

Installing WMSNET & WMSPDA

Revision History

Revision Date	By	Description
26. Mar. 2006	NJ	<ul style="list-style-type: none"> Creation date
2 Oct 2009	MF	<ul style="list-style-type: none"> Modification date Documentation Upgraded from WMSnet415 to WMSnet500. Program upgraded from WMSnet version 4.1.5 to version 5.0.0. Program conversion from Visual Studio 2003 to Visual Studio 2008. To add Print & Import functions to Inquiry Module and fix bugs. To upgrade .NET framework 1.1 to 3.5.
18 Oct 2009	MF	<ul style="list-style-type: none"> To further explain Section 10 - "WMSnet500_Registration.reg" File. To further explain Section 11 - "Web.config" File.
8 Nov 2010	MF	<ul style="list-style-type: none"> Upgraded WMSNET web control 1.0 to web control 3.5. Remove section 6 : "webctrl_client" for web control 1.0. Program upgraded from Visual Studio 2008 to Visual Studio 2010. Added the install guide for WMSPDA.
26 Apr 2011	MF	<ul style="list-style-type: none"> Upgraded .NET framework 3.5 to 4.0. Upgraded Crystal Report to Crystal Report 2010. Needed the Crystal Report 2010 32-bit and 64-bit Runtime for deployment on different OS. Remove section 7 : Creating "WMSnet500" Virtual Directory. The virtual directory will be created automatically during program setup. Remove section 11 : Creating "WMSnet" Virtual Directory. Because this section actually refers to section 7.

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1. Introduction

WMSNET is an ASP.NET application for accessing CRISTALWMS reports from a web browser. There are several versions of the program, identified as WMSNET40, WMSNET415 etc. The latest version is WMSnet500 (version 5.0.0).

WMSNET must be installed on a PC with the following characteristics:

- The WMSNET machine must be able to access the "CRISTALWMS" SQL Server database via ODBC. The WMSNET application can be installed on the same machine running the SQL Server database, or on a separate machine.
- The WMSNET machine must be running Internet Information Services 5.0 or higher. This means that only PCs running the following operating systems can be used:
 - Windows 2000 Workstation/Server
 - Windows XP Professional
 - Windows 2003 Server

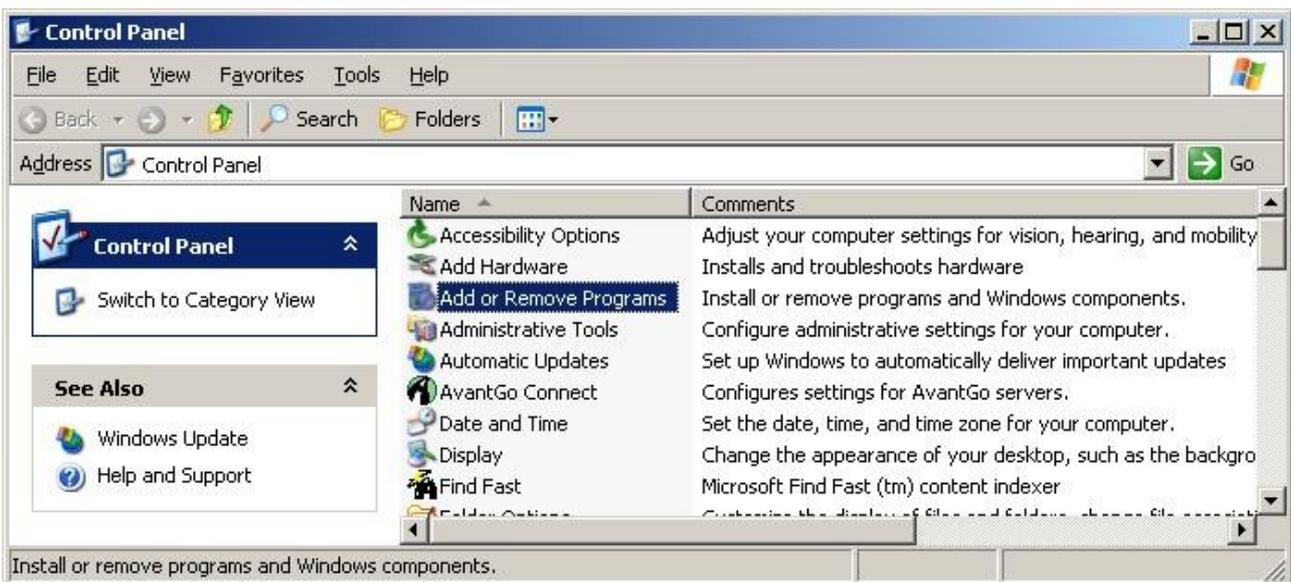
This document describes the installation of WMSNET application on a clean machine (i.e. with only the operating system installed).

The installation files referenced in this document are in the subdirectory package "WMSnet500" distributed with this document.

2. Internet Information Services (IIS)

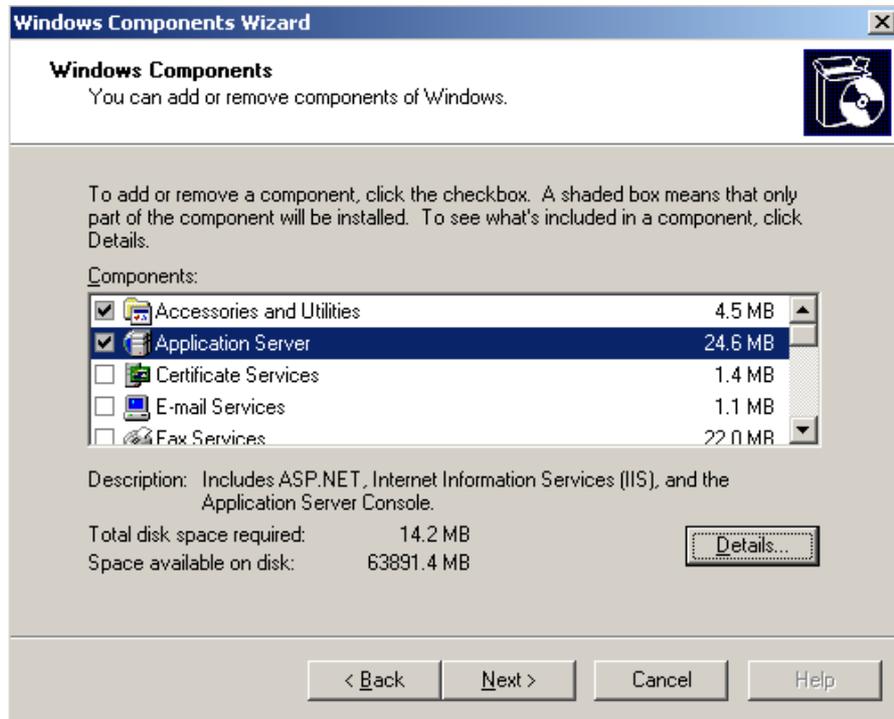
IIS 5.0 or higher must be installed and running before the .NET Framework can be installed.

To install IIS, execute the **Start | Control Panel | Add or Remove Programs** program option:

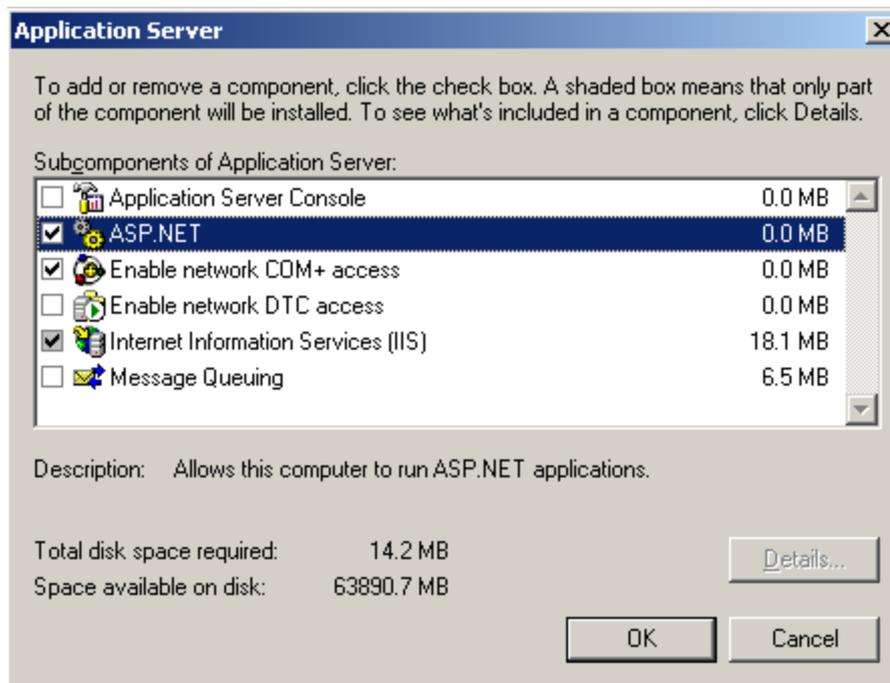


In the **Add or Remove Programs** dialog window, click the option **Add/Remove Windows Components**.

When the **Windows Components Wizard** dialog box is displayed, scroll through the "Components" list and tick the **"Application Server"** checkbox. Click the **Details** button to select the Options.



Tick **"ASP.NET"** check box and make sure that the **"Internet Information Services (IIS)"** check box is also selected.

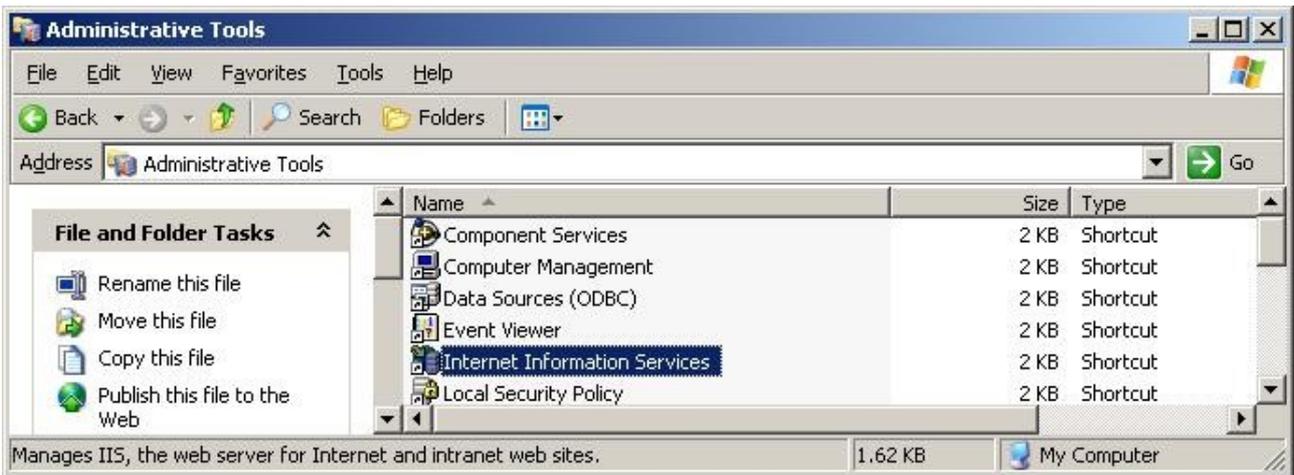




Once IIS has been installed, the PC will effectively become a Web Server.

The **Administrative Tools** program under "Control Panel" will feature a new option called "**Internet Information Services**" that will allow us to configure the newly created Web Server.





We will execute the **Internet Information Services** program to create new virtual directories in a later section.

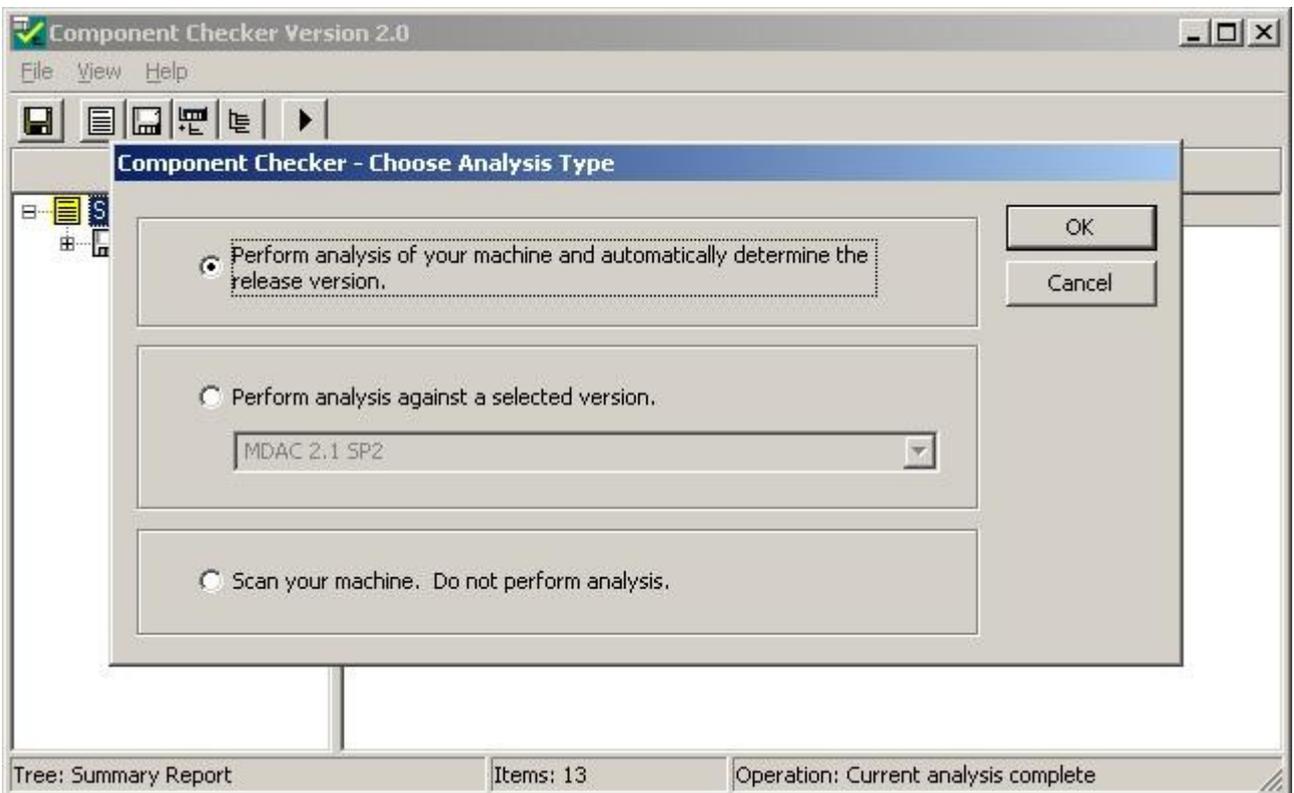
3. Install MDAC 2.6 or higher

MDAC (Microsoft Data Access Components) 2.6 or higher is required by WMSNET.

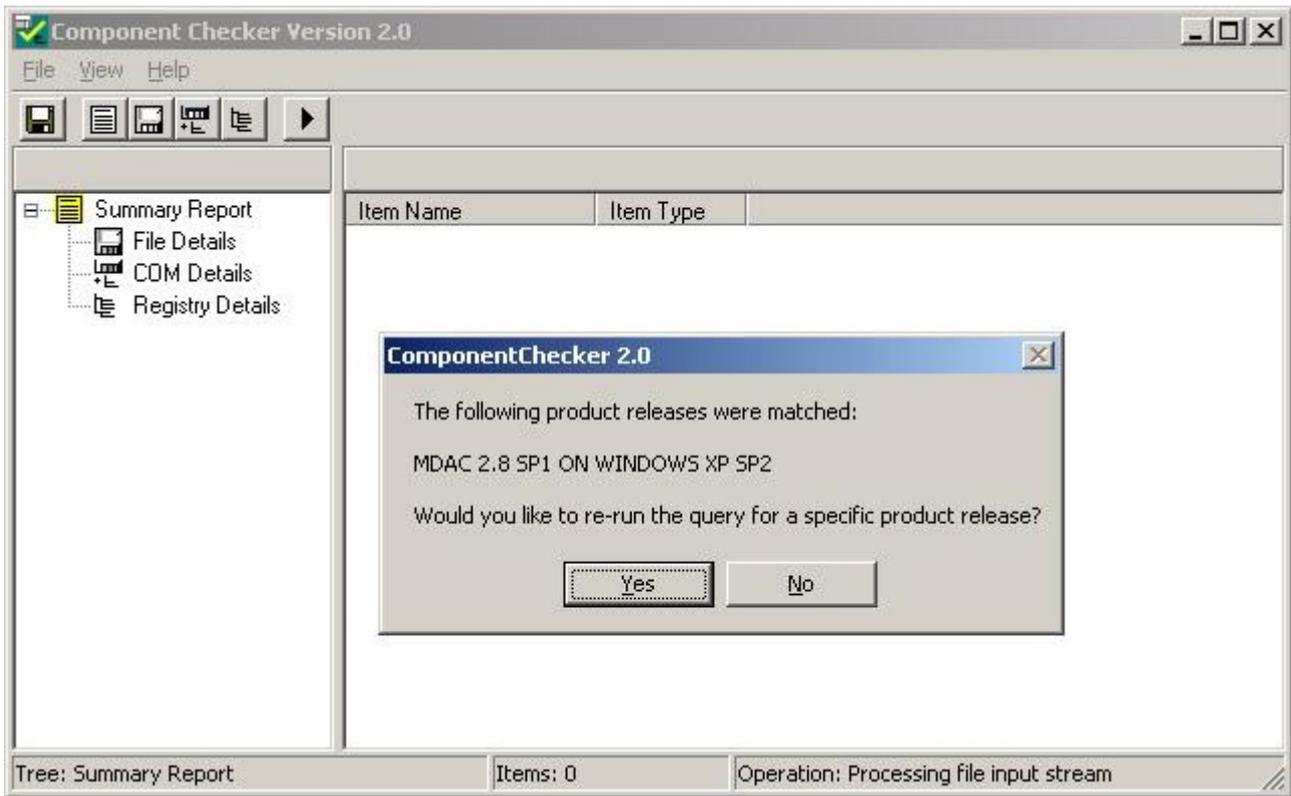
If the PC is running Windows 2003 Server or Windows XP Service Pack 2, MDAC 2.8 will already be installed.

If the PC is running any other operating system, you can run the **MDAC Component Checker** to see what version of MDAC is already installed.

You can run the MDAC Component Checker from "WMSnet500\MDAC\Component Checker\CC.exe" executable in the WMSnet500 package.



Select the "Perform analysis of your machine and automatically determine the release version" option and click **OK**.



If the Component Checker reports that the MDAC version is lower than 2.6, please install **MDAC 2.8** on the machine. MDAC 2.8 can be installed from "WMSnet500\MDAC\MDAC_28\MDAC_TYP.exe" executable file in the WMSnet500 package.

4. Microsoft .NET Framework 4.0

The .NET Framework 4.0 full package setup program can be found in the WMSnet500 package :
"WMSnet500\Net Framework 4.0\dotNetFx40_Full_x86_x64.exe".

The PC will need to be restarted after the .NET Framework service pack has been installed.

Reminder

The .NET Framework 4.0 full package must be installed only after IIS has already been installed. If IIS is installed after the .NET Framework, the ASP.NET application will not be runnable.

5. Crystal Reports 2010 Runtime Package

It is mandatory to install the Crystal Reports 2010 Runtime Package. There are 2 runtime packages in the folder. 32_bit and 64-bit are for different Operating System respectively.

You can run it from:

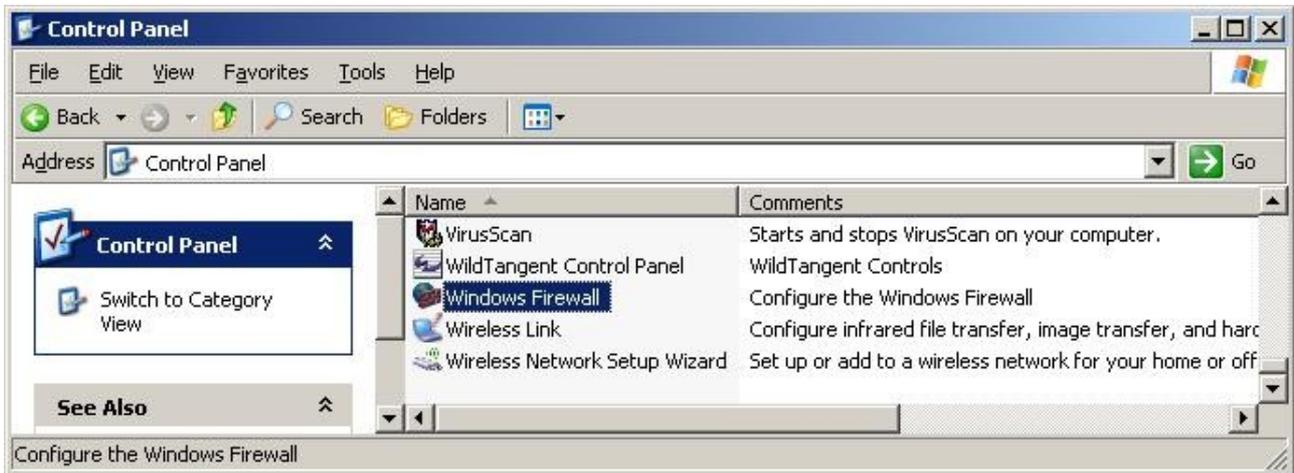
"WMSnet500_Deployment Package\Crystal Reports Runtime 2010\CRRuntime_32bit_13_0.msi"

6. Open Port 80 in Windows Firewall

If the web server machine is running on Windows XP Service Pack 2, Windows Firewall will already be running on the machine, and the firewall program will block other computers from accessing the IIS web service on the machine.

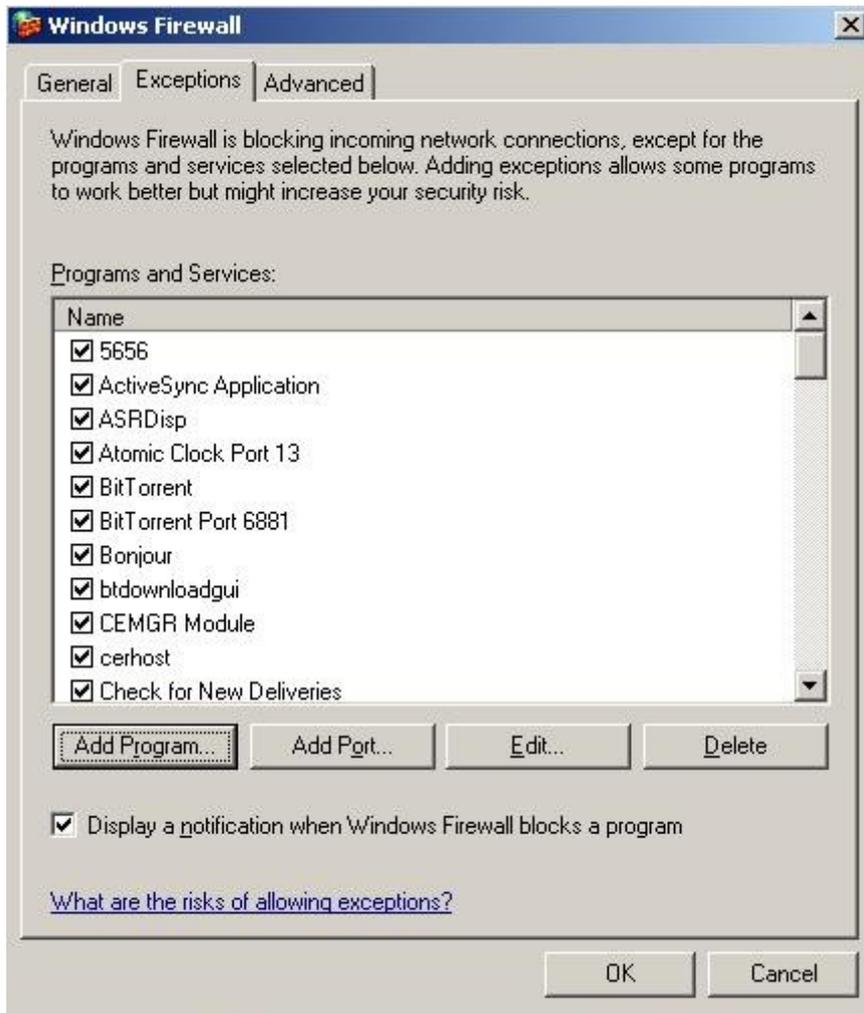
It is necessary to open TCP port 80 in the firewall.

Execute the **Windows Firewall** program from the Control Panel.



By default, the Windows Firewall will be **On**.

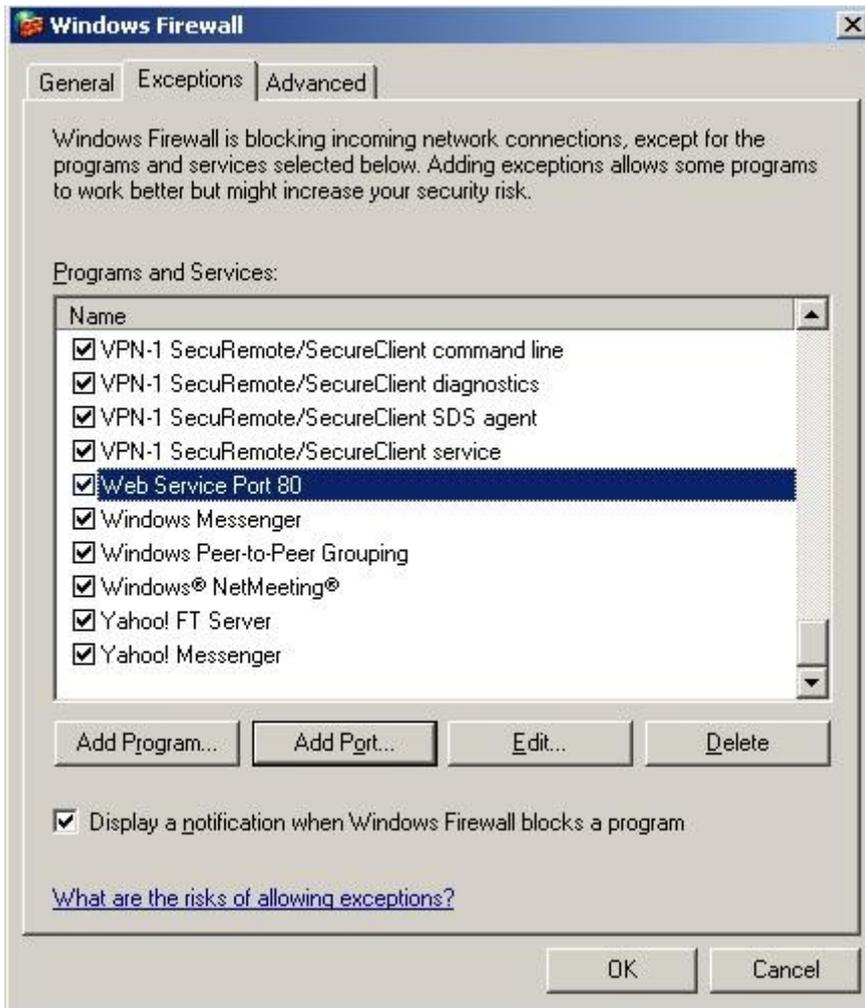
Click on the **Exceptions** tab.



Click on the **Add Port...** button to add port 80 into the exceptions list. Note that you can assign any text in the "Name" prompt, but I find it useful to include the port number in the name.

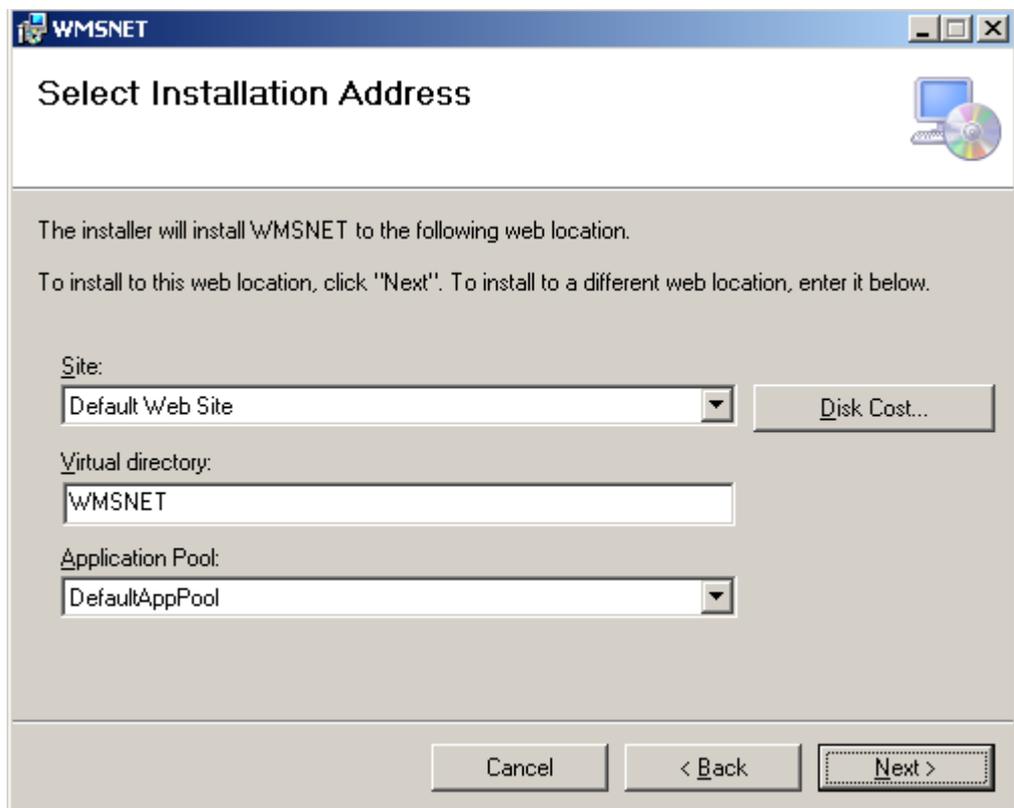
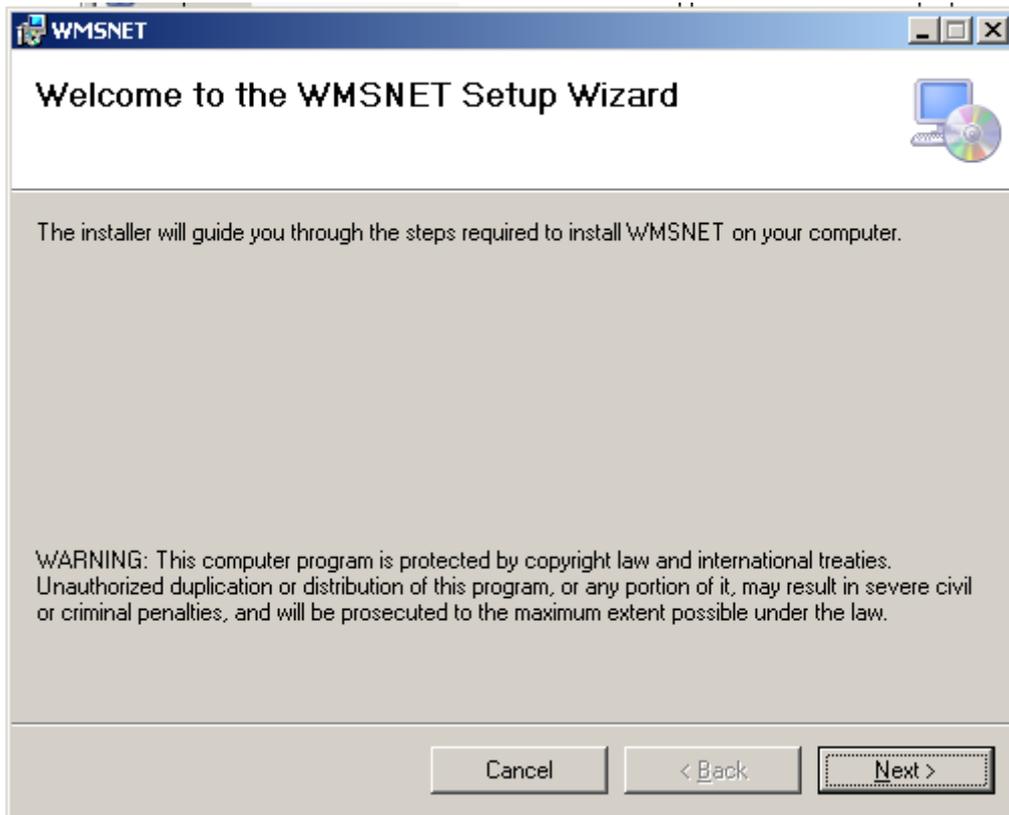


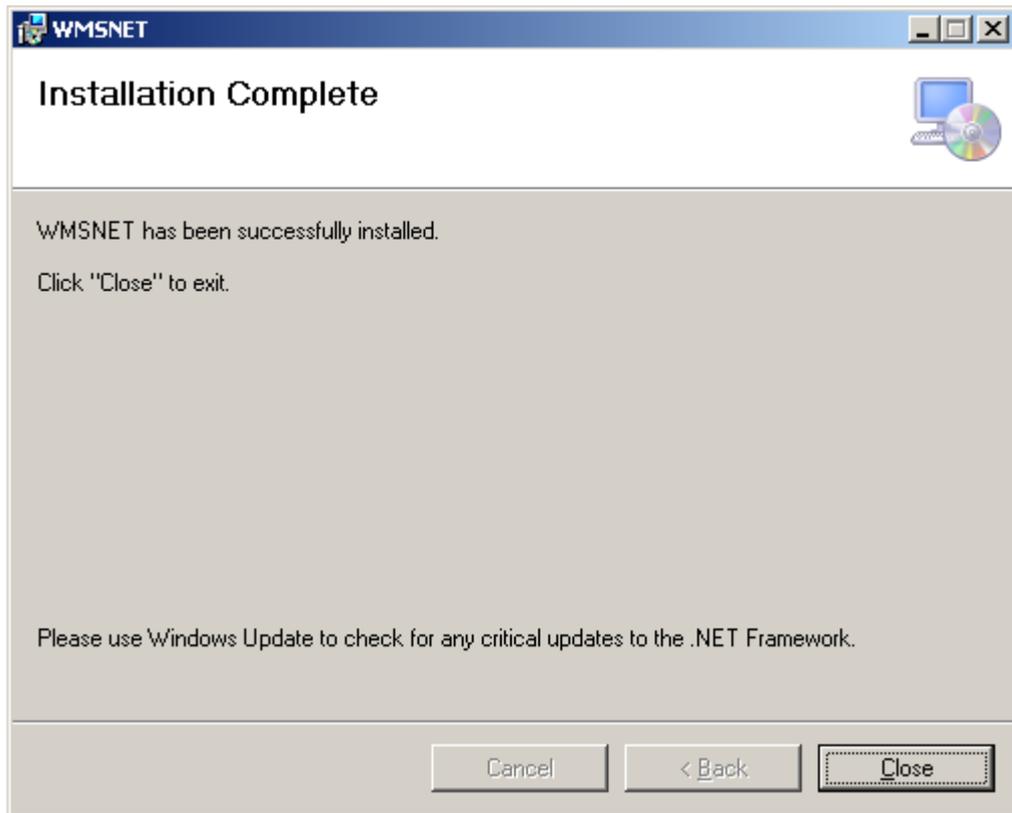
The new exception will now appear in the "Programs and Services" list:



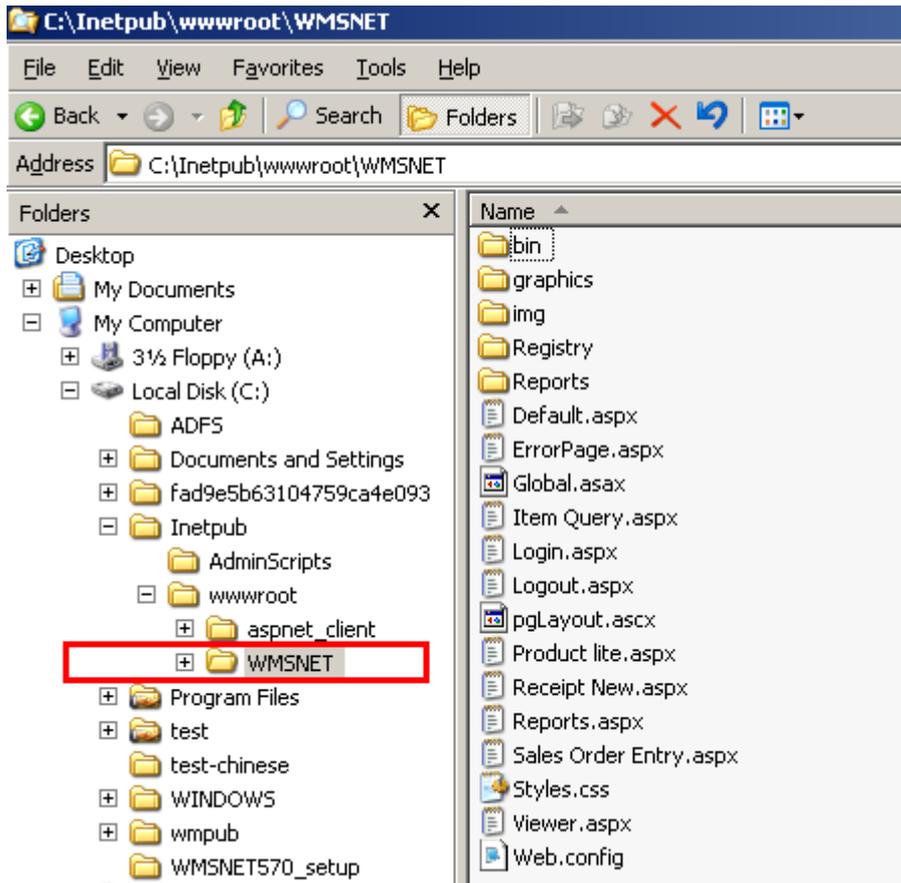
7. Install "WMSnet500" Setup Package

The installation files for the WMSnet500 application are located in the "WMSnet500_Deployment PackageWMSnet500_Setup" directory. Click the "Setup.exe" file to start the installation.





You can examine the contents of the "C:\inetpub\wwwroot\WMSNET" directory to see the files that have been installed.



Please take note of 2 important files:

- C:\WMSnet500\Registry\WMSnet500_Registration.reg
- C:\WMSnet500\Web.config

If you have installed the WMSNET application in the same machine as the one running the SQL Server service for the "cristalwms" database instance, you do not need to make any modifications to these 2 files.

However, if the SQL Server machine is a separate machine from the web server machine, you must use a text editor to edit both files to configure the IP address of the SQL Server machine.

These files are described in more detail in the following sections.

8. "WMSnet500_Registration.reg" File

This file is created as "C:\WMSnet500\Registry\WMSnet500_Registration.reg" on the web server.

The "WMSnet500_Registration.reg" file is used to create 2 ODBC entries required by the WMSnet500 application. The ODBC entries are:

ODBC Identifier	SQL Server Login
wms_chk	wmschk
wms_dbo	wmsdbo

The settings in the default registration file assumes that the SQL Server machine is the same one as the web server. As such, the IP address of the SQL Server is coded as "127.0.0.1".

If the SQL Server machine is separate from the web server, you must edit the following section in the registration file:

```
[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\Client\ConnectTo]
"WMS"="DBSSOCN, 127.0.0.1, 1433"
"DSQUERY"="DBSSOCN"
```

and replace the "127.0.0.1" with the correct IP address of the SQL Server.

Also, the ODBC entries created assumes a standard CRISTALWMS database configuration.

Parameter	Standard Value
Database name	crystalwms
1 st SQL Server Login	wmschk
2 nd SQL Server Login	wmsdbo

If the database name and SQL Server logins in your setup are not the defaults, you will need to replace all occurrences of these names with their correct values.

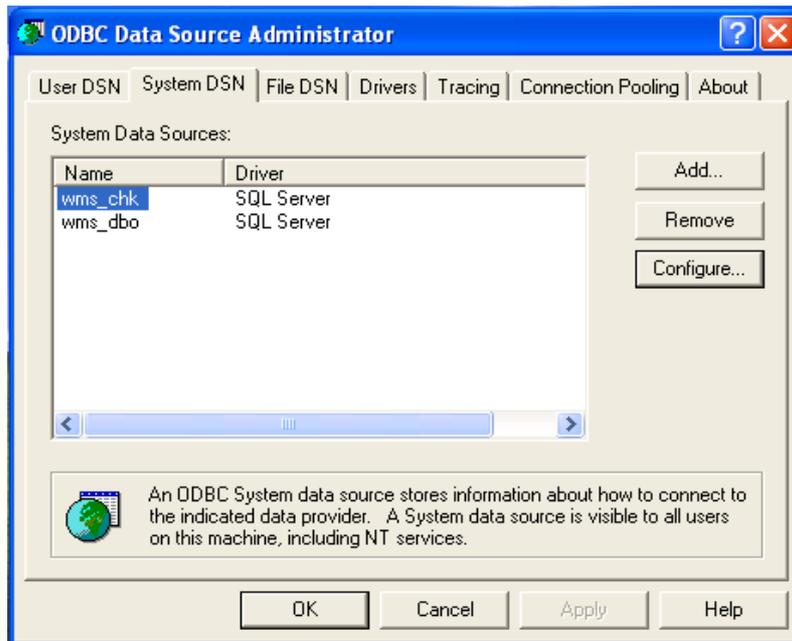
Finally, notice that the registration file has 2 sections with this section names:

- [HKEY_LOCAL_MACHINE\Software\CRiSTAL Solutions**CRiSTAL Warehouse Management System**\Network Connection]
- [HKEY_LOCAL_MACHINE\Software\CRiSTAL Solutions**CRiSTAL Warehouse Management System**\Miscellaneous Settings]

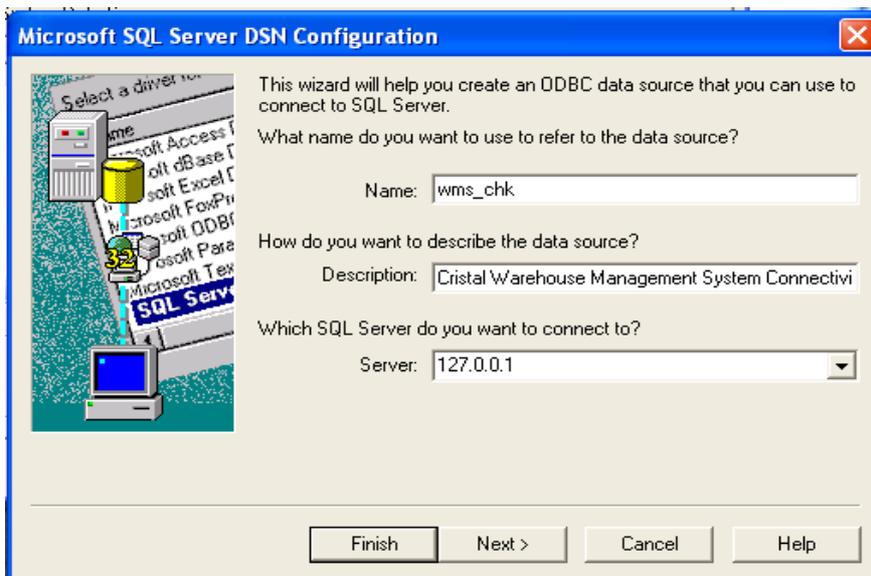
The string "CRiSTAL Warehouse Management System" in the section names references a registry key. This string is also recorded in the "Web.config" file (described in the next section) to direct the WMSNET application on which registry key to use when retrieving the SQL Server connection settings from the registry.

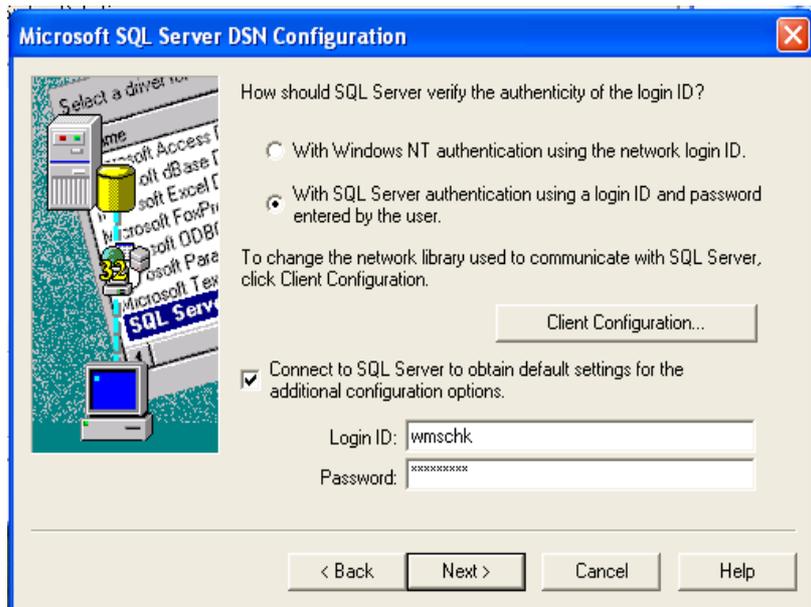
You can create a different registry key by replacing the text "CRiSTAL Warehouse Management System" in these section names. If you do this, you must also modify the Web.config file to point to the new section.

<p>Registering the Registration File</p> <p>After you have edited and saved the changes in the registration file, you must double click on the registration file in Windows Explorer to register its contents. The WMSNET application will not run correctly if the registry values are not updated into the Windows Registry of the web server machine.</p>
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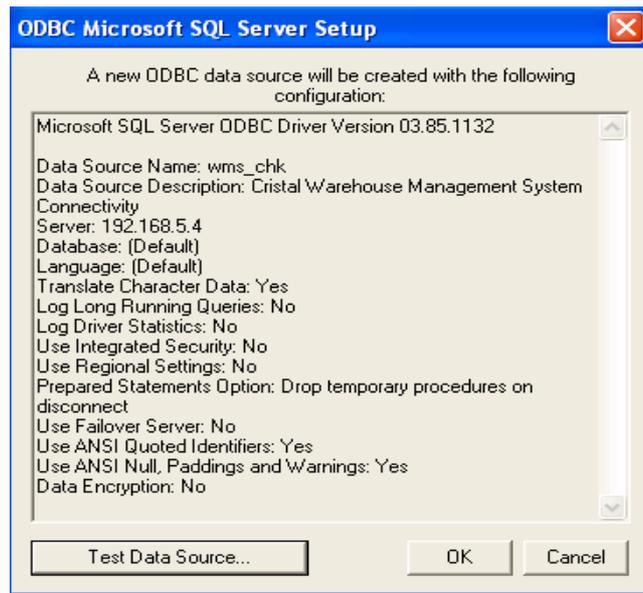


Once register is done, open the ODBC Data Source Administrator windows as shown above and check that the 2 entries are correctly created. To open the ODBC Data Source Administrator windows, go to "Control Panel | Administrative Tools | Data Sources (ODBC)". Next run the database connectivity test by clicking on the Configure button.





Enter the correct IP address for the SQL Server and the SQL Server Login ID and password as shown in the above diagrams. Click the Next button once done.



Click the Test Data Source button as shown above to run a database connectivity test.



If the connection is successful, you will see the above diagram - "TESTS COMPLETED SUCCESSFULLY". Repeat the tests for both the 1st & 2nd SQL Server Login.

9. "Web.config" File

This file is created as "C:\WMSnet500\Web.config" in the web server.

All user definable settings are defined under the block:

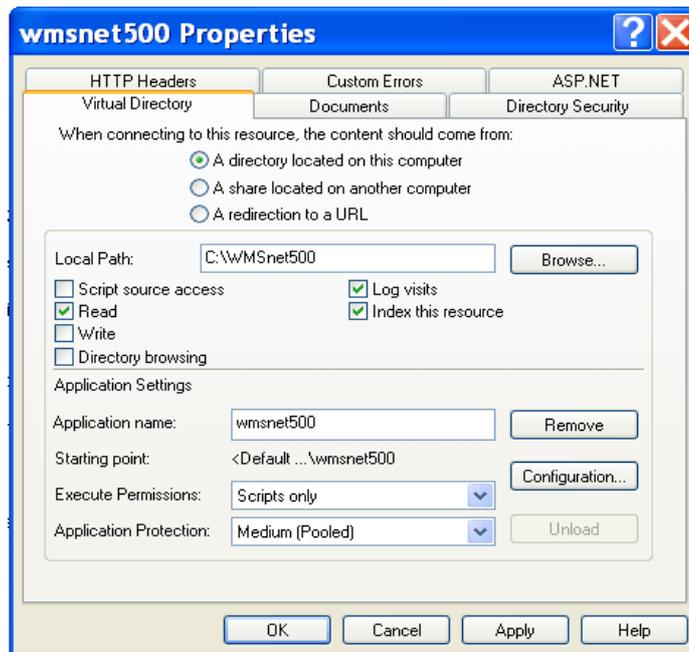
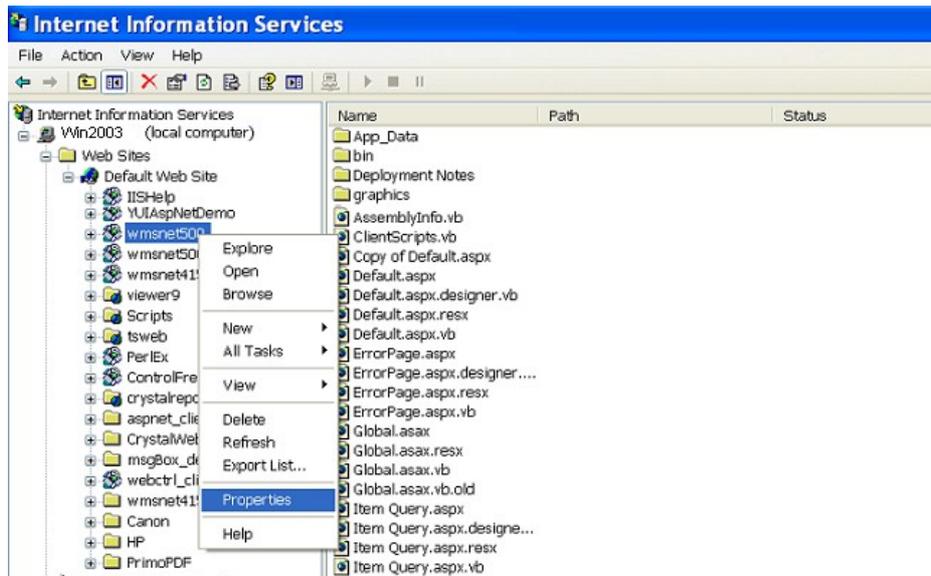
```
<appSettings>  
:  
</appSettings>
```

All parameters are listed as lines in the following format:

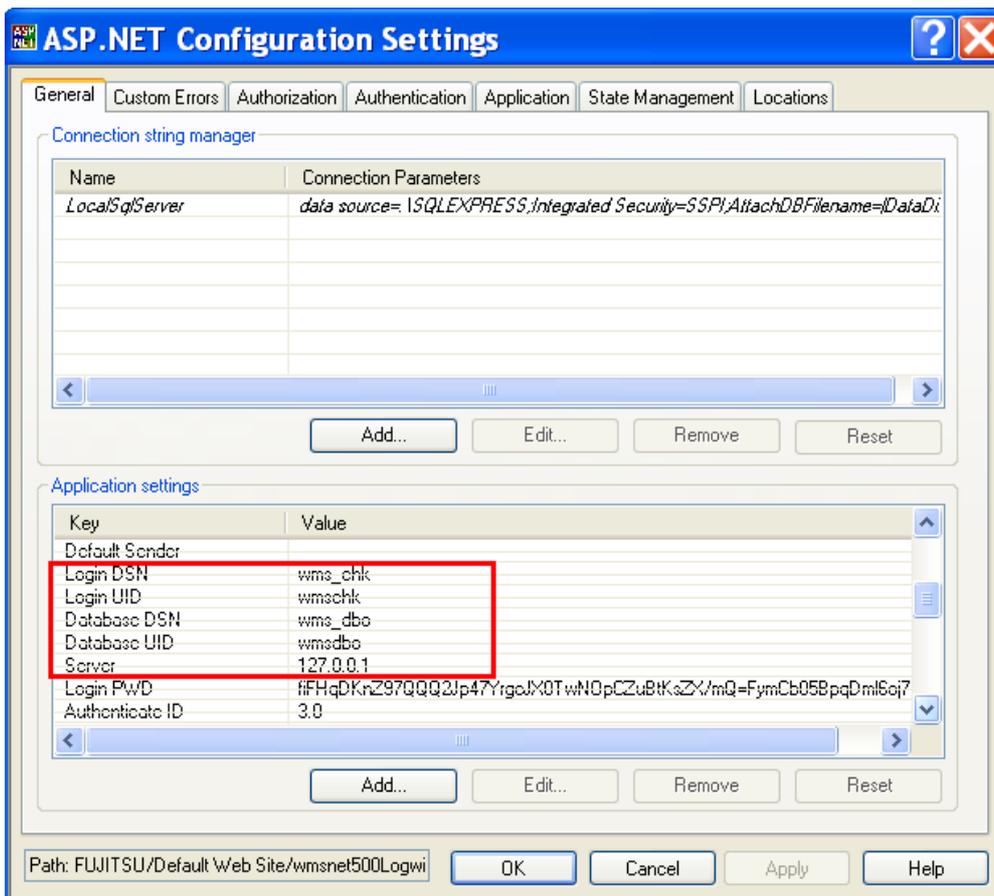
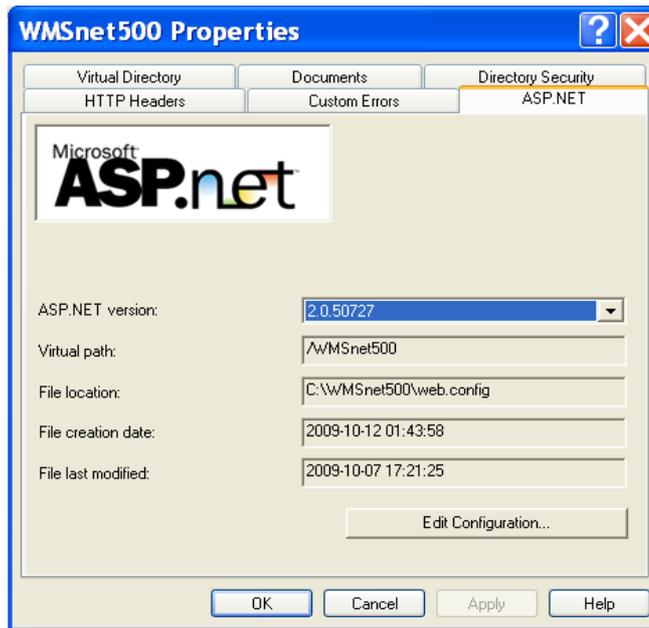
```
<add key="Parameter Name" value="Parameter Value" />
```

You can only change the "Parameter Value". Do not alter any "Parameter Name".

To change the "Parameter Value" open the Internet Information Services and right click on the virtual directory of WMSnet500.

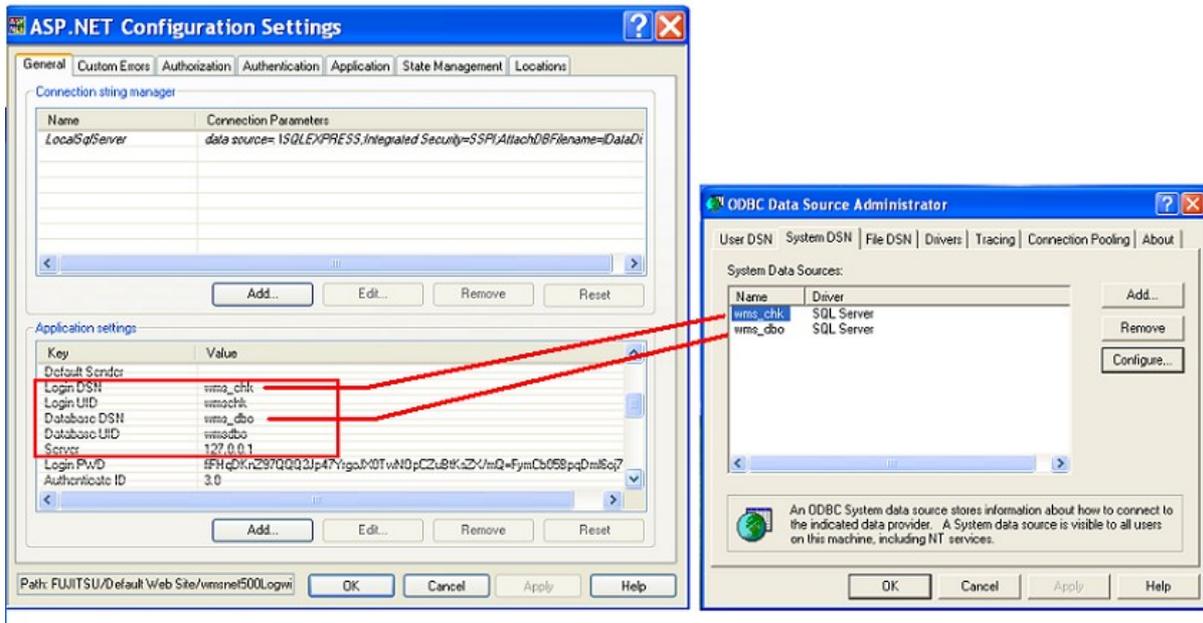


Click on ASP.NET tab in the properties windows and then the Edit Configuration button.



Important Note

The parameter values in the Login DSN, Login UID, Database DSN, Database UID and Server must match the values entered in the ODBC settings as shown in the diagram below. Otherwise the WMSnet500 application will not work.



Server

This key is used to reference the IP address of the SQL Server.

The default value for this key is "127.0.0.1", as the default installation assumes that the web server is running on the same machine as the SQL Server.

Edit the value to the appropriate IP address if the SQL Server is on a different machine. Note that the IP address you specify must be in agreement with the IP address you specify in the "WMSnet500_Registration.reg" file.

Normally, the value of the **Server** key is the only one that you will need to edit. In fact, you do not need to edit this at all if your web server is the same machine as the SQL Server.

However, if you have a special network setup that required changes to other parameters in the "WMSnet500_Registration.reg" file, you may also need to modify the keys:

- Login DSN
- Login UID
- Database DSN
- Database UID

in the "Web.config" file.

Login DSN

This key is used to reference the ODBC name for the 1st SQL Server Login defined in the "WMSnet500_Registration.reg" file.

The default value for this key is "wms_chk".

Login UID

This key is used to record the SQL Server Login that is associated with the "Login DSN".

The default value for this key is "wmschk".

Database DSN

This key is used to reference the ODBC name for the 2nd SQL Server Login defined in the "WMSnet500_Registration.reg" file.

The default value for this key is "wms_dbo".

Database UID

This key is used to record the SQL Server Login for the 2nd SQL Server Login defined in the "WMSnet500_Registration.reg" file.

The default value for this key is "wmsdbo".

ProductName

The default value for this key is "CRiSTAL Warehouse Management System". This value is referenced in the "WMSnet500_Registration.reg" file in the section names:

- [HKEY_LOCAL_MACHINE\Software\CRiSTAL Solutions\CRiSTAL Warehouse Management System\Network Connection]
- [HKEY_LOCAL_MACHINE\Software\CRiSTAL Solutions\CRiSTAL Warehouse Management System\Miscellaneous Settings]

If you want to use a different section name for the registry keys, you must change the value for the **ProductName** key in the "Web.config" file, as well as the section names in the "WMSnet500_Registration.reg" file.

Company

The text string specified in this key is displayed on the home page to identify the company name.

10. Running the WMSNET Application

Important Note

If you are running the WMSNET application on a Windows 2003 R2 server, please refer to section 11 below on new security settings that must be configured on the server to allow ASP.NET applications to run.

If you are running the application on the web server machine itself, enter the following URL in Internet Explorer:

<http://127.0.0.1/WMSnet500>

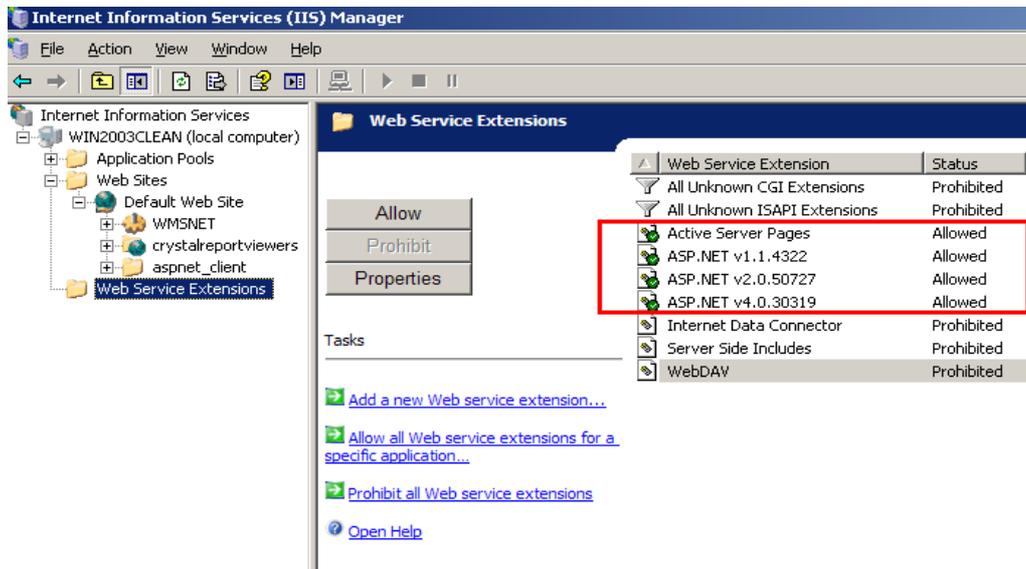
If you are running the application on a client machine, you must specify the IP address of the web server in the URL:

<http://192.168.2.88/WMSnet500>

11. Windows 2003 Server Security Configuration

When Microsoft introduced Windows 2003 Server R2 into the market, they made a change in the server such that all internet features are disabled by default. This was in direct opposite to Windows 2000 and Windows XP where all internet features are enabled by default.

On a Windows 2003 Server machine, the Internet Services Manager program includes a new “**Web Service Extensions**” node as shown.



By default, all Web Service Extensions are set to “Prohibited”. To run the WMSNET application, you must set the following extensions to “Allowed”:

- Active Server Pages
- ASP.NET v1.1.4322
- ASP.NET v2.0.50727
- ASP.NET v4.0.30319

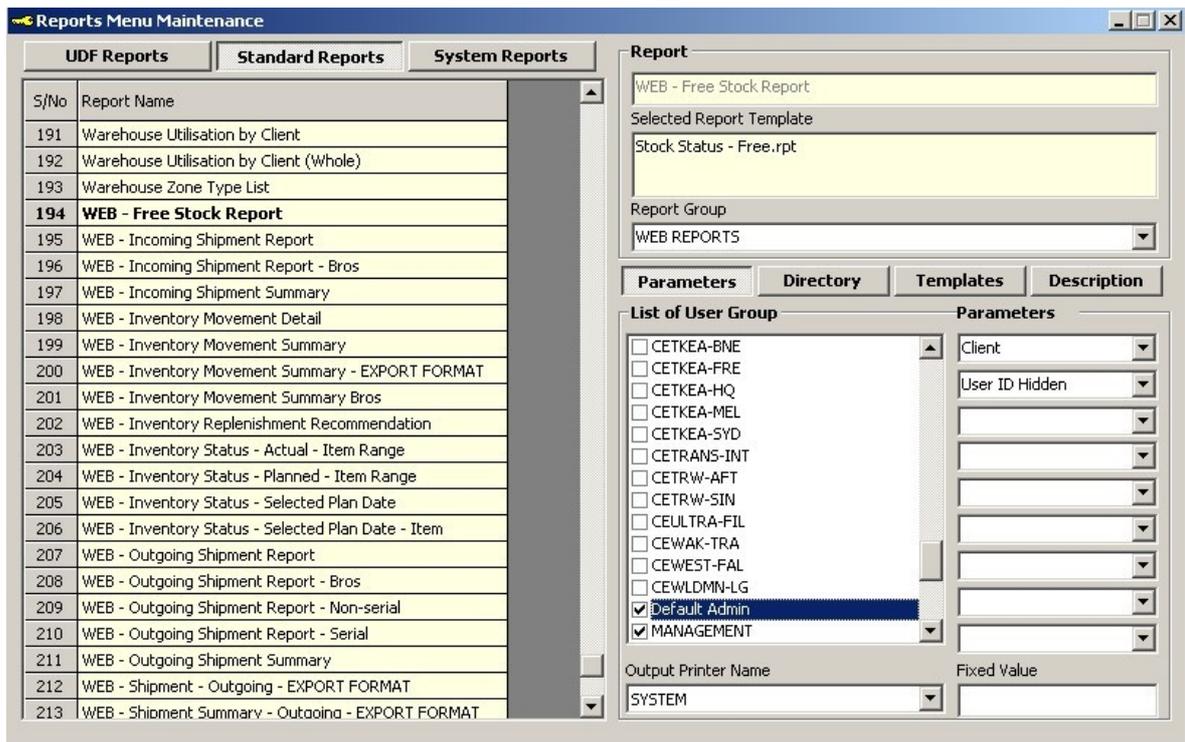
If these Web Service Extensions are not changed to “Allowed”, the application will not work, and no error message will be returned from the web server either.

12. Installing Reports

Report templates used by WMSNET are developed in Crystal Reports 9.x, which are not compatible with the Crystal Reports 7.x templates used by the Desktop WMS.

The Crystal Reports 9.x templates are installed into the directory “C:\WMSnet500\REPORTS”.

Access to the WMSNET web reports is controlled from the Desktop WMS **Administration > System > Reports Menu Maintenance** program option. All WMSNET report templates are given report names with the prefix “WEB – ”:



Although you must use the Desktop WMS to control which WMS user groups are allowed to access each web report, you actually cannot use the Desktop WMS to preview the Crystal Reports 9.x report templates (because the Desktop WMS report engine only works with Crystal Reports 7.x templates and is not upward compatible with the Crystal Reports 9.x templates).

13. Installing PDF Reader

All reports generated by WMSNET must be viewed using a PDF reader program. Note that the PDF reader program must be installed on the client machine.

You can use either the free PDF readers from Adobe or Foxit:

- Adobe Reader 8.x (<http://www.adobe.com/products/reader/>)
- Foxit Reader 2.x (http://www.foxitsoftware.com/pdf/rd_intro.php)

The Foxit Reader provides almost all the features of Adobe Reader, but consumes a fraction of the RAM resources required as that of Adobe Reader. For instance, the Foxit Reader installer is only 2.5 MB, whereas the Adobe Reader installer is a whopping 22 MB.

14. Changing JPG Images

The JPG images displayed in the WMSNET application are referenced from the "C:\WMSnet500\Graphics" subdirectory. By default, the 2 files:

- Logo.jpg
- Logo_SMALL.jpg

contain the CRISTAL logo. To display your own images, simply replace these files with those containing your own logo.

15. Directory Contents of "WMSnet500" Package

The installation instructions described in this document references an installation package containing the various setup files. This package comprises the following directories and subdirectories:

WMSnet500_Deployment Package

- ▶ **MDAC**
 - Component Checker
 - MDAC_28
- ▶ **Net Framework 4.0**
- ▶ **Crystal Reports Runtime 2010**
- ▶ **WMSnet500_Setup**

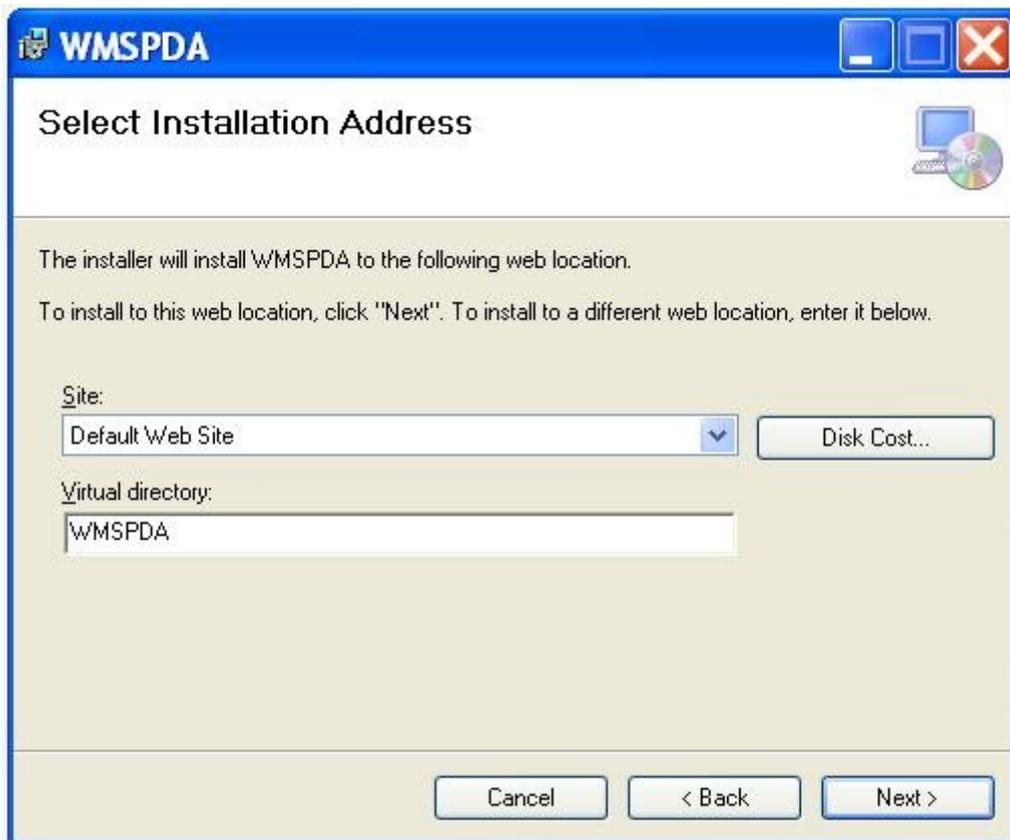
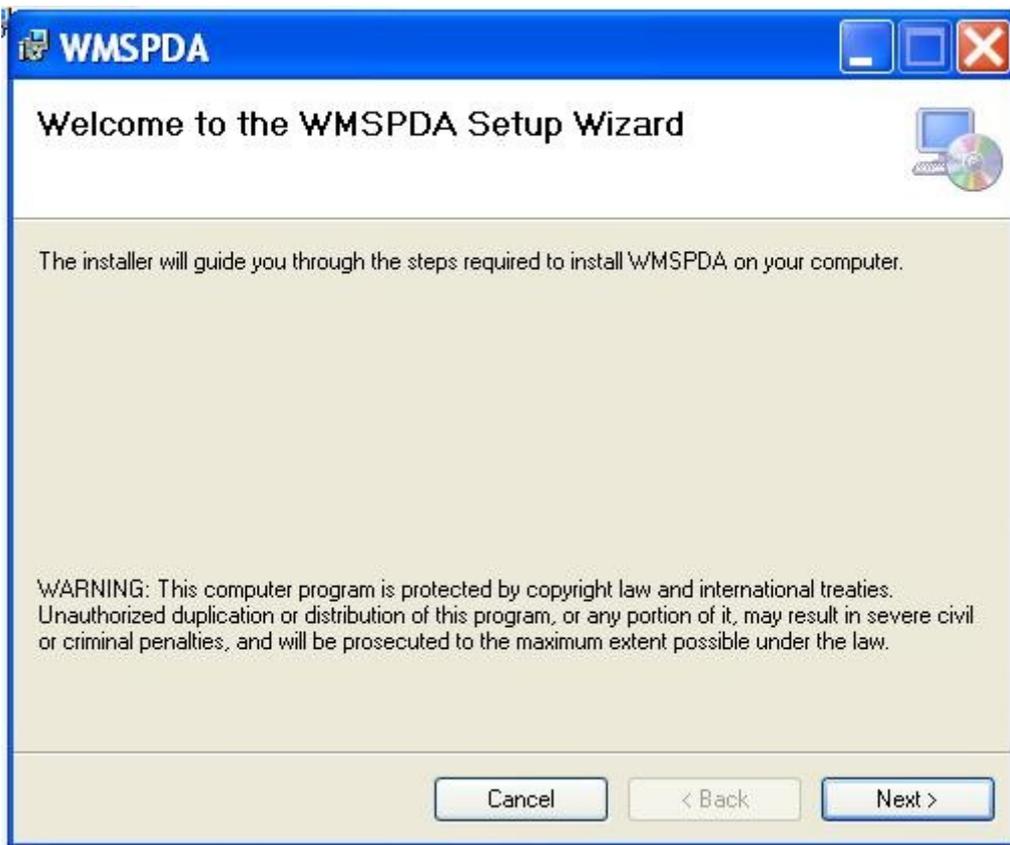
The contents of each subdirectory are described in the following sections:

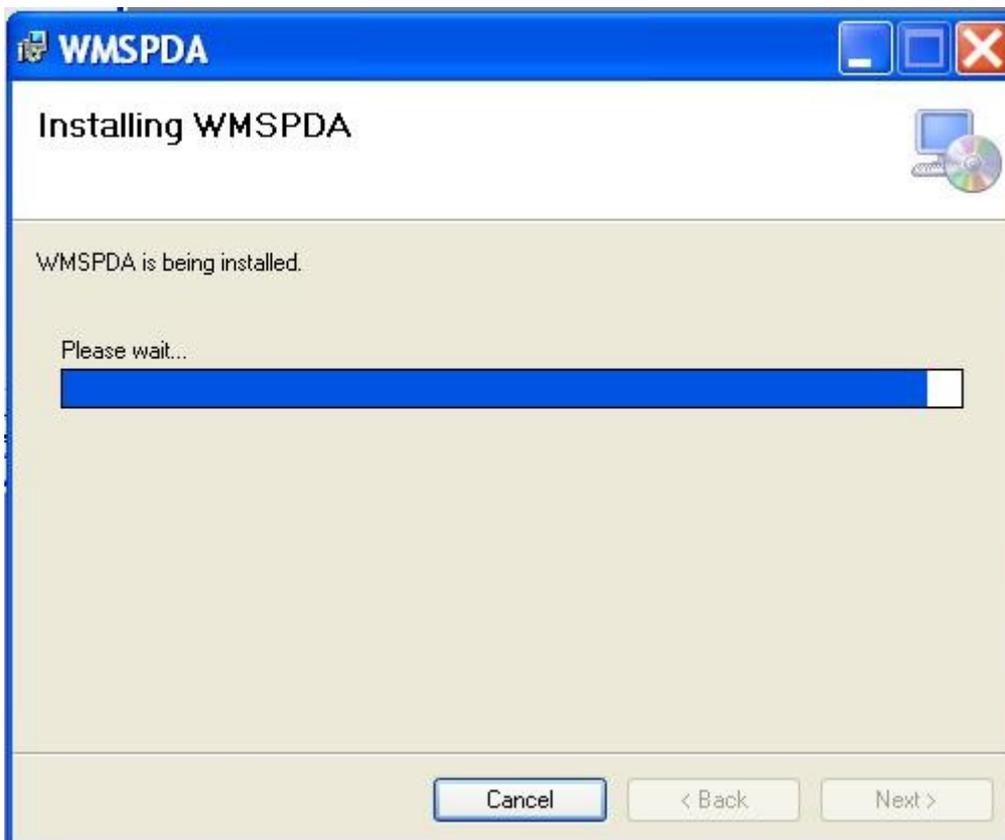
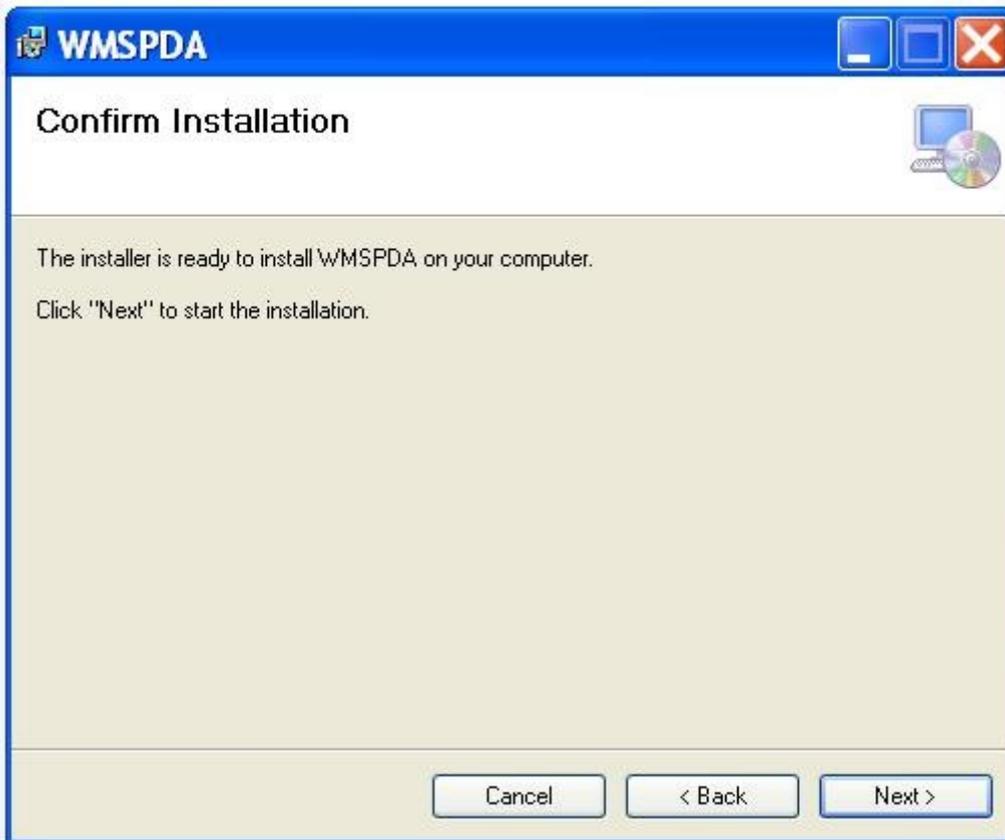
Subdirectory	Described in Section
MDAC	3 – Install MDAC 2.6 or higher
Net Framework 4.0	4 - Microsoft .NET Framework 4.0
Crystal Reports Runtime 2010	5 – Crystal Reports 2010 Runtime Package
WMSnet500_Setup	7 – Install "WMSnet500" Setup Package

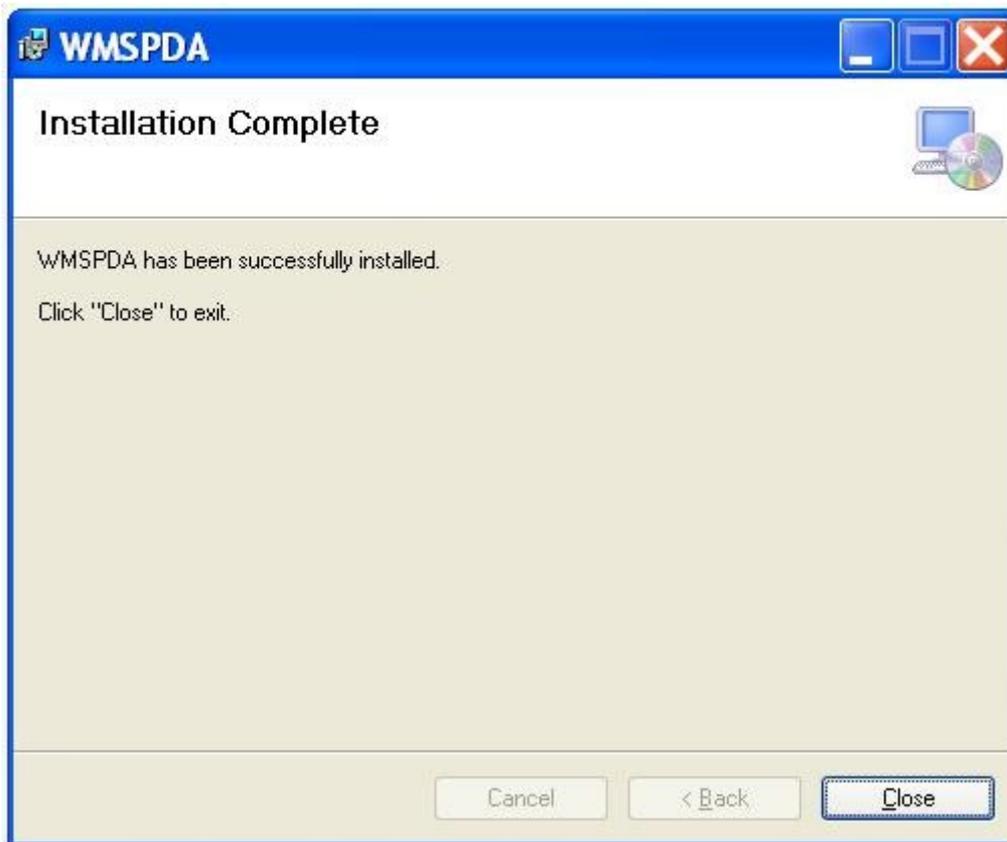
16. Install "WMSPDA" Setup Package

The installation files for the WMSPDA application are located in the "WMSnet500_Deployment Package\WMSPDA" directory. Click the "Setup.exe" file to start the installation.

WMSNET must be installed first before the installation of WMSPDA. This is because MDAC, .NET Framework etc is pre-requisite for the WMSPDA to run correctly. Follow the Setup steps by clicking "Next" button as shown in all the figures below.

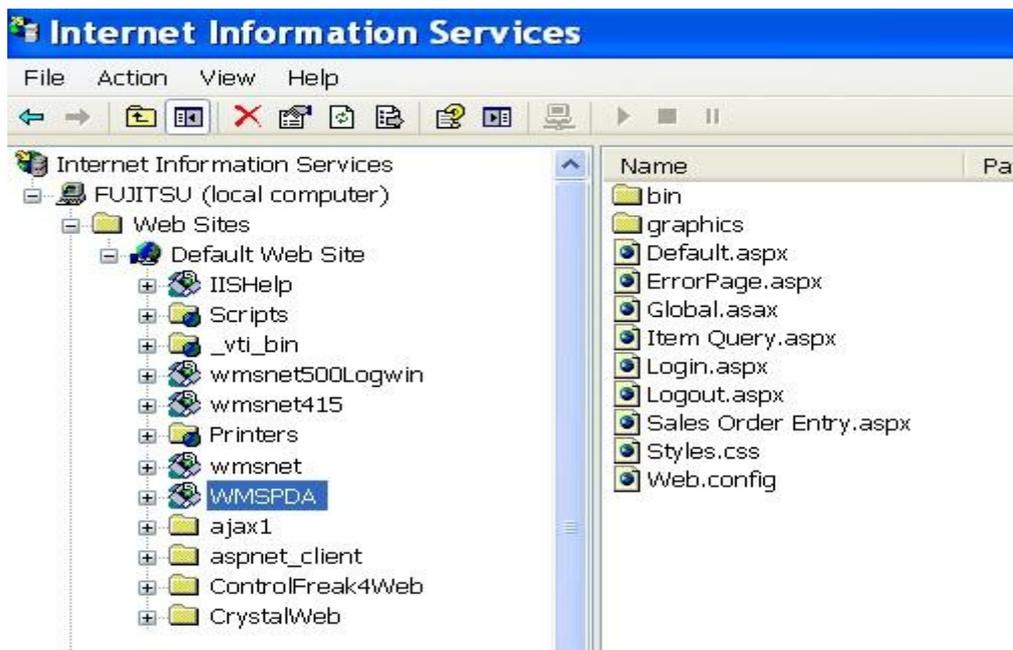






After the installation is done successfully, you need to open the Microsoft Internet Information Server (IIS). The WMSPDPA virtual directory will be automatically created as shown in the figure below.

Repeat the steps in Section 10 of the "Web Config" above to edit the Login DSN, Login UID etc. Once done, WMSPDPA is ready to run.



17. Running the WMSPDA Application

If you are running the application on the web server machine itself, enter the following URL in Internet Explorer:

<http://127.0.0.1/WMSPDA>

If you are running the application on a client machine, you must specify the IP address of the web server in the URL:

<http://192.168.2.88/WMSPDA>