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DATABASE CONCEPTS, 7th Edition



Appendix I
**Getting Started with Web Servers, PHP,
and the NetBeans IDE**



Appendix Objectives

- Know how to install and manage the Microsoft IIS Web server
- Understand the file system structure used by IIS
- Know how to use the Microsoft Internet Explorer Web browser
- Know how to download and store files from Web sites
- Know how to download and install the Java Runtime Environment (JRE)



Appendix Objectives

- Know how to download, install, and use the NetBeans IDE
- Know how to download, install, and use PHP

The IIS Web Server Opening Control Panel

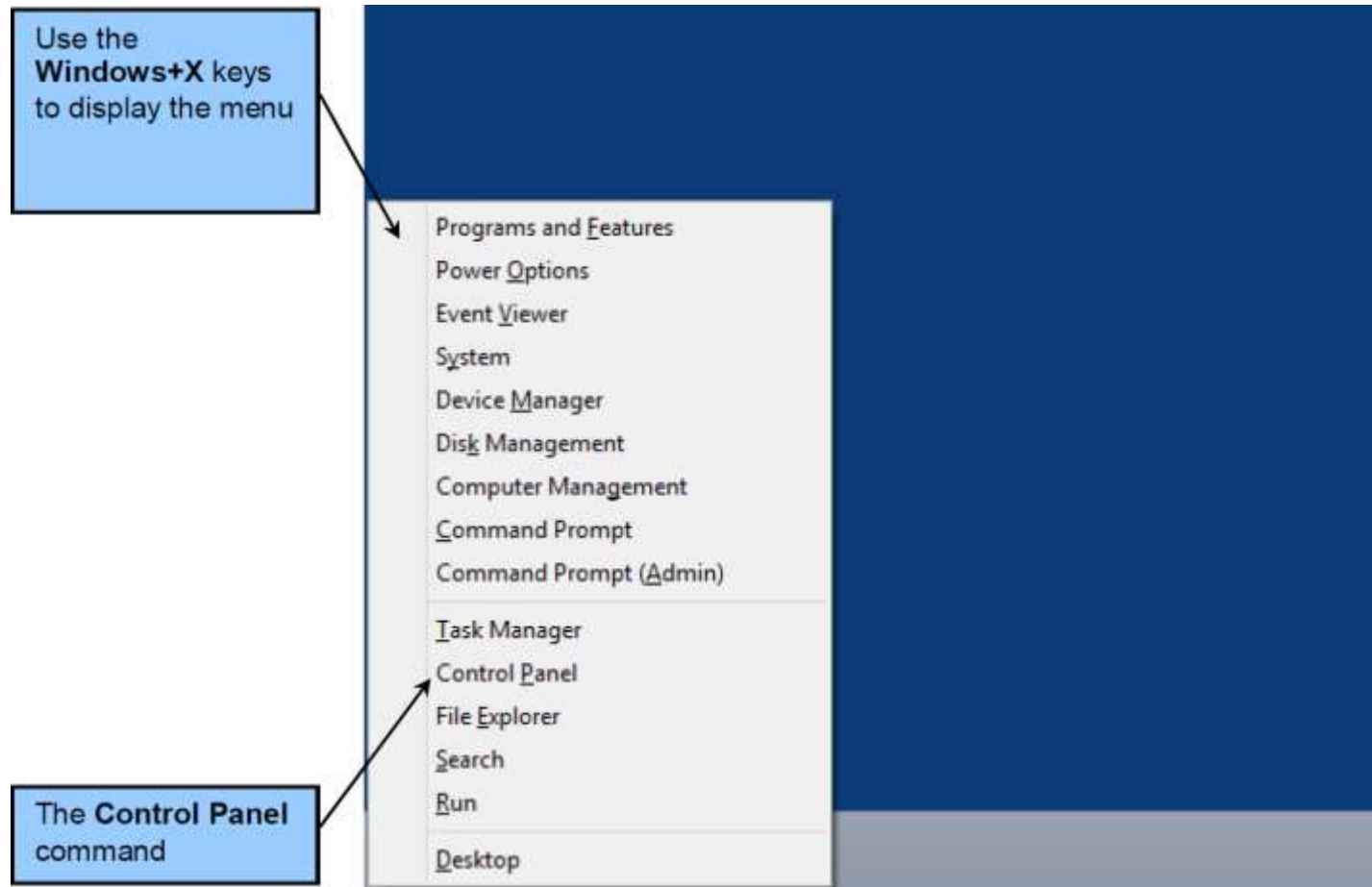


Figure I-1 — Opening Control Panel



The IIS Web Server

The Control Panel Window

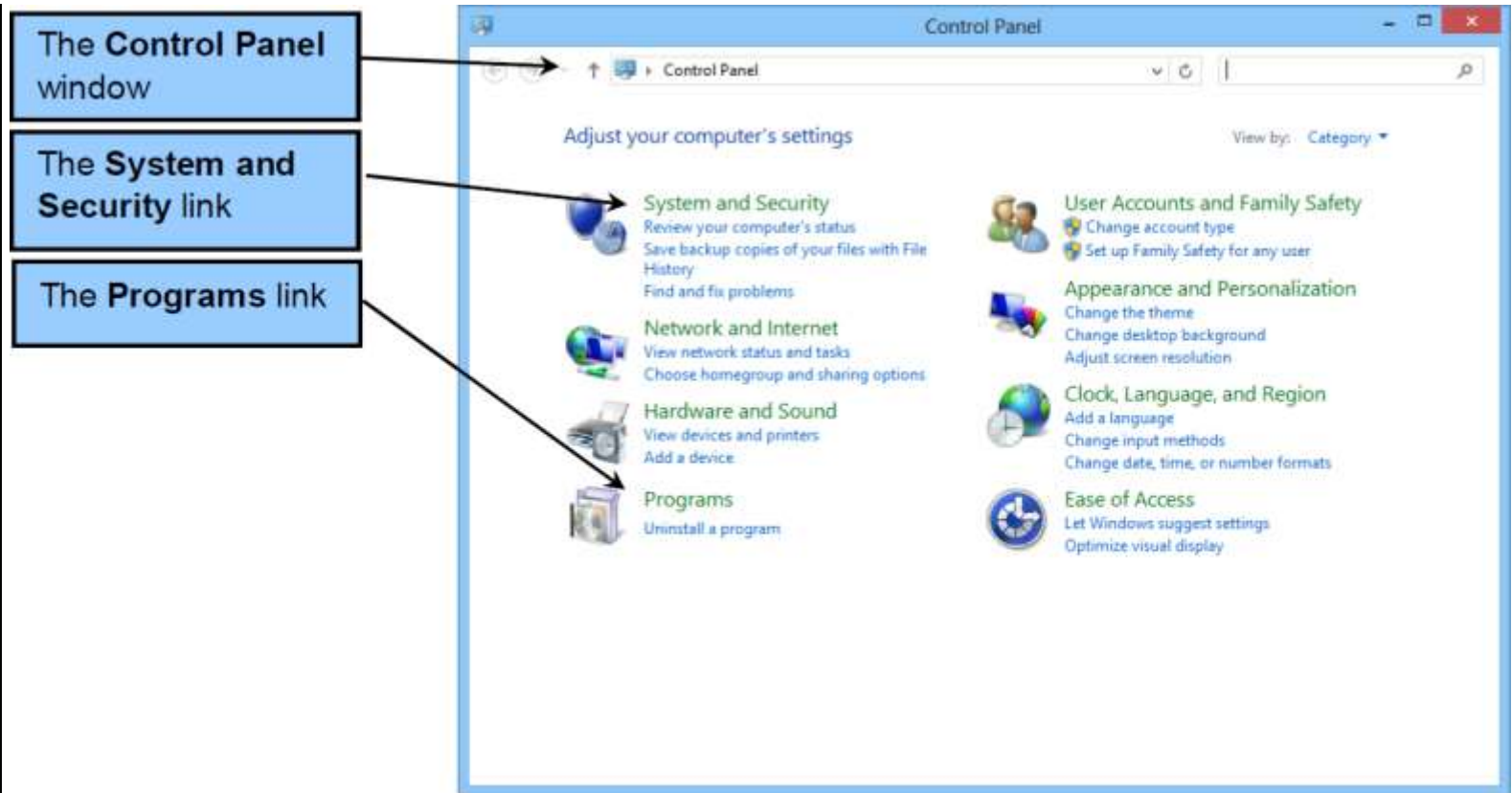


Figure I-2 — The Control Panel Window

The IIS Web Server

The Programs Window

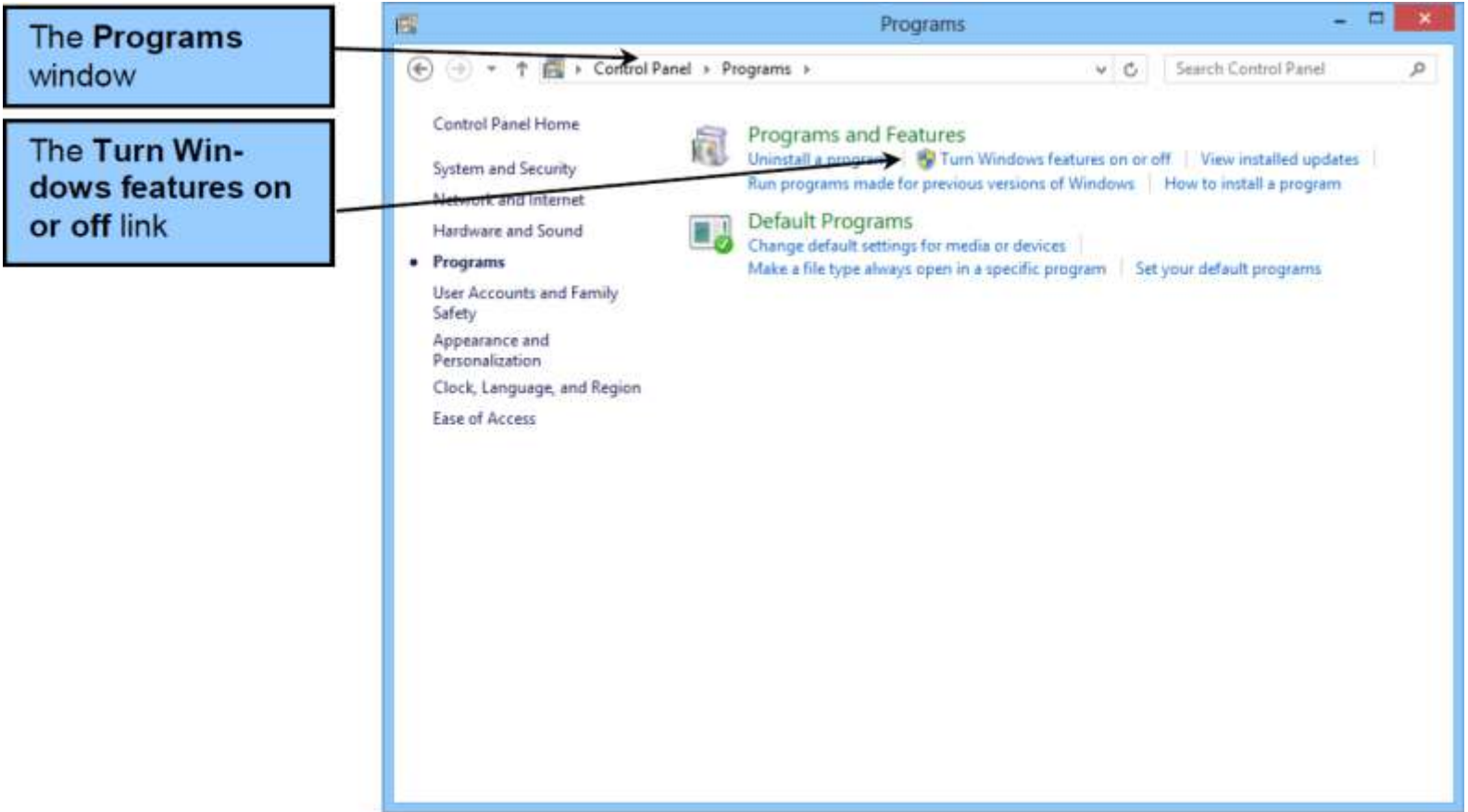
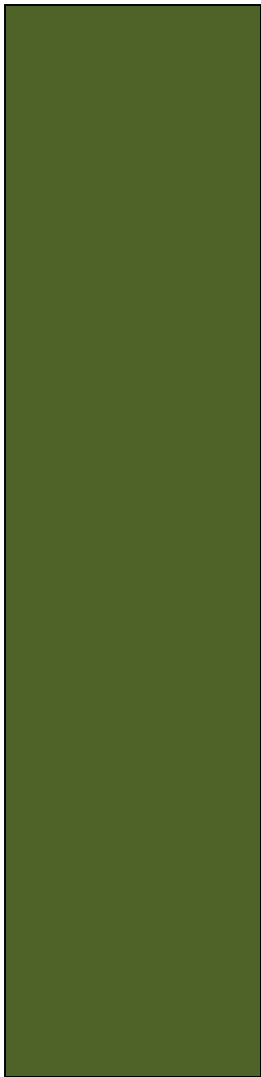
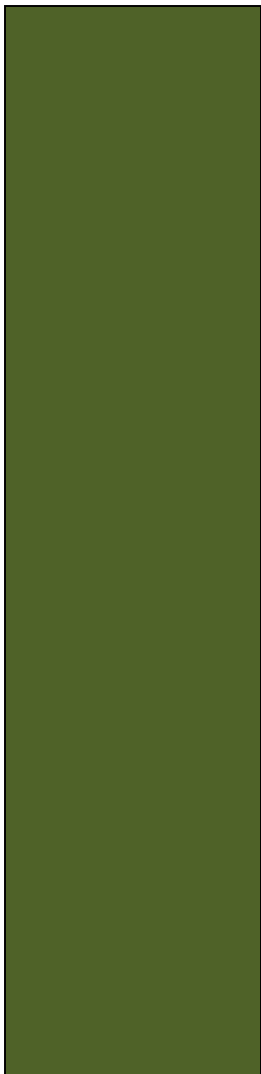


Figure I-3 — The Programs Window

The IIS Web Server

The Windows Features Dialog Box



The Windows Features dialog box

Click this + button to expand Internet Information Services

Turn Windows features on or off

To turn a feature on, select its check box. To turn a feature off, clear its check box. A filled box means that only part of the feature is turned on.

- .NET Framework 3.5 (includes .NET 2.0 and 3.0)
- .NET Framework 4.5 Advanced Services
- Active Directory Lightweight Directory Services
- Hyper-V
- Internet Explorer 10
- Internet Information Services
- Internet Information Services Hostable Web Core
- Media Features
- Microsoft Message Queue (MSMQ) Server
- Network Projection
- Print and Document Services
- RAS Connection Manager Administration Kit (CMAK)
- Remote Differential Compression API Support
- RIP Listener
- Simple Network Management Protocol (SNMP)

OK Cancel

Figure I-4 — The Windows Features dialog box



The IIS Web Server

The Selected Internet Information Services Features

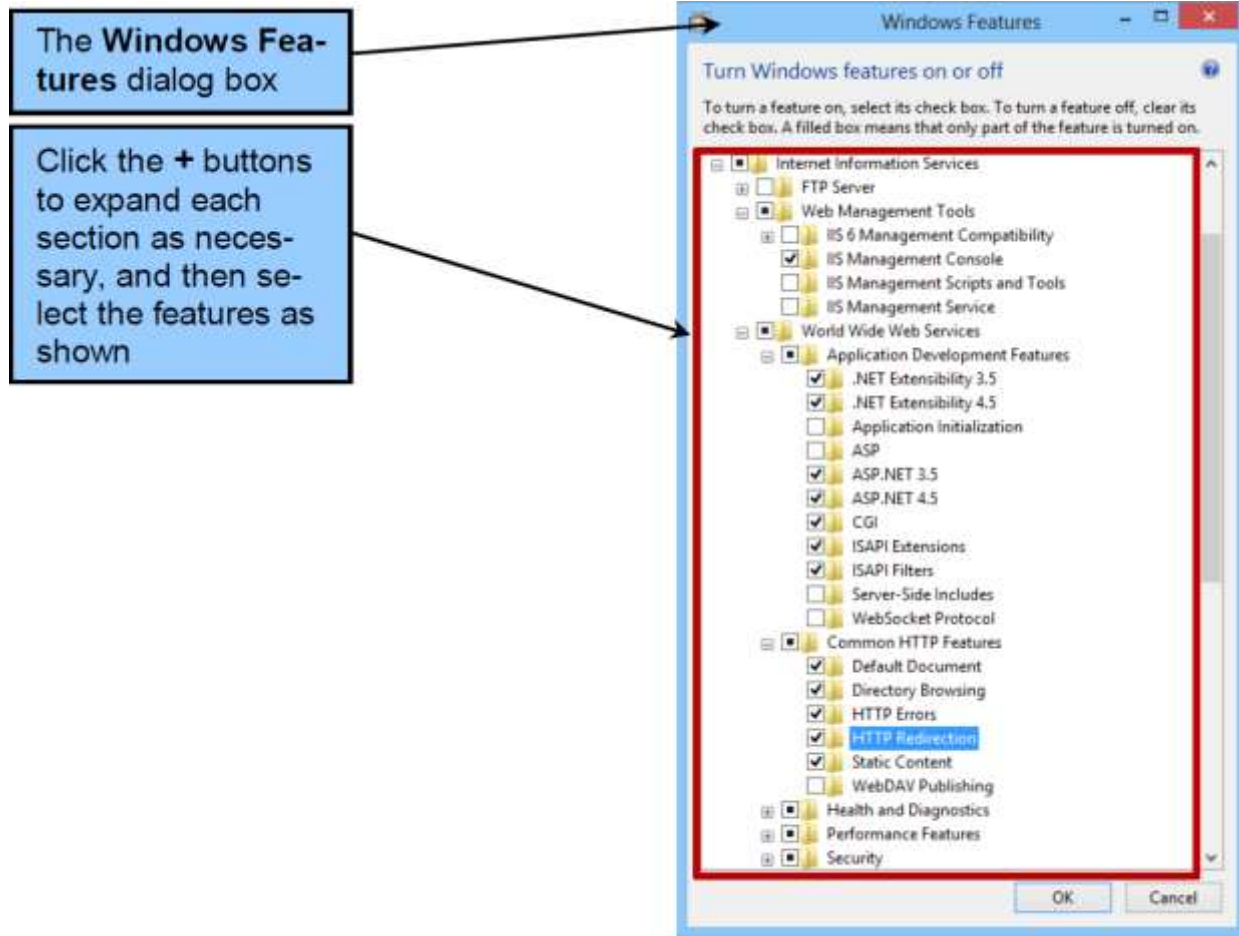


Figure I-5 — The Selected Internet Information Services Features

The Internet Information Service (IIS) Manager

The Administrative Tools Window

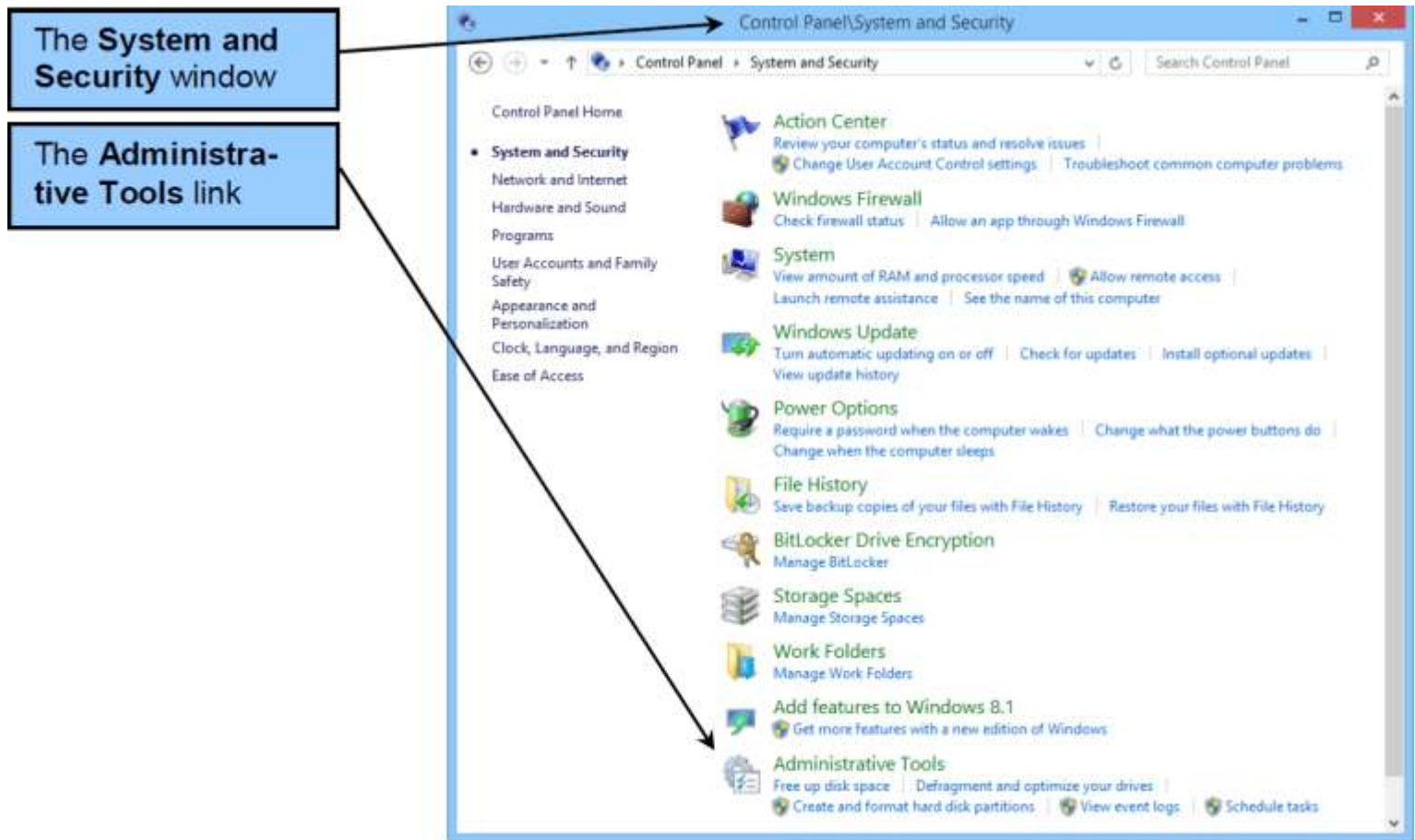


Figure I-6 — The System and Security Window

The Internet Information Service (IIS) Manager

The Short-cut Menu

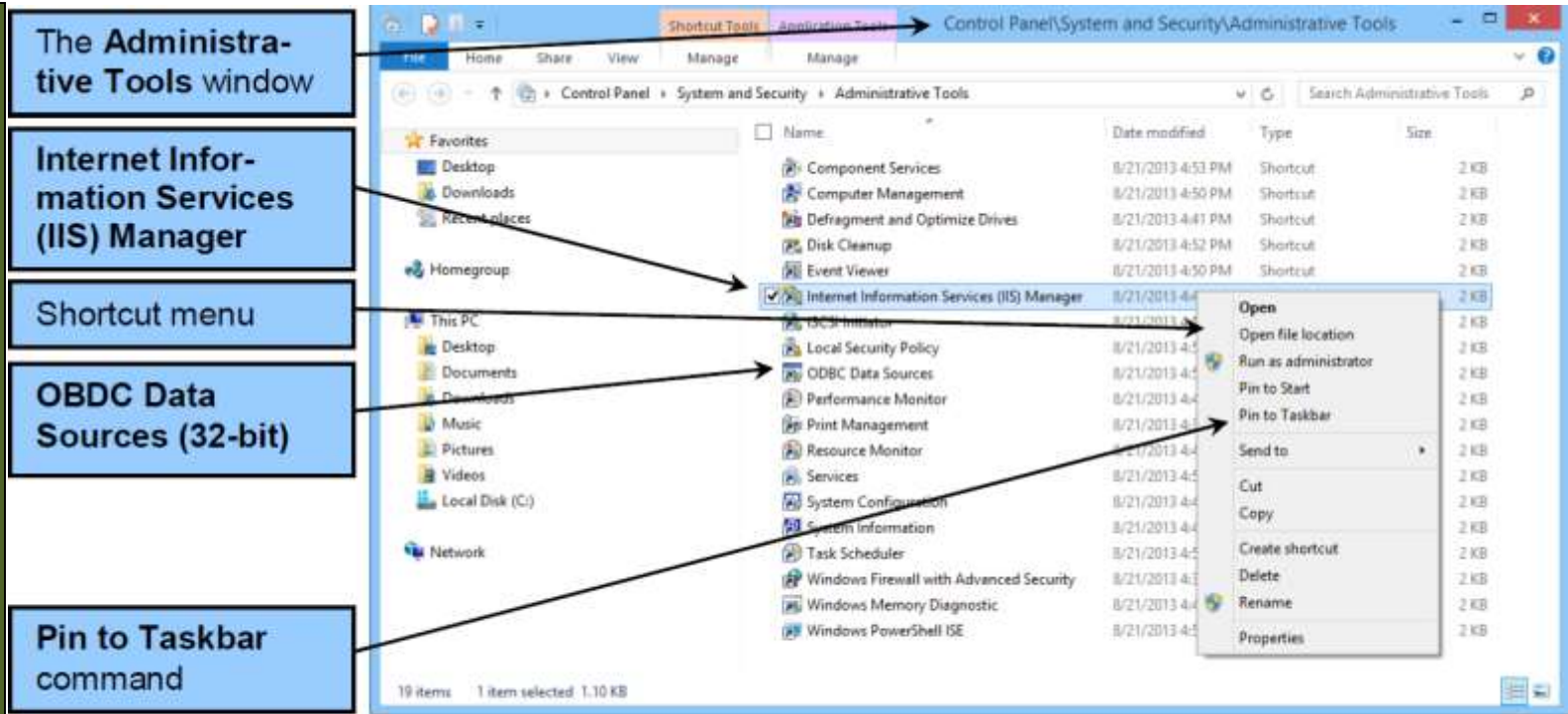


Figure I-7 — The Administrative Tools Window



32-Bit versus 64-Bit ODBC I

- The ODBC Data Sources program we have been using is for the *64-bit* version of the ODBC data sources administration program, and will create *64-bit ODBC data sources*.
- These will **only** work as long as **every** component in the Web application program chain is a 64-bit program. But, if **any** component is a 32-bit program, the 64-bit ODBC data source will **not** work.



32-Bit versus 64-Bit ODBC II

- In fact, when you are building the Web database applications in this chapter, if everything seems to be correctly done but the system still does not work, the most likely cause is a 32-bit program in the chain.
- To resolve this problem, you will need to use the *32-bit* version of the ODBC Data Sources program located at `C:\Windows\SysWOW64\odbcad32.exe`.



32-Bit versus 64-Bit ODBC III

- To resolve your Web database application problem, create a 32-bit ODBC data source using ODBC Administrator, and then revise your Web page code to use that ODBC data source.
- For more information of the programs in the Windows\SysWOW64 folder, see the Wikipedia article on WoW64 at <http://en.wikipedia.org/wiki/WoW64>.

32-Bit versus 64-Bit ODBC IV

- The two icons for the two versions appear as shown below. Note that although the program icons are the same, the program names are different. Data Source (ODBC) is the 64-bit version, and ODBC Administrator is the 32-bit

This the *64-bit* version of the **ODBC Data Source Administrator** program

This the *32-bit* version of the **ODBC Data Source Administrator** program



Data Sources (ODBC)



ODBC Administrator

The Internet Information Service (IIS) Manager

The New Program Icons

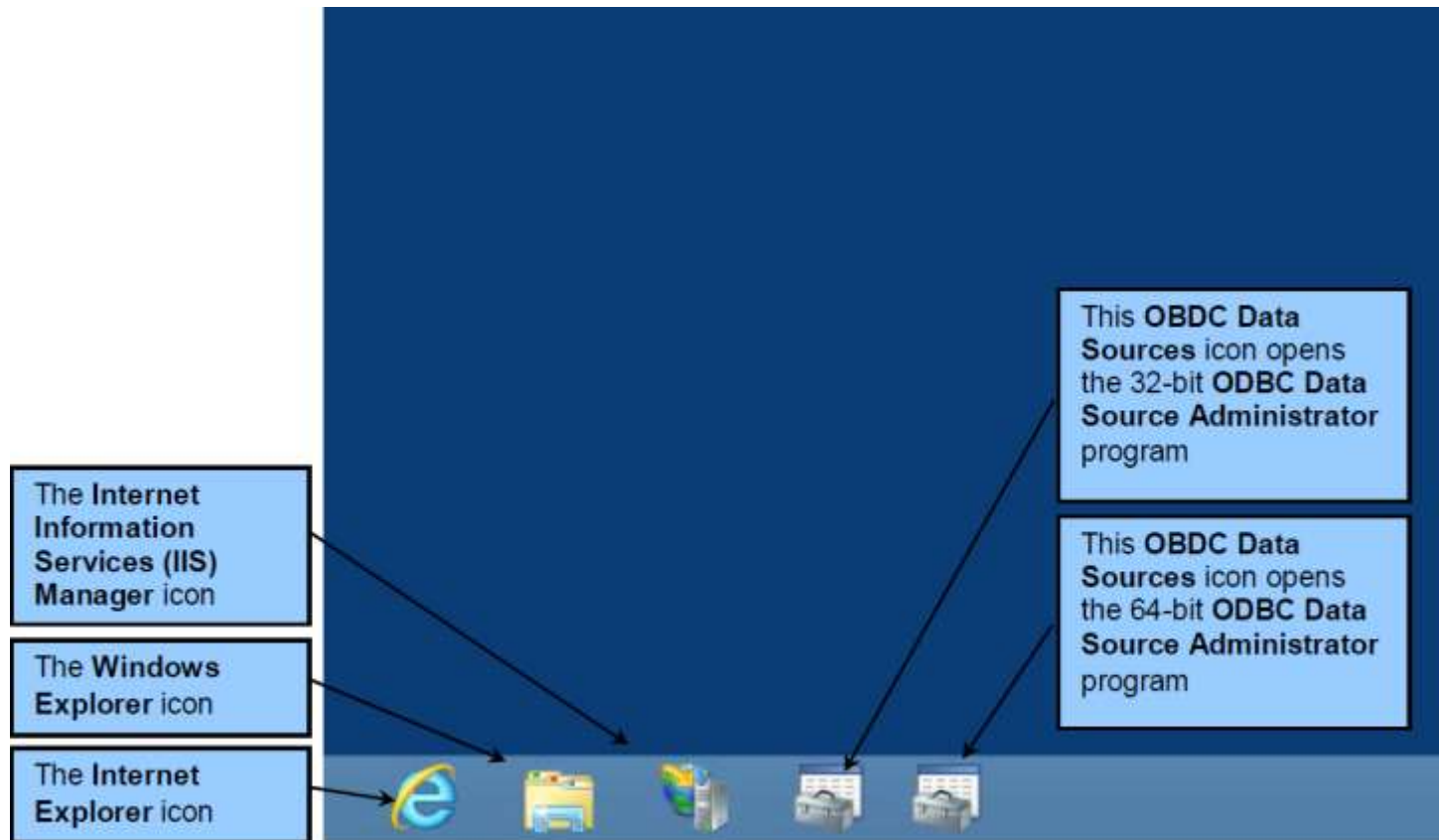
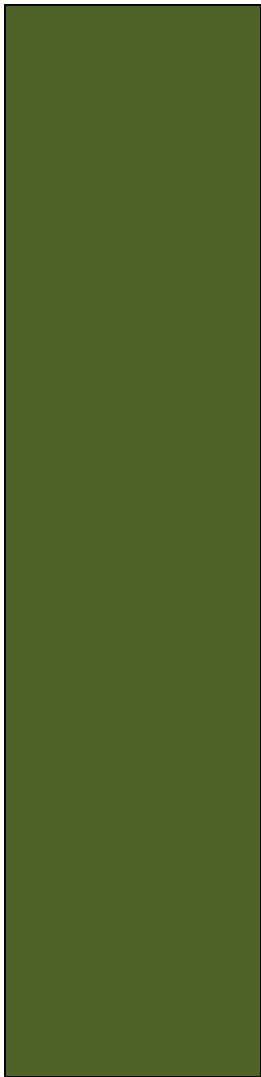


Figure I-9 — The New Program Icons on the Windows 8.1 taskbar

The Internet Information Service (IIS) Manager

The IIS Manager Itself



The Internet Information Services (IIS) Manager

Click here to expand the IIS tree structure

The name of the computer hosting IIS is **WIN81-001**

Figure I-10 — The Internet Information Services (IIS) Manager

The Internet Information Service (IIS) Manager The Default Web Site

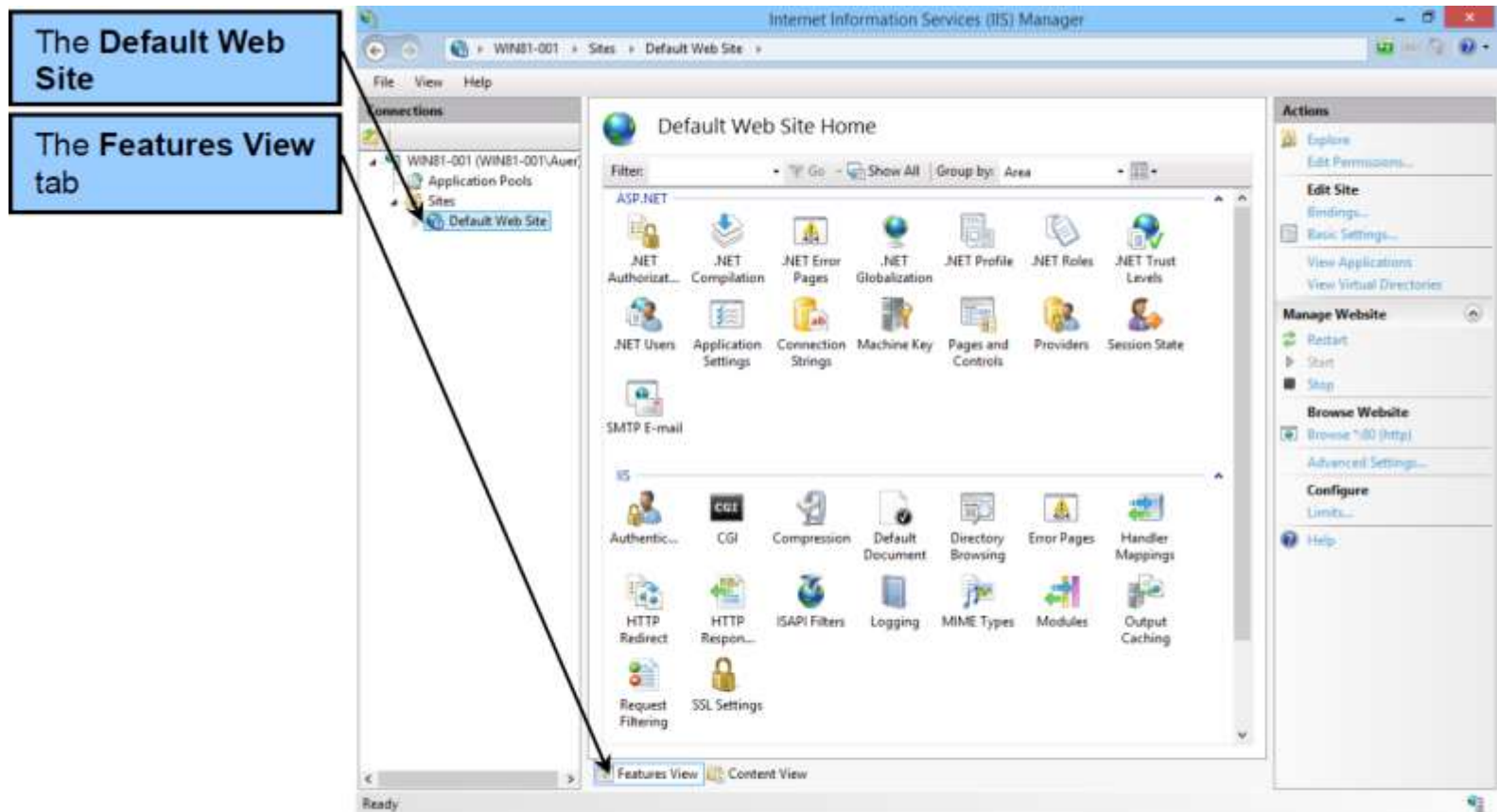


Figure I-11 — The Default Web Site

The Internet Information Service (IIS) Manager

The IIS inetpub Directory Structure and the *wwwroot* Folder

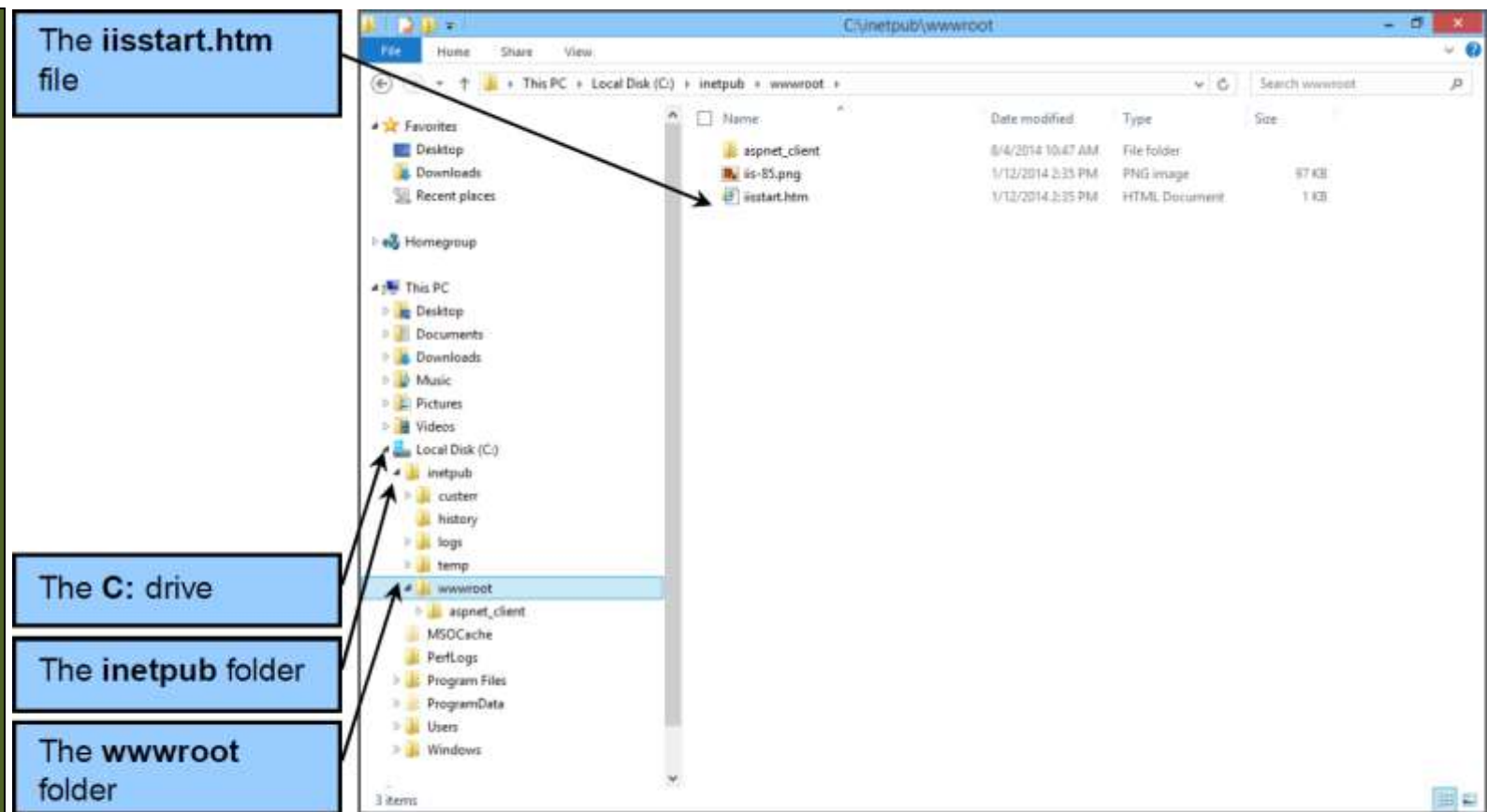


Figure I-12 — The IIS Inetpub Directory Structure and the *wwwroot* folder

The Internet Information Service (IIS) Manager The Default Web Site Maps to the *wwwroot* Folder

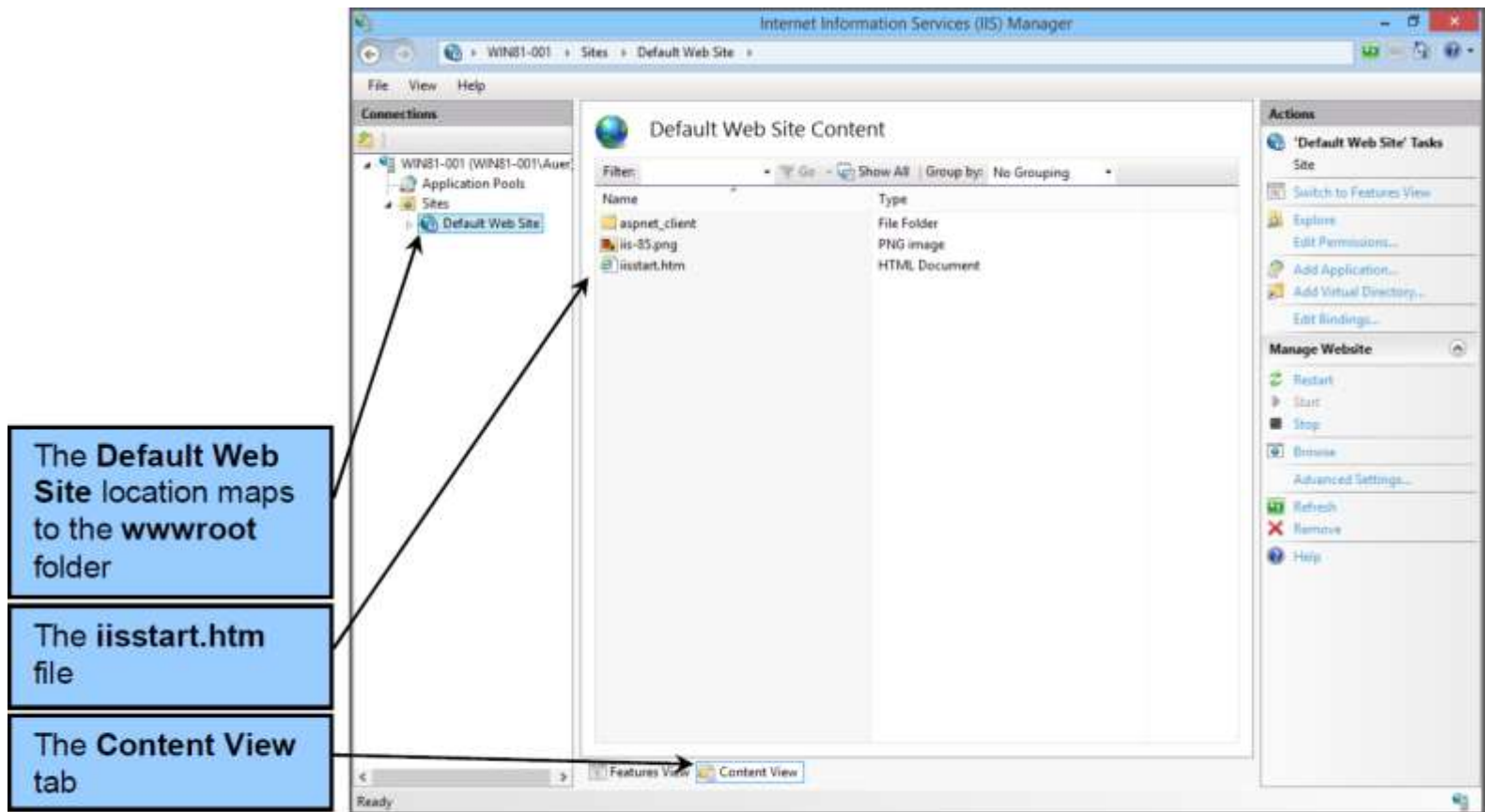


Figure I-13 — The Internet Information Services (IIS) Manager



The Internet Information Service (IIS) Manager

The Default Web Site in the Web Browser



This Web page is generated by the `iisstart.htm` file

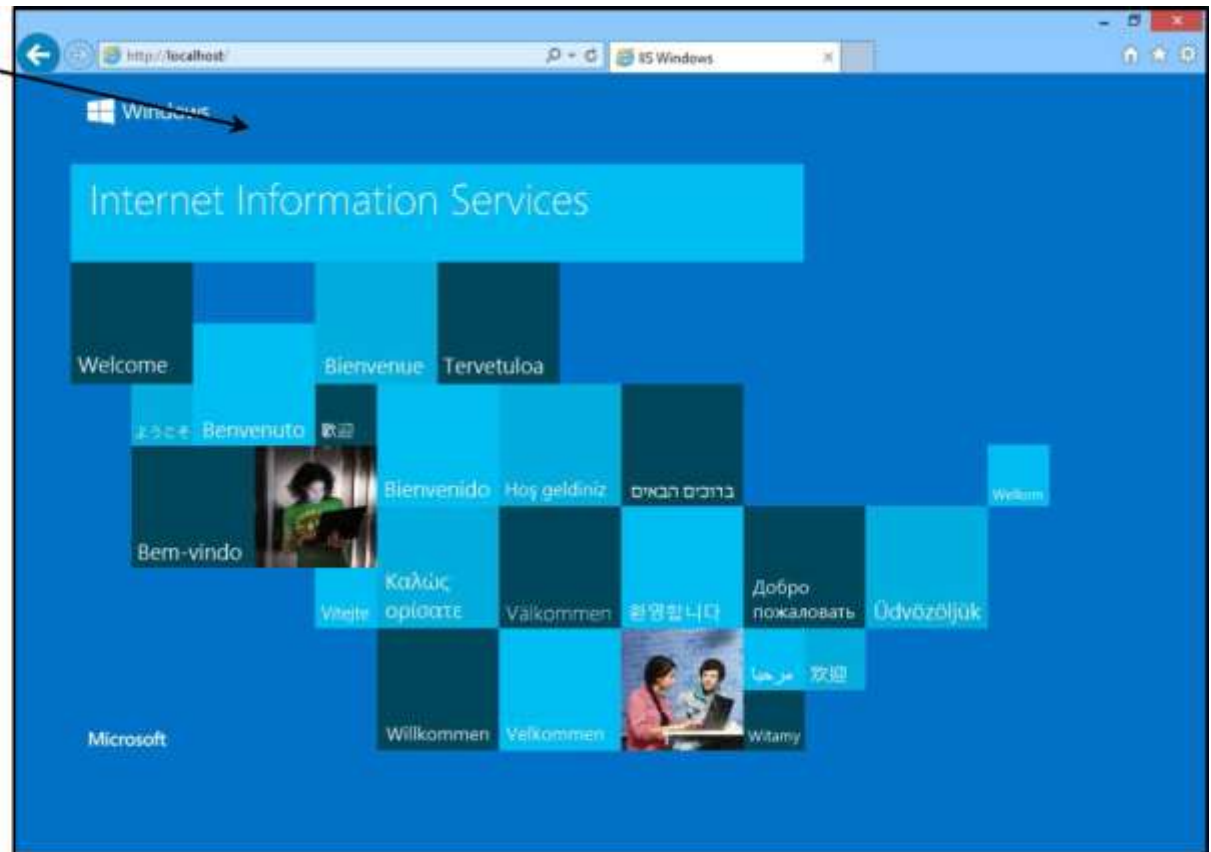


Figure I-14 — The Default IIS Web Page

Web Site Security Management

The Folder and Search Options Command

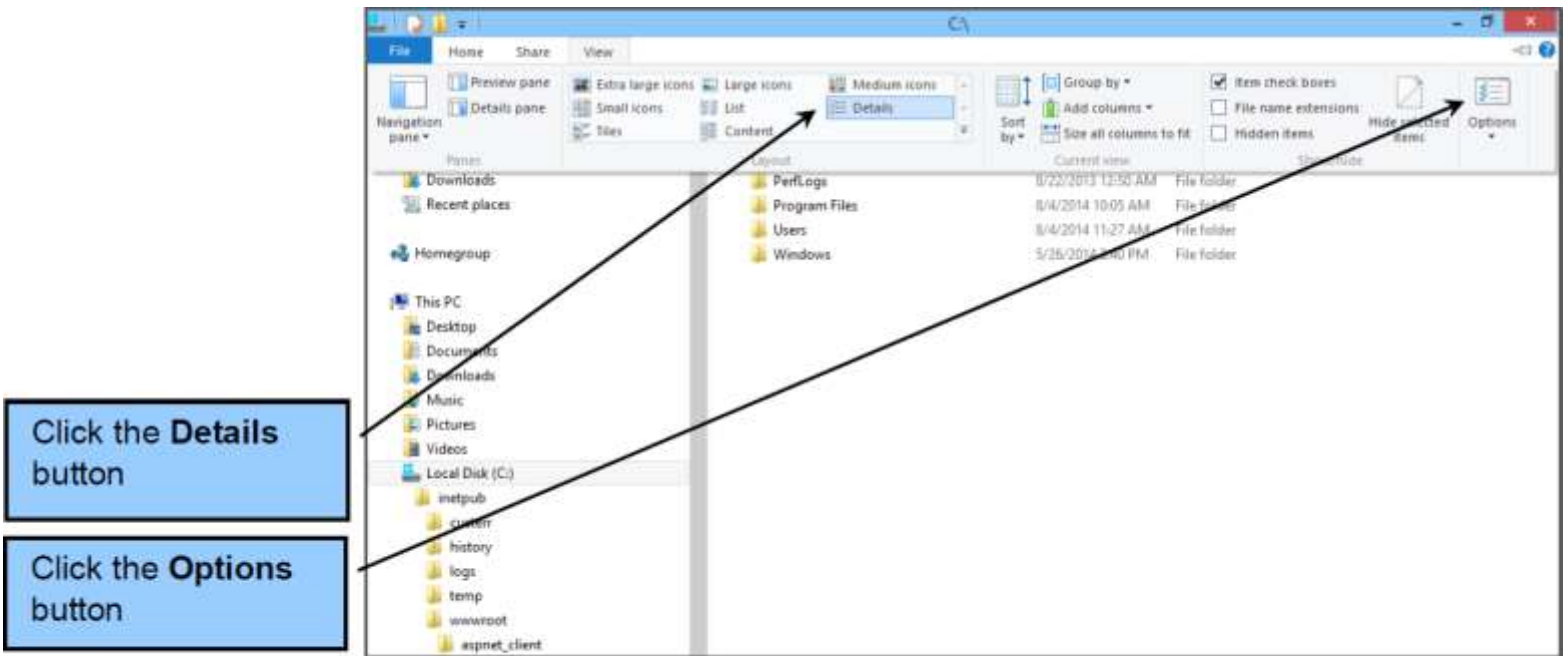
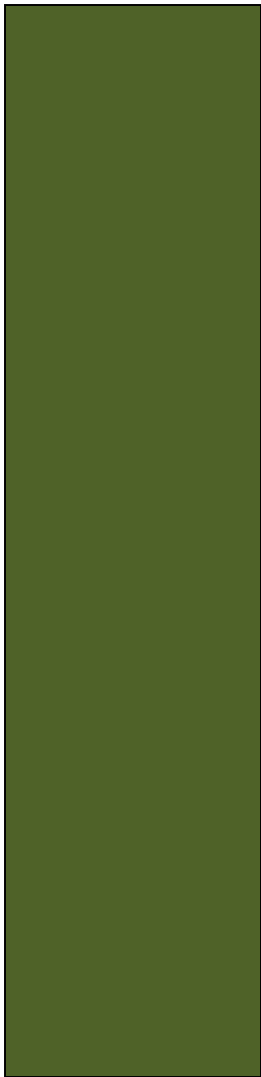


Figure I-15 — The Folder and Search Options Command

Web Site Security Management

The View Page in the Folder Options Dialog Box



The image shows a screenshot of the Windows 'Folder Options' dialog box, specifically the 'View' tab. On the left side, there is a vertical green bar containing four blue callout boxes with black text and arrows pointing to specific parts of the dialog box:

- The Folder Options dialog box**: Points to the top title bar of the dialog.
- The View tab**: Points to the 'View' tab selected in the top navigation bar.
- Advanced settings**: Points to the 'Advanced settings' section, which is highlighted with a red border.
- Uncheck the Hide extensions for known file types checkbox**: Points to the 'Hide extensions for known file types' checkbox, which is currently checked.

The 'Advanced settings' section contains the following options:

- Always show icons, never thumbnails
- Always show menus
- Display file icon on thumbnails
- Display file size information in folder tips
- Display the full path in the title bar
- Hidden files and folders
 - Don't show hidden files, folders, or drives
 - Show hidden files, folders, and drives
- Hide empty drives
- Hide extensions for known file types
- Hide folder merge conflicts
- Hide protected operating system files (Recommended)

At the bottom of the 'Advanced settings' section is a 'Restore Defaults' button. At the bottom of the dialog box are 'OK', 'Cancel', and 'Apply' buttons.

Figure I-16 — The View Page in the Folder Options Dialog Box

Web Site Security Management

The Use Sharing Wizard (Recommended) Setting

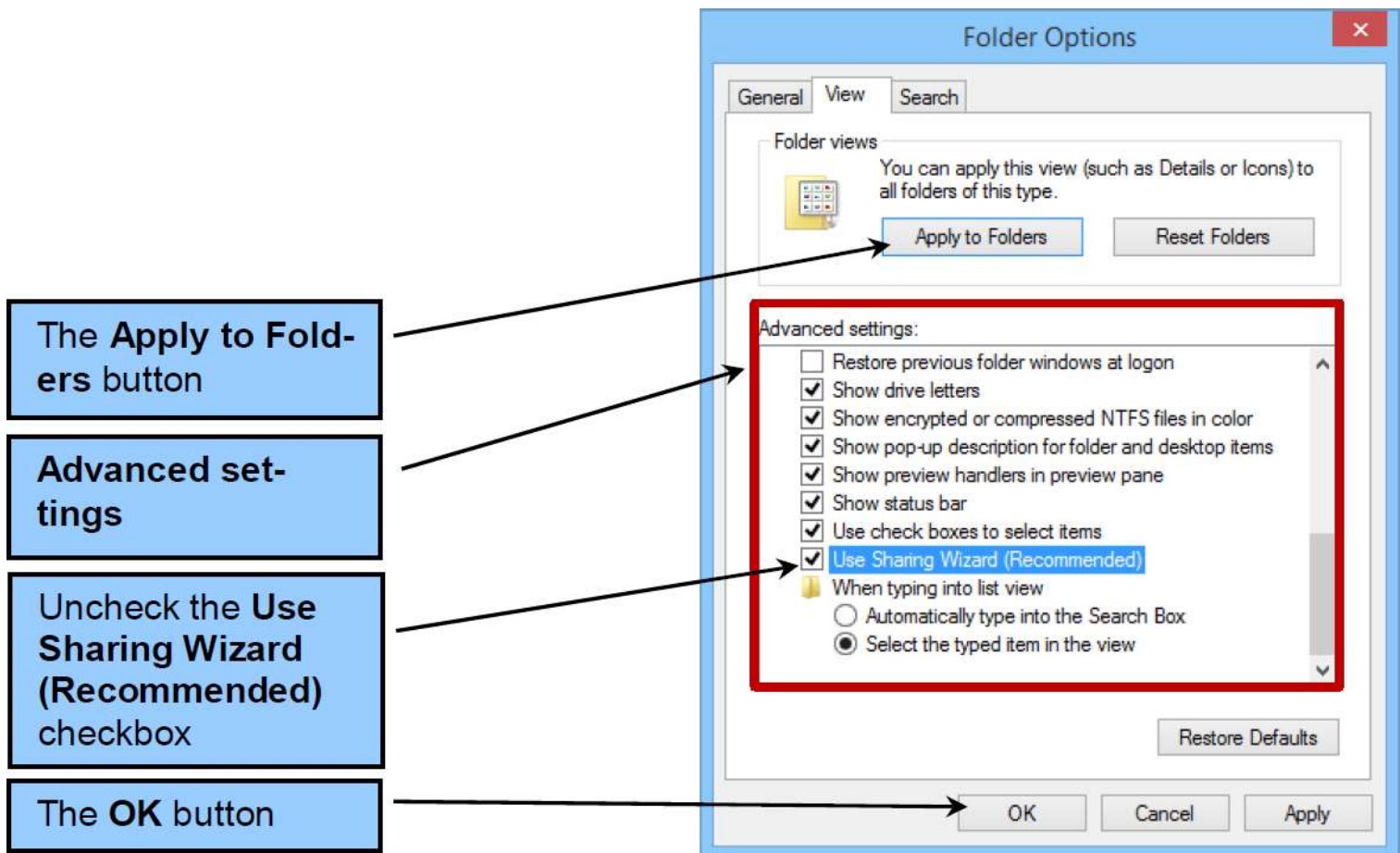


Figure I-17 — The Use Sharing Wizard (Recommended) Setting

Web Site Security Management

The Properties Command

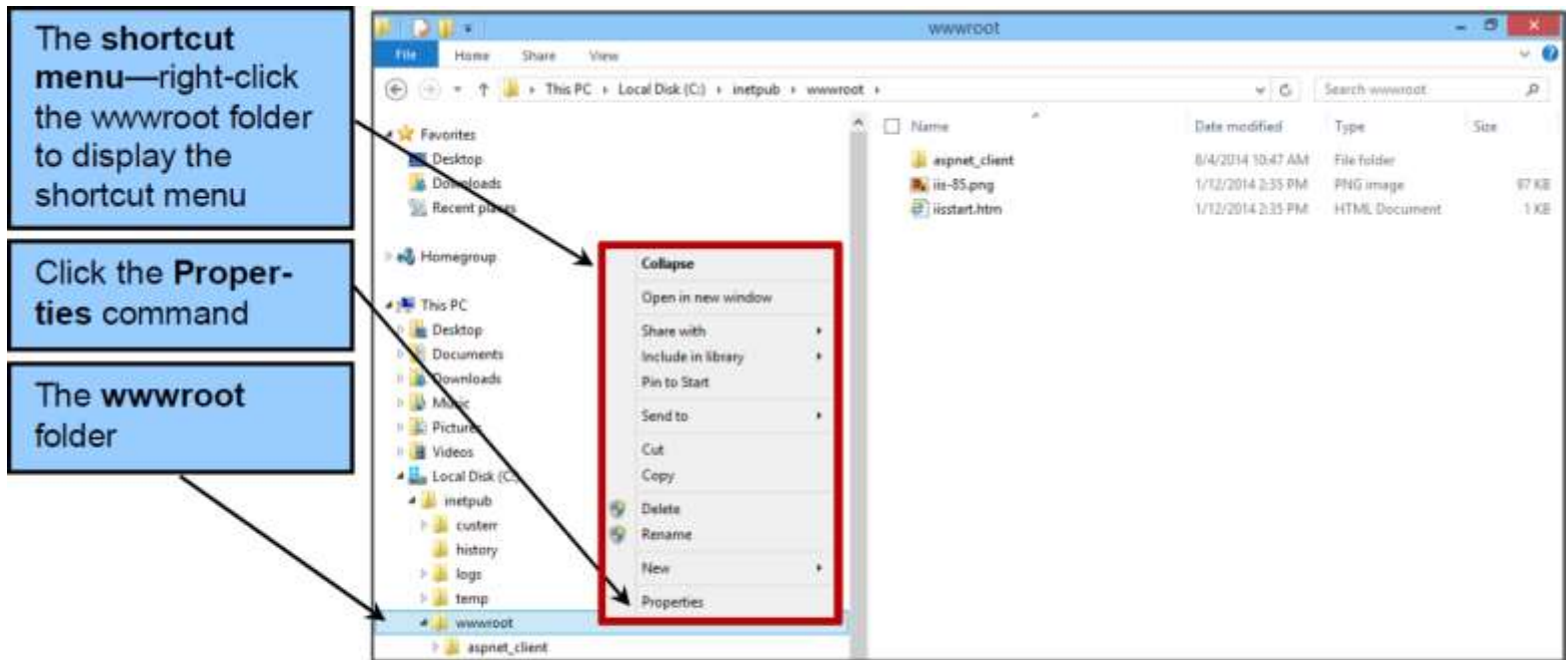


Figure I-18 — The Properties Command

Web Site Security Management

The wwwroot Properties Dialog Box

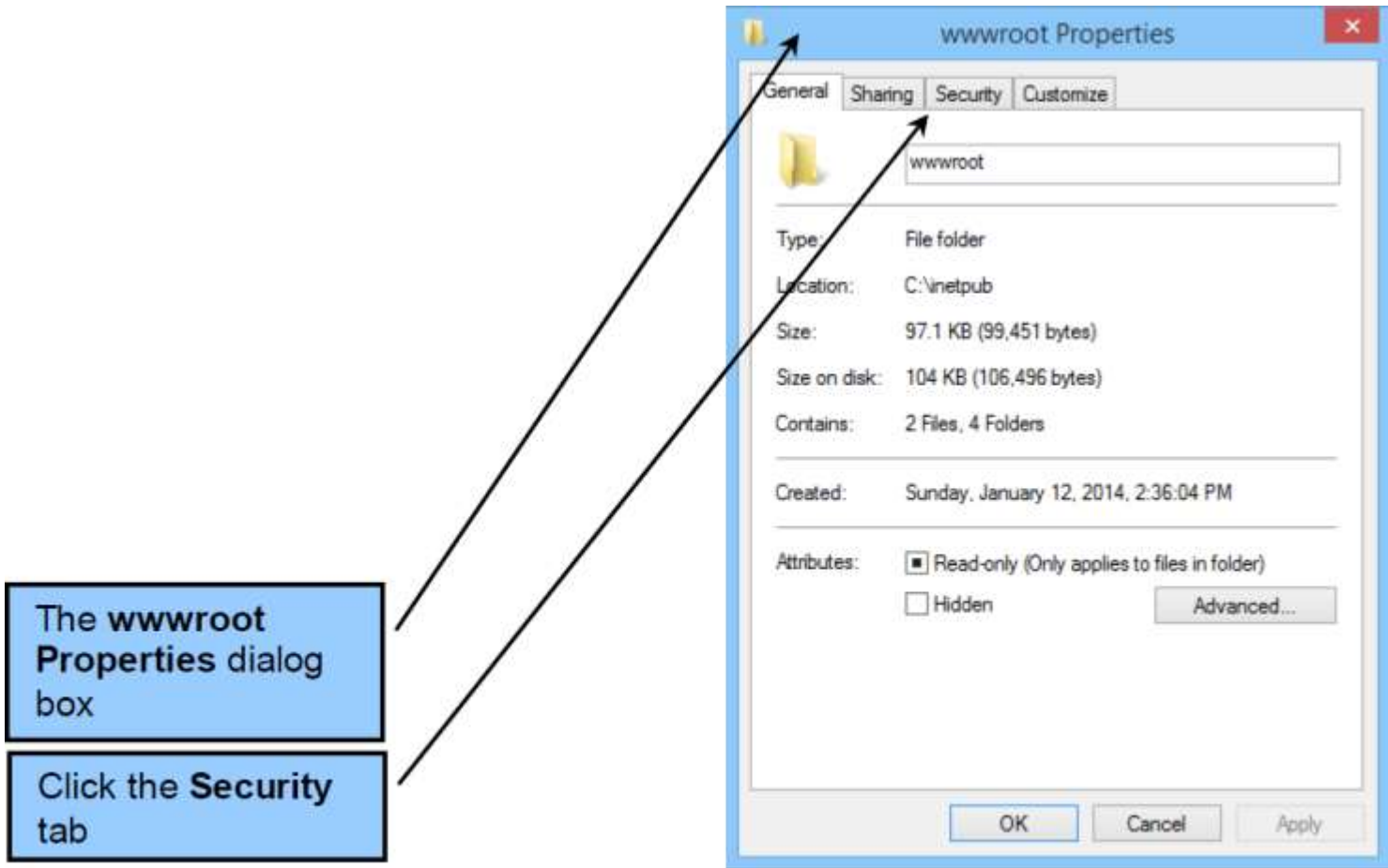
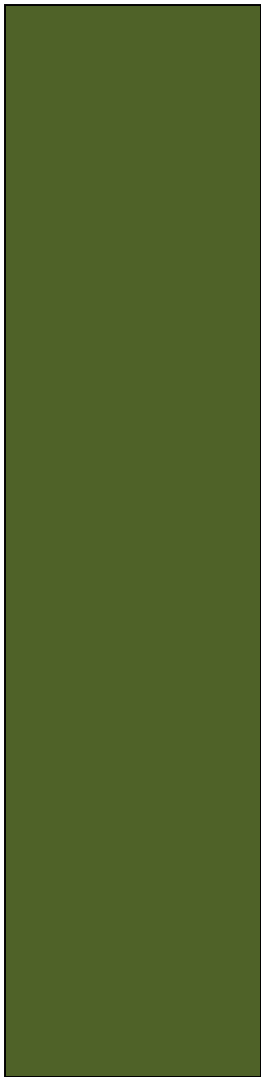


Figure I-19 — The wwwroot Properties Dialog Box

Web Site Security Management

The Users Group Permissions



The screenshot shows the 'wwwroot Properties' dialog box with the 'Security' tab selected. The 'Group or user names' list contains 'Administrators (WIN81-001\Administrators)', 'Users (WIN81-001\Users)', 'IIS_IUSR5 (WIN81-001\IIS_IUSR5)', and 'TrustedInstaller'. The 'Users' group is selected. Below this is the 'Permissions for Users' table:

Permissions for Users	Allow	Deny
Full control		
Modify		
Read & execute	<input checked="" type="checkbox"/>	
List folder contents	<input checked="" type="checkbox"/>	
Read	<input checked="" type="checkbox"/>	
Write		

Callout boxes on the left side of the screenshot identify the following elements:

- The Users group
- The Permissions currently granted to the Users group
- The Modify permission
- The Read & Execute permission
- The List folder contents permission
- The Read permission
- The Write permission

Callout boxes on the right side of the screenshot identify the following elements:

- The Edit button
- The Allow column
- The OK button

Figure I-20 — The Users Group Permissions

Web Site Security Management

Editing the Users Group Permissions

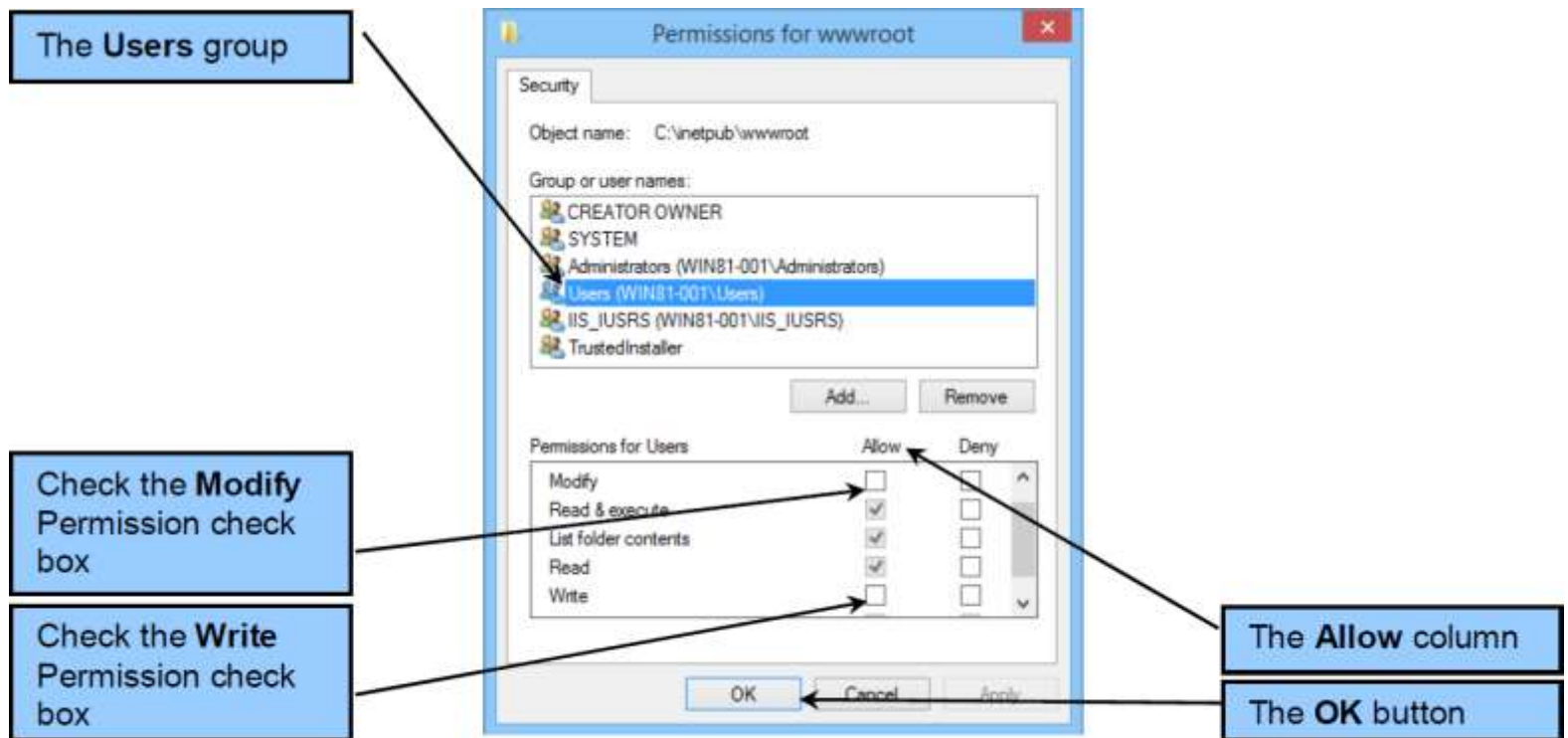


Figure I-21 — Editing the Users Group Permissions

Web Site Security Management

The Final Users Group Permissions

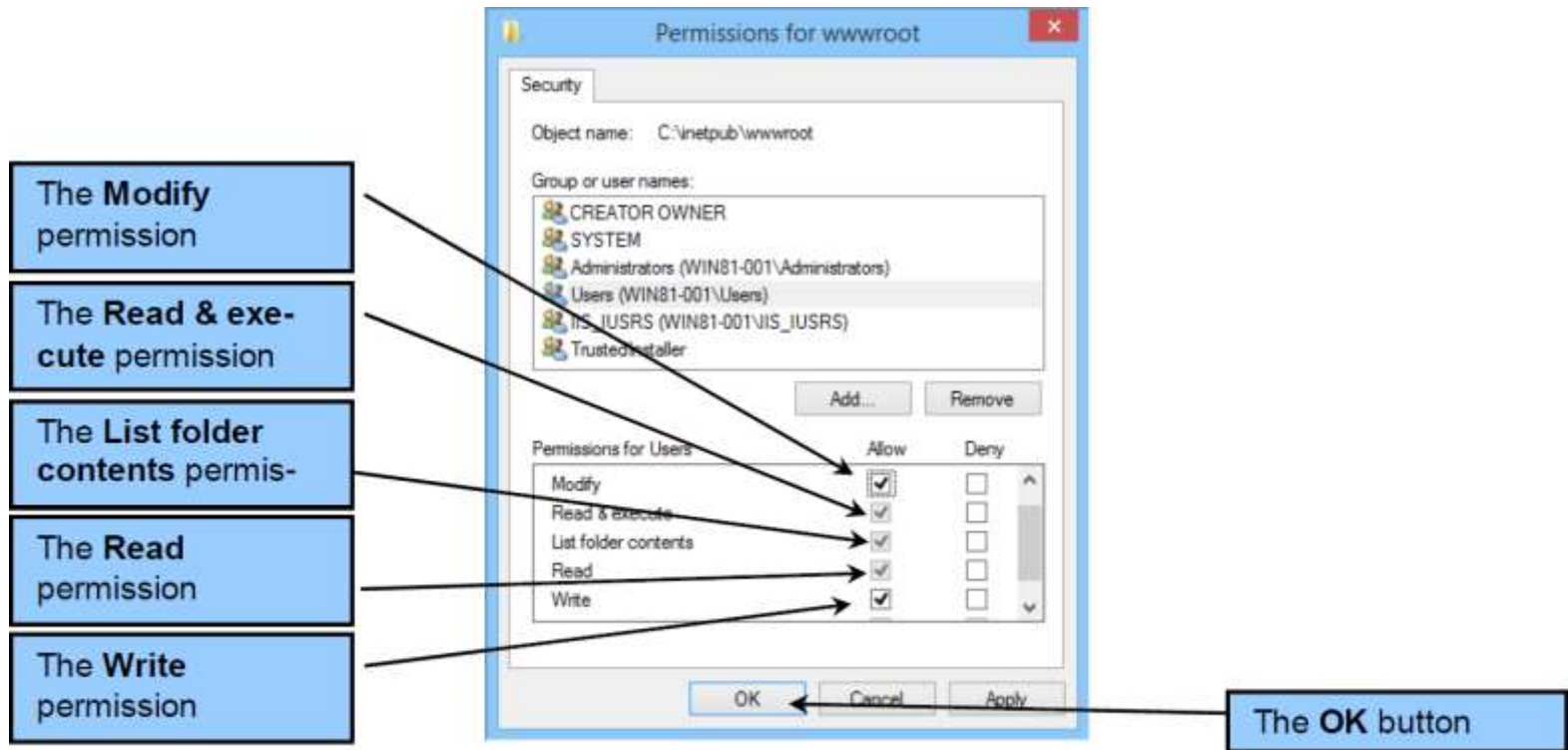


Figure I-22 — The Final Users Group Permissions

Installing the Java Development Kit (JDK) and the NetBeans IDE

The screenshot shows the Oracle website page for downloading the Java SE Development Kit (JDK) 8u11 with NetBeans IDE 8.0. The page features the Oracle logo and navigation links. A sidebar on the left contains various links. The main content area is titled "JDK 8u11 with NetBeans 8.0" and includes a license agreement section with a radio button for "Accept License Agreement". Below this is a table of download links for different operating systems.

Product / File Description	File Size	Download
Linux x86	246.38 MB	jdk-8u11-linux-i586-jdk.tar.gz
Linux x64	241.86 MB	jdk-8u11-linux-x64-jdk.tar.gz
Mac OS X x64	310.22 MB	jdk-8u11-osx-macosx-x64-jdk.dmg
Windows x86	250.5 MB	jdk-8u11-windows-i586-jdk.exe
Windows x64	250.97 MB	jdk-8u11-windows-x64-jdk.exe

Click the Accept License Agreement check box

Click the version for your operating system

Figure I-23 — The Java JDK 8u11 with NetBeans 8.0 Web Page

Installing the Java Runtime Environment (JRE)

The Do You Want to Run or Save {Filename} Message Box

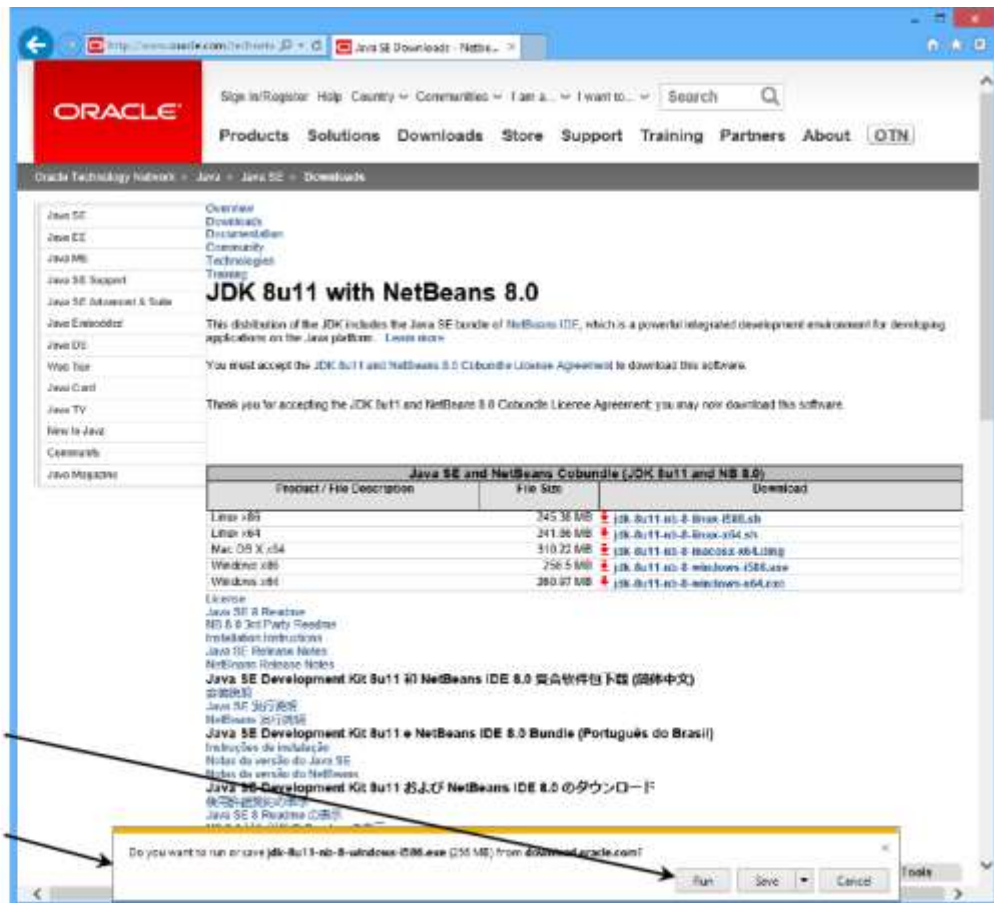


Figure I-24 — The Do You Want to Run or Same {FileName}? Message Box

Installing the Java Runtime Environment (JRE) The User Account Control Dialog Box

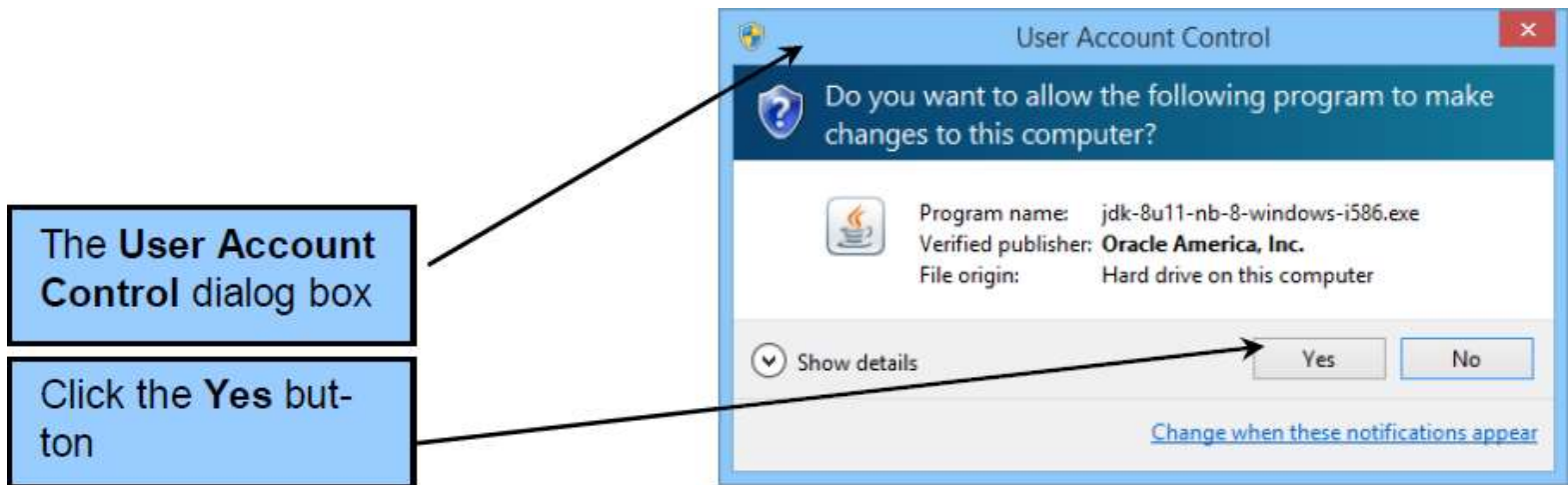


Figure I-25 — The User Account Control Dialog Box

The Java SE Development Kit (JDK) and the NetBeans IDE Installer Dialog Box

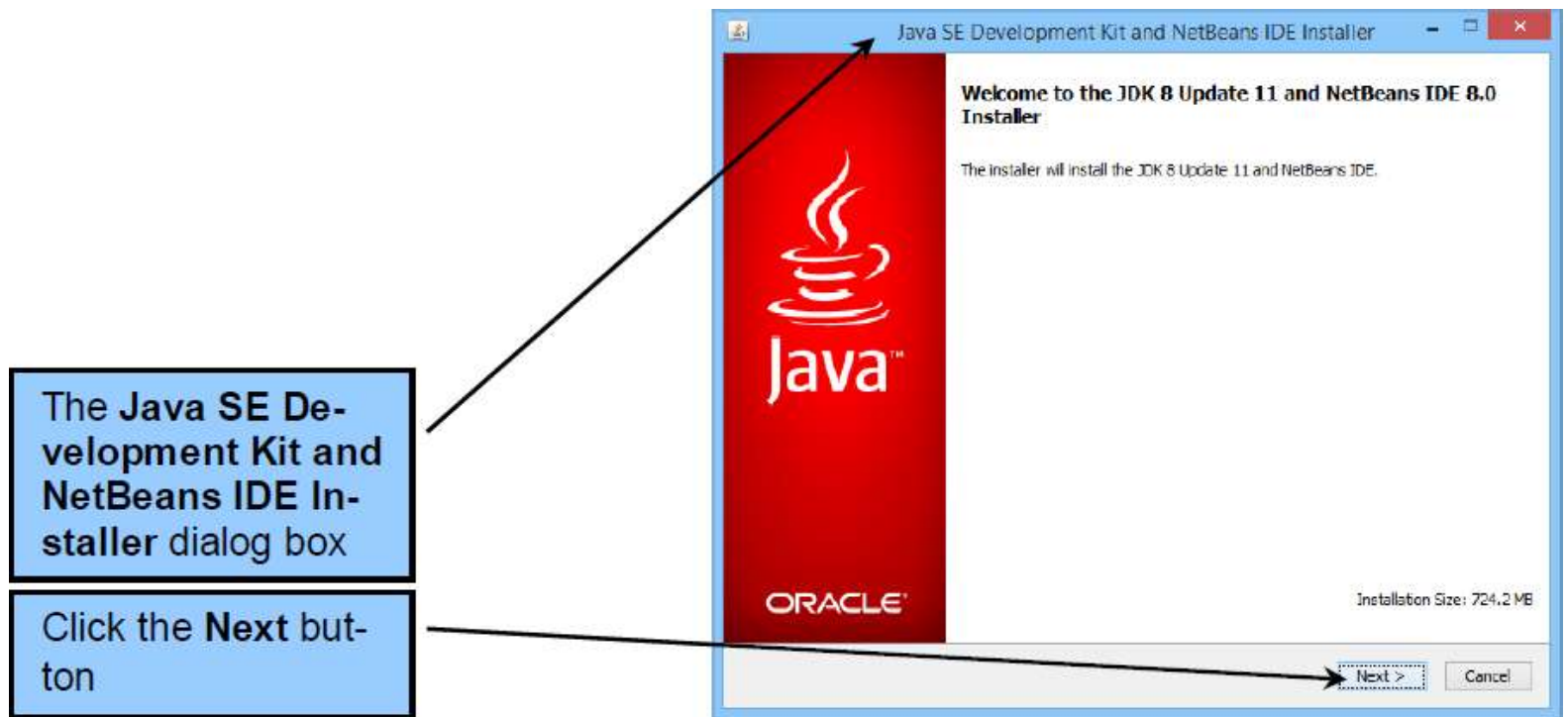


Figure I-26 — The Java SE Development Kit and NetBeans IDE Installer Dialog Box

The JUnit License Agreement Page

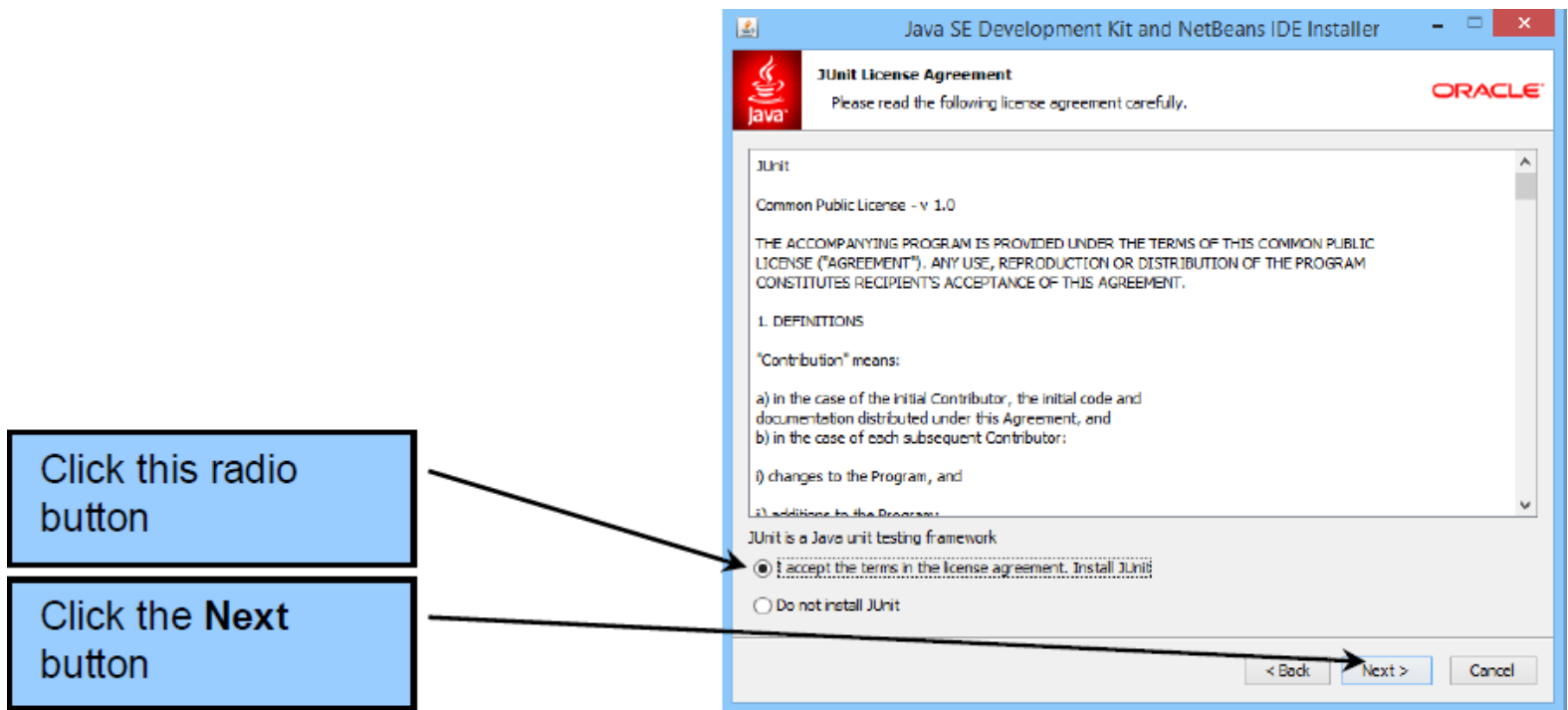
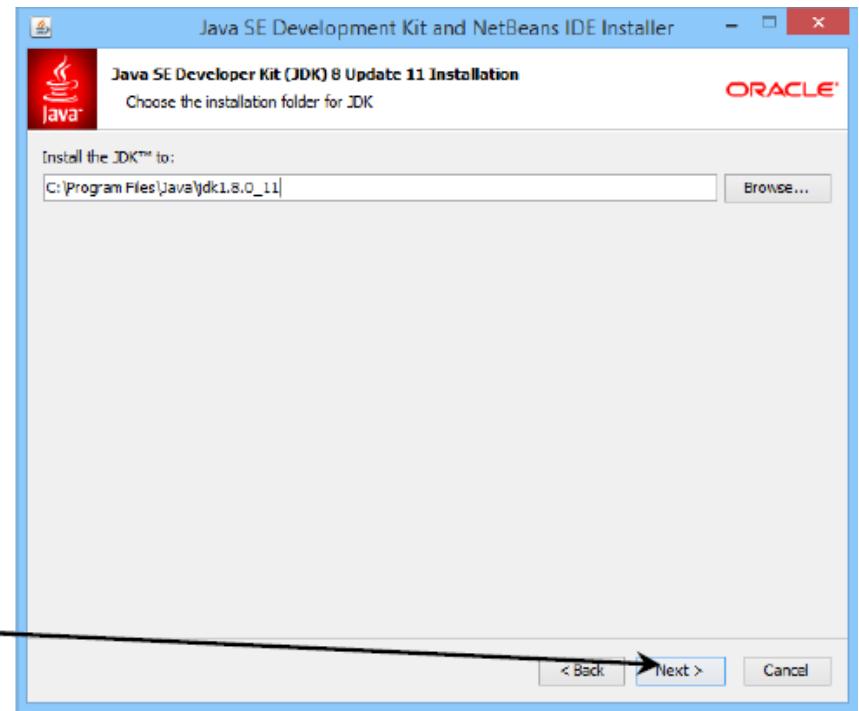
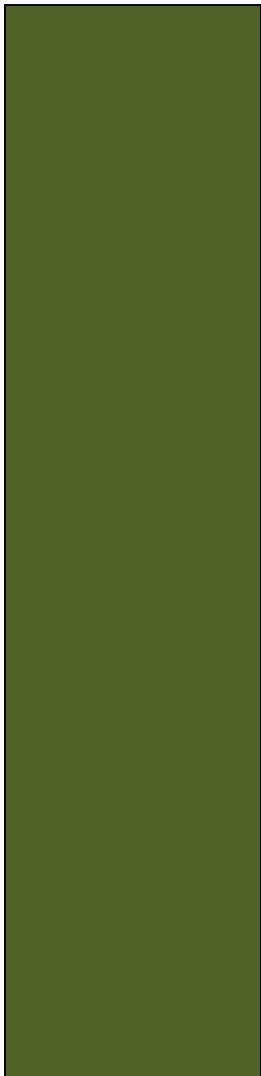


Figure I-27 — The JUnit License Agreement Page



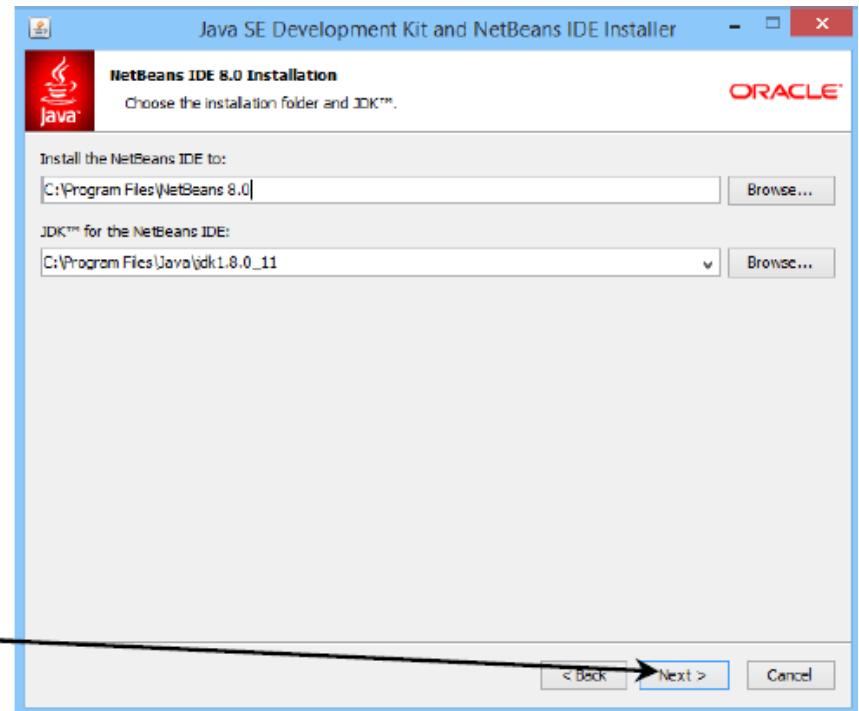
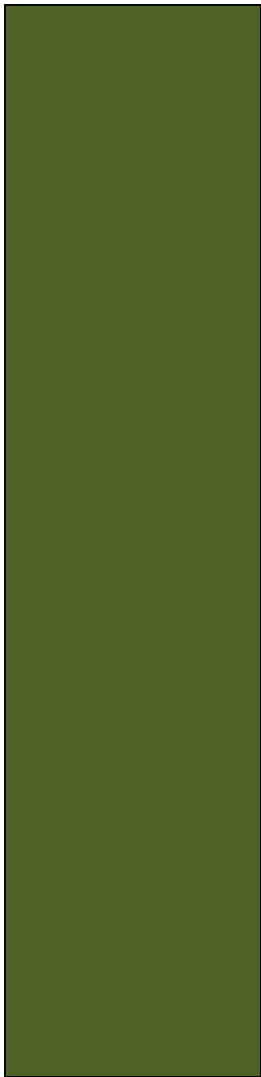
The Java SE Developer Kit (JDK) 8 Update 11 Installation Page



Click the Next button

Figure I-28 — The Java SE Developer Kit (JDK) 8 Update 11 Installation Page

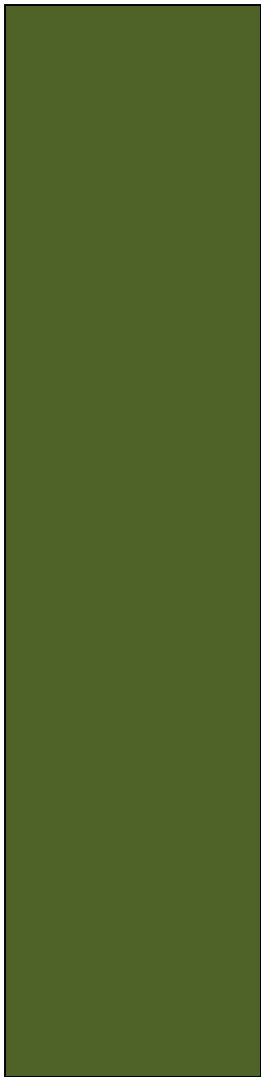
The NetBeans IDE 8.0 Installation Page



Click the Next button

Figure I-29 — The NetBeans IDE 8.0 Installation Page

The NetBeans IDE 8.0 Installation Page



The screenshot shows the 'Summary' page of the 'Java SE Development Kit and NetBeans IDE Installer'. The window title is 'Java SE Development Kit and NetBeans IDE Installer'. The page includes the Java logo and the Oracle logo. The text on the page reads: 'Click Install to start the installation.' Below this, it lists the installation folders: 'JDK 8 Update 11 Installation Folder: C:\Program Files\Java\jdk1.8.0_11' and 'NetBeans IDE Installation Folder: C:\Program Files\NetBeans 8.0'. It also states: 'JUnit library will be downloaded and installed during installation of NetBeans IDE.' There is a checked checkbox for 'Check for Updates' with the text: 'The NetBeans installer can automatically check for updates of installed plugins using your Internet connection.' At the bottom, it shows 'Total Installation Size: 724.2 MB' and three buttons: '< Back', 'Install', and 'Cancel'. Two callout boxes on the left provide instructions: 'If necessary, check the Check for Updates check box' with an arrow pointing to the checkbox, and 'Click the Install button' with an arrow pointing to the 'Install' button.

Figure I-30 — The Summary Page

The Setup Complete Page



The screenshot shows the 'Setup Complete' window of the Java SE Development Kit and NetBeans IDE Installer. The window title is 'Java SE Development Kit and NetBeans IDE Installer'. The main content area has a 'Setup Complete' header with the Oracle logo and the text 'Click Finish to finish the NetBeans IDE setup.' Below this, it states 'Installation completed successfully.' and provides instructions on how to launch the IDE and manage plugins. A checkbox labeled 'Contribute to the NetBeans project by providing anonymous usage data' is checked. Below the checkbox, there are two bullet points explaining the data collection process. At the bottom right, there is a 'Finish' button. Two callout boxes are present: one on the left pointing to the checkbox with the text 'If you do not want to participate in providing anonymous user data, the uncheck this check box', and another pointing to the 'Finish' button with the text 'Click the Finish button'.

If you do not want to participate in providing anonymous user data, the uncheck this check box

Click the **Finish** button

Figure I-31 — The Setup Complete Page

The NetBeans Icon on the Windows Desktop and Taskbar

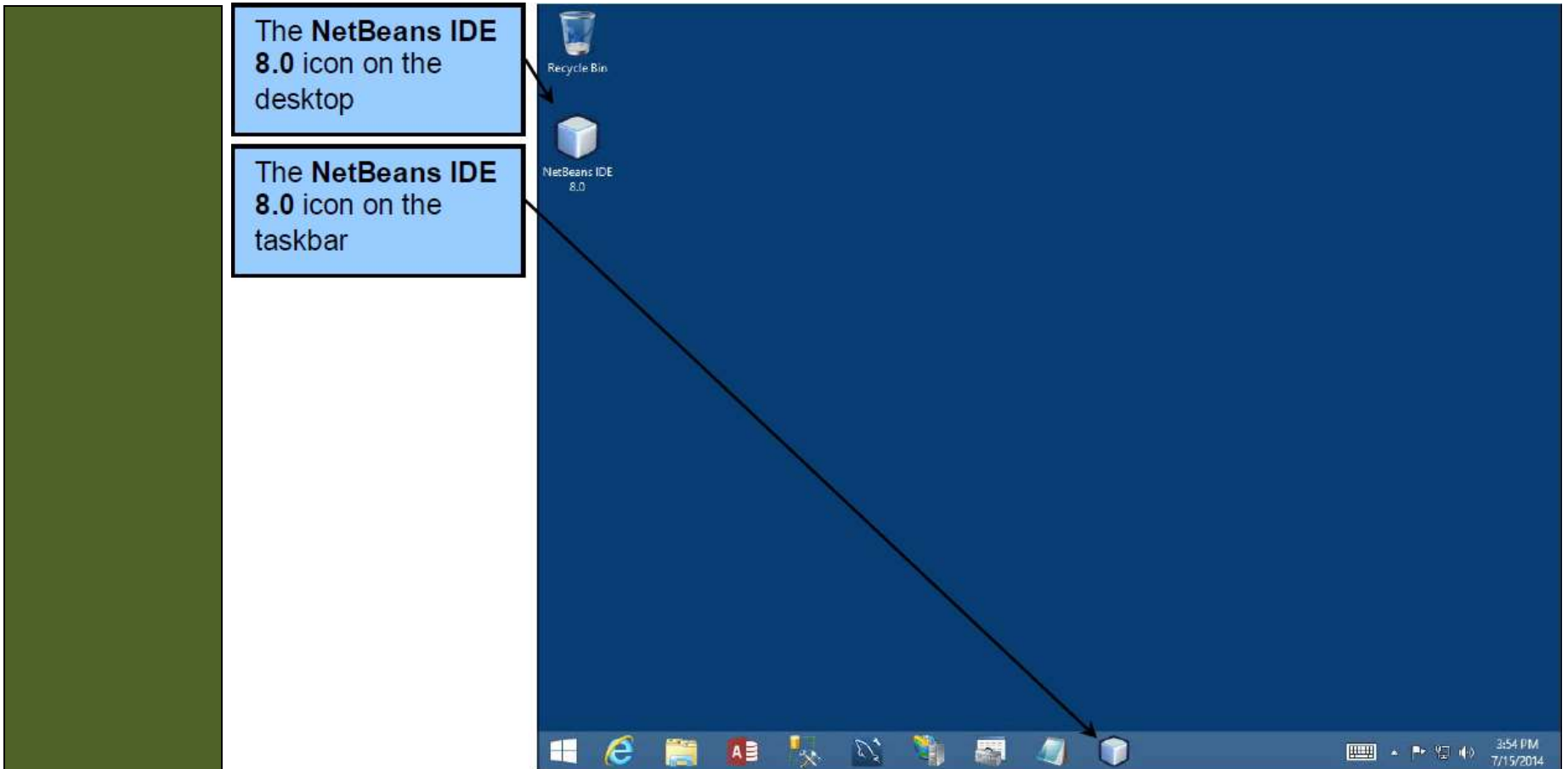


Figure I-32 — The NetBeans Icon on the Windows Desktop and Taskbar



The NetBeans IDE 8.0 Window

The NetBeans IDE 8.0 window

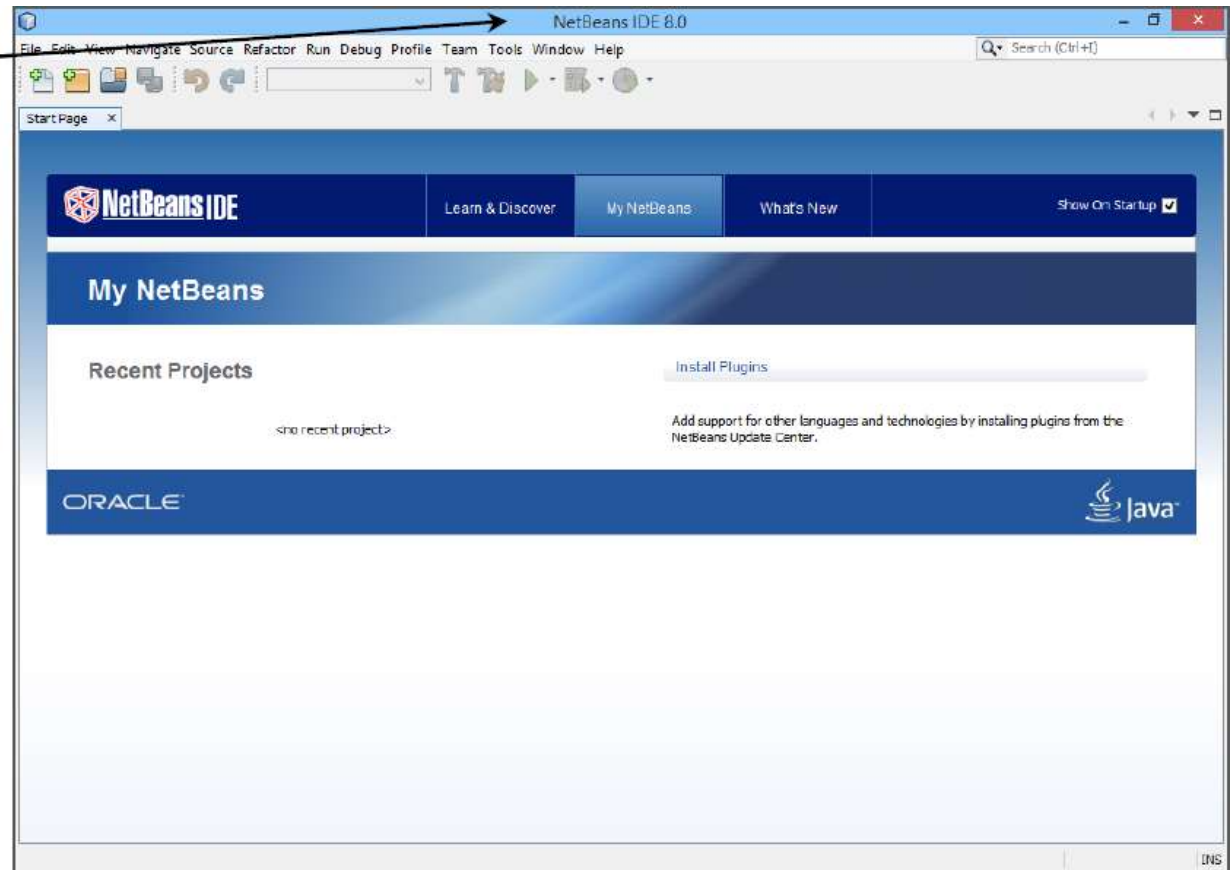


Figure I-33 — The NetBeans IDE 8.0 Window

The Plugins Dialog Box Window

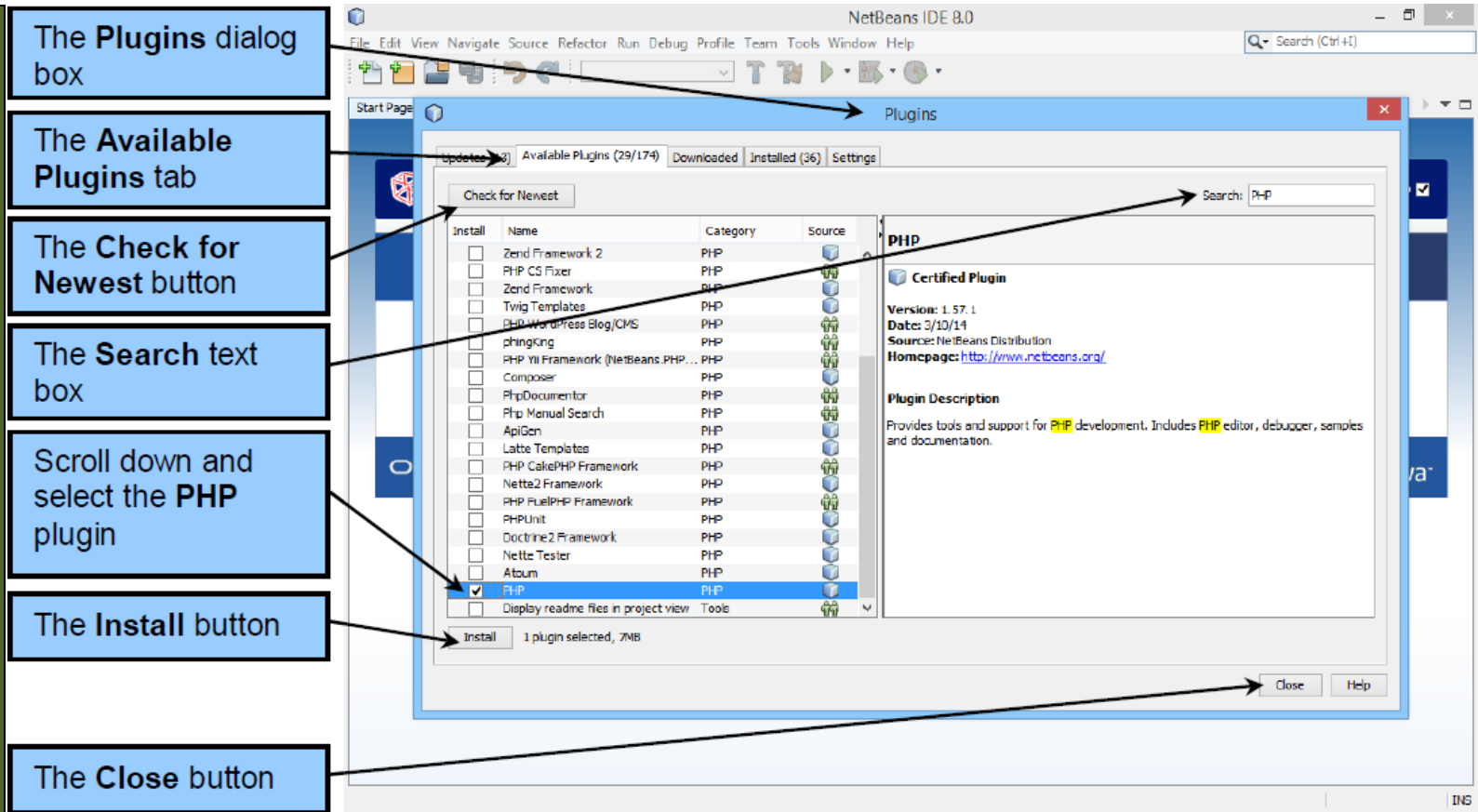


Figure I-34 — The Plugins Dialog Box Window

Installing PHP

Downloading PHP

Scroll down to the **PHP 5.3** section of the Downloads page (here shown as 5.3.28)

Click the **Installer** file link of the current version of the **VC9 x86 Non Thread Safe** version of **PHP 5.3**

The screenshot shows a web browser window at <http://windows.php.net/download/>. The page content includes:

- PHP 5.3 (5.3.28)**
 - [Download source code](#) [19.87MB]
 - VC9 x86 Non Thread Safe (2014-Jun-11 01:09:53)**
 - [Zip](#) [16.24MB]
sha1: cad7022154950e1266e43a9dee98328e7cfeddc3
 - [Installer](#) [840kB]
sha1: 7312cb841d39d02ff43bc52b16a0a4dc9341916b
 - [Debug Pack](#) [8.37MB]
sha1: 4820a2527ee805c1ced41784750ace0daf516fa
 - VC9 x86 Thread Safe (2014-Jun-11 01:09:56)**
 - [Zip](#) [16.38MB]
sha1: baad44aa25940e7f486af0e2e602c19fa9210695
 - [Installer](#) [848kB]
sha1: c499c79f9c8df4c92a0c8d50c456606cd8ef6f16
 - [Debug Pack](#) [8.6MB]
sha1: 4eb89308adc61cb94185d8377e0732ac34e52485

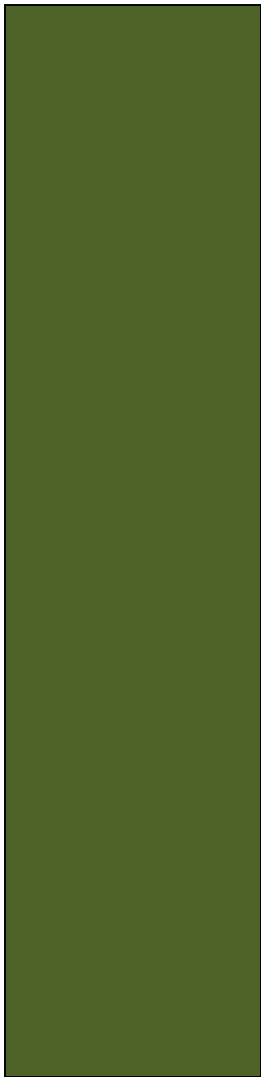
Additional text on the page includes a note about NTS binaries, a section for PGO (Profile Guided Optimization), and a section for x86_64 Builds.

Figure I-35 — Downloading PHP



Installing PHP

Starting the PHP Installation



Downloads\PHP folder

Double-click the php-5.3.28-nts-Win32-VC9-x86.msi file to start the installation

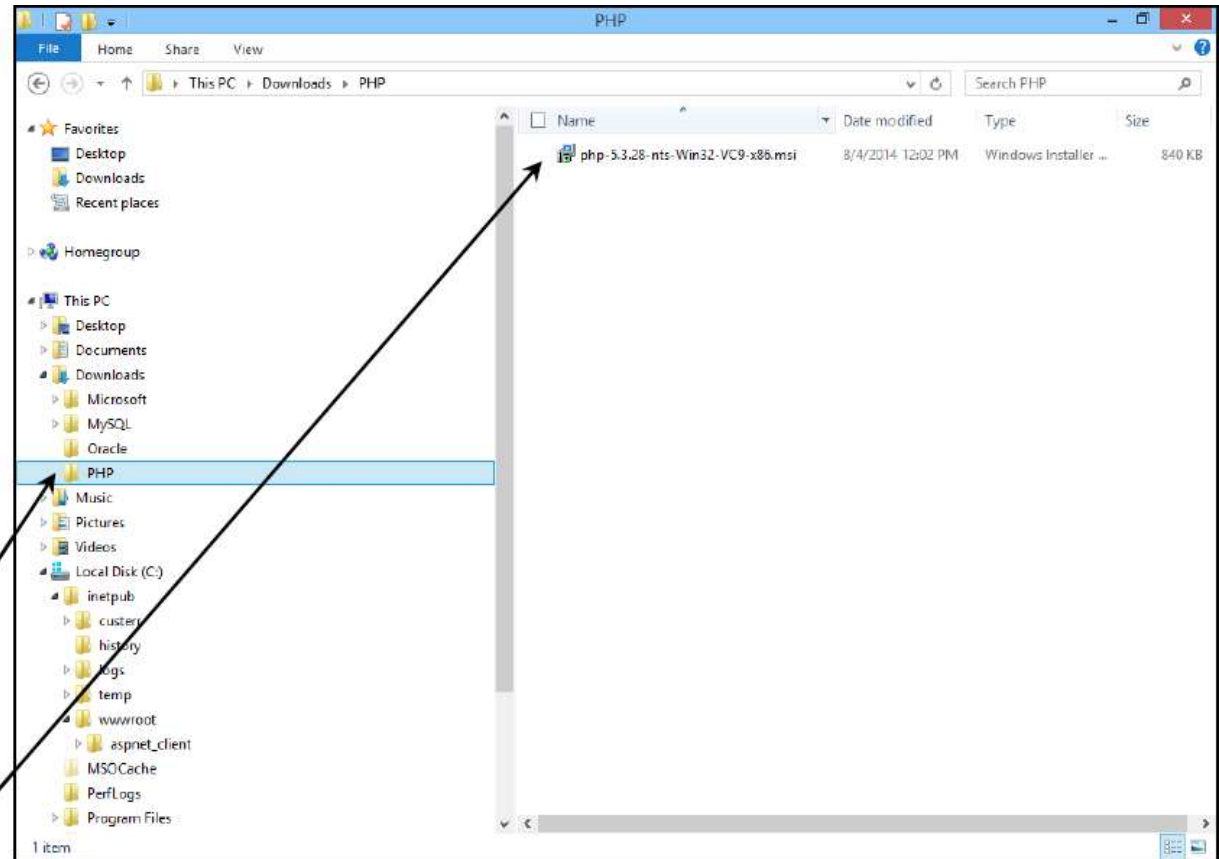


Figure I-36 — Starting the PHP Installation



Installing PHP

The PHP 5.3.28 Setup Wizard

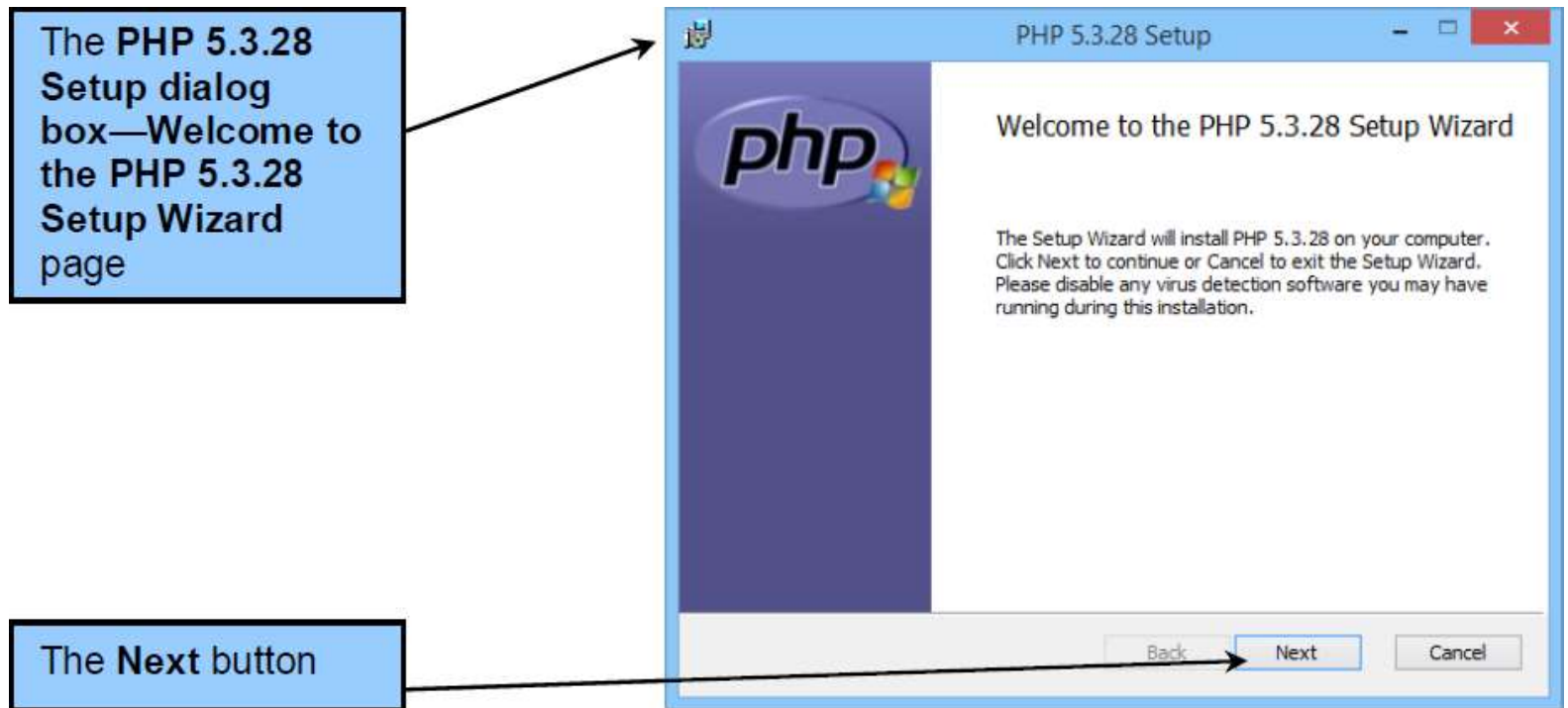


Figure I-37 — Starting the PHP Installation



Installing PHP

The End-User Agreement

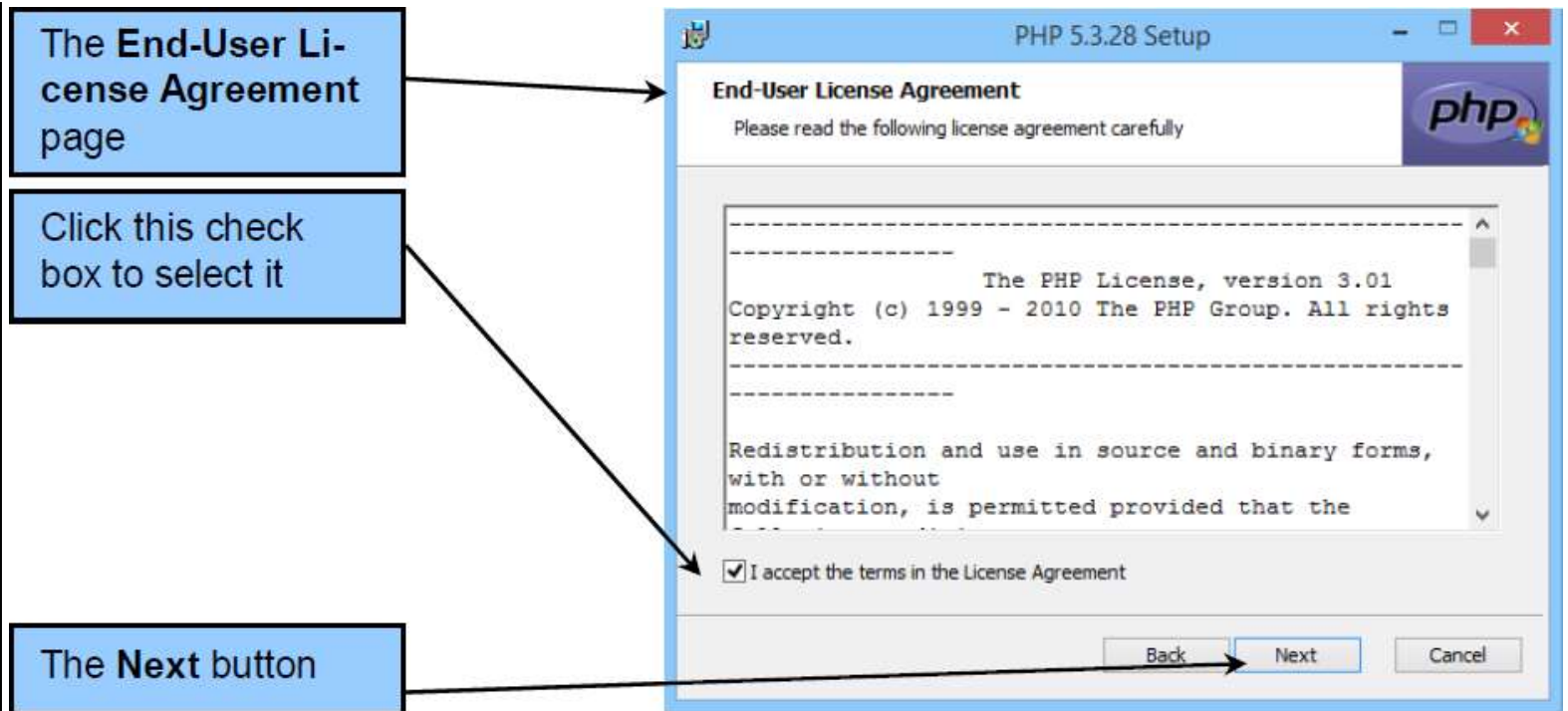


Figure I-38 — The End-User Agreement Page



Installing PHP

The Destination Folder Page

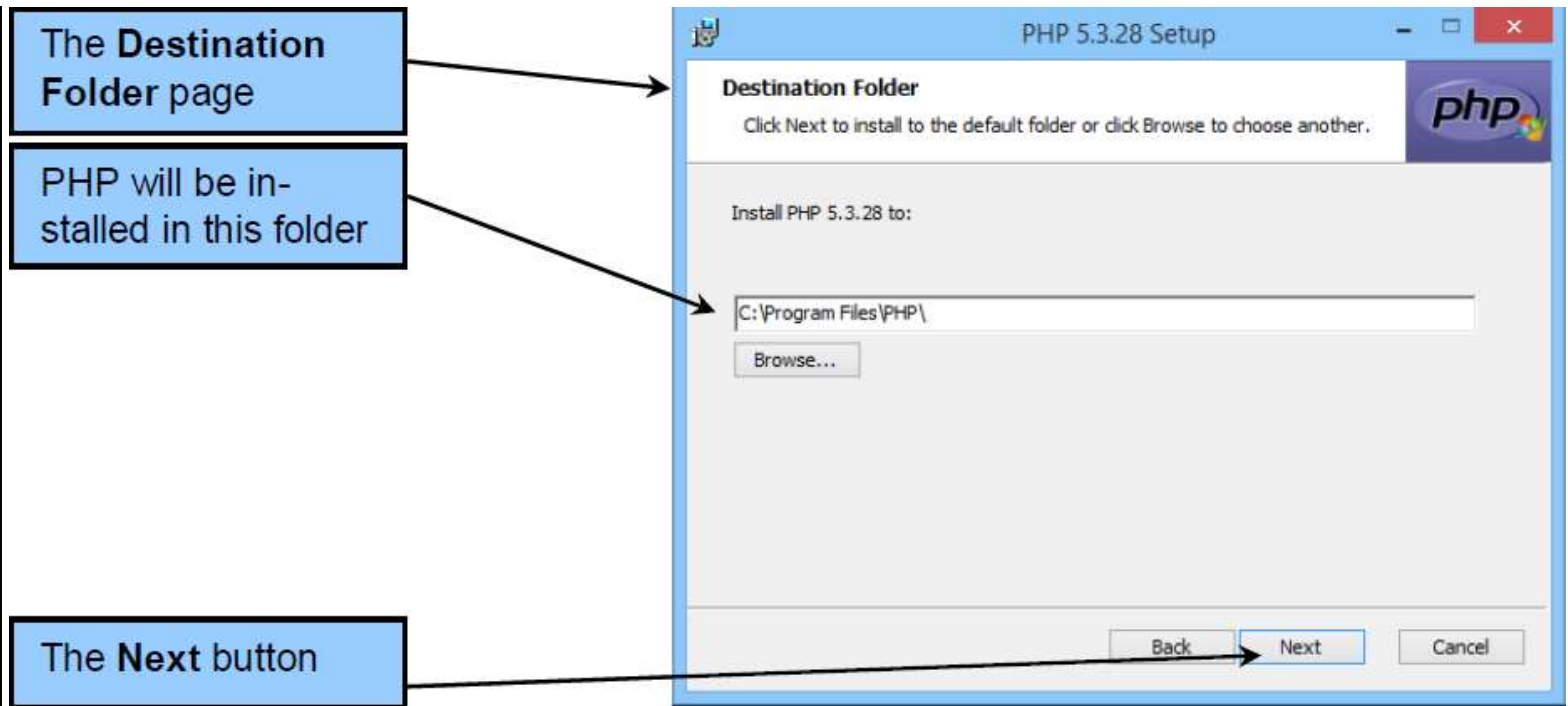


Figure I-39 — The Destination Folder Page



Installing PHP

The Web Server Setup Page

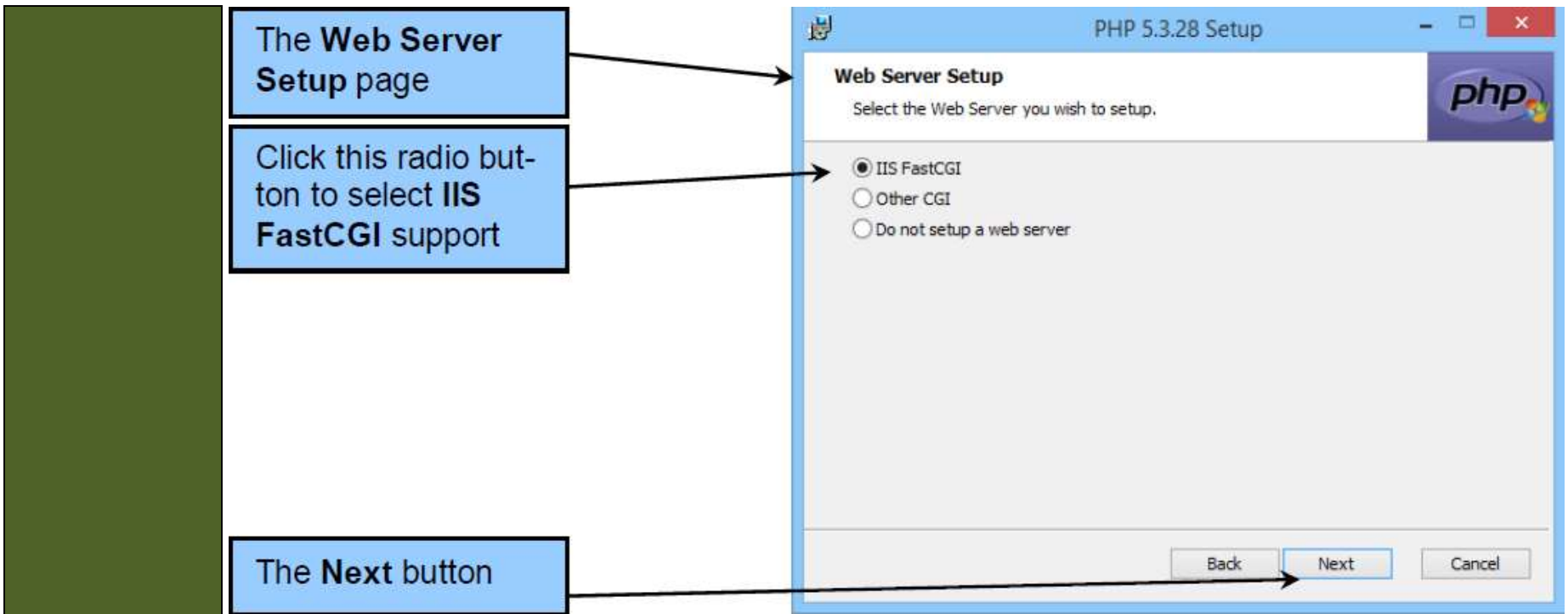


Figure I-40 — The Web Server Setup Page



Installing PHP

The Choose Items to Install Page

The image shows a screenshot of the 'PHP 5.3.28 Setup' window, specifically the 'Choose Items to Install' page. The window title is 'PHP 5.3.28 Setup'. The main heading is 'Choose Items to Install' with the instruction 'Select the way you want features to be installed.' Below this, it says 'Click the icons in the tree below to change the way features will be installed.' A tree view shows 'PHP' expanded, with sub-items: 'Script Executable' (disabled), 'Extensions' (selected), and 'Extras' (disabled). To the right, a text box explains that PHP includes many extensions by default and lists some default ones like bcmath, calendar, COM, ctype, date, dom... It also states that 18 of 29 subfeatures are selected, requiring 8136KB on the hard drive. At the bottom, there are buttons for 'Reset', 'Disk Usage', 'Back', 'Next', and 'Cancel'. The 'Next' button is highlighted with a blue border. Three callout boxes on the left point to specific elements: 'The Choose Items to Install page' points to the main window area; 'Modify Extensions to install Oracle (11g)' points to the 'Extensions' sub-item in the tree; and 'The Next button' points to the 'Next' button at the bottom.

The Choose Items to Install page

Modify Extensions to install Oracle (11g)

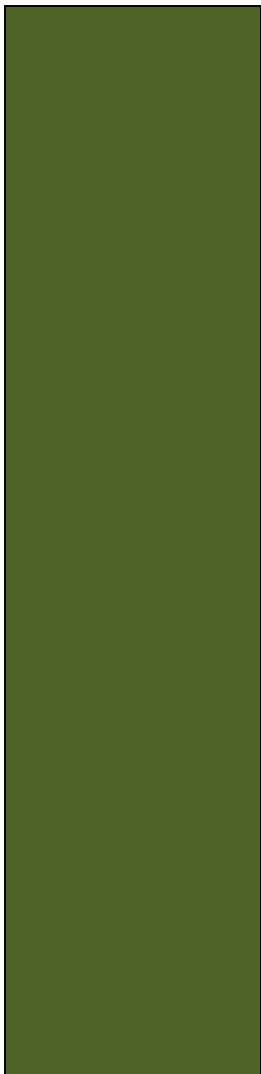
The Next button

Figure I-41 — The Choose Items to Install Page



Installing PHP

The Installing PHP 5.3.15 Page



The Installing PHP 5.3.28 page

The **User Account Control** dialog box *may* be hidden until you click the User Account Control icon to display it, or it may display correctly.

If you see a **User Account Control** icon on the Taskbar, click on it to display the User Account Control dialog box

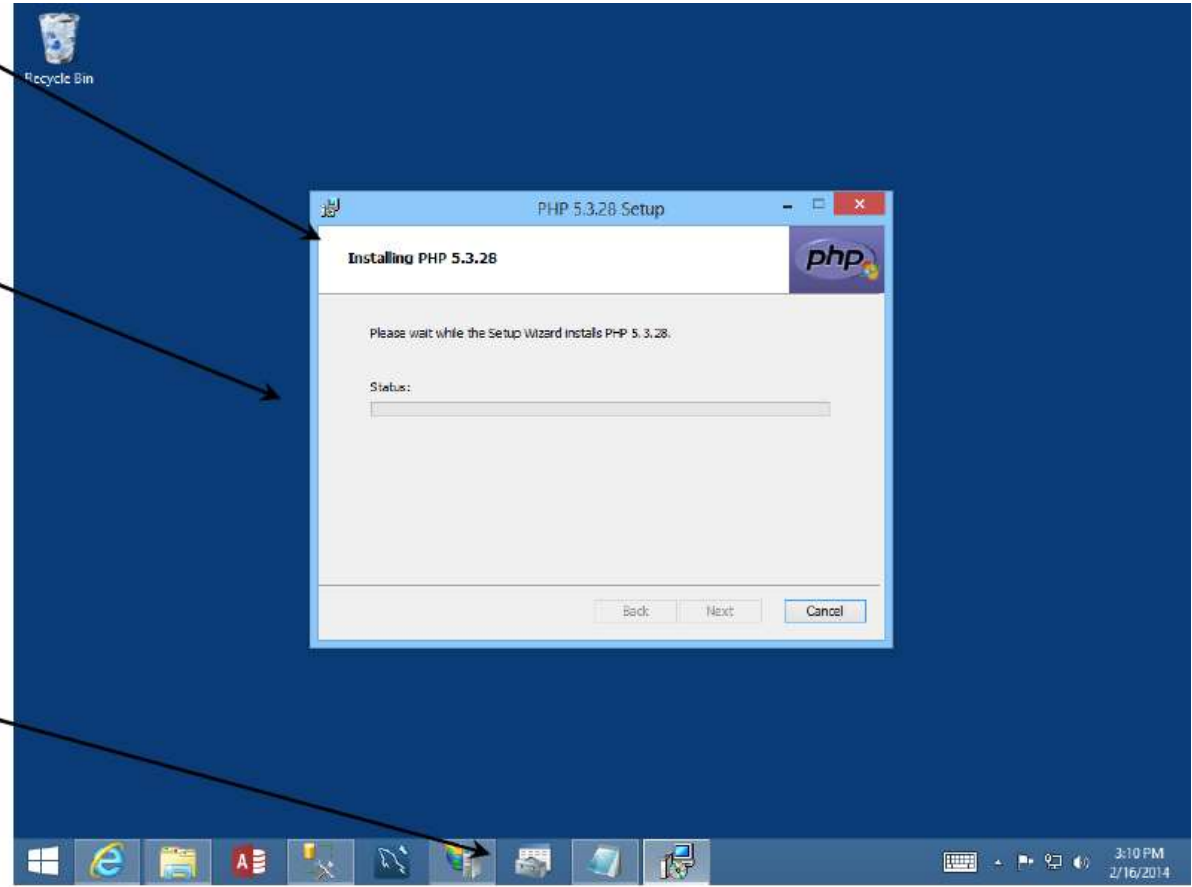


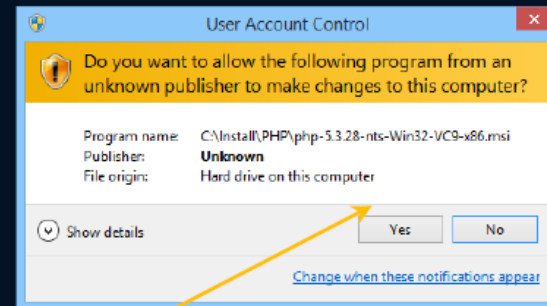
Figure I-42 — The Installing PHP 5.3.28 Page



Installing PHP

The User Account Control Dialog Box

The **User Account Control** dialog box—this may be hidden until you click the User Account Control icon to display it



Click the **Yes** button

Figure I-43 — The User Account Control Dialog Box



Installing PHP

The Completed the PHP 5.3.28 Setup Wizard Page

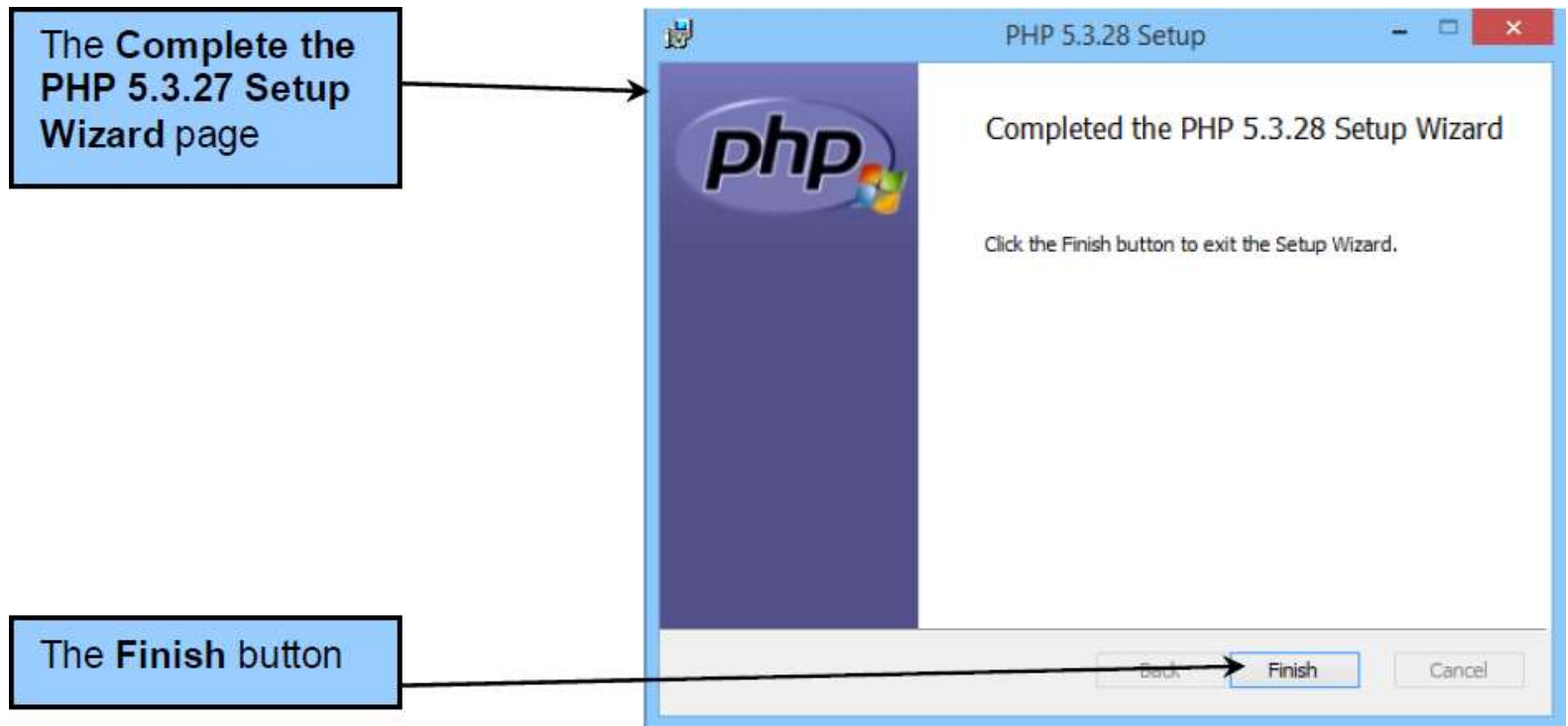


Figure I-44 — The Completed the PHP 5.3.28 Setup Wizard Page



Testing PHP

The New Project Dialog Box-Choose Project Page

The **File** command

The **New Project** dialog box

The **Choose Project** page

Type the project name in this text box

The **Next** button

Figure I-45 — The New Project Dialog Box—Choose Project Page



Testing PHP

The New PHP Project Dialog Box-New PHP Project Page

The screenshot shows the 'New PHP Project' dialog box with the following components and callouts:

- The New Project dialog box:** Points to the overall dialog window.
- The Name and Location page:** Points to the 'Name and Location' tab.
- Type the project name DBC-e07-PHP-Test into the Project Name text box.** Points to the 'Project Name' text field.
- Select PHP 5.3:** Points to the 'PHP Version' dropdown menu.
- The Next button:** Points to the 'Next >' button at the bottom.

The dialog box contains the following fields and options:

- Steps:**
 1. Choose Project
 2. **Name and Location**
 3. Run Configuration
 4. PHP Frameworks
- Name and Location:**
 - Project Name: DBC-e07-PHP-Test
 - Sources Folder: ers\Auer\Documents\NetBeansProjects\DBC-e07-PHP-Test (with Browse... button)
 - PHP Version: PHP 5.3 (with dropdown arrow and note: PHP version is used only for hints)
 - Default Encoding: UTF-8 (with dropdown arrow)
 - Put NetBeans metadata into a separate directory
 - Metadata Folder: C:\Users\Auer\Documents\NetBeansProjects\DBC-e07-PHP-Test (with Browse... button)
- Buttons:** < Back, Next >, Finish, Cancel, Help

Figure I-46 — The New Local PHP Project Dialog Box—New PHP Project



Testing PHP

The New PHP Project Dialog Box-Run Configuration Page

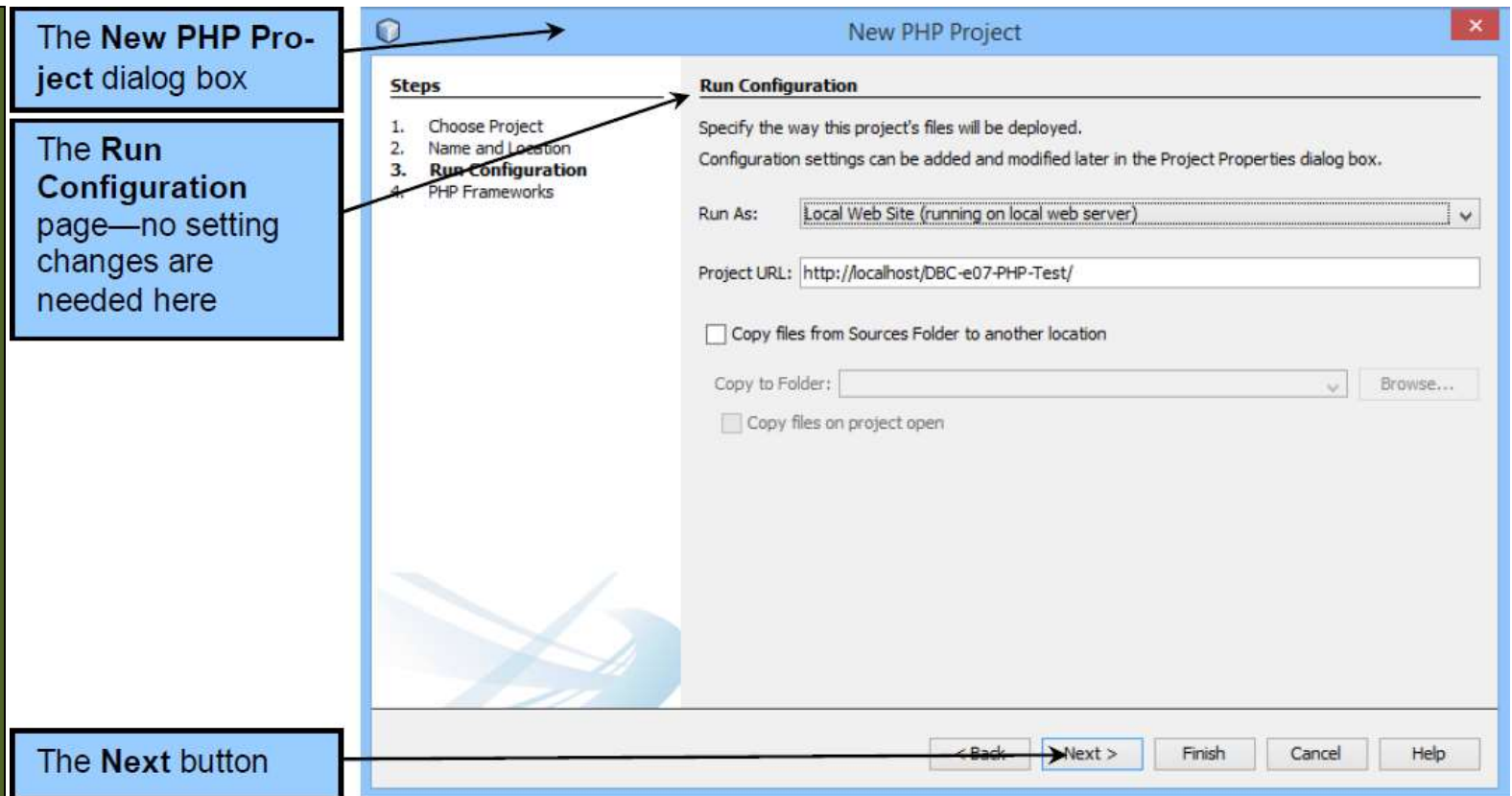


Figure I-47 — The New Project Dialog Box—Run Location Page



Testing PHP

The New PHP Project Dialog Box-PHP Frameworks Page

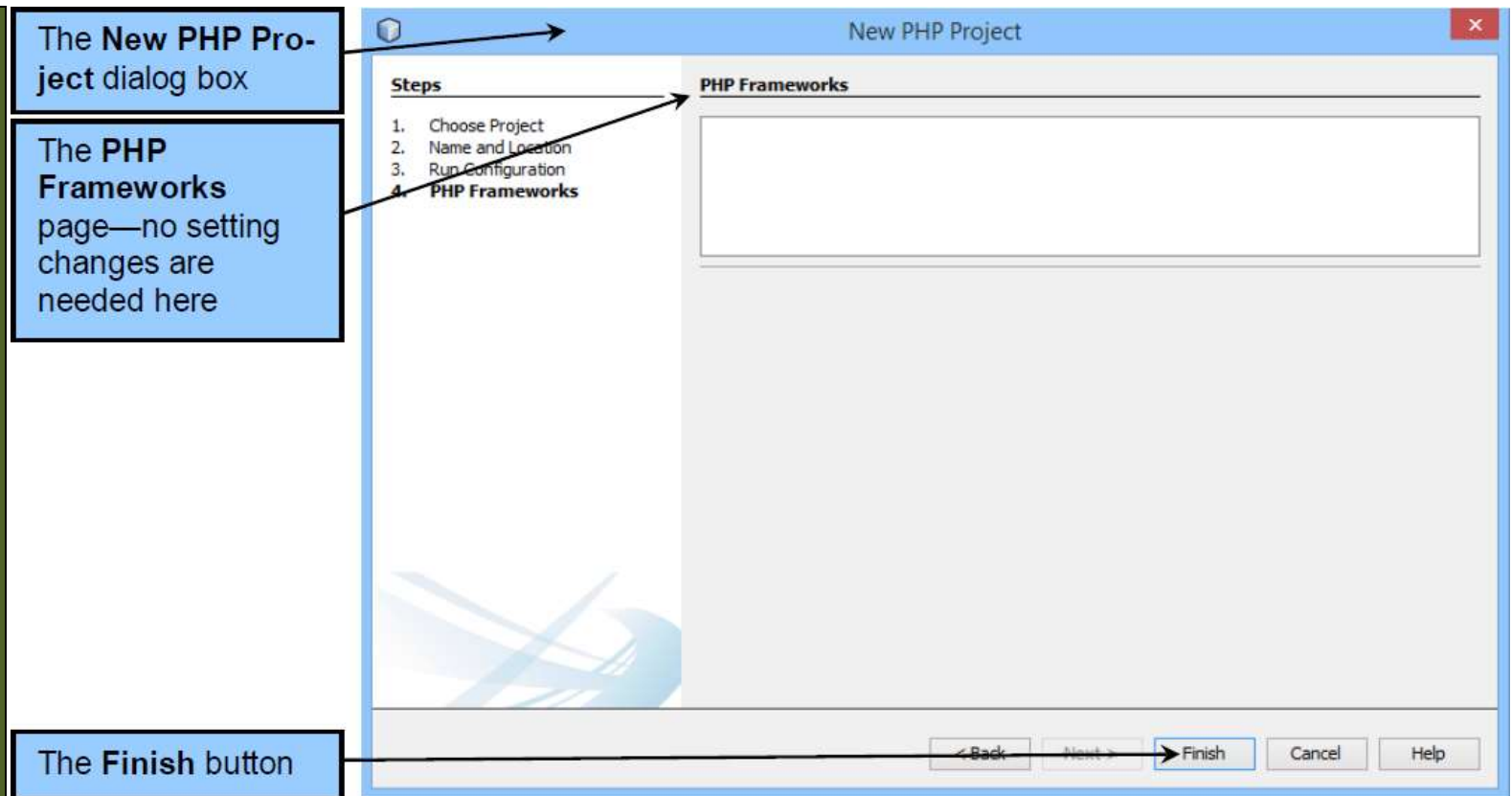


Figure I-48 — The New Project Dialog Box—PHP Frameworks Page



Testing PHP

The DBC-e07-PHP-Test Project

The DBC-e07-PHP-Test project

The screenshot displays the NetBeans IDE 8.0 interface for the DBC-e07-PHP-Test project. The menu bar includes File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, and Help. The toolbar contains various icons for file operations and development. The Projects pane on the left shows the project structure with 'Source Files' containing 'index.php' and 'Include Path'. The Navigator pane shows a tree view of the HTML document structure: html, head, meta, title, and body. The Source pane displays the code for index.php, which is a standard HTML template with a PHP comment block.

```
1 <!DOCTYPE html>
2 <!--
3 To change this license header, choose License Headers in Project Properties.
4 To change this template file, choose Tools | Templates
5 and open the template in the editor.
6 -->
7 <html>
8 <head>
9 <meta charset="UTF-8">
10 <title></title>
11 </head>
12 <body>
13 <?php
14 // put your code here
15 ?>
16 </body>
17 </html>
18
```

Figure I-49 — The DBC-e07-PHP-Test Project



Testing PHP

The index.php PHP Code

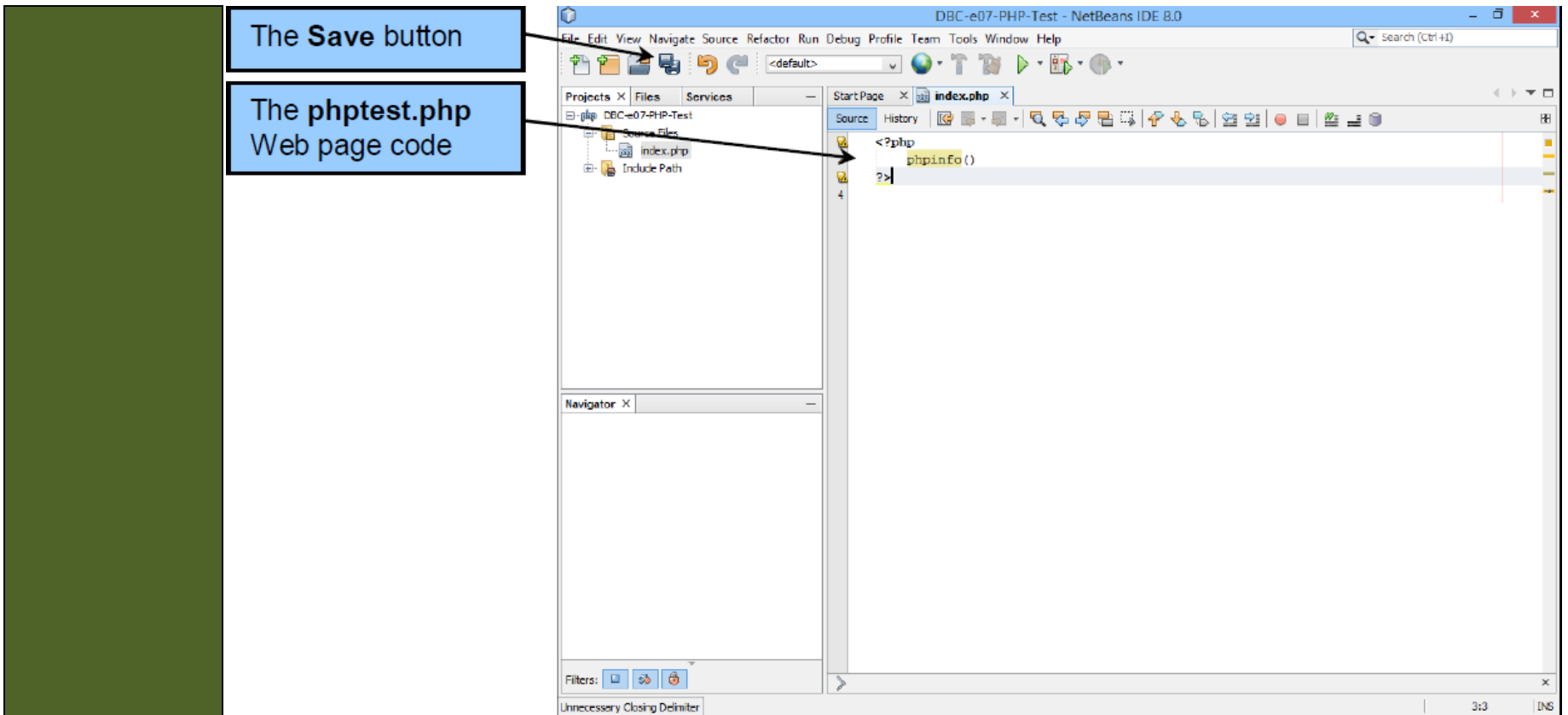


Figure I-50 — The index.php PHP code



Testing PHP

The PHP Information Page in the Web Browser

Use the URL `http://localhost/index.php`

The `index.php` file displays the PHP Information Page

PHP Version 5.3.28	
System	Windows NT WIN81-001 6.2 build 9200 (Unknow Windows version Business Edition) i586
Build Date	Dec 10 2013 22:04:40
Compiler	MSVC9 (Visual C++ 2008)
Architecture	x86
Configure Command	ccscript /nologo configure.js "--enable-snapshot-build" "--enable-debug-pack" "--disable-zts" "--disable-isapi" "--disable-nsapi" "--without-mssql" "--without-pdo-mssql" "--without-pgweb" "--with-pdo-oci=C:\php-sd\oracle\instantclient10\sdk,shared" "--with-oci8=C:\php-sd\oracle\instantclient10\sdk,shared" "--with-oci8-11g=C:\php-sd\oracle\instantclient11\sdk,shared" "--with-enchant=shared" "--enable-object-out-dir=.\obj" "--enable-com-dotnet=shared" "--with-mcrypt=static" "--disable-static-analyze"
Server API	CGI/FastCGI
Virtual Directory Support	disabled
Configuration File (php.ini) Path	C:\Windows
Loaded Configuration File	C:\Program Files\PHP\php.ini
Scan this dir for additional .ini files	(none)
Additional .ini files parsed	(none)
PHP API	20090626
PHP Extension	20090626
Zend Extension	220090626
Zend Extension Build	API220090626,NTS,VC9
PHP Extension Build	API20090626,NTS,VC9
Debug Build	no
Thread Safety	disabled

Figure I-51 — The PHP Information Page in the Web Browser



Managing the PHP Configuration

PHP Dynamic Extension *.dll Files

- The Windows Installer installation installs and enables a limited set of the **PHP dynamic extension *.dll files** that PHP uses to extend PHP functionality to various DBMS products. *.dll files are **Microsoft dynamic linked library** files, which provide the ability to share program capabilities and functionalities between programs by letting each of the programs use a common *.dll file.

Managing the PHP Configuration

The PHP *.dll Files Installed by the Windows Installer for PHP



The PHP *.dll files installed by the Windows installer installation of PHP

The php_mysql.dll file is an *outdated* file for SQL Server

The php_mysqli.dll file is the *updated* file for MySQL

The php_pdo_odbc.dll file is the PDO support file for ODBC

The ..\PHP\ext folder

Name	Date modified	Type	Size
php_bz2.dll	7/20/2012 12:16 AM	Application extens...	59 KB
php_curl.dll	7/20/2012 12:16 AM	Application extens...	448 KB
php_exif.dll	7/20/2012 12:16 AM	Application extens...	43 KB
php_gd2.dll	7/20/2012 12:16 AM	Application extens...	1,031 KB
php_gettext.dll	7/20/2012 12:16 AM	Application extens...	39 KB
php_gmp.dll	7/20/2012 12:16 AM	Application extens...	191 KB
php_imap.dll	7/20/2012 12:16 AM	Application extens...	797 KB
php_mbstring.dll	7/20/2012 12:16 AM	Application extens...	2,019 KB
php_mysql.dll	7/20/2012 12:16 AM	Application extens...	34 KB
php_mysqli.dll	7/20/2012 12:16 AM	Application extens...	84 KB
php_openssl.dll	7/20/2012 12:16 AM	Application extens...	75 KB
php_pdo_mysql.dll	7/20/2012 12:16 AM	Application extens...	23 KB
php_pdo_odbc.dll	7/20/2012 12:16 AM	Application extens...	21 KB
php_pdo_sqlite.dll	7/20/2012 12:16 AM	Application extens...	502 KB
php_pgsql.dll	7/20/2012 12:16 AM	Application extens...	89 KB
php_soa_p.dll	7/20/2012 12:16 AM	Application extens...	241 KB
php_sockets.dll	7/20/2012 12:16 AM	Application extens...	33 KB
php_sqlite3.dll	7/20/2012 12:16 AM	Application extens...	514 KB
php_tidy.dll	7/20/2012 12:16 AM	Application extens...	222 KB
php_xmlrpc.dll	7/20/2012 12:16 AM	Application extens...	62 KB

Figure I-71 — The PHP *.dll Files Installed by the Windows Installer for PHP



Managing the PHP Configuration

Adding Needed PHP Dynamic Extension *.dll Files

- The full set of the **PHP dynamic extension *.dll files** can be obtained by downloading the PHP *.zip file used for manual installation.
- Unzip the file in a location other than the PHP directory.
- Copy the needed *.dll files to ..\PHP\ext.
- Update the php.ini file.
- Reboot the computer.

Modifying the PHP Installation

The PHP *.dll Files Installed by the Windows Installer for PHP



The PHP *.dll files installed by the Windows installer installation of PHP

The `php_mysql.dll` file is an *outdated* file for SQL Server

The `php_mysqli.dll` file is the *updated* file for MySQL

The `..\PHP\ext` folder

The `php_pdo_odbc.dll` file is the PDO support file for ODBC

Name	Date modified	Type	Size
<code>php_bz2.dll</code>	7/10/2013 8:40 PM	Application extens...	59 KB
<code>php_curl.dll</code>	7/10/2013 8:40 PM	Application extens...	451 KB
<code>php_exif.dll</code>	7/10/2013 8:40 PM	Application extens...	43 KB
<code>php_gd2.dll</code>	7/10/2013 8:40 PM	Application extens...	1,143 KB
<code>php_gettext.dll</code>	7/10/2013 8:40 PM	Application extens...	39 KB
<code>php_gmp.dll</code>	7/10/2013 8:40 PM	Application extens...	191 KB
<code>php_imap.dll</code>	7/10/2013 8:40 PM	Application extens...	797 KB
<code>php_mbstring.dll</code>	7/10/2013 8:40 PM	Application extens...	2,010 KB
<code>php_mysql.dll</code>	7/10/2013 8:40 PM	Application extens...	34 KB
<code>php_mysqli.dll</code>	7/10/2013 8:40 PM	Application extens...	84 KB
<code>php_oc8_11g.dll</code>	7/10/2013 8:40 PM	Application extens...	134 KB
<code>php_openssl.dll</code>	7/10/2013 8:40 PM	Application extens...	75 KB
<code>php_pdo_mysql.dll</code>	7/10/2013 8:40 PM	Application extens...	24 KB
<code>php_pdo_odbc.dll</code>	7/10/2013 8:40 PM	Application extens...	21 KB
<code>php_pdo_sqlite.dll</code>	7/10/2013 8:40 PM	Application extens...	502 KB
<code>php_pgsql.dll</code>	7/10/2013 8:40 PM	Application extens...	89 KB
<code>php_soap.dll</code>	7/10/2013 8:40 PM	Application extens...	241 KB
<code>php_sockets.dll</code>	7/10/2013 8:40 PM	Application extens...	33 KB
<code>php_sqlite3.dll</code>	7/10/2013 8:40 PM	Application extens...	514 KB
<code>php_tidy.dll</code>	7/10/2013 8:40 PM	Application extens...	222 KB
<code>php_xmlrpc.dll</code>	7/10/2013 8:40 PM	Application extens...	62 KB

Figure I-52 — The PHP *.dll Files Installed by the Windows Installer for PHP

Modifying the PHP Installation

The Full Set of PHP *.dll Files

Name	Date modified	Type	Size
php_bz2.dll	7/26/2012 2:36 PM	Application extension	39 KB
php_com_dotnet.dll	7/26/2012 2:35 PM	Application extension	67 KB
php_curl.dll	7/26/2012 2:35 PM	Application extension	448 KB
php_exif.dll	7/26/2012 2:35 PM	Application extension	18 KB
php_gd2.dll	7/26/2012 2:35 PM	Application extension	43 KB
php_gettext.dll	7/26/2012 2:35 PM	Application extension	2,303 KB
php_gmp.dll	7/26/2012 2:35 PM	Application extension	1,011 KB
php_gmp.dll	7/26/2012 2:35 PM	Application extension	39 KB
php_gmp.dll	7/26/2012 2:35 PM	Application extension	191 KB
php_imap.dll	7/26/2012 2:35 PM	Application extension	797 KB
php_interbase.dll	7/26/2012 2:35 PM	Application extension	62 KB
php_intl.dll	7/26/2012 2:35 PM	Application extension	117 KB
php_ldap.dll	7/26/2012 2:35 PM	Application extension	153 KB
php_mbstring.dll	7/26/2012 2:35 PM	Application extension	2,010 KB
php_mysql.dll	7/26/2012 2:35 PM	Application extension	34 KB
php_mysqli.dll	7/26/2012 2:35 PM	Application extension	84 KB
php_oci8.dll	7/26/2012 2:35 PM	Application extension	127 KB
php_oci8_11g.dll	7/26/2012 2:35 PM	Application extension	138 KB
php_openssl.dll	7/26/2012 2:35 PM	Application extension	75 KB
php_pdo_firebird.dll	7/26/2012 2:35 PM	Application extension	22 KB
php_pdo_mysql.dll	7/26/2012 2:35 PM	Application extension	23 KB
php_pdo_oci.dll	7/26/2012 2:35 PM	Application extension	23 KB
php_pdo_oci.dll	7/26/2012 2:35 PM	Application extension	41 KB
php_pdo_oci.dll	7/26/2012 2:35 PM	Application extension	27 KB
php_pdo_sqlite.dll	7/26/2012 2:35 PM	Application extension	562 KB
php_pgsql.dll	7/26/2012 2:35 PM	Application extension	89 KB
php_shmop.dll	7/26/2012 2:35 PM	Application extension	12 KB
php_snmp.dll	7/26/2012 2:35 PM	Application extension	294 KB
php_soap.dll	7/26/2012 2:35 PM	Application extension	243 KB
php_sockets.dll	7/26/2012 2:35 PM	Application extension	32 KB
php_sqlite.dll	7/26/2012 2:35 PM	Application extension	237 KB
php_sqlite2.dll	7/26/2012 2:35 PM	Application extension	514 KB
php_sybase_ct.dll	7/26/2012 2:35 PM	Application extension	31 KB
php_tidy.dll	7/26/2012 2:35 PM	Application extension	222 KB
php_xmlrpc.dll	7/26/2012 2:35 PM	Application extension	62 KB
php_xsl.dll	7/26/2012 2:35 PM	Application extension	288 KB

The **php_oci8_11g.dll** file is the file for Oracle Database Express Edition 11g Release 2

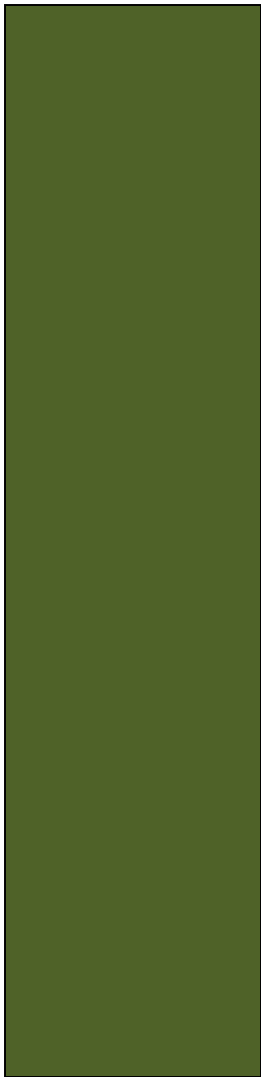
The **php_pdo_oci.dll** file is the PDO support file for Oracle Database Express Edition 11g Release 2

Figure I-53 — The Full Set of PHP *.dll Files



Modifying the PHP Installation

The Dynamic Extensions in the php.ini Configuration File



```
File Edit Format View Help
extension=php_gettext.dll
[PHP_GMP]
extension=php_gmp.dll
[PHP_IMAP]
extension=php_imap.dll
[PHP_MBSTRING]
extension=php_mbstring.dll
[PHP_MYSQL]
extension=php_mysql.dll
[PHP_MYSQLI]
extension=php_mysqli.dll
[PHP_OCI8_11G]
extension=php_oci8_11g.dll
[PHP_OPENSSL]
extension=php_openssl.dll
[PHP_PDO_MYSQL]
extension=php_pdo_mysql.dll
[PHP_PDO_ODBC]
extension=php_pdo_odbc.dll
[PHP_PDO_SQLITE]
extension=php_pdo_sqlite.dll
[PHP_PGSQL]
extension=php_pgsql.dll
[PHP_SOAP]
extension=php_soap.dll
[PHP_SOCKETS]
extension=php_sockets.dll
[PHP_SQLITE3]
extension=php_sqlite3.dll
[PHP_TIDY]
extension=php_tidy.dll
[PHP_XMLRPC]
extension=php_xmlrpc.dll
[PHP_EXIF]
extension=php_exif.dll
```

The **php_mysqli.dll** file is the current file for MySQL 5.6

The **php_pdo_odbc.dll** file is the PDO support file for ODBC

Figure I-54 — The Dynamic Extensions of the php.ini Configuration File



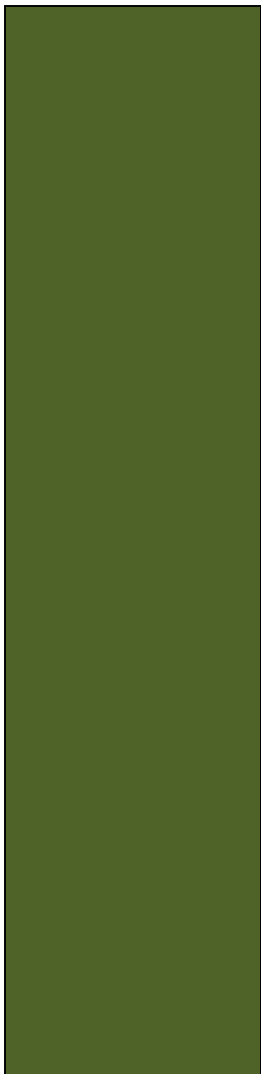
Managing the PHP Configuration

Installing the Microsoft Drivers 3.0 for PHP for SQL Server

- Download the installation file from www.microsoft.com/download/en/details.aspx?id=20098.
- The installation is actually a file that expands a zipped set of files when run.
- Run the installation file.

Modifying the PHP Installation

The Dynamic Extension and Help Files



These are the extension *.dll files

This is the Microsoft Help System file

Name	Date modified	Type	Size
php_pdo_sqlsrv_53_nts.dll	8/28/2012 1:15 PM	Application extens...	180 KB
php_pdo_sqlsrv_53_ts.dll	8/28/2012 1:15 PM	Application extens...	185 KB
php_pdo_sqlsrv_54_nts.dll	8/28/2012 1:15 PM	Application extens...	180 KB
php_pdo_sqlsrv_54_ts.dll	8/28/2012 1:15 PM	Application extens...	185 KB
php_sqlsrv_53_nts.dll	8/28/2012 1:15 PM	Application extens...	197 KB
php_sqlsrv_53_ts.dll	8/28/2012 1:15 PM	Application extens...	201 KB
php_sqlsrv_54_nts.dll	8/28/2012 1:15 PM	Application extens...	197 KB
php_sqlsrv_54_ts.dll	8/28/2012 1:15 PM	Application extens...	201 KB
SQLSRV_Help.chm	3/21/2012 2:15 PM	Compiled HTML ...	411 KB
SQLSRV_License.rtf	8/29/2012 3:00 PM	Rich Text Docume...	157 KB
SQLSRV_Readme.htm	3/21/2012 2:15 PM	HTML Document	12 KB
SQLSRV_ThirdPartyNotices.rtf	9/6/2012 11:45 AM	Rich Text Docume...	53 KB
SQLSRV30.EXE	8/1/2013 4:27 PM	Application	835 KB

Figure I-55 — The Dynamic Extension and Help Files



Managing the PHP Configuration

Installing the Microsoft Drivers 3.0 for PHP for SQL Server

- Copy the needed *.dll files to ..\PHP\ext.
 - **extension=php_sqlsrv_53_nts.dll**
 - **extension=php_pdo_sqlsrv_53_nts.dll**
- Update the php.ini file.
- Reboot the computer.

Modifying the PHP Installation

Opening the php.ini File in Microsoft Notepad

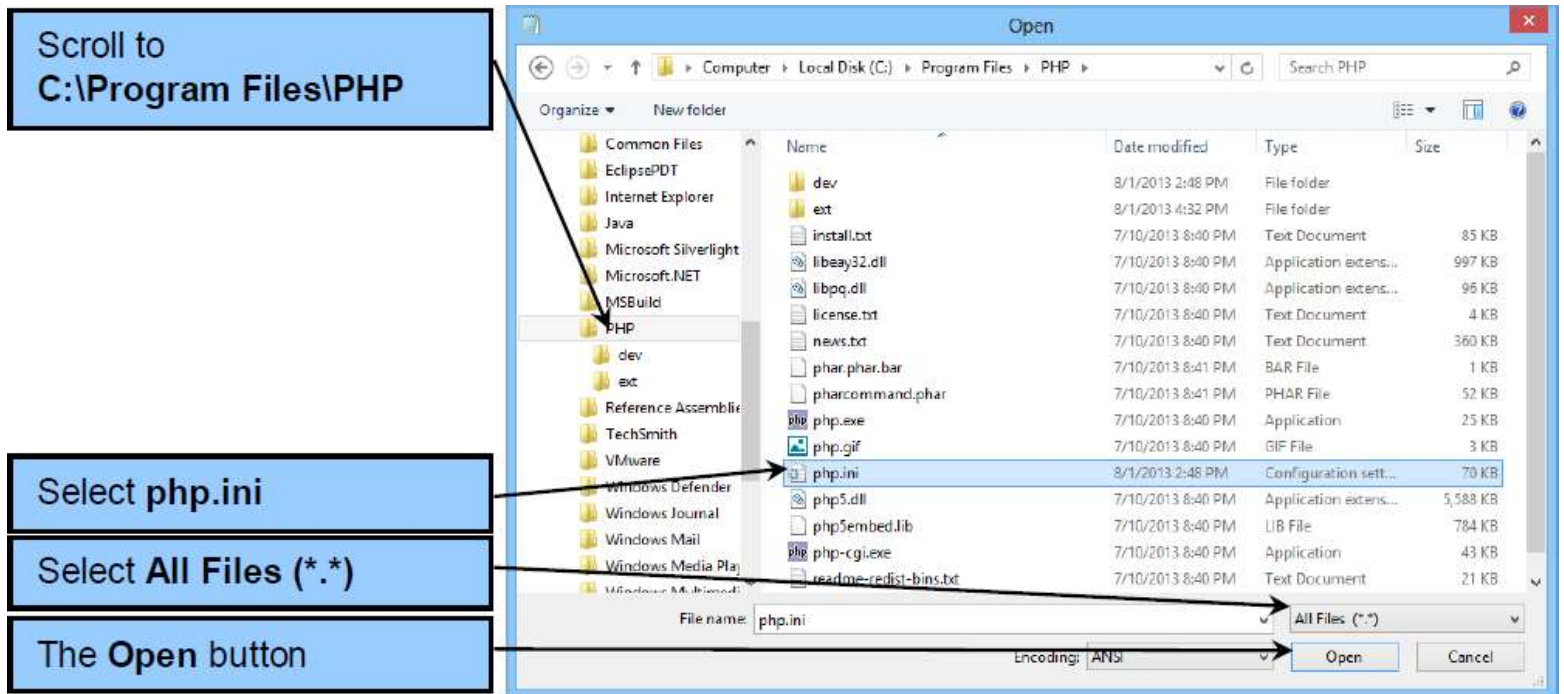
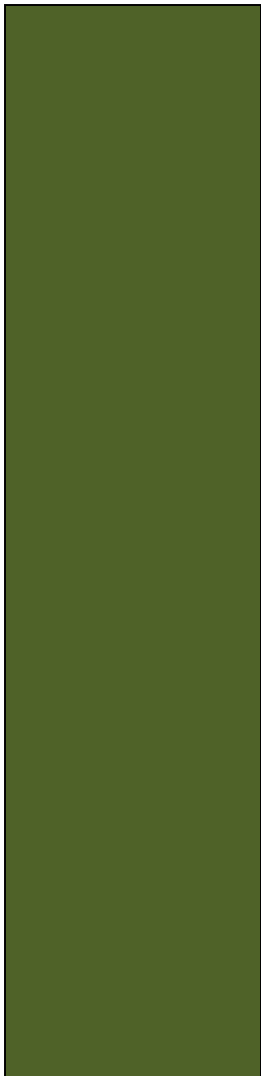


Figure I-56 — Opening the php.ini File in Notepad

Modifying the PHP Installation

The Added Configuration Files in php.ini



```
File Edit Format View Help
[PHP_MBSTRING]
extension=php_mbstring.dll
[PHP_MYSQL]
extension=php_mysql.dll
[PHP_MYSQLI]
extension=php_mysqli.dll
[PHP_OCI8_11G]
extension=php_oci8_11g.dll
[PHP_OPENSSL]
extension=php_openssl.dll
[PHP_PDO_MYSQL]
extension=php_pdo_mysql.dll
[PHP_PDO_ODBC]
extension=php_pdo_odbc.dll
[PHP_PDO_SQLITE]
extension=php_pdo_sqlite.dll
[PHP_PGSQL]
extension=php_pgsql.dll
[PHP_SOAP]
extension=php_soap.dll
[PHP_SOCKETS]
extension=php_sockets.dll
[PHP_SQLITE3]
extension=php_sqlite3.dll
[PHP_TIDY]
extension=php_tidy.dll
[PHP_XMLRPC]
extension=php_xmlrpc.dll
[PHP_EXIF]
extension=php_exif.dll
[PHP_SQSRV_53_NTS]
extension=php_sqsrv_53_nts.dll
[PHP_PDO_SQSRV_53_NTS]
extension=php_pdo_sqsrv_53_nts.dll
```

These are the extensions

Figure I-57 — The Added Dynamic Extensions in the php.ini Configuration File



Managing the PHP Configuration

Using the Microsoft SQL Server Drivers for PHP 3.0

- To use the SQL Server drivers instead of the ODBC drivers, modify the Web page php code.

- **Instead of:**

- ```
// Execute SQL statement
```

- ```
    $RecordSet = odbc_exec($Conn,$SQL);
```

- **Use:**

- ```
// Execute SQL statement
```

- ```
    $RecordSet = sqlsrv_query($Conn,$SQL);
```



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End of Presentation on Appendix I
**Getting Started with Web Servers, PHP,
and the NetBeans IDE**