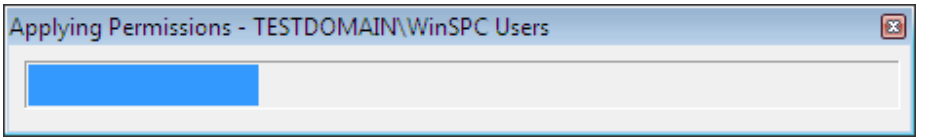
16. Check the check box for the new user group.


WinSPC Security - TESTDOMAIN
Groups
Users
The following is a list of all user groups that exist within your Windows domain. Users that are members of one of the checked groups have all the necessary permissions to run WinSPC. Click the check boxes next to the items to grant WinSPC permissions to additional groups or to remove WinSPC permissions from groups.
TESTDOMAIN\DnsUpdateProxy
TESTDOMAIN\Domain Admins
TESTDOMAIN\Domain Computers
TESTDOMAIN\Domain Controllers
TESTDOMAIN\Domain Guests
TESTDOMAIN\Domain Users
TESTDOMAIN\Enterprise Admins
TESTDOMAIN\Group Policy Creator Owners
TESTDOMAIN\Schema Admins
TESTDOMAIN\WinSPC Users
Group Name:
WinSPC Users
Create New Group
Apply Updates

17. Click the **Apply Updates** button.

    This causes an **Applying Permissions** progress bar to appear.

18. When the **Applying Permissions** progress bar closes, close the **Security Utility** by clicking the X in the upper right corner.
19. Close the window showing the contents of the **Utility** folder.
20. If the first client's operating system has UAC and you wish to enable it, do so. Please note that there are a limited number of functions which WinSPC is unable to perform with UAC enabled. For more information, see Appendix G.
21. Grant the user group for WinSPC users at least the minimum required permissions to the shared folder. For file servers running Windows Server 2003, the minimum *Share* permissions are **Change** and the minimum *Security* permissions are **Modify**. For file servers running Windows Server 2008, the minimum *Share* permissions are **Contributor** and the minimum *Security* permissions are **Modify**. For a procedure on granting permissions, see **Appendix C: Granting Share and Security Permissions.**
22. If you intend to implement the WinSPC application server, as detailed in **Chapter 6: Implementing The WinSPC Application Server**, also grant the **Authenticated Users** user group the minimum required permissions to the shared folder. These permissions include the **Read & Execute** level of *Security*

permissions. For file servers running Windows Server 2003, these permissions also include the **Read** level of *Share* permissions.

23. On your domain controller, add all local administrators who will install and configure WinSPC on additional clients and all domain users who, on any client, will be running WinSPC to the newly created user group. For a procedure on adding users to a user group, see **Appendix D: Adding Users to a User Group**.

THIS COMPLETES PHASE 3 OF 4.

GO TO **CHAPTER 5: ADDITIONAL CLIENT INSTALLS AND CONFIGURATIONS** AND COMPLETE PHASE 4.

IF YOU DON'T NEED TO INSTALL AND CONFIGURE WINSPC ON ADDITIONAL CLIENTS, THIS CONCLUDES THE ENTIRETY OF THE SETUP REQUIRED TO BEGIN USING WINSPC. FOR INSTRUCTIONS ON LAUNCHING AND LOGGING INTO WINSPC, SEE **APPENDIX E: LAUNCHING AND LOGGING INTO WINSPC**.

CHAPTER 5: ADDITIONAL CLIENT INSTALLS AND CONFIGURATIONS

Phase 4 of 4

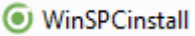
If your WinSPC implementation utilizes the conventional client/server architecture exclusively, meaning it does not employ Microsoft Terminal Services at all, complete the procedure in this chapter on each additional client station that is to run WinSPC.

If your implementation utilizes Microsoft Terminal Services exclusively, meaning all client stations other than the Microsoft Terminal Services server connect to the WinSPC database through the Microsoft Terminal Services server, it is not necessary to complete the procedure in this chapter.

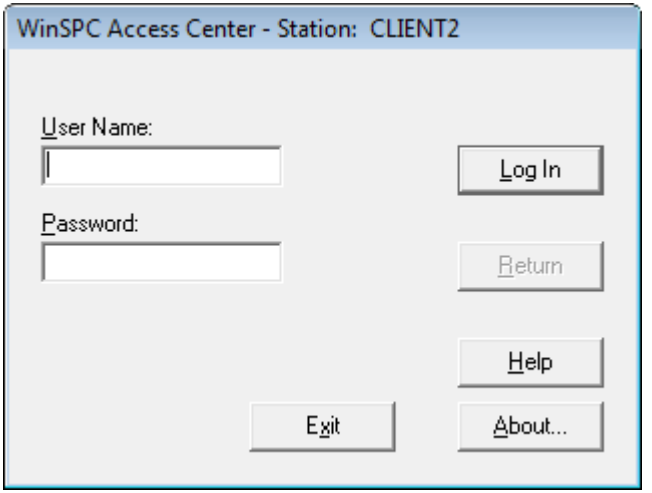

Terminal Services

If your implementation employs a mix of the conventional client/server architecture and a Microsoft Terminal Services architecture, complete this chapter for any client station that will be connecting to the WinSPC database directly rather than through the Microsoft Terminal Services server. This includes completing the procedure on the Microsoft Terminal Services server itself if WinSPC was not installed on this server as part of the first client configuration.

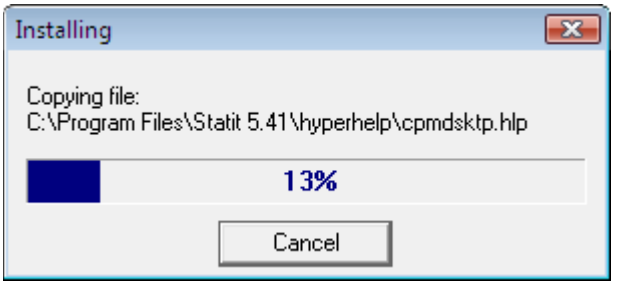
1. Log into Windows on the additional client machine as a local administrator.
2. Disable User Account Control (UAC) if the operating system on the additional client machine has this security feature enabled. Refer to Appendix G for instructions on doing this. You will be given the option of enabling UAC in step 13 of this chapter.
3. Using Windows Explorer, navigate to the shared folder created for WinSPC and double-click **WinSPCInstall.exe**.



4. Complete the **WinSPC Installation Wizard**. For detailed information on this prompt, see **Appendix A: The WinSPC Installation Wizard**.
5. Launch and exit WinSPC once while logged into Windows as a local administrator. To do this:
   a. Click **WinSPC**. The default path for this is **Start > All Programs > WinSPC**.
   b. In the **WinSPC Access Center** that appears, click the **Exit** button.



6. If you don't want to install Custom Web Reporter on the additional client, go to step 7. If you want to install Custom Web Reporter:
   a. Navigate to the shared folder for WinSPC.
   b. In the shared folder's **STATIT** subfolder, double-click **CustomQC541OEM.exe**. When the **Installing** progress bar that appears closes, the Custom Web Reporter installation is complete.

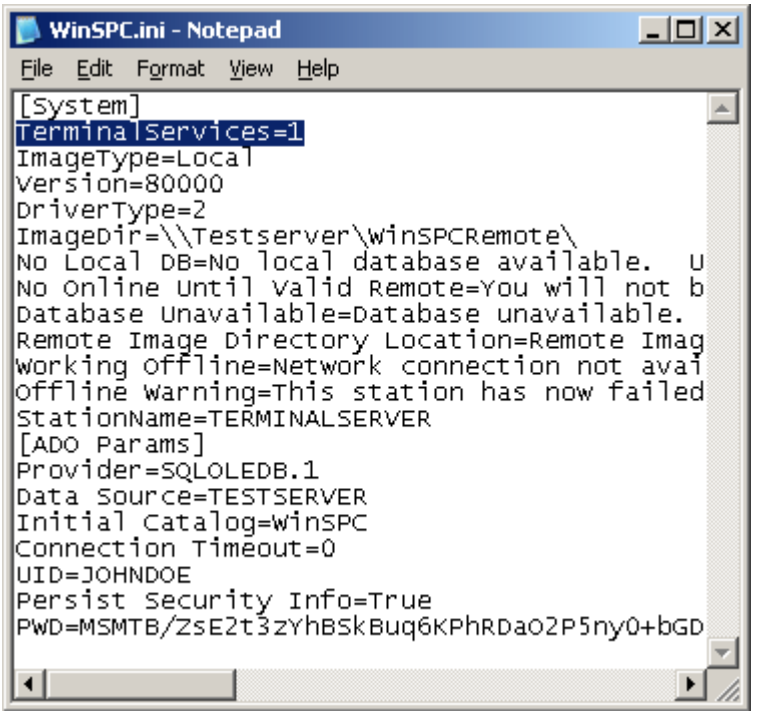


NOTE: For the **STATIT** subfolder to exist in the shared folder, Custom Web Reporter must have been installed during the first client configuration. If this was not the case and you want to install Custom Web Reporter on the additional client, contact DataNet Quality System's Product Support Help Desk at (248)-447-0140.

7. If the additional client is your Microsoft Terminal Services server:

   a. Navigate to and double-click **winspc.ini**. The default location for this file is on a 64-bit machine is **C:\Program Files (x86) > DQS > WinSPC > winspc.ini**. The default location on a 32-bit machine is **C:\Program Files > DQS > WinSPC > winspc.ini**.
   b. Insert a blank line directly below this file's **[System]** heading.

c. On that line, enter **TerminalServices=1**. This informs WinSPC at startup that the environment is a Terminal Services environment.



d. Indicate whether WinSPC is to name stations based on the connecting *station* or the connecting *user*. This is done by specifying either *station* mode or *user* mode as the mode in which WinSPC is to run. In station mode, WinSPC uses the ID of the station RDPing into the Microsoft Terminal Services server as the station name. In user mode, WinSPC uses the ID of the user (i.e. the login ID with which a user logs into Windows on the Microsoft Terminal Services server via a RDP session) as the station name. For example, say *Bob* logs into a

station named *Finishing* and then, via RDP, logs into the Microsoft Terminal Services server as *Sally*. With station mode enabled, WinSPC will use *Finishing* as the station name. With user mode enabled, WinSPC will use *Sally* as the station name. Station mode is the default mode in which WinSPC runs and, consequently, nothing needs to be done to enable it. To enable user mode, directly beneath the **TerminalServices=1** line entered in the preceding step, enter a **UserMode=1** line.

NOTE: To disable user mode in the future and have WinSPC run in station mode, delete the **UserMode=1** line or change this line to **UserMode=0**.

e. If you enabled user mode in the preceding step, configure Microsoft Terminal Services to disallow simultaneous sessions from a user. To do this:

   i. On the Microsoft Terminal Services server, launch **Terminal Services Configuration**, the default path for which in Windows Server 2003 is **Start > All Programs > Administrative Tools > Terminal Services Configuration**.

   ii. In the left pane of the **Terminal Services Configuration** prompt, single-click the **Server Settings** folder.

   iii. In the right pane, right-click **Restrict each user to one session** and, from the shortcut menu that appears, click **Yes**.

   iv. Close **Terminal Services Configuration**.

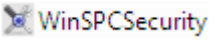
f. Save and close **winspc.ini**.

NOTE: The remaining steps of this procedure concern granting permissions for WinSPC users on the additional client

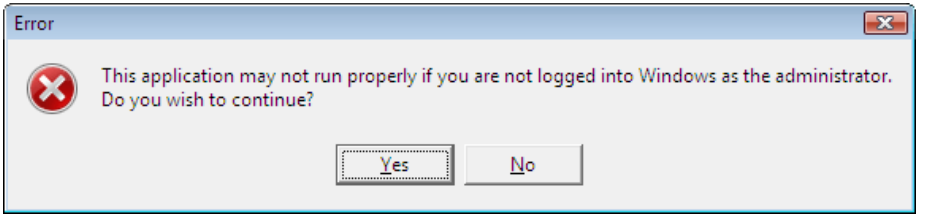
machine. The permissions granted are the minimum permissions required to run WinSPC. These steps assume your WinSPC implementation employs network domains. If your implementation employs workgroups, instead of completing these steps, complete **Appendix B: WinSPC Security for Workgroups**.

(These steps and Appendix B can be disregarded if every user of the WinSPC client has local administrator privileges on the client machine. In such a case, close the WinSPC shared folder and see **Appendix E: Launching and Logging Into WinSPC** to begin using WinSPC.)

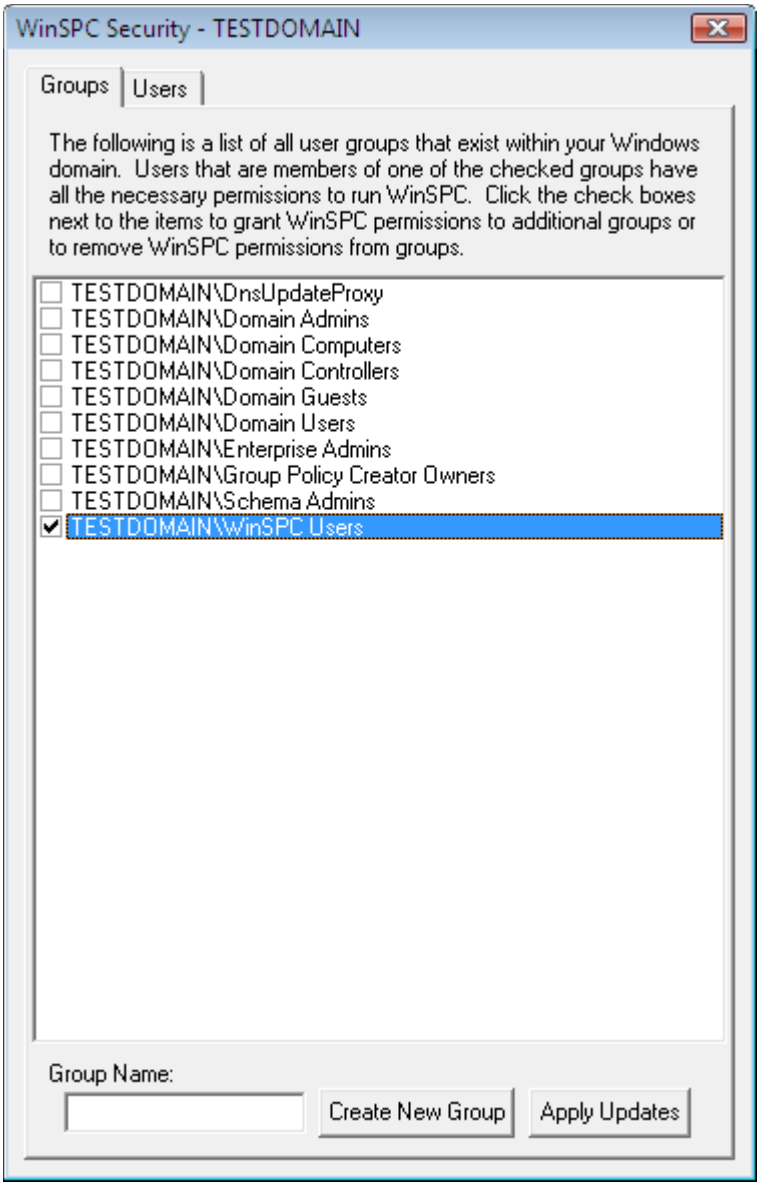
8. Within the WinSPC shared folder, double-click **Utility** > **WinSPCSecurity**.



9. In the message indicating the application (i.e. security utility) may not run properly if you are not logged into Windows as an administrator, click **Yes**. (The administrator referred to in this message is a domain administrator. Being logged in as a local administrator, however, is sufficient for the remainder of this procedure.)



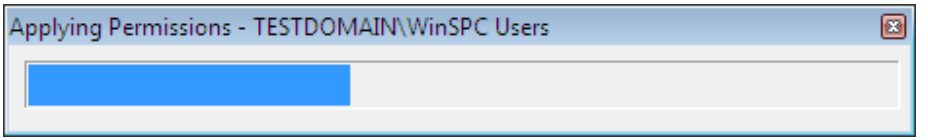
10. In the **WinSPC Security** utility, on the **Groups** tab, check the check box that corresponds to the name of the user group created for WinSPC users. This name was entered in step 14 of **Chapter 4: First Client Configuration (Final Steps)**.


WinSPC Security - TESTDOMAIN
Groups
Users
The following is a list of all user groups that exist within your Windows domain. Users that are members of one of the checked groups have all the necessary permissions to run WinSPC. Click the check boxes next to the items to grant WinSPC permissions to additional groups or to remove WinSPC permissions from groups.
TESTDOMAIN\DnsUpdateProxy
TESTDOMAIN\Domain Admins
TESTDOMAIN\Domain Computers
TESTDOMAIN\Domain Controllers
TESTDOMAIN\Domain Guests
TESTDOMAIN\Domain Users
TESTDOMAIN\Enterprise Admins
TESTDOMAIN\Group Policy Creator Owners
TESTDOMAIN\Schema Admins
TESTDOMAIN\WinSPC Users
Group Name:
Create New Group
Apply Updates

11. Click the **Apply Updates** button.

    This causes an **Applying Permissions** progress bar to appear.

12. When the **Applying Permissions** progress bar closes, close the **Security Utility** by clicking the X in its upper right corner.
13. If the additional client's operating system has UAC and you wish to enable it, do so. Please note that there are a limited number of functions which WinSPC is unable to perform with UAC enabled. For more information, see Appendix G.
14. Close the window showing the contents of the **Utility** folder.
15. If the additional client station will be used by any users who were not added to the user group for WinSPC users created during the first client configuration process, go to the domain controller and add them. (For a procedure on adding users to a user group, see **Appendix D: Adding Users to a User Group**.)

THIS COMPLETES PHASE 4 OF 4.

NO FURTHER SETUP IS REQUIRED TO BEGIN USING WINSPC. FOR INSTRUCTIONS ON LAUNCHING AND LOGGING INTO WINSPC, SEE **APPENDIX E: LAUNCHING AND LOGGING INTO WINSPC**.

CHAPTER 6: THE WINSPC APPLICATION SERVER (OPTIONAL)

The WinSPC application server is new with WinSPC Version 8.3. It is a service to dramatically speed up the rate at which WinSPC's Variable Analyzer, report templates, and data sets process data. The more subgroups in a WinSPC database, the greater the performance improvement will be.

Implementation of the WinSPC application server, occasionally referred to as the WinSPC Server, is optional. Electing not to implement it results in no loss of WinSPC functionality and means only that the potential performance increase will not be experienced.

Each installation of the application server services one WinSPC database. Companies that manage multiple WinSPC databases simultaneously will need to install a separate application server for each database.

Implementation of the application server involves *installing the WinSPC application server* and *configuring WinSPC to use the WinSPC application server*.

PART A: INSTALLING THE WINSPC APPLICATION SERVER

NOTE: If, at any point in this procedure, you are presented with a **User Account Control** message, click the message's **Allow** option.

1. Identify a suitable server machine on which the WinSPC application server will be installed. A suitable server machine is one that:
   - Resides on a private network.

- Is not hosting the WinSPC database.
- Does not already have an installation of the WinSPC application server.
- Has 4GB RAM (or more).
- Has disk space equaling at least 10% of the size of the WinSPC database with which the application server will be used.
- Is running Windows Server 2008 or Windows Server 2003 as its operating system.
- Is a member of the same domain as the WinSPC database.
- If the database to which the application server will be attached is an Oracle 10*g* or Oracle 11*g* database:
  - Has a 32-bit edition of **Oracle Provider for OLE DB** installed. (The 32-bit edition is required regardless of whether the client station is 32-bit or 64-bit.)
  - Has had the **Modify** level of **Security** permissions for the **Network** folder granted to the **Network Service** user. The **Network** folder referred to here is the one created during the install of **Oracle Provider for OLE DB**. The default location for this folder in an Oracle 11*g* implementation is is: **C:\app\<username>\product\<Oracle Client version (e.g. 11.2.0)>\client_<#>**.

2. If you have the installation CD for the version of WinSPC you are installing:
   a. Insert the CD into the server machine.
   b. Navigate to the **Installers** folder in the root of the CD.
   c. Within this folder, double-click **ServerInstall.exe**.

d. Go to step 4.

3. If you do not have the installation CD:

   a. Download **ServerInstall.exe** from www.winspc.com/support/download-winspc using the login credentials you received from WinSPC Support.

   b. From the server machine, navigate to and double-click this file.

   c. Go to step 4.

4. Follow the **WinSPC Server Installation Wizard** prompts to install the application server.

5. If desired, confirm the application server installed correctly and is now running. To do this:

   a. If the server machine's operating system is Windows Server 2008, click **Start > Administrative Tools > Services** and go to step c.

   b. If the server machine's operating system is Windows Server 2003, click **Start > Control Panel > Administrative Tools > Services** and go to step c.

   c. In the right pane of the **Services** window that appears, scroll down until you see **WinSPC Server** in the **Name** column.

   d. Read across to the **Status** column. If **Started** is shown, the application server installed correctly and is running.

   e. Close the **Services** window.

6. If you downloaded **ServerInstall.exe** from www.winspc.com/support/download-winspc, delete it.

7. If the ports which the application server is configured by default to use for UDP traffic—ports 44254 and 44255—are unavailable, configure the application server to use two available, consecutive UDP ports. To do this, on the server machine:
    a. Open the **WinSPC Server** folder created during the installation of the application server. (The default location for this folder on a 32-bit machine is **C:\Program Files\DQS**. The default location on a 64-bit machine is **C:\Program Files (x86)\DQS**.)
    b. Within this folder, open the **WinSPCsvr.ini** file.
    c. In this file, directly under **[Settings]**, enter **ConfigPort=** followed by the lower of the two consecutive port numbers. (The application server automatically determines the higher port number by adding one to the lower port number.)
    d. Save and close the file.
    e. Stop and restart the **WinSPC Server** service.
8. If the port which the application server is configured by default to use for TCP traffic—port 44254—is unavailable, configure the application server to use an available TCP port. To do this, on the server machine:
    a. Open the **WinSPC Server** folder. (The default location for this folder on a 32-bit machine is **C:\Program Files\DQS**. The default location on a 64-bit machine is **C:\Program Files (x86)\DQS**.)
    b. Within this folder, open the **WinSPCsvr.ini** file.
    c. In this file, directly under **[Settings]**, enter **Port=** followed by the port number.
    d. Save and close the file.

9. If the server machine is running antivirus software, on that machine:

   a. Create a folder named **cache**. This folder will be the repository for data cached from the WinSPC database. Although, you may create this folder in any location you wish, you will save yourself a step by creating it in the **WinSPC Server** folder. (The default location for the **WinSPC Server** folder on a 32-bit machine is **C:\Program Files\DQS**. The default location on a 64-bit machine is **C:\Program Files (x86)\DQS**.)

   b. If, in the preceding step, you created the **cache** folder in a location other than the **WinSPC Server** folder, update the **CacheRoot** setting in the **WinSPC Server** folder's **WinSPCsvr.ini** file to reflect that location. (Complete information on updating the **CacheRoot** setting is contained within the **WinSPCsvr.ini** file.)

   c. Configure the antivirus software to exclude the **cache** folder from the locations the antivirus software monitors and protects.

      NOTE: During operation, the WinSPC application server will frequently open the **cache** folder, write files into it, and then close it. Antivirus software, by design, will initiate a protective scan of the folder in response to such activity, rendering the folder temporarily inaccessible to the application server. Since no files other than those created by the application server will exist in the **cache** folder, virus scanning is unnecessary.

10. With the help of your network administrator, configure the network so that UDP and TCP traffic can flow freely between the application server and all WinSPC clients.

11. If, at step 21 of **Chapter 4: First Client Configuration (Final Steps)**, permissions to the shared folder used for WinSPC were not granted to the **Authenticated Users** user group, go to the network file server hosting the shared folder and, directly from that machine, grant this group the proper permissions to that folder. These permissions include the **Read & Execute** level of *Security* permissions. For server machines running Windows Server 2003, these permissions also include the **Read** level of *Share* permissions. (For a procedure on granting permissions, see **Appendix C: Granting Share and Security Permissions**.)

PART B: CONFIGURING WINSPC TO USE THE WINSPC APPLICATION SERVER

1. Login to WinSPC as the **Admin** user.
2. In the **Administrator** window, from the **Tools** menu, select **Systems Settings**.
3. In the **System Settings** window, select the **Server** tab.
4. If, as part of step 7 in **Part A: Installing A WinSPC Application Server**, the default UDP ports were changed, update WinSPC to reflect that change. To do this:
    a. Click the **Config Port** button.
    b. In the **UDP Configuration Port Selector** window, at **First UDP port to use**, enter the same port number as that entered in the **WinSPCsvr.ini** file during step 7.
    c. Click **OK**.

5. In the **Server Name** column near the top of the **Server** tab, locate the name of the server machine on which the WinSPC application server you want to use is installed. (In most cases, there will only be one server name listed. Only when multiple WinSPC application servers have been installed will there be multiple names. See the introduction to this chapter for information on when you might wish to install multiple application servers.) With the name of the desired server machine located:

    a. If **Available** appears in the **Status** column beside this name, go to step 6.

    b. If **Active** appears in the **Status** column, that application server is already attached to a WinSPC database. To attach an already attached application server, you must first detach it from the database to which it is attached. Detaching an application server is a significant action. It denies users of the attached database the benefits brought about by the application server. It also results in the cache of the application server being cleared of the database's subgroup data, a state which for a large database can take a considerable amount of time to restore. For these reasons, a WinSPC application server should only be detached when it is certain that doing so is appropriate. To detach an application server:

        i. Using the scroll bar in the middle area of the **Server** tab, scroll to the right and note the value in the **Database** field corresponding to the application server you want to detach. This value is the name of the database to which the application server is attached.

        ii. On a WinSPC client configured to use that database, log into WinSPC as the **Admin** user.

iii. From the **Administrator** window's **Tools** menu, select **System Settings**.

iv. In the **System Settings** window, select the **Server** tab.

v. Click the **Detach** button.

vi. In the **Warning** that appears, click **Yes**.

vii. Once the **Status** for that application server has changed from **Active** to **Available**, click the **System Settings** window's **OK** button.

viii. Log out of WinSPC.

ix. Return to the WinSPC client you were using at the beginning of this step (i.e. step 5).

x. Confirm that the **Status** for the application server is now **Available**.

xi. Go to step 6.

6. Select the server machine name if it is not already selected.
7. Click the **Attach** button.
8. Once the **Status** changes to **Active** or **Idle**, click **OK**.
9. Confirm WinSPC is correctly configured to use the application server. To do this:

   a. Go to the application server machine and open the application server log file. (The default location for this file on a 32-bit machine is **C:\Program Files\DQS\WinSPC Server\logs**. The default location on a 64-bit machine is **C:\Program Files (x86)\DQS WinSPC Server\logs**.)

   b. Within this log, search for the phrase **Application Layer Started**.

c. If this phrase is found, WinSPC is correctly configured to use the application server and no further steps need to be taken.

d. If this phrase is not found, troubleshoot the configuration. To do this:

   i. Search for the phrase **no WinSPC.ini file**. If this phrase is not found, go to step 9.d.ii. If this phrase is found:

      (1) Close the log file.

      (2) Repeat steps 10 and 11 of **Part A: Installing The WinSPC Application Server**.

      (3) Wait one minute.

      (4) Open the log file.

      (5) Search for the phrase **no WinSPC.ini file** again.

      (6) If another occurrence of this phrase is found with a date and time that is subsequent to your one-minute wait, discontinue this procedure and contact WinSPC Support. If another occurrence of this phrase is not found with a date and time that is subsequent to your one-minute wait, search again for the phrase **Application Layer Started**.

      (7) If **Application Layer Started** is found, WinSPC is now correctly configured to use the application server and no further steps need to be taken. If this phrase is not found go to step 9.d.ii.

ii. Search for the phrase **Provider cannot be found.** If this phrase is not found, go to step 9.d.iii. If this phrase is found:

(1) Close the log file.

(2) Stop the **WinSPC Server** service. (See step 5 of **Part A: Installing The WinSPC Application Server** for information on accessing this service.)

(3) Install **Oracle Provider for OLE DB** and grant permissions as detailed in the final bullet of step 1 in **Part A: Installing The WinSPC Application Server**.

(4) Open the **WinSPCsrv.ini** file, delete all content from the **[System]** heading on, save, and close the file. (This file is found in the same **WinSPC Server** folder that contains the **Logs** folder.)

(5) Restart the **WinSPC Server** service.

(6) Open the log file.

(7) Search again for the phrase **Application Layer Started**.

(8) If **Application Layer Started** is found, WinSPC is now correctly configured to use the application server and no further steps need to be taken. If this phrase is not found, discontinue this procedure and contact WinSPC Support.

iii. Search for the phrase **TNSNAMES.ORA file**. If this phrase is not found or is found in an entry other than **Failed to copy TNSNAMES.ORA file** or **Failed to replace existing TNSNAMES.ORA file**, discontinue this procedure and contact WinSPC Support. If this phrase is found in either **Failed to copy TNSNAMES.ORA file** or **Failed to replace existing TNSNAMES.ORA file**:

(1) Close the log file.

(2) Grant permissions as detailed in the final bullet of step 1 in **Part A: Installing The WinSPC Application Server**.

(3) Wait one minute.

(4) Open the log file.

(5) Search again for the phrase **Application Layer Started**.

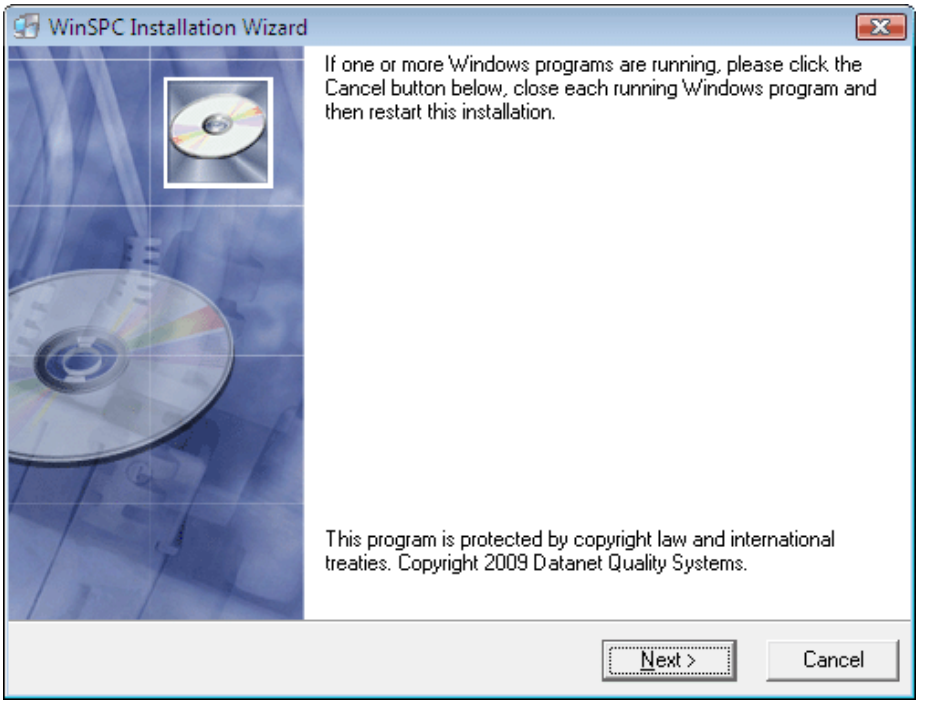
(6) If **Application Layer Started** is found, WinSPC is now correctly configured to use the application server and no further steps need to be taken. If this phrase is not found, discontinue this procedure and contact WinSPC Support.

NOTE: The System Settings window's Server tab, which is a tab for configuring WinSPC to use a WinSPC application server, contains a Refresh Cache button. For most application server installations, this button will never have to be used. It is provided primarily for use by WinSPC Support representatives. Clicking it causes the application server to flush its cache entirely and reinitiate the copying of subgroup data from the WinSPC database, a process which can take a considerable amount of time with large databases.

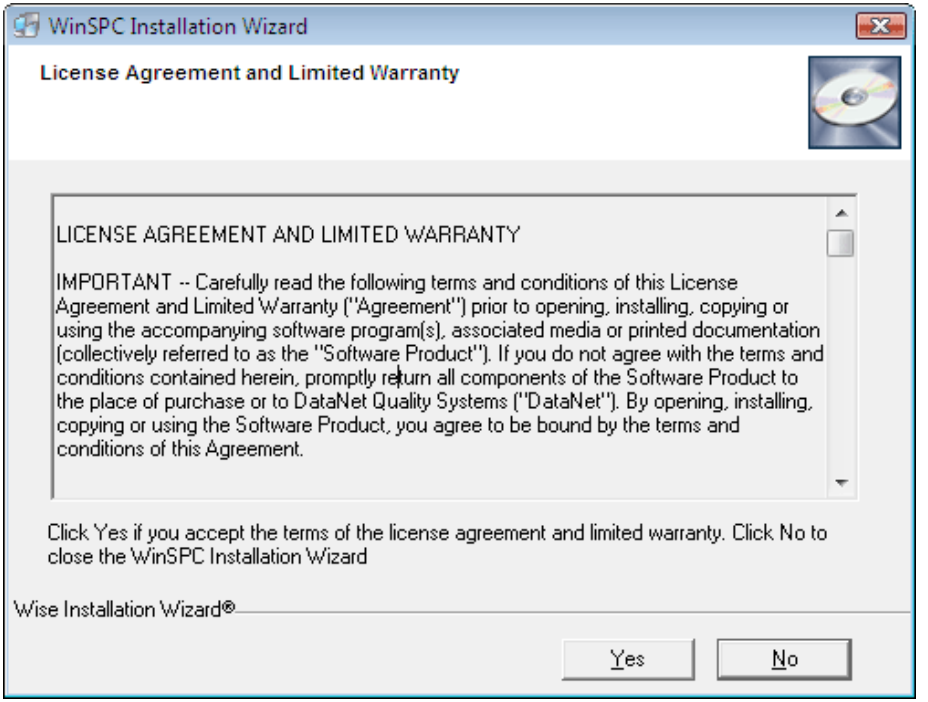
APPENDIX A: THE WINSPC INSTALLATION WIZARD

This appendix details the prompts encountered in the WinSPC Installation Wizard.

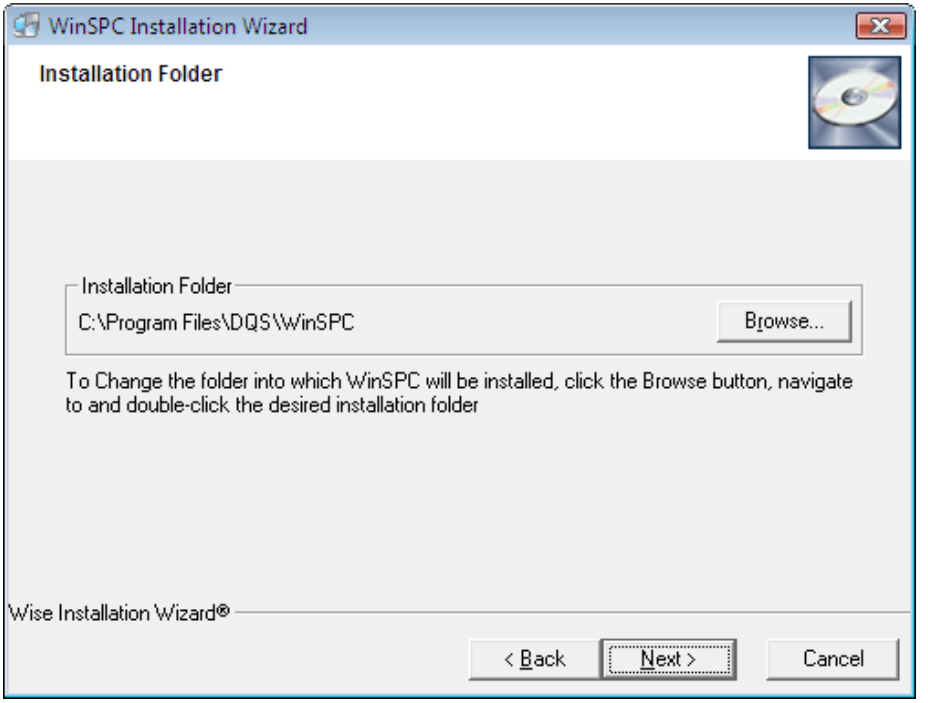
1. On the first prompt of the WinSPC Installation Wizard, click **Next.**



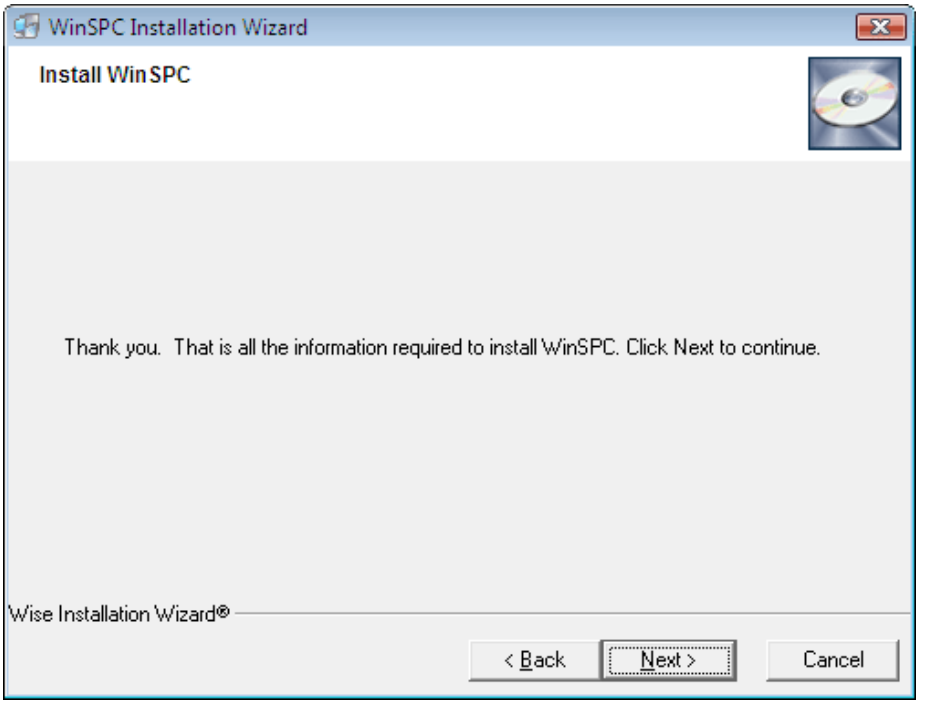
2. On the **License Agreement and Limited Warranty** prompt, read the agreement and, if you accept its terms, click **Yes**.



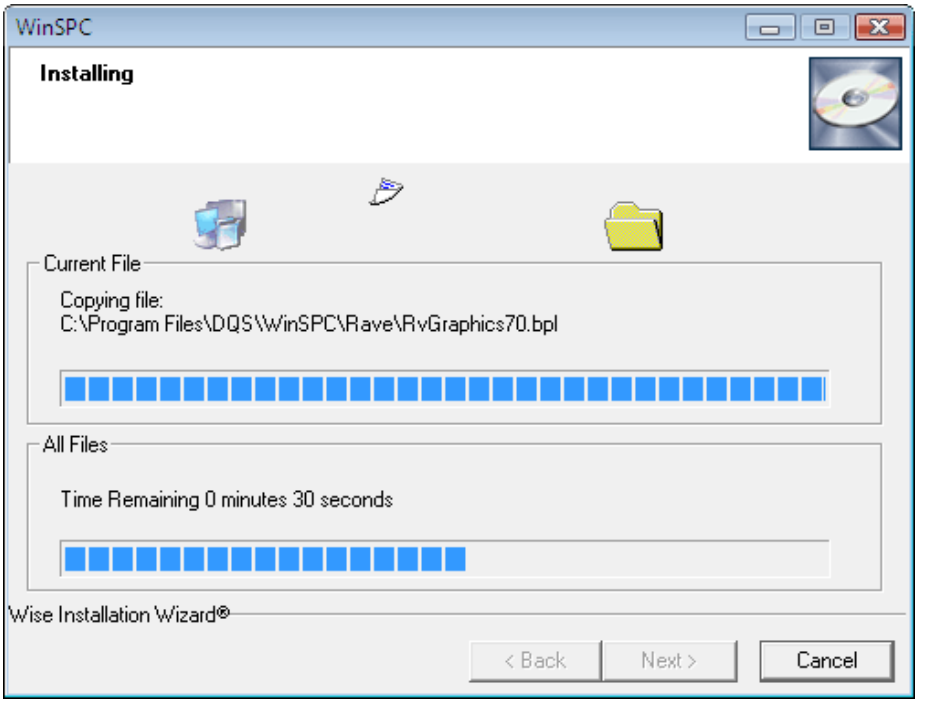
3. On the **Installation Folder** prompt, accept the default installation folder and click **Next** or click **Browse**, select a different folder and click **Next**. (The installation folder is the folder into which WinSPC will be installed.)



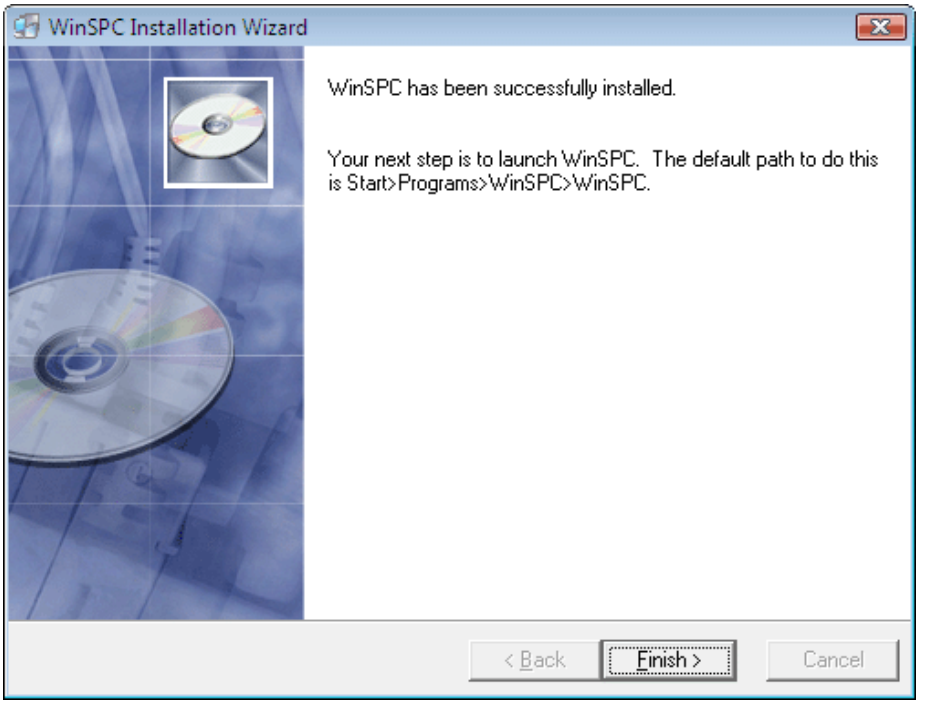
4. On the **Install WinSPC** prompt, click **Next**.



5. Allow the installation to occur.



6. When the installation completes, click **Finish**.



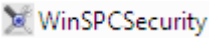
THIS COMPLETES **APPENDIX A**.

RETURN TO AND COMPLETE THE **FIRST CLIENT INSTALL AND CONFIGURATION (INITIAL STEPS)** SECTION OF THE CHAPTER YOU WERE ON BEFORE COMING TO THIS APPENDIX.

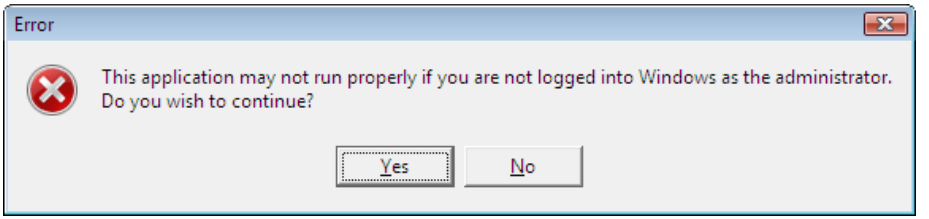
APPENDIX B: WINSPC SECURITY FOR WORKGROUPS

This appendix details the procedure for granting permissions to WinSPC users on a client machine that is part of a workgroup as opposed to a domain. The permissions granted are the minimum permissions required to run WinSPC. It is to be completed after step 11 of **Chapter 4: First Client Configuration (Final Steps)** or after step 8 of **Chapter 5: Additional Client Installs and Configurations**.

1. Navigate to the WinSPC shared folder created during the installation and configuration of the first WinSPC client.
2. Double-click the **Utility** folder.
3. Within the **Utility** folder, double-click the **WinSPCSecurity** icon.



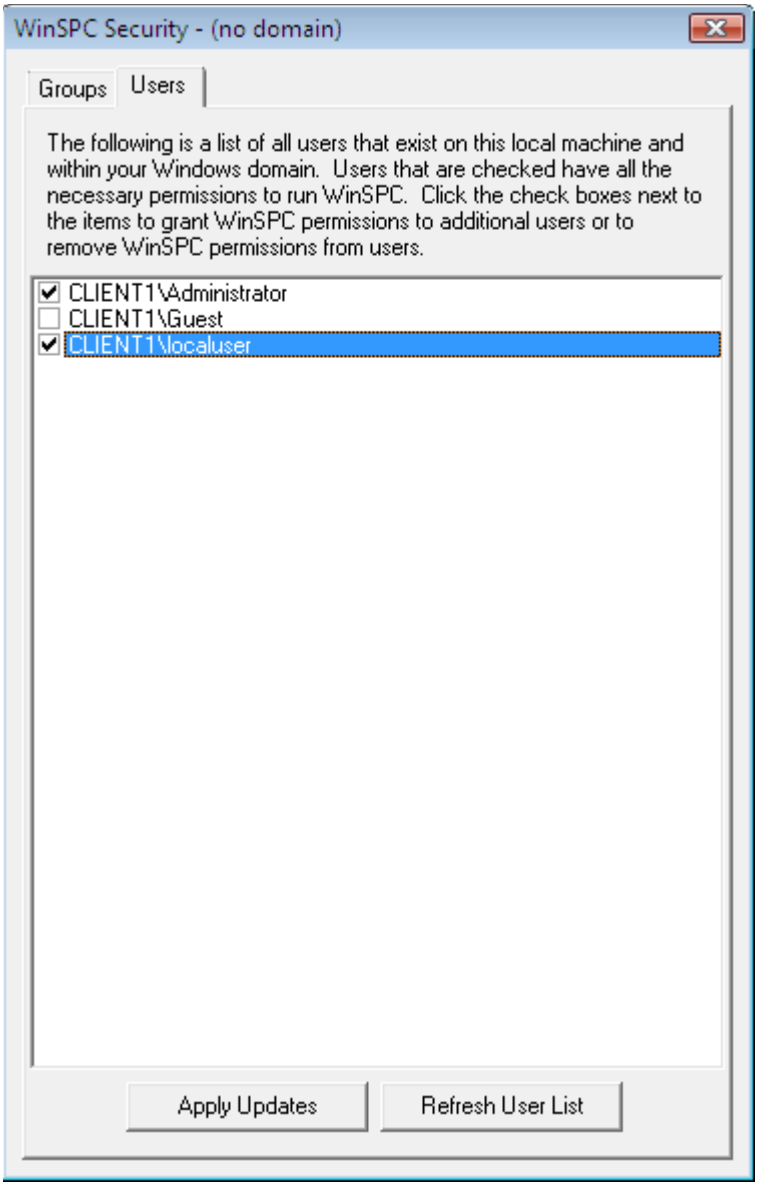
4. If an error message indicating the application (i.e. security utility) may not run properly if you are not logged into Windows as an administrator appears, click **Yes**. (The administrator referred to in this message is a domain administrator. Being logged in as a local administrator, however, is sufficient for this procedure.)



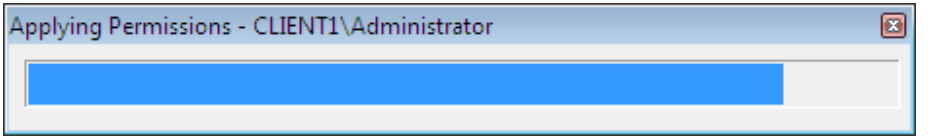
5. In the **WinSPC Security** utility that appears, on the **Users** tab, click the **Refresh User List** button.


WinSPC Security - (no domain)
Groups
Users
The following is a list of all users that exist on this local machine and within your Windows domain. Users that are checked have all the necessary permissions to run WinSPC. Click the check boxes next to the items to grant WinSPC permissions to additional users or to remove WinSPC permissions from users.
Apply Updates
Refresh User List

6. Check the check box for each user you want to be able to run WinSPC on the client station.


WinSPC Security - (no domain)
Groups
Users
The following is a list of all users that exist on this local machine and within your Windows domain. Users that are checked have all the necessary permissions to run WinSPC. Click the check boxes next to the items to grant WinSPC permissions to additional users or to remove WinSPC permissions from users.
CLIENT1\Administrator
CLIENT1\Guest
CLIENT1\localuser
Apply Updates
Refresh User List

7. Click the **Apply Updates** button. This causes a progress bar to appear.



8. Once permissions are applied to all selected users, exit the **WinSPC Security** utility by clicking the **X** in the upper right corner. (Later, if you wish to remove previously applied permissions, simply uncheck the appropriate check box and click the **Apply Updates** button.)
9. Close the **Utility** folder.

THIS COMPLETES **APPENDIX B**.

IF YOU NEED TO INSTALL AND CONFIGURE ADDITIONAL CLIENTS, GO TO **CHAPTER 5: ADDITIONAL CLIENT INSTALLS AND CONFIGURATIONS** AND COMPLETE PHASE 4.

IF YOU DON'T NEED TO INSTALL AND CONFIGURE ADDITIONAL CLIENTS, THIS CONCLUDES THE ENTIRETY OF THE SETUP REQUIRED TO BEGIN USING WINSPC. FOR INSTRUCTIONS ON LAUNCHING AND LOGGING INTO WINSPC, SEE **APPENDIX E: LAUNCHING AND LOGGING INTO WINSPC**.

APPENDIX C: GRANTING SHARE AND SECURITY PERMISSIONS

This appendix details one method of granting a user or user group *Share* permissions to a folder and one method of granting a user or user group *Security* permissions to a file or folder. These methods are applicable to both Windows Server 2003 and Windows XP Pro.

TO GRANT SHARE PERMISSIONS TO A FOLDER

1. Log into Windows on the computer containing the folder to which you want to grant *Share* permissions as an administrator with sufficient privileges to grant permissions.
2. Using **Windows Explorer**, navigate to and right-click the file or folder to which you want to grant *Share* permissions and, from the shortcut menu, select **Sharing and Security.**
3. On the **Sharing** tab of the **<Folder Name> Properties** prompt that is displayed, select the **Share this Folder** option, if it isn't already selected.
4. Click the **Permissions** button.
5. In the **Permissions for <Folder Name>** prompt, click the **Add** button.
6. In the **Select Users, Computers, or Groups** prompt that appears, enter the first letter of the user or user group to whom you want to grant *Share* permissions and click **OK**.
7. If a **Multiple Names Found** prompt is displayed, locate and double-click the user or user group.

8. With the user or user group selected in the **Permissions for <Folder Name>** prompt, in the bottom pane, single-click the **Allow** check box for the desired permissions.
9. Click **OK**.
10. If you also want to grant *Security* permissions for the folder, click the **Security** tab in the **<Folder Name> Properties** prompt and, beginning at step 4 below, complete the **To Grant Security Permissions to a Folder or File** procedure.
11. If you don't want to grant *Security* permissions for the folder, click **OK** in the **<Folder Name> Properties** prompt.

TO GRANT SECURITY PERMISSIONS TO A FOLDER OR FILE

1. Log into Windows on the computer containing the folder or file to which you want to grant *Security* permissions as an administrator with sufficient privileges to grant permissions.
2. Using **Windows Explorer**, navigate to and right-click the folder or file to which you want to grant *Security* permissions and, from the shortcut menu, select **Properties.**
3. In the **<Folder Name> Properties** prompt that is displayed, click the **Security** tab.
4. On the **Security** tab, click the **Add** button.
5. In the **Select Users, Computers, or Groups** prompt that appears, enter the first letter of the user or user group to whom you want to grant *Security* permissions and click **OK**.
6. If a **Multiple Names Found** prompt is displayed, locate and double-click the user or user group.

7. With the user or user group selected in the top pane of the **Security** tab, single-click the **Allow** check box for the desired permissions in the bottom pane.
8. If it is a folder to which you've just granted *Security* permissions and you need to propagate those permissions to the folder's child folders and files:
    a. On the **Security** tab, with the user or user group still selected, click the **Advanced** button.
    b. Check the check box labeled **Replace permission entries on all child objects with entries shown here that apply to child objects.**
    c. Click **Apply.**
    d. In the **Security** warning that is displayed, click **Yes**. This initiates the propagation of permissions to child folders and files.
    e. When the propagation completes, click the **Advanced Security Settings for <Folder Name>** prompt's **OK** button.
9. Click **OK** in the **<Folder Name> Properties** prompt.

THIS COMPLETES **APPENDIX C**.

RETURN TO AND COMPLETE THE PROCEDURE YOU WERE WORKING ON PRIOR TO COMING TO THIS APPENDIX.

APPENDIX D: ADDING USERS TO A USER GROUP

This appendix details one method of adding users to a user group on a domain controller. It applies to Windows Server 2003.

1. On your domain controller, click **Start** > **Administrative Tools > Active Directory Users and Computers.**
2. In the left pane of the **Active Directory Users and Computers** prompt that appears, expand the node for the domain used for your WinSPC implementation.
3. Single-click **Users**.
4. In the right pane:
    a. Multi-select all users who will run WinSPC and all local administrators who will install and configure WinSPC.
    b. Right-click any of the selected users and, from the shortcut menu, select **Add to a group**.
5. In the **Select Group** prompt, enter the first letter of the user group to which you want to add the users and click **OK**.
6. If a **Multiple Names Found** prompt appears, double-click the user group.
7. In the message indicating that the Add to Group operation was successfully completed, click **OK**.
8. Close the **Active Directory Users and Computers** prompt.

THIS COMPLETES **APPENDIX D**.

GO TO **CHAPTER 5: ADDITIONAL CLIENT INSTALLS AND CONFIGURATIONS** AND COMPLETE PHASE 4.

IF YOU DON'T NEED TO INSTALL AND CONFIGURE ADDITIONAL CLIENTS, THIS CONCLUDES THE ENTIRETY OF THE SETUP REQUIRED TO BEGIN USING WINSPC. FOR INSTRUCTIONS ON LAUNCHING AND LOGGING INTO WINSPC, SEE **APPENDIX E: LAUNCHING AND LOGGING INTO WINSPC**.

APPENDIX E: LAUNCHING AND LOGGING INTO WINSPC

If you are launching WinSPC in a Microsoft Terminal Services environment, connect to the Microsoft Terminal Services server using Remote Desktop before beginning this procedure.

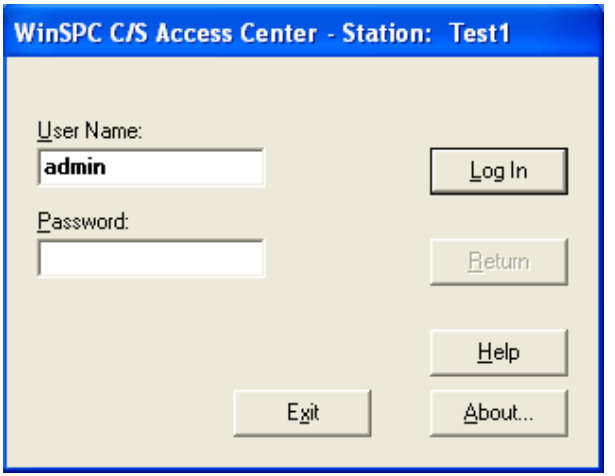
1. From the client machine, run **WinSPC**. The default path for doing this is **Start > All Programs** > **WinSPC** > **WinSPC**.
2. In the **WinSPC Access Center** that is displayed:
   a. At **User Name**, enter a valid user name

      NOTE: If this is the first time WinSPC is being logged into, the only valid user name is **Admin**.

   b. At **Password**, enter the password associated with the user name entered above.

      NOTE: The password for the Admin user is the password created in step 8 of **Chapter 4: First Client Configuration (Final Steps)**.

c. Click **Log In**.



d. If a message appears indicating that you have one or more unread messages, click **OK**.

NOTE: For help on using WinSPC, see WinSPC's context sensitive Help system. This Help system can be accessed from within WinSPC by clicking a **Help** button wherever one appears, pressing the **F1** key or selecting **Contents** from the **Help** menu.

THIS COMPLETES **APPENDIX E**.

APPENDIX F: HARDWARE REQUIREMENTS AND RECOMMENDED PLATFORMS

This appendix is provided to assist companies in the selection of hardware, operating systems and a database server for their WinSPC implementation. It consists of two sections, one for each of the architectures that can be adopted for WinSPC. These architectures are:

- Conventional Client/Server Architecture
- Microsoft Terminal Services Architecture

NOTE: The absence of an operating system or database server from any of the below lists means that the operating system or database server is not tested in DataNet Quality Systems' lab. It does not mean that the operating system or database server is known to be incompatible with WinSPC or that DataNet Quality Systems will not do its best to support implementations using the operating system or database server.

CONVENTIONAL CLIENT/SERVER ARCHITECTURE

Minimum Hardware Requirements

Client Stations	Database Server
▪ 1 GHz or faster 32-bit or 64-bit processor ▪ 1 GB RAM (if 32-bit) or 2 GB RAM (if 64-bit) for a typical Windows 7 station ▪ 1 GB RAM for a typical Windows Vista Business station* ▪ 256 MB RAM for a typical Windows XP Pro* ▪ 200MB available local hard disk space (beyond operating system recommended space) ▪ VGA monitor and video adapter ▪ Keyboard ▪ Mouse or other pointing device ▪ CD-ROM or DVD-ROM drive (if installing WinSPC from the WinSPC CD as opposed to the web download) * By *typical* is meant a default operating system install and no other heavy RAM-consuming applications running.	▪ Server Class processor – 800MHz ▪ 512MB available RAM ▪ 10GB available local hard disk space (beyond operating system recommended space) ▪ VGA monitor and video adapter ▪ Keyboard ▪ Mouse or other pointing device ▪ CD-ROM or DVD-ROM drive NOTE: For a method to estimate database storage needs based on data specific to your company, see the *How to Estimate Database Storage Requirements* section at the end of this appendix.

Recommended Platforms

Server Operating System	Database Server	Client Operating System
Windows Server 2008	Microsoft SQL Server 2012	Windows 7 Pro
Windows Server 2008	Microsoft SQL Server 2012	Windows Vista Business
Windows Server 2008	Microsoft SQL Server 2012	Windows XP Pro
Windows Server 2008	Microsoft SQL Server 2012 Express	Windows 7 Pro
Windows Server 2008	Microsoft SQL Server 2012 Express	Windows Vista Business
Windows Server 2008	Microsoft SQL Server 2012 Express	Windows XP Pro
Windows Server 2008	Microsoft SQL Server 2008	Windows 7 Pro
Windows Server 2008	Microsoft SQL Server 2008	Windows Vista Business
Windows Server 2008	Microsoft SQL Server 2008	Windows XP Pro
Windows Server 2008	Microsoft SQL Server 2008 Express	Windows 7 Pro
Windows Server 2008	Microsoft SQL Server 2008 Express	Windows Vista Business
Windows Server 2008	Microsoft SQL Server 2008 Express	Windows XP Pro
Windows Server 2008	Microsoft SQL Server 2005	Windows 7 Pro
Windows Server 2008	Microsoft SQL Server 2005	Windows Vista Business
Windows Server 2008	Microsoft SQL Server 2005	Windows XP Pro

Windows Server 2008	Microsoft SQL Server 2005 Express	Windows 7 Pro
Windows Server 2008	Microsoft SQL Server 2005 Express	Windows Vista Business
Windows Server 2008	Microsoft SQL Server 2005 Express	Windows XP Pro
Windows Server 2008	Oracle Database 11g	Windows 7 Pro
Windows Server 2008	Oracle Database 11g	Windows Vista Business
Windows Server 2008	Oracle Database 11g	Windows XP Pro
Windows Server 2008	Oracle Database 10g	Windows 7 Pro
Windows Server 2008	Oracle Database 10g	Windows Vista Business
Windows Server 2008	Oracle Database 10g	Windows XP Pro
Windows Server 2003	Microsoft SQL Server 2008	Windows 7 Pro
Windows Server 2003	Microsoft SQL Server 2008	Windows Vista Business
Windows Server 2003	Microsoft SQL Server 2008	Windows XP Pro
Windows Server 2003	Microsoft SQL Server 2008 Express	Windows 7 Pro
Windows Server 2003	Microsoft SQL Server 2008 Express	Windows Vista Business
Windows Server 2003	Microsoft SQL Server 2008 Express	Windows XP Pro
Windows Server 2003	Microsoft SQL Server 2005	Windows 7 Pro
Windows Server 2003	Microsoft SQL Server 2005	Windows Vista Business

Windows Server 2003	Microsoft SQL Server 2005	Windows XP Pro
Windows Server 2003	Microsoft SQL Server 2005 Express	Windows 7 Pro
Windows Server 2003	Microsoft SQL Server 2005 Express	Windows Vista Business
Windows Server 2003	Microsoft SQL Server 2005 Express	Windows XP Pro
Windows Server 2003	Oracle Database 11g	Windows 7 Pro
Windows Server 2003	Oracle Database 11g	Windows Vista Business
Windows Server 2003	Oracle Database 11g	Windows XP Pro
Windows Server 2003	Oracle Database 10g	Windows 7 Pro
Windows Server 2003	Oracle Database 10g	Windows Vista Business
Windows Server 2003	Oracle Database 10g	Windows XP Pro

TERMINAL SERVICES ARCHITECTURE

Minimum Hardware Requirements

Same minimum client station and database server requirements as for *Conventional Client/Server Architectures.*

For the *Microsoft Terminal Services Server* itself, the primary limiting factor is RAM. Approximately 25MB of RAM are consumed by each *Remote Desktop* launch of WinSPC. If a *Microsoft Terminal Services* server has 2GB of available RAM, then, it could potentially host 80 simultaneous user sessions. Additional sessions could be hosted by increasing RAM or using server clusters.

Beyond RAM, the minimum hardware requirements for the *Microsoft Terminal Services* server are:

- Server Class processor – 800MHz
- 200MB available local hard disk space (beyond operating system recommended space)
- VGA monitor and video adapter
- Keyboard
- Mouse or other pointing device
- CD-ROM or DVD-ROM drive

NOTE: One matter that bears mention but doesn't qualify as a minimum requirement is the *Microsoft Terminal Services* server's number of CPU cores. It is possible that, even with sufficient RAM, server performance could degrade unacceptably once a certain volume of simultaneous sessions is reached. It isn't practical to state what this volume is because it depends in part on how active those sessions are. A reasonable starting allowance would be 10 sessions for each CPU core.

Recommended Platforms

The operating system for the *Microsoft Terminal Services* server *must* be *Windows Server 2003 (with Service Pack 1)* or newer. Other than this, the recommended platforms for a *Microsoft Terminal Services* architecture are the same as those listed above for a conventional client/server architecture.

HOW TO ESTIMATE DATABASE STORAGE REQUIREMENTS

This estimation procedure applies equally to conventional client/server and Microsoft Terminal Services architectures.

1. Multiply the average subgroup size by 37. (E.g. 5x37=185.)
2. Multiply the average percentage of subgroups in violation by 66. (E.g. 2%x66=1.32.)
3. Multiply the average number of tag values per subgroup by 17.4. (E.g. 4x17.4=69.6.)
4. Add the products from the above three steps. (E.g. 185+1.32+69.6=255.92.)
5. Add 141.88 to the sum from step 4. (E.g. 141.88+255.92=397.80.)
6. Multiply the sum from step 5 by the average number of subgroups collected per day. (E.g. 397.80x10,000=3,978,000.)
7. Divide the product from step 6 by 1,000,000. (E.g. 3,978,000/1,000,000=3.978.)

The answer you get from step 7 is the number of MB of disk space you can expect to be consumed per day of WinSPC operation.

THIS COMPLETES **APPENDIX F**.

APPENDIX G: CONSIDERATIONS REGARDING WINSPC AND UAC

User Account Control (UAC) is a security feature in all client editions of Microsoft Windows from Vista on and all server editions from Windows Server 2008 on. When UAC is enabled, it precludes WinSPC client users from:

- Upgrading WinSPC.
- Exporting text files of data or specifications.
- Installing Custom Web Reporter.
- Collecting data from an OPC server when that server is running on a computer different from the WinSPC client using it to collect data *and* the WinSPC client has the **Use Data Advise** option enabled.

(Typically, a WinSPC client is only installed on a machine with a server operating system if that machine is a Microsoft Terminal Services server.)

To be able to perform these functions, with the exception of the final one, UAC must be disabled. For the final function, while disabling UAC certainly permits it to be performed, it is also possible that your network administrator, depending on your network security, may be able to configure DCOM settings on your client and OPC server so that it can be performed with UAC enabled.

The procedure for disabling UAC in Windows 7 is:

1. Log into the Windows 7 client station as a local administrator.
2. From the Control Panel click **User Accounts**.

3. In the **User Accounts** window that appears, click **User Accounts**.
4. In the **Make Changes to Your User Account Control Settings** prompt, click **Change User Account Control Settings**.
5. In the **User Account Control Settings** window that appears, drag the vertical slider to the **Never Notify** position, which is lowest position possible.
6. If a window appears asking whether you want to allow the UAC Settings program to make changes to your computer, click **Yes**.
7. Click **OK**.
8. Restart your computer.

The procedure for disabling UAC in Vista is:

1. Log into the Vista client station as a local administrator.
2. From the Control Panel click **User Accounts**.
3. In the **User Accounts** prompt that appears, click **Turn User Account Control on or off**.
4. If a **Windows needs your permission to continue** message appears, click the **Continue** button.
5. In the **Turn User Account Control On or Off** window, uncheck the **Use User Account Control (UAC)** to help protect your computer check box.
6. Click **OK**.
7. When the message indicating your computer must be restarted appears, click **Restart Now**.

The procedure for disabling UAC in Windows Server 2008 is:

1. Log into the Windows Server 2008 station as an administrator.

2. From the Control Panel click **User Accounts**.
3. In the **User Accounts** window that appears, click **User Account Control Settings**.
4. In the **User Account Control Settings** window that appears, drag the vertical slider to the **Never Notify** position, which is lowest position possible.
5. If a prompt appears asking whether you want to allow the UAC Settings program to make changes to your computer, click **Yes**.
6. Click **OK**.
7. Restart your computer.

THIS COMPLETES **APPENDIX G**.