



Avaya Solution and Interoperability Test Lab

Avaya Agent Web Client Configuration for Avaya Interaction Center 7.0 in a Solution Assurance Environment - Issue 1.0

Abstract

These Application Notes describe how to install and configure a sample Avaya Agent Web Client for Avaya Interaction Center (IC) 7.0. Avaya Agent Web Client configuration depicted in these Application Notes allows agents to log in to the Avaya IC contact management platform from a web browser, therefore eliminating the need to install Avaya IC agent software on the agent desktops. There are four components required for the Avaya Agent Web Client application. The solution documented in these Application Notes describes procedures to install these required components on two machines. The reference configuration depicted in this document consists of Avaya Interaction Center, Avaya MultiVantage Application Enablement Service server and Avaya Communication Manager.

1. Introduction

These Application Notes describe how to install and configure a sample Avaya Agent Web Client for Avaya Interaction Center (IC) 7.0. Avaya Agent Web Client configuration depicted in these Application Notes allows agents to log in to the Avaya IC contact management platform from a web browser, therefore eliminating the need to install Avaya IC agent software on the agent desktops. The Avaya Agent Web Client is also known as IC 7.0 Thin Client application.

There are four components required for the Avaya Agent Web Client application. The solution documented in these Application Notes describes procedures to install these required components on two machines.

1. First machine is located in the private network and hosts IBM Websphere Application Server, and Avaya IC 7.0 Thin Client.
2. Second machine is located in the demilitarized (DMZ) zone and hosts web service, IBM Application Server Tool Kit and IBM HTTP server software.

1.1. Test Configuration

Figure 1 illustrates the Solution Assurance Credit Card and Banking Configuration used to verify these Application Notes. The reference configuration represents a typical financial customer. It is a hub and spoke architecture where the Main Office consists of Avaya S8710 Media Servers with two Avaya G650 Media Gateways in an IP Connect High Reliability configuration. The Branch Offices register to C-LANs in the G650 Media Gateways at the Main Office. The Branch Offices also have local survivability options. This includes an S8300 Media Server licensed as a Local Survivable Processor (LSP) in a G700 Media Gateway at Branch 3, an S8500 Media Server also licensed as an LSP at Branch 4, and Standard Local Survivability Mode configured for the G250 Media Gateway at Branch 5. Each office has trunks to the Public Switched Telephone Network (PSTN). The Main Office also has the Avaya Call Management System, which is used for contact center administration and reporting for all offices. All IP Telephones at all offices register to Avaya Communication Manager running on the Avaya S8710 Media Servers at the Main Office.

Avaya MultiVantage Application Enablement Services (AES) software is installed on an AES server at the Main Office. The AES server communicates with Avaya Media Servers and Avaya Media Gateways via one or more C-LANs and provides standard APIs for call control, device control, media control and administration. The AES server communicates with Avaya Interaction Center via a CallVisor (CVLAN) link. CVLAN Client version 8.2.5 is installed on the Avaya Interaction Center computers, which host Avaya IC Telephony Servers.

The Avaya Interaction Center configuration documented in these Application Notes utilizes four machines. Two machines are used for voice channels to provide redundancy, one for email channel and one for web collaboration (as referred as chat) channel. Avaya Interaction Center server components are distributed across several servers and Avaya IC domains. **Figure 2** illustrates the server and domain distribution for Avaya Interaction Center.

The IBM WebSphere Application Server (WAS) and Toolkit (ASTK) were used to deploy the Avaya IC 7.0 Thin Client software. Once deployed, the Avaya IC 7.0 Thin Client software connects to the core Avaya IC components for multi-media contact center services. Agents located at the enterprise sites log in to Avaya IC through the web browser. The Avaya IP Telephones and IP Agents located at the enterprise sites are used in conjunction with Avaya IC 7.0 Thin Client for telephony.

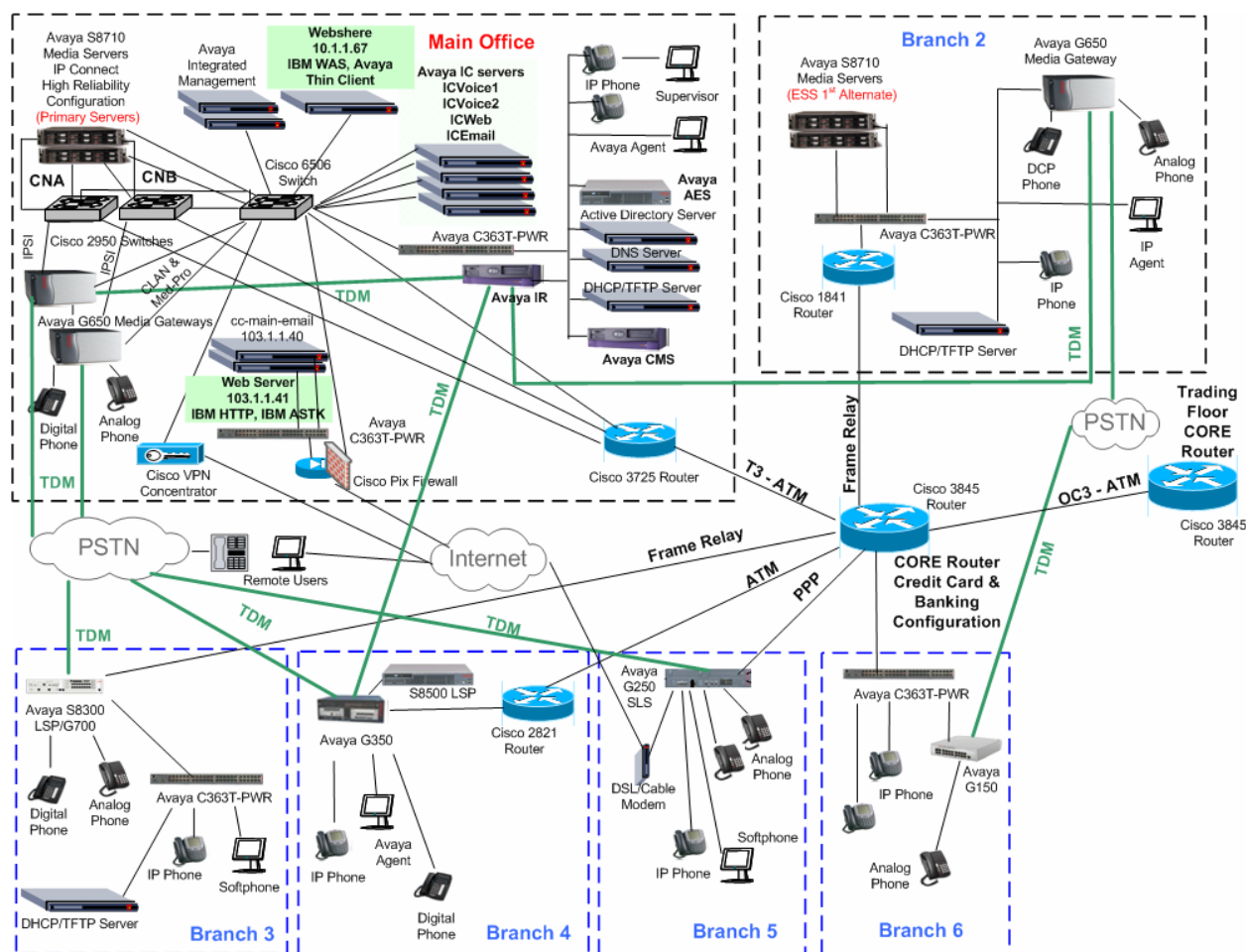


Figure 1: Solution Assurance - Credit Card and Retail Banking Configuration

NOTE: These Application Notes assume the network configuration depicted in **Figure 1** is already in place. Furthermore, it is assumed that the Avaya IC core server configuration is also in place. Only the configuration related to Avaya IC 7.0 Thin Client configuration is addressed. Please consult the appropriate User Guides [1] for information on how to set up the remaining components.

In this document, IC server refers to a running process on the Avaya Interaction Center. Computers are referred to as machines.

The solution described in these Application Notes is based on two-machine configuration as highlighted in **Figure 2**.

1. **websphere** machine (IP address 10.1.1.67) – Computer that hosts IBM WAS, and Avaya Thin Client.
2. **webserver** machine (IP address 103.1.1.41) – Computer that hosts web services. The IBM ASTK, and IBM HTTP server software are installed on this machine.

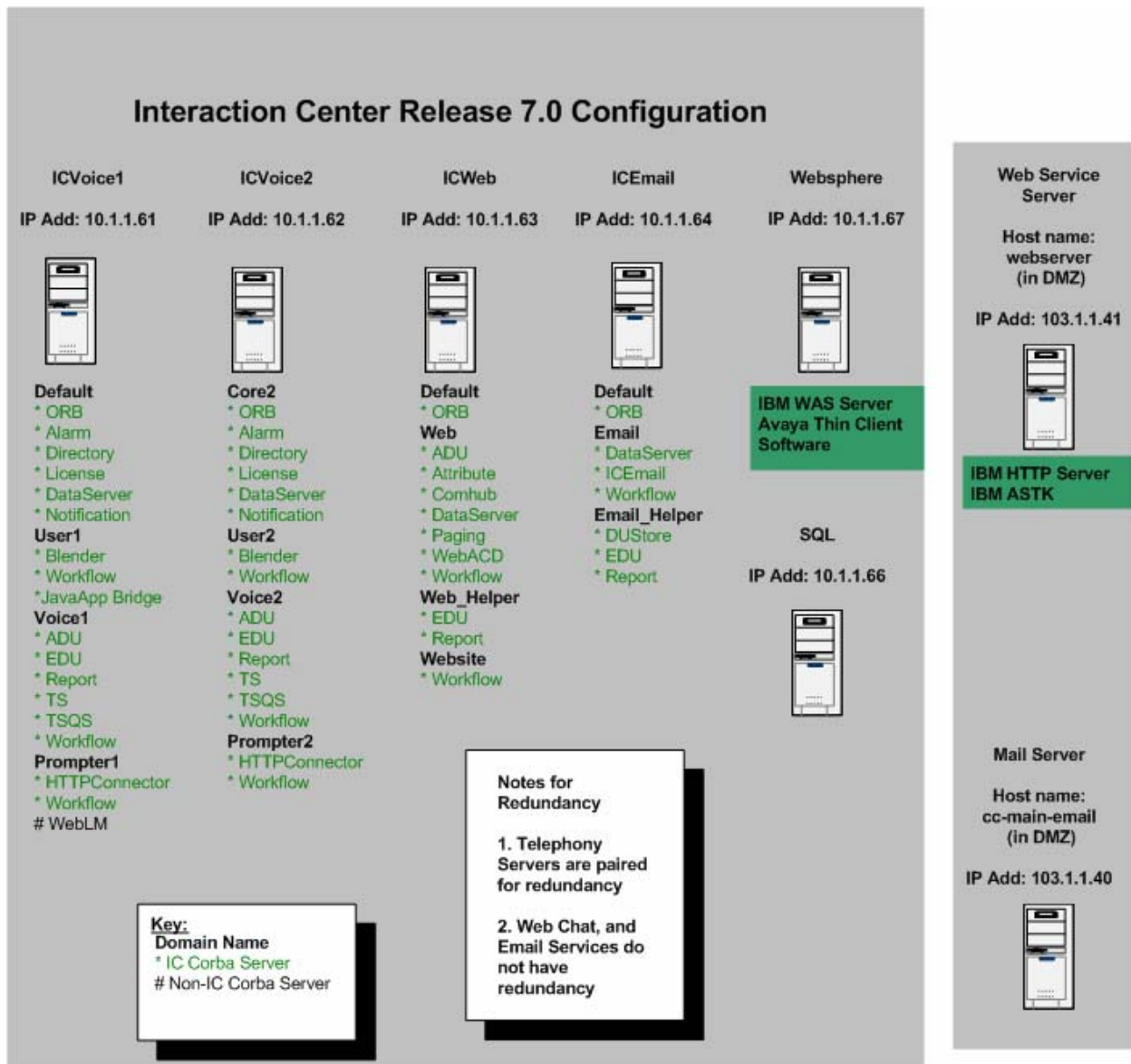


Figure 2

2. Hardware and Software Validated

Equipment	Software
Avaya Communication Manager	Release 3.1
Avaya S8710 Media Server	R013x.01.0.628.0
Avaya S8300 Media Server LSP	R013x.01.0.628.0
Avaya S8500 Media Server LSP	R013x.01.0.628.0
Avaya G650 Media Gateway	
IPSI (TN2312BP)	FW 022
C-LAN (TN799DP)	FW 016
MEDPRO (TN2602AP)	FW 214
Avaya G700 Media Gateway	25.19.0
Avaya G250 Media Gateway	25.22.0
Avaya G350 Media Gateway	25.22.0
Avaya C363T-PWR Converged Stackable Switch	4.5.14
Avaya Call Center Software	3.0
Avaya MultiVantage Application Enablement Service	3.0
Avaya Interaction Center (IC)	7.0
Avaya Call Management System Supervisor (CMS)	R13.1
Avaya IP Agent	6.0.3.357
Avaya 4625 IP Telephones	2.5
Avaya 6211 Analog Telephone	--
Cisco 3845 Router	12.4(5)
Cisco 3725 Router	12.4(5)
Cisco 1841 Router	12.4(1a)
Cisco 6506 Switch Router	12.2(17d)SxB8
Cisco VPN 3000 Concentrator	4.7.Rel-K9
Microsoft SQL Server 2000 Enterprise	8.00.760 (SP3)
Servers: Microsoft Windows Server 2003 – Enterprise Edition	SP1
PC Workstations: Microsoft Windows 2000 Professional	5.00.2195 (SP4)
Microsoft Outlook 2003	6.5.6944.0
IBM WebSphere Application Server (WAS)	6.0
• Running on Microsoft Windows Server 2003	
IBM WAS Application Server Toolkit (ASTK)	6.0
• Running on Microsoft Windows Server 2003	
IBM HTTP Server	6.0
• Running on Microsoft Windows Server 2003	

Table 1: Hardware and Software Versions

3. Install IBM WebSphere Application Server (WAS)

The following section shows how to install IBM WebSphere Application Server (WAS) on the machine that will host the Avaya Agent Web Client application. In the sample configuration, the IBM Websphere will be installed on the **websphere** machine.

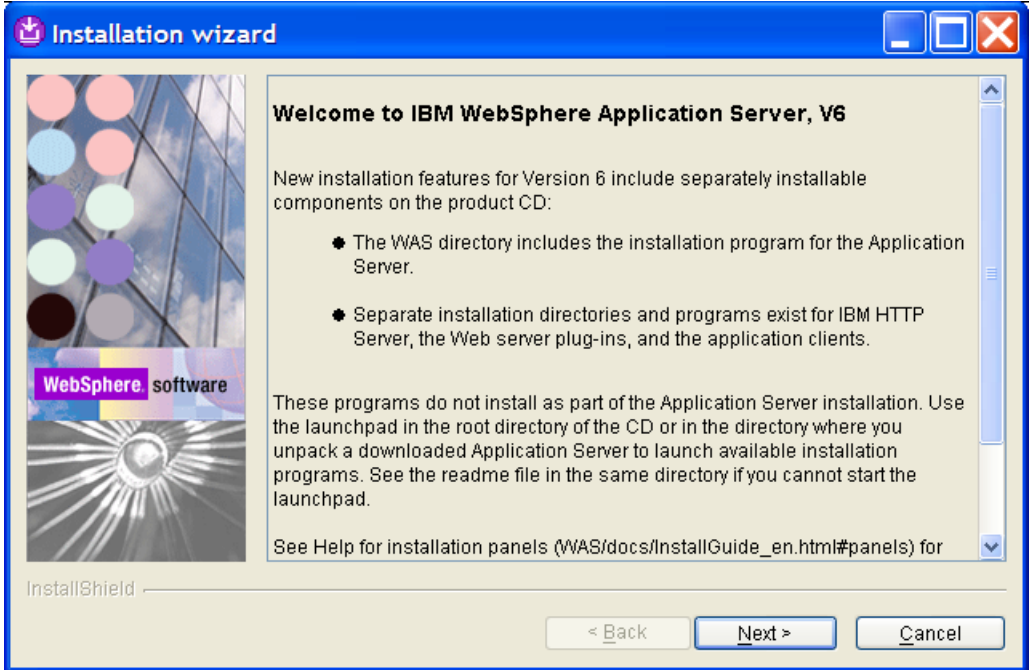
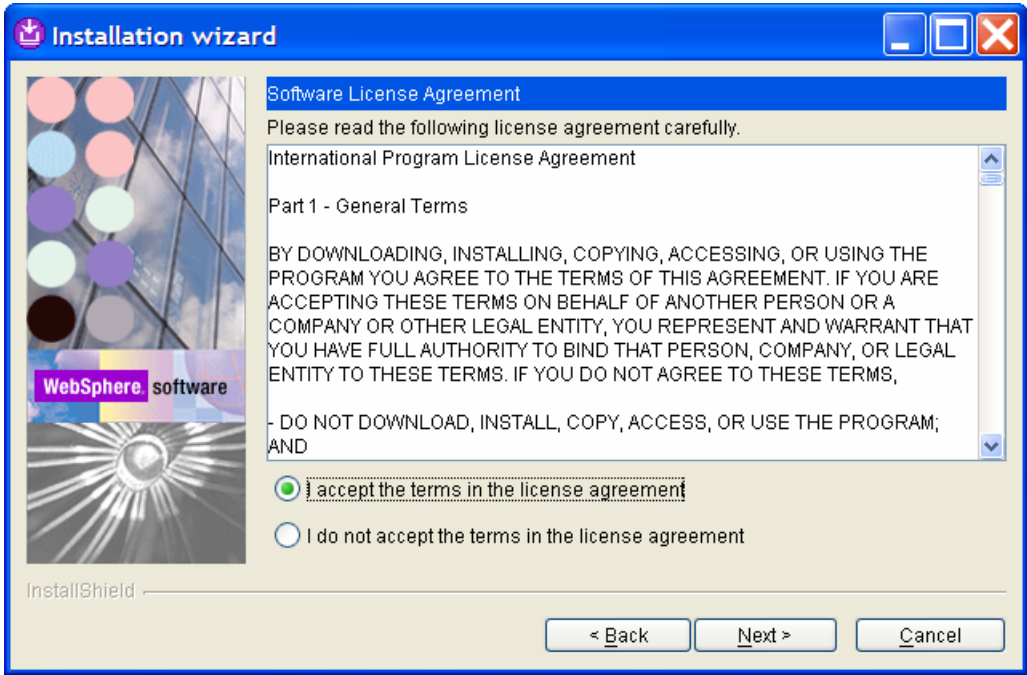
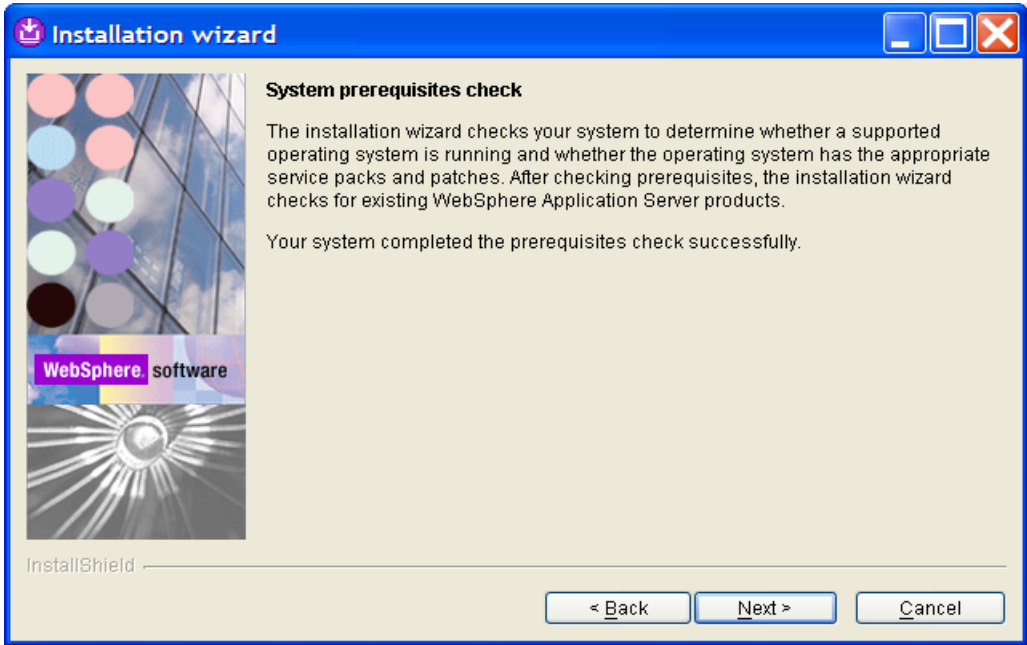
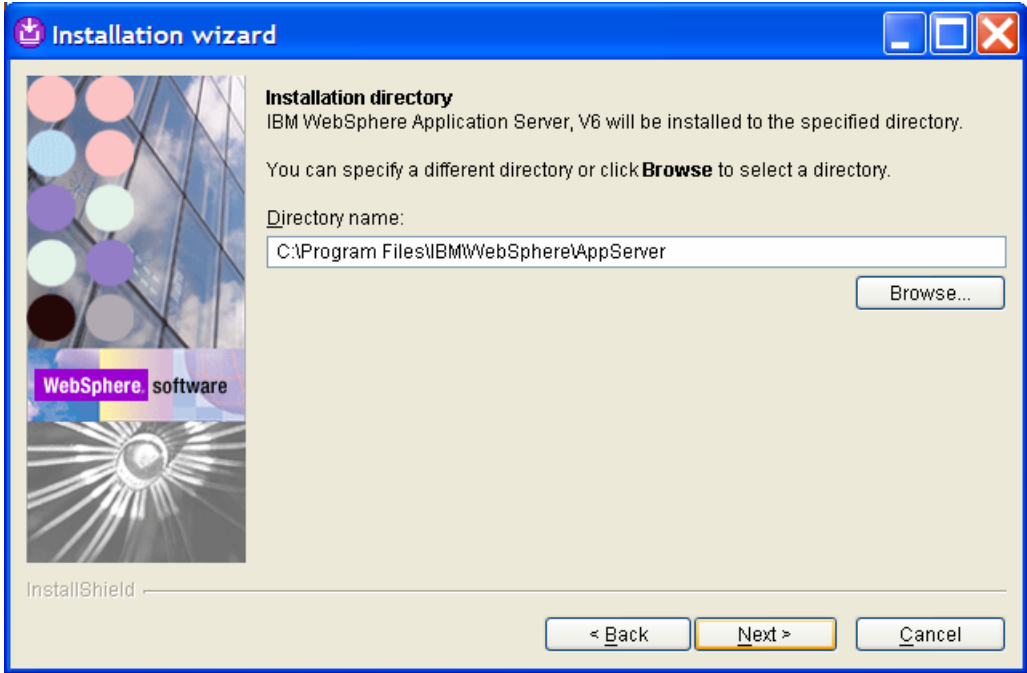
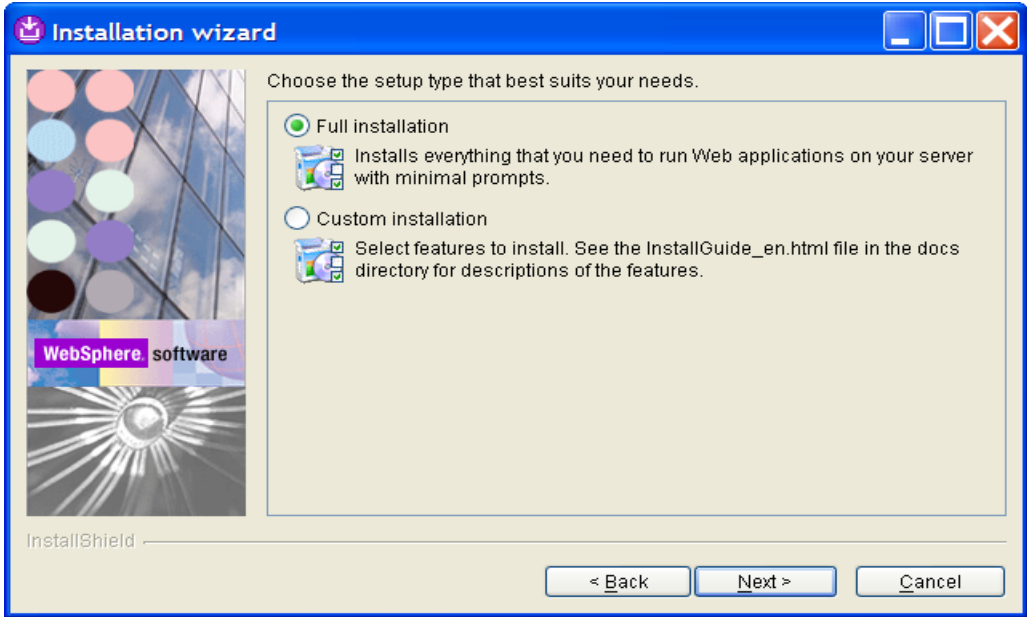
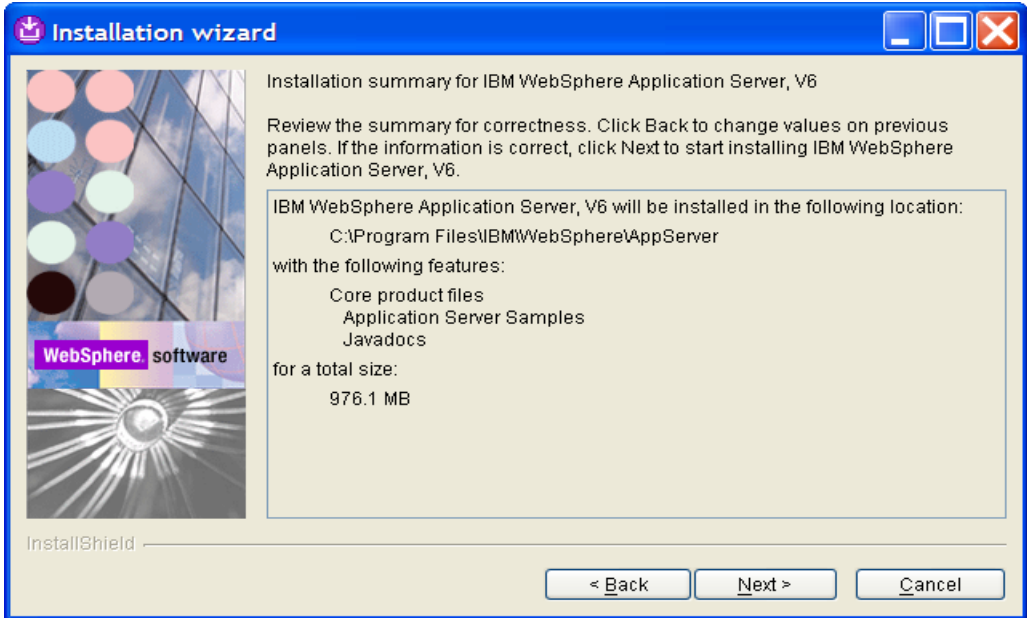
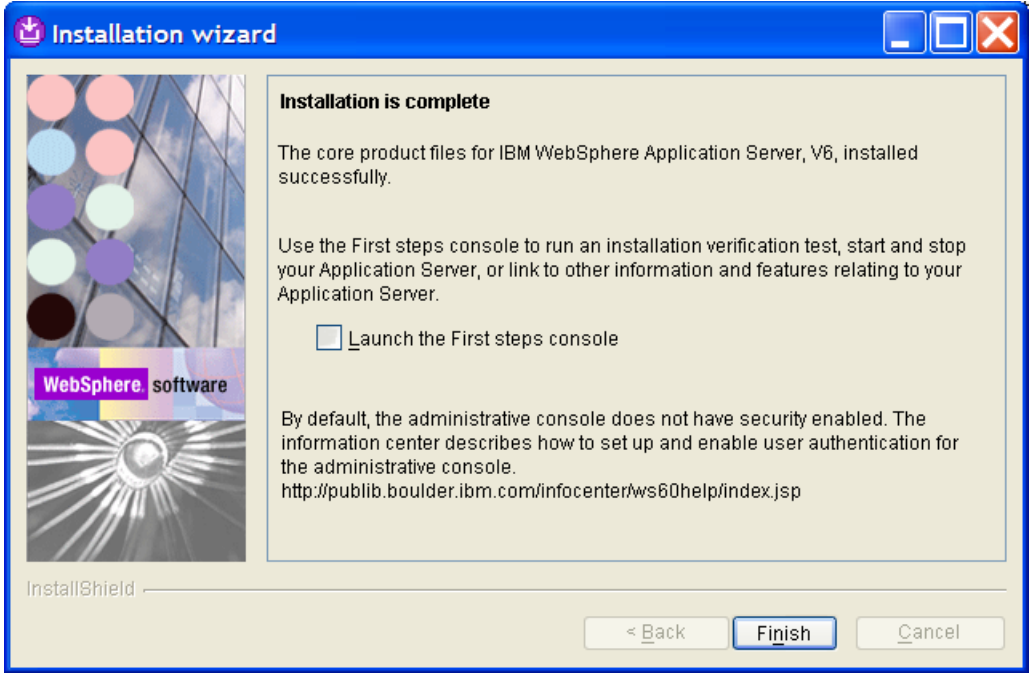
Step	Description
1.	Log on to the Microsoft Windows server with a User ID that belongs to the administrator group. Stop all IBM WebSphere Application Server-related Java processes on the machine when installing the product. Stop all Web server processes.
2.	Insert the product CD labeled “IBM WebSphere Application Server” into the CD-ROM drive. Start the installation by double clicking on "launchpad.bat" and launch the Installation wizard for the IBM WebSphere Application Server. After launching the Installation wizard from the “launchpad” or from the command line, the wizard initializes and displays a Welcome panel. Click Next to continue 

Figure 3

Step	Description
3.	The license agreement displays. Select the radio button beside the “I accept the terms in the license agreement” message to agree to the license agreement and then click Next to continue.  Figure 4 After reviewing and accepting the licensing terms, the Installation wizard checks for a supported operating system and prerequisite patches. If encountering a problem such as not having the required prerequisite updates on the system, cancel the installation, make the required changes, and restart the installation.

Step	Description
4.	After confirming that the operating system is supported and that all necessary patches have been installed, click Next to continue.  Figure 5
5.	Specify the location of the installation root directory for the core product files and click Next.  Figure 6

Step	Description
6.	The wizard displays the Installation options panel. The panel lets one choose a full installation or a custom installation, which displays the Features selection panel to choose the features to install. These Application Notes describe the procedure for a Full installation. Choose a type of Full installation and click Next.  Figure 7
7.	The installation wizard shows which components are selected for installation in a pre-installation summary panel. Review the summary information and click Next to install the product code.  Figure 8

Step	Description
8.	The Installation wizard creates the uninstaller program and then displays a progress panel that shows which components are being installed.
9.	At the end of the installation, the wizard displays the “Installation is complete” panel. Verify the success of the installer program by examining the completion panel and the log files for installation status. Click Finish to close the Installation wizard. This results in the Installation wizard installing IBM WebSphere Application Server into the installation root directory. The Installation wizard creates a profile named “default” that provides the run-time environment for the “server1” application server. “server1” is the default server name for the IBM WAS.  Figure 9

4. Install IBM WAS Application Server Toolkit (ASTK)

The following section shows how to install IBM WAS Application Server Toolkit (ASTK). For the sample configuration, this will be installed on **websever** machine, which resides in the DMZ zone as shown in **Figure 2**.

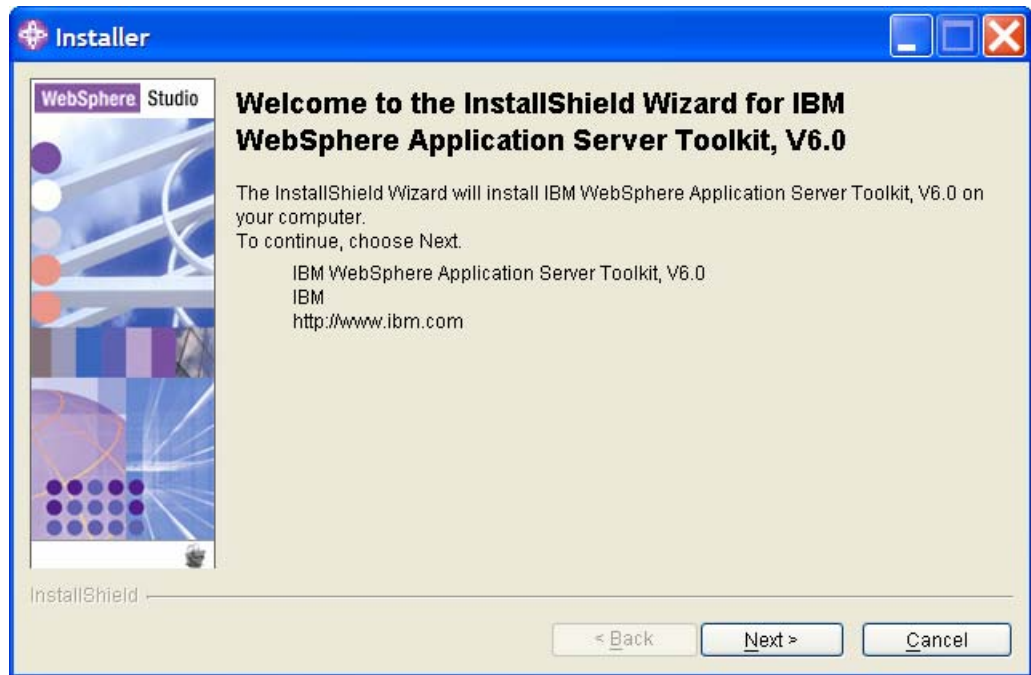
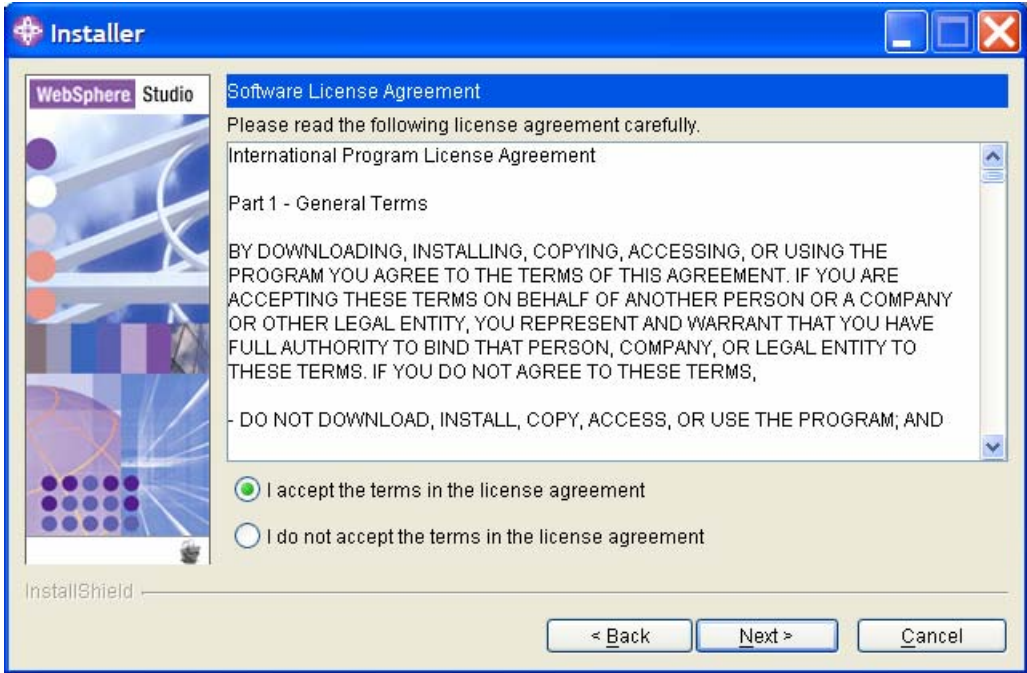
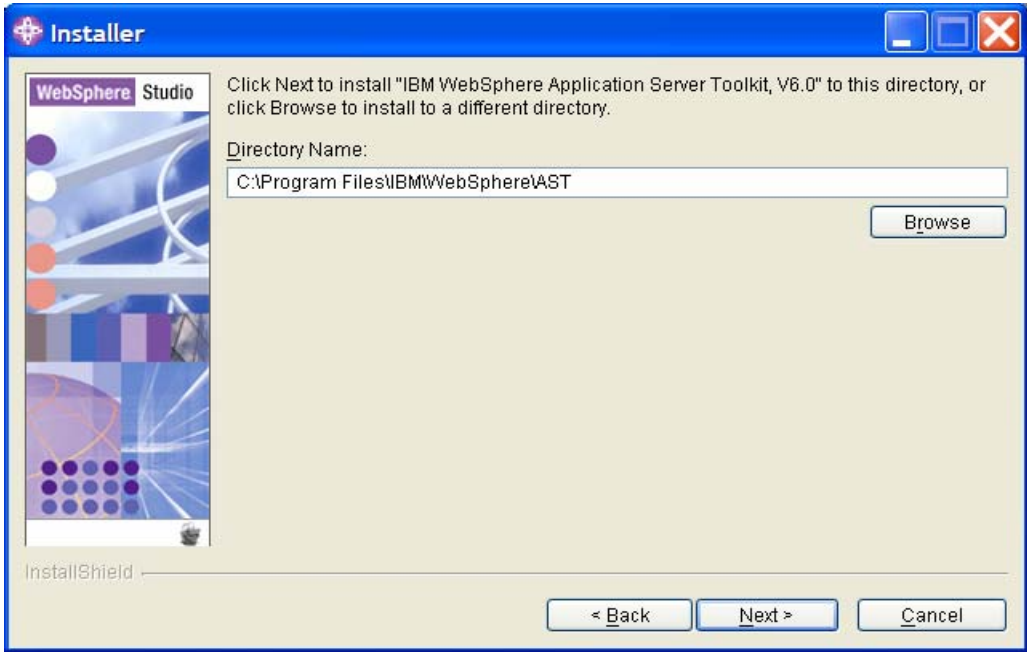
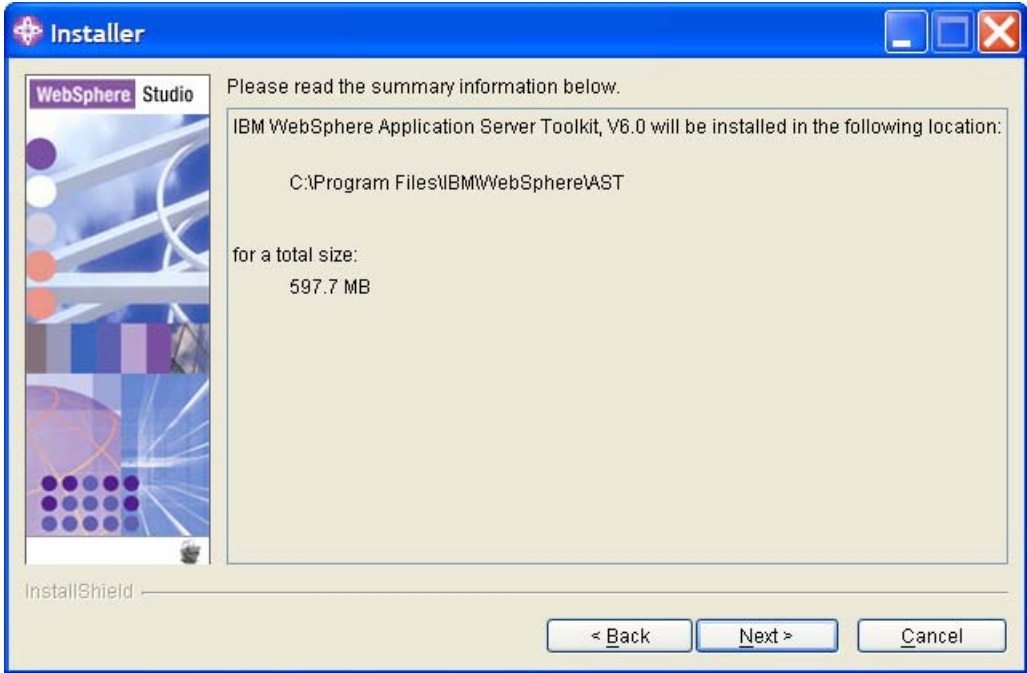
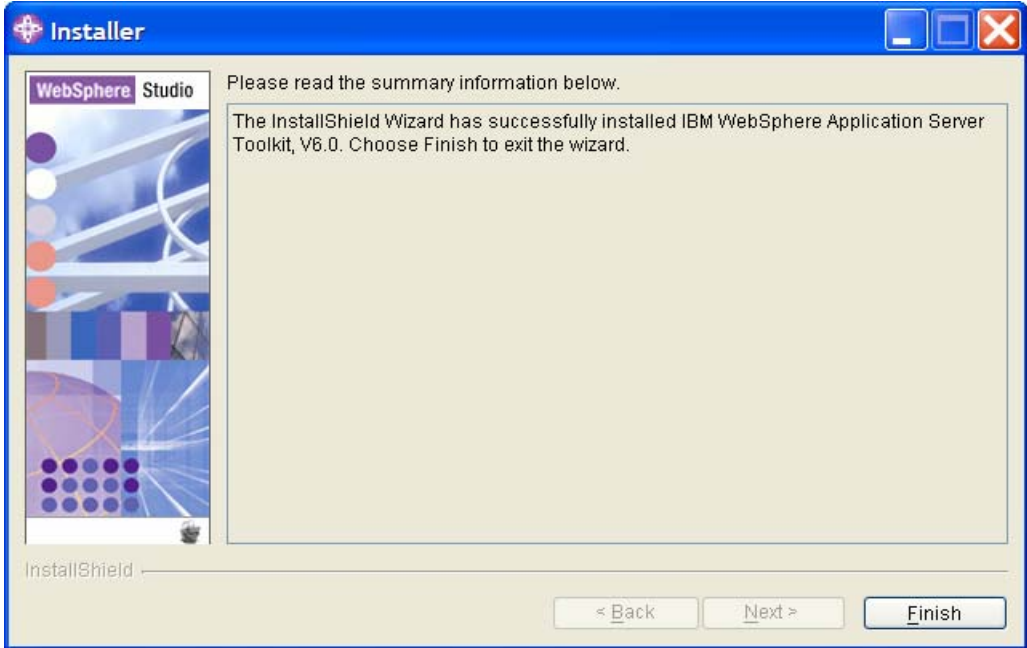
Step	Description
1.	Insert the CD into the CD-ROM drive. If “autorun” is enabled, the installation program automatically opens. If “autorun” is disabled, run “setup.exe” from the root of the first installation CD to display the IBM InstallShield Wizard for IBM WebSphere Application Server Toolkit Installation.
2.	From the IBM WebSphere Application Server Toolkit installation program wait for the installation wizard to open and click Next to continue. 

Figure 10

Step	Description
3.	Read and accept the license agreement and click Next to continue.  Figure 11
4.	Specify the target installation directory. The default installation directory is “C:\Program Files\IBM\WebSphere\AST”. Click Next to display summary information of the IBM WebSphere Application Server Toolkit install.  Figure 12

Step	Description
5.	Click Next to install the IBM WebSphere Application Server Toolkit.  Figure 13
6.	The installation program begins installing the IBM WebSphere Application Server Toolkit. Eventually a message confirming that the installation is complete is displayed. Click Finish to close the installation window.  Figure 14

5. Install IBM HTTP Server

The following section shows how to install the IBM HTTP server on the computer that hosts the web services. IBM HTTP server needs to be installed on the same machine as the IBM ASTK. For the sample configuration, this will be installed on **webserver** machine which has an IP address 103.1.1.41 and resides in the DMZ zone as shown in **Figure 2**.

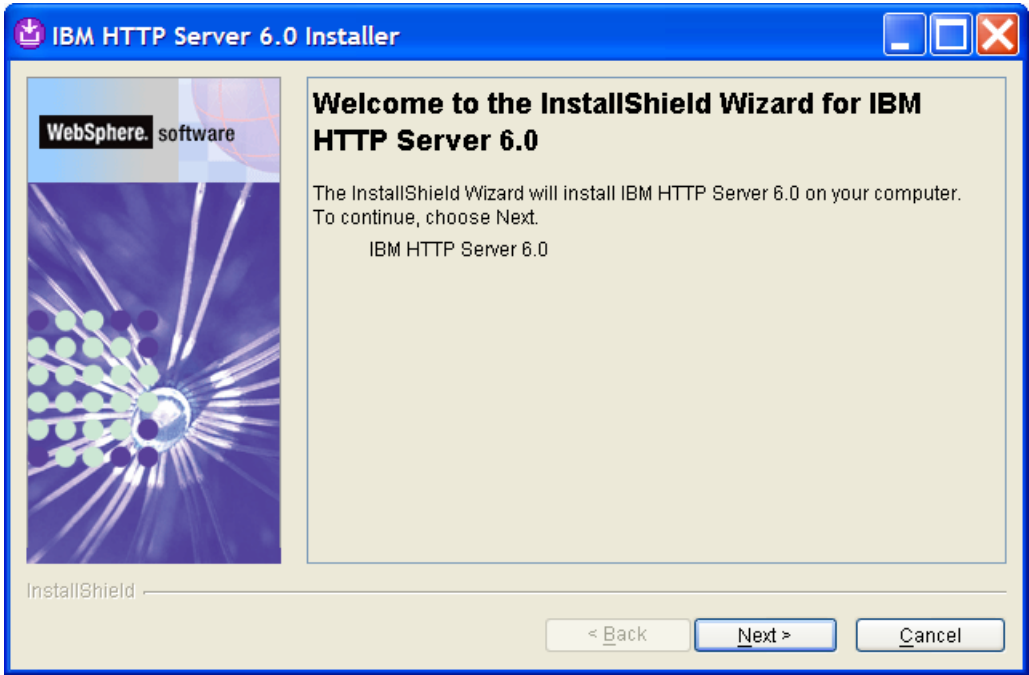
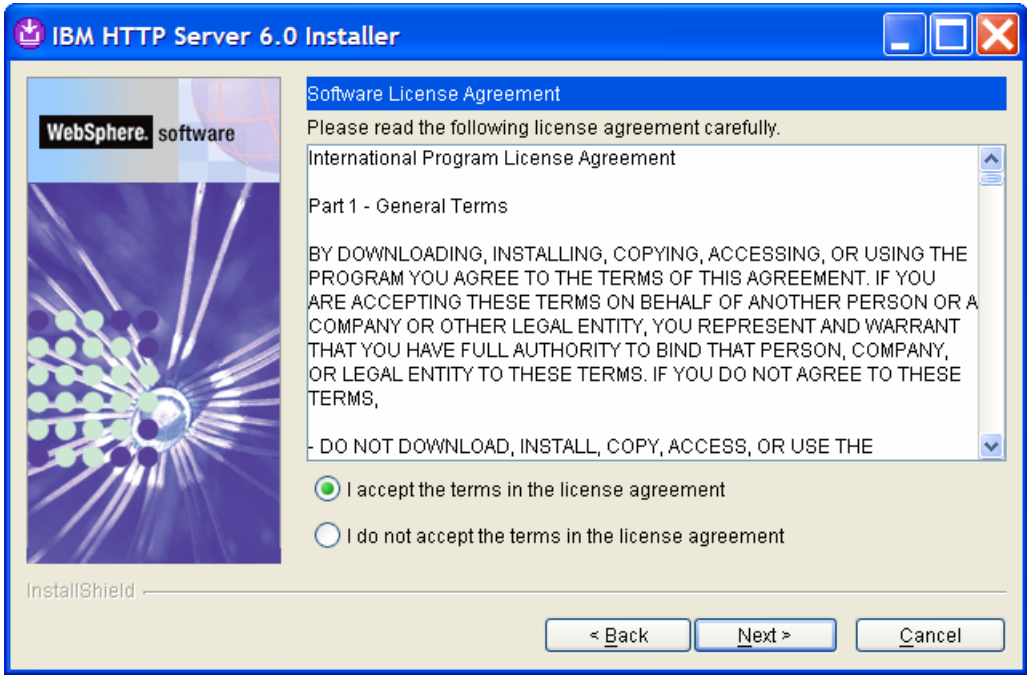
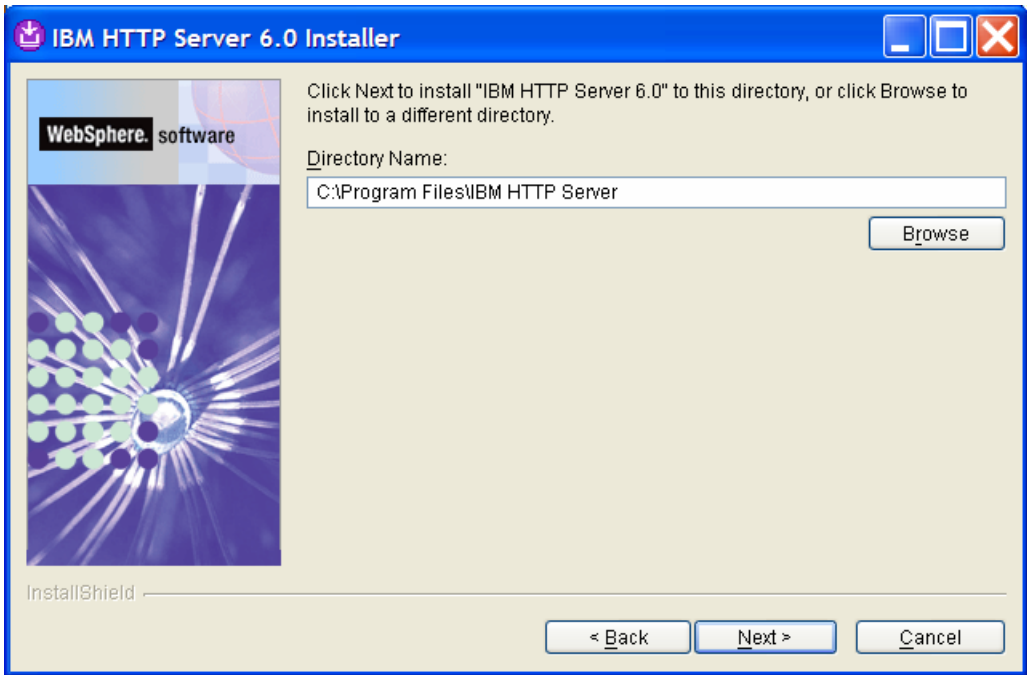
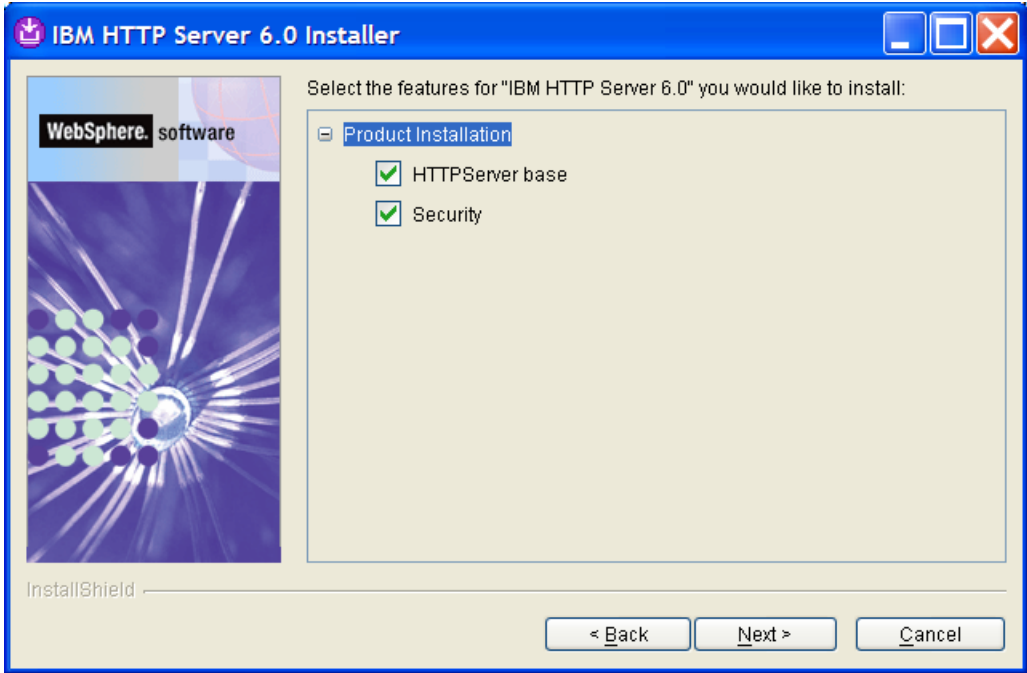
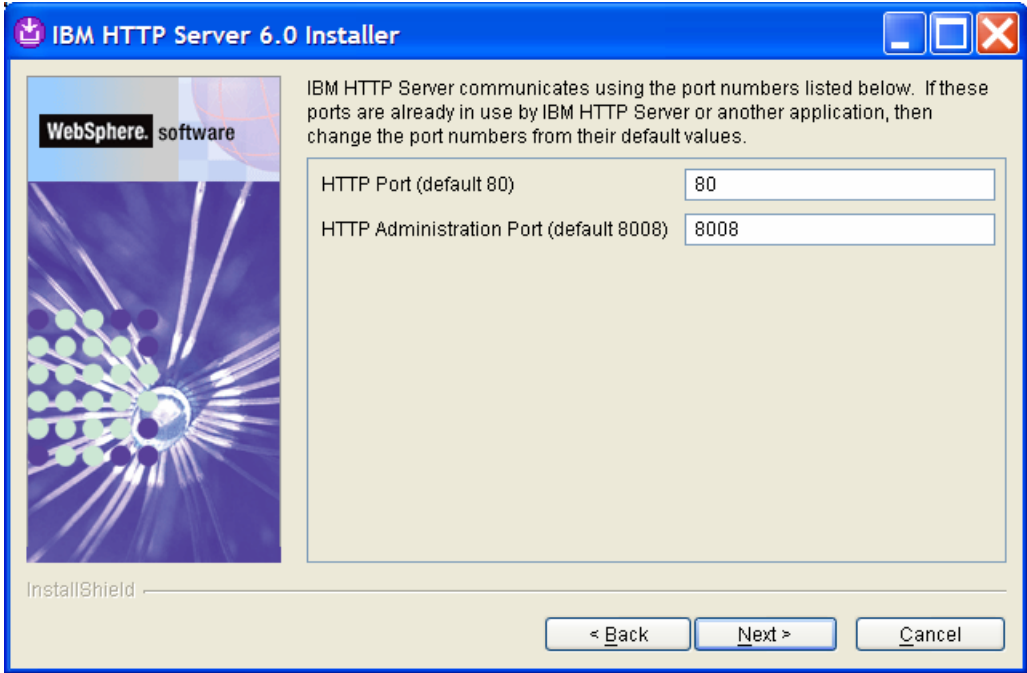
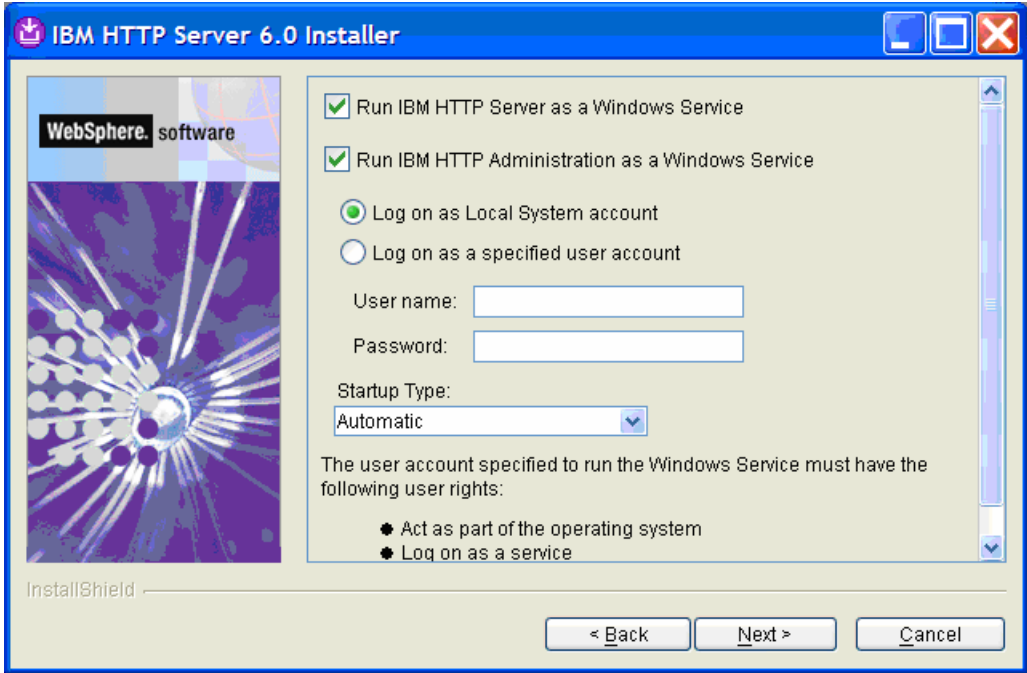
Step	Description
1.	Insert the IBM HTTP Server CD. Start the installation by double clicking on “launchpad.bat”. The Installation Welcome panel is displayed. Click Next to continue. 

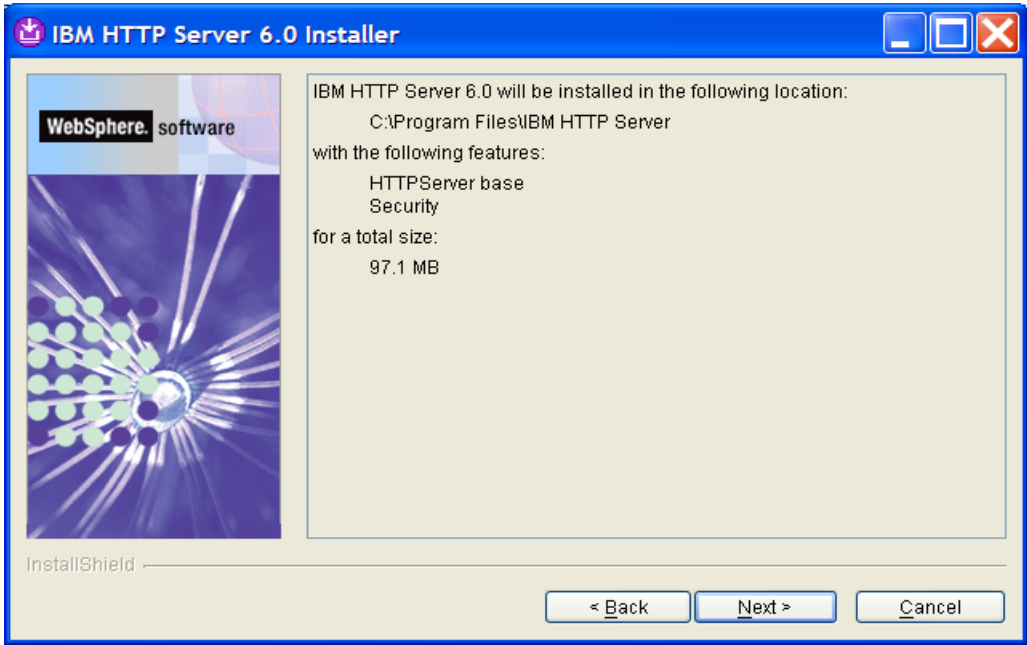
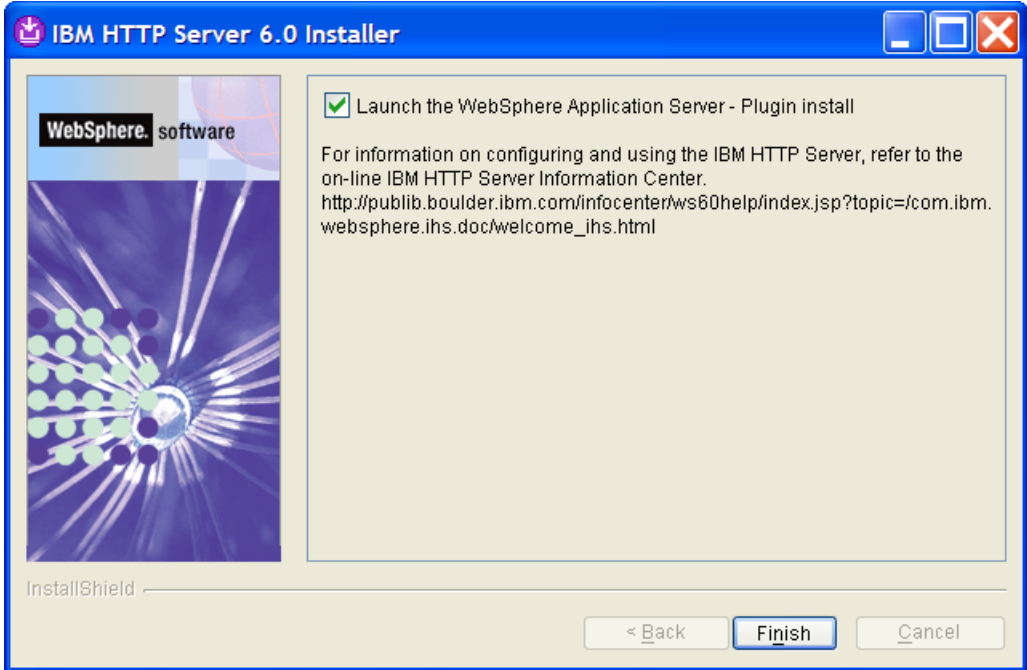
Figure 15

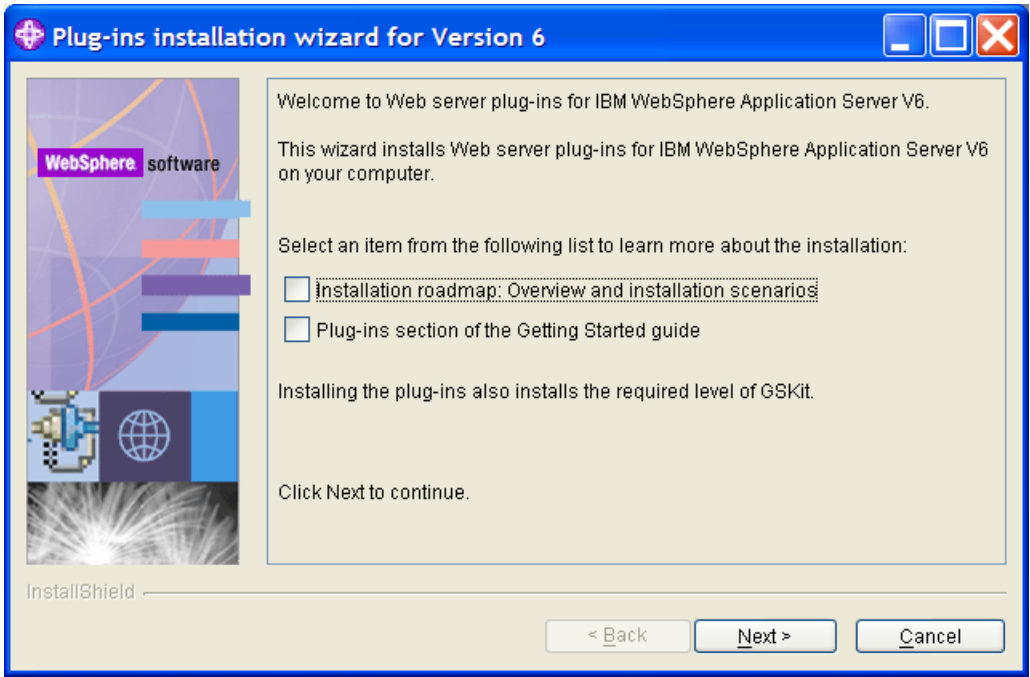
Step	Description
2.	The Software License Agreement panel is displayed. Accept the license agreement and click Next to continue.  Figure 16
3.	The installation root directory panel is displayed. Specify the root directory information and click Next to continue. The default root installation directory was used.  Figure 17

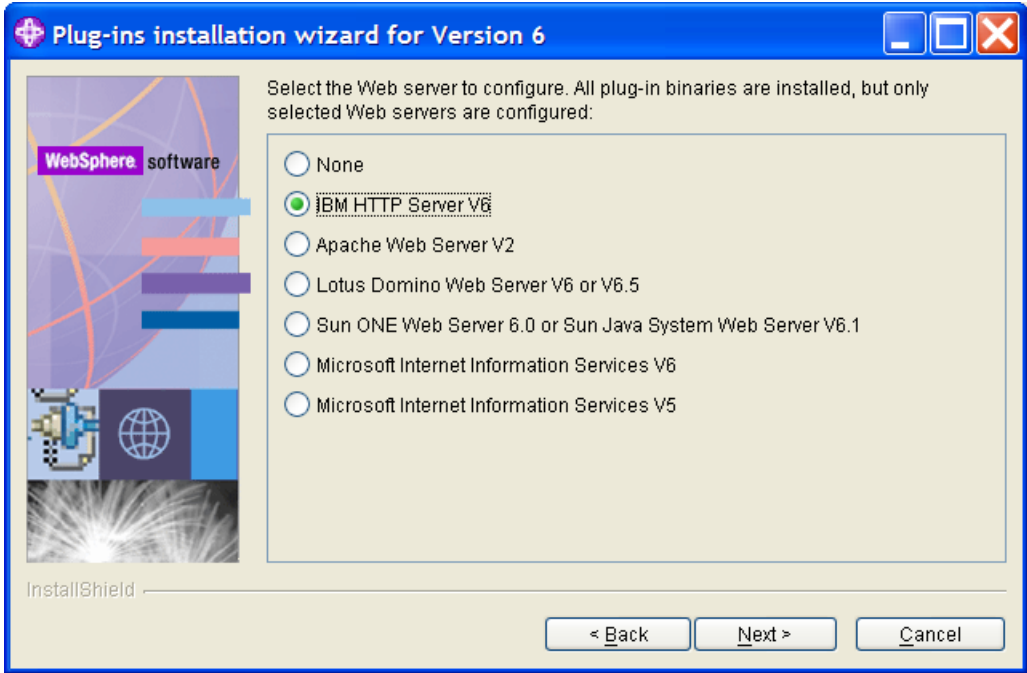
Step	Description
4.	The feature type selection panel is displayed. Click Custom to select which features to install and click Next to continue.
5.	The Product Installation selection panel is displayed. Verify that Product Installation has both products checked as shown below. Click Next to continue.  Figure 18

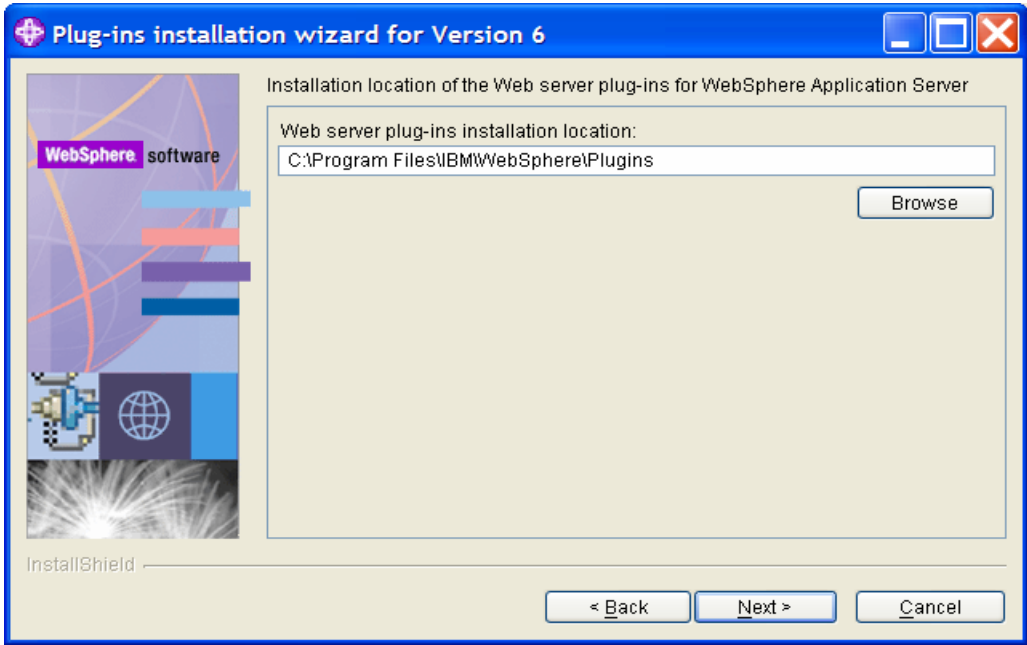
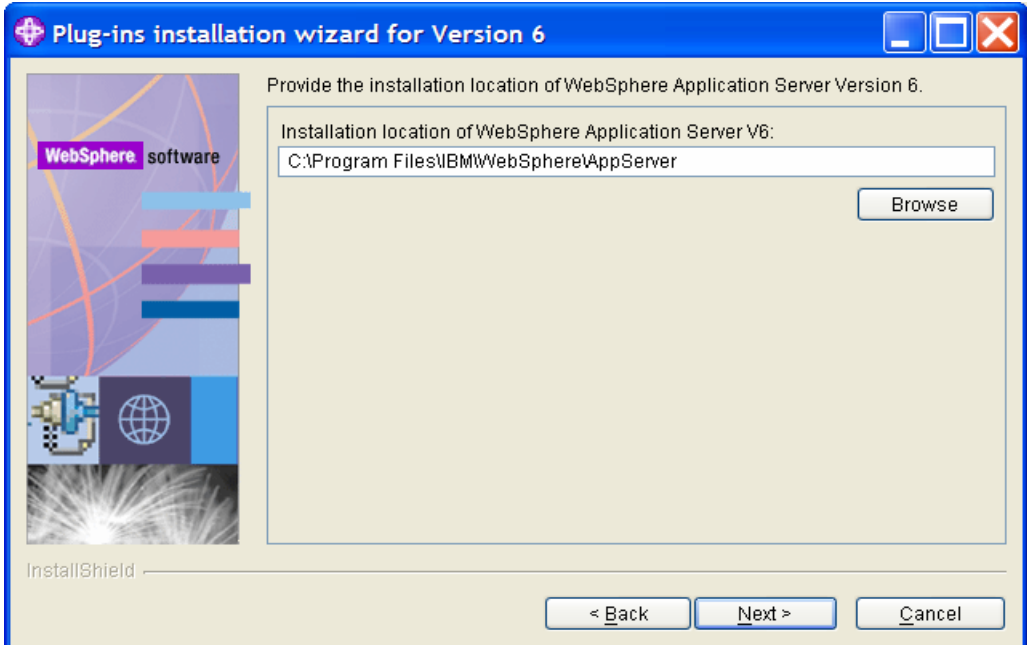
Step	Description
6.	Define non-conflicting ports and then click Next to continue.  Figure 19

Step	Description
7.	The Windows service authorization panel is displayed. This panel gives the option to create a Windows service for IBM HTTP Server and the IBM HTTP administration server. Create a Windows service for IBM HTTP Server and the IBM HTTP administration server. Configure the services to run as “Local System”. Click Next to continue.  Figure 20

Step	Description
8.	Review the pre-installation summary panel to verify the selections. Click Next to begin installing the IBM HTTP Server.  Figure 21
9.	After displaying installation status, the wizard displays the “completion status” panel that indicates a successful installation. Click Next to display the Web server plug-in prompt panel. Click Finish to launch the Plug-ins installation wizard.  Figure 22

Step	Description
10.	Clear the check box for the roadmap. Click Next to continue.
	 Figure 23
11.	The License agreement panel is displayed. Accept the license agreement and click Next to continue.
12.	The installation wizard checks for prerequisite service packs and patches. If the system does not pass the prerequisites check, stop the installation, correct any problems, and restart the installation. If the system passes the prerequisites check, click Next. Look for the “temporaryPluginInstallLog.txt” file in the temporary directory for information about missing prerequisites.

Step	Description
13.	Select “IBM HTTP Server V6” to configure. Click Next to continue.  Figure 24
14.	Select “Web server machine (remote)” and click Next to continue.

Step	Description
15.	Accept the default location for the installation root directory for the plug-ins and click Next to continue.  Figure 25
16.	Click Browse on the Application Server installation location panel to browse for the location of the Application Server profile. Click Next when the installation root directory is correct.  Figure 26

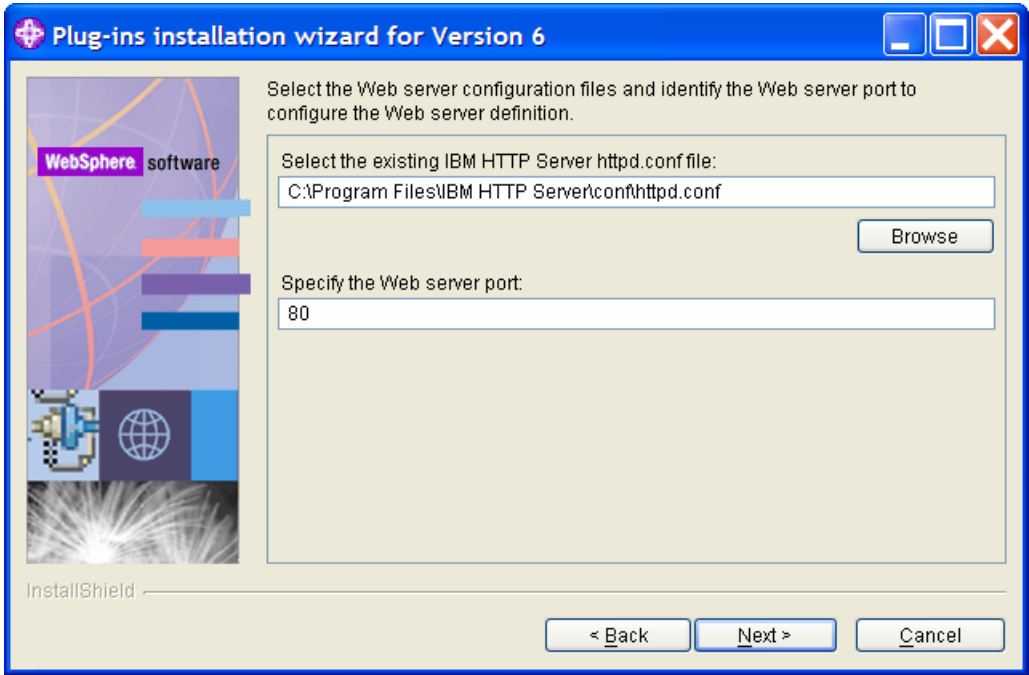
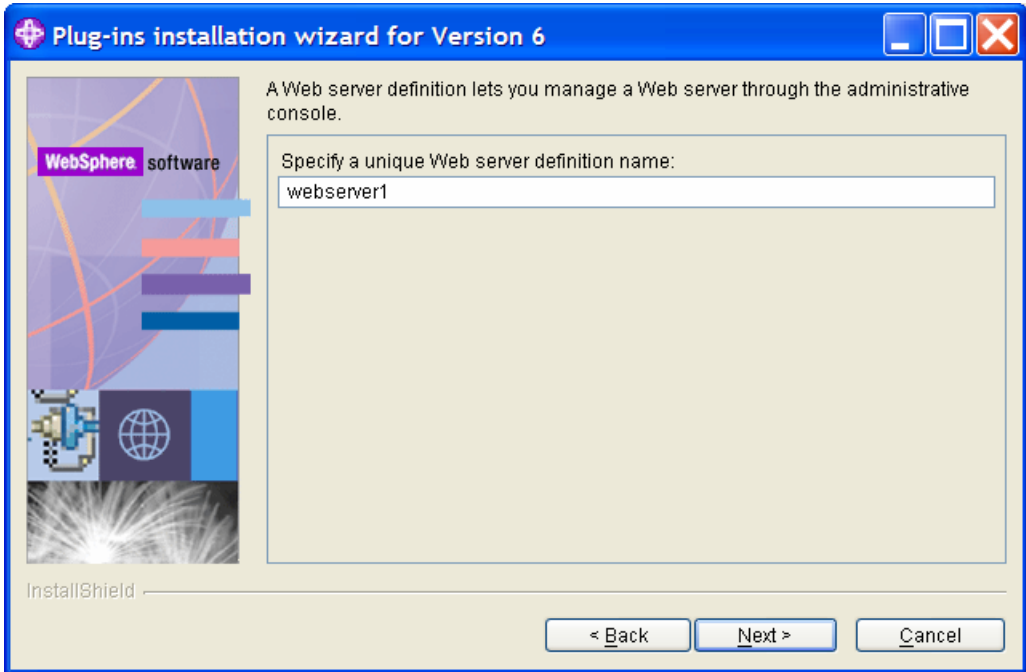
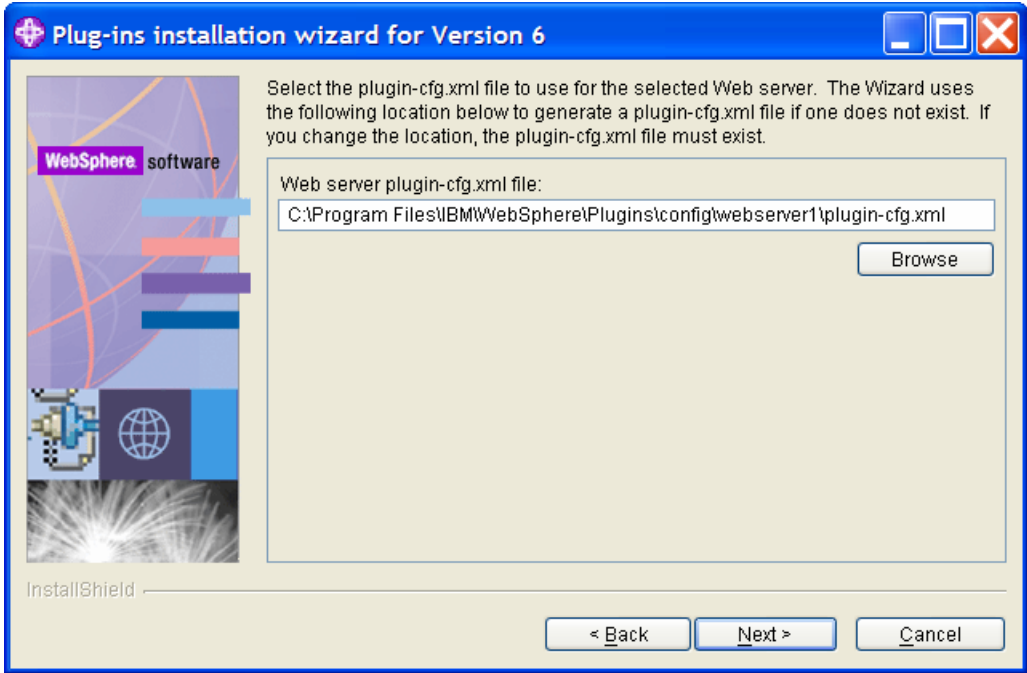
Step	Description
17.	Click Browse to select the configuration file for the Web server as shown below. Verify that the Web server port specified in Step 6 is correct, and then click Next. 

Figure 27

Step	Description
18.	Specify a name for the Web server and click Next to continue. The wizard uses the value to name configuration folders in the plug-ins installation root directory. The wizard also uses the name in the configuration script for the application server to name the Web server definition.  Figure 28 If the application server profile already has a Web server definition, specify a name that matches the name of the existing Web server definition. Using the same name configures the Web server to use the Web server definition on the application server.

Step	Description
19.	Specify the location for the “plugin-cfg.xml” file and click Next to continue.  Figure 29
20.	Click Next on the pre-installation summary panel to begin the installation or click Back to change any characteristics of the installation. The wizard begins installing the plug-ins and configuring the Web server and the application server. Click Next at the second pre-installation summary panel.
21.	Verify successful installation on the Installation summary panel and click Finish to exit the wizard.

6. Configure the Working Directory for the Avaya Agent Web Client

This section describes how to configure the working directory for Avaya Agent Web Client (IC Thin Client). The working directory property is always configured from the perspective of IBM WAS. The syntax used to configure the working directory property depends upon the operating system of the machine that hosts IBM WAS for Avaya Agent Web Client and how that machine will access the shared directory. For the sample configuration, the working directory was created on the same machine that hosts the IBM WAS and Avaya Agent Web Client application. In the sample configuration, the working directory will be created on **websphere** machine which has an IP address 10.1.1.67.

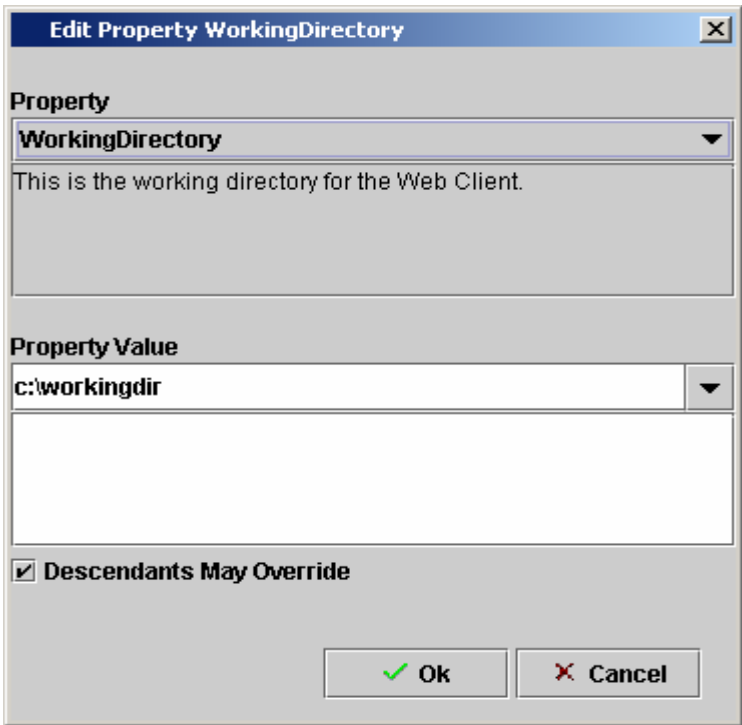
Step	Description
1.	To configure the working directory, create the shared directory for the working directory on a websphere machine.
2.	In IC Manager, select Tools → Groups. Select the Properties tab followed by the IC node in the left pane. In the Sections list, select the property section and click the “Agent/Desktop/WebClient” property. In the right pane, double-click the “WorkingDirectory” global property. In the Edit Property dialog box, verify that the “WorkingDirectory” property is selected in the Property drop-down list. In the Property Value field, set the value for the property. Check the Descendants May Override checkbox. Select OK to close the Edit Property dialog box. The Group Manager window appears. Select Apply followed by Ok. 

Figure 30

7. Install Avaya Agent Web Client

This section describes how to install the Avaya Agent Web Client (IC Thin Client). The Avaya Agent Web Client software was installed on the same machine as the IBM WAS server as shown in **Figure 2**.

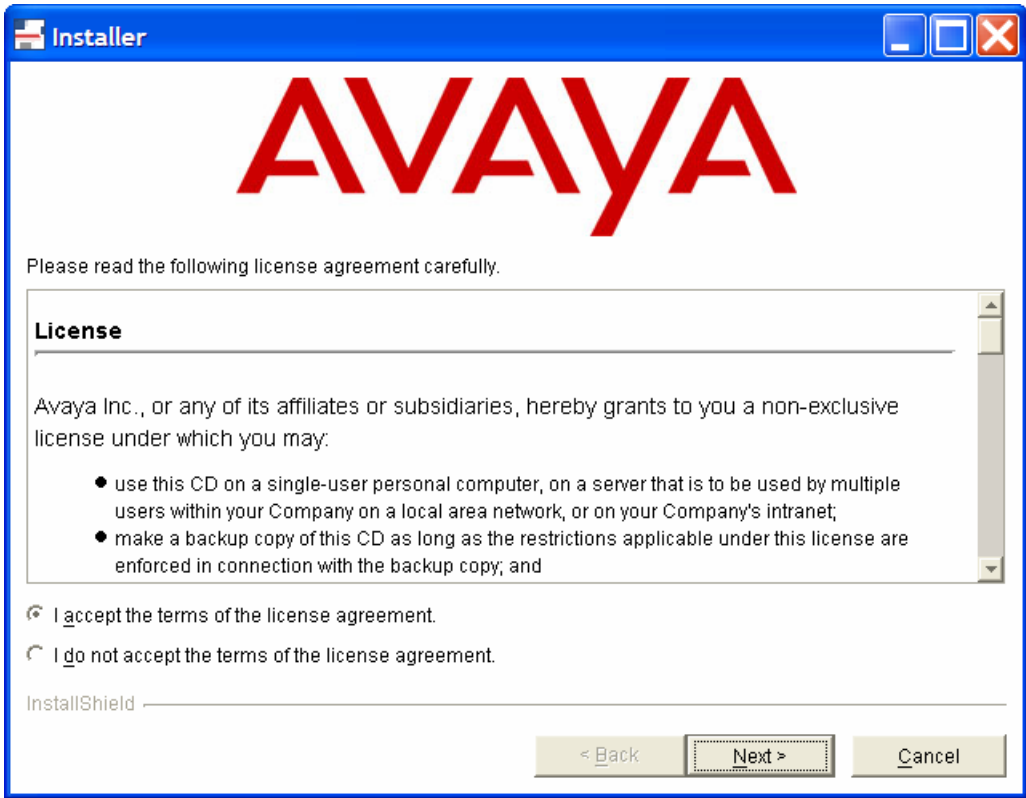
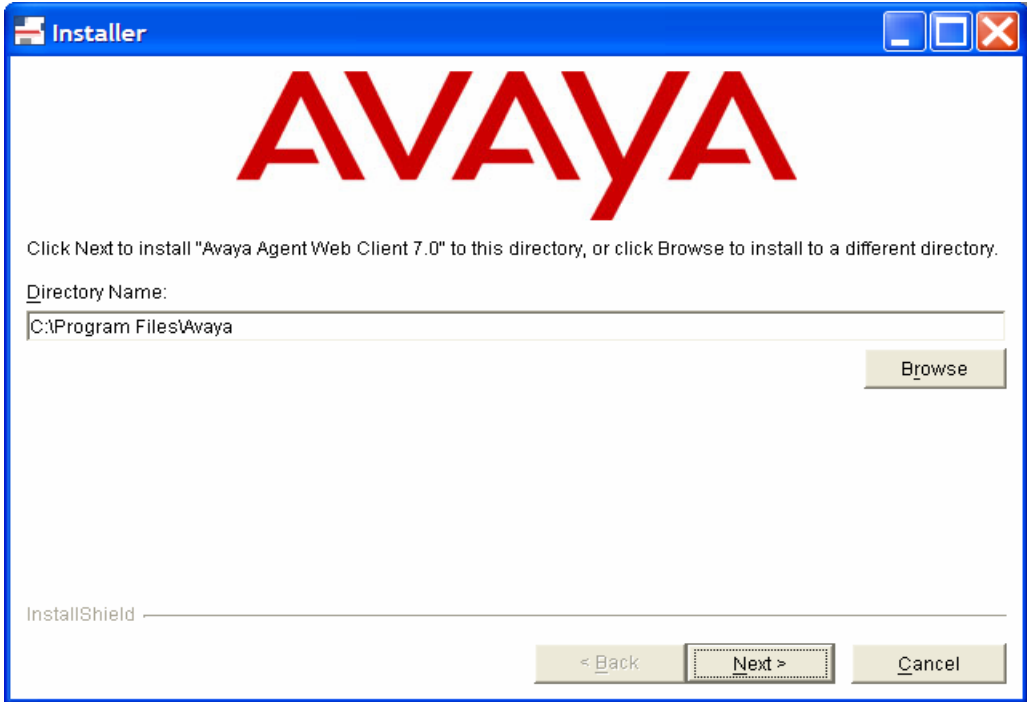
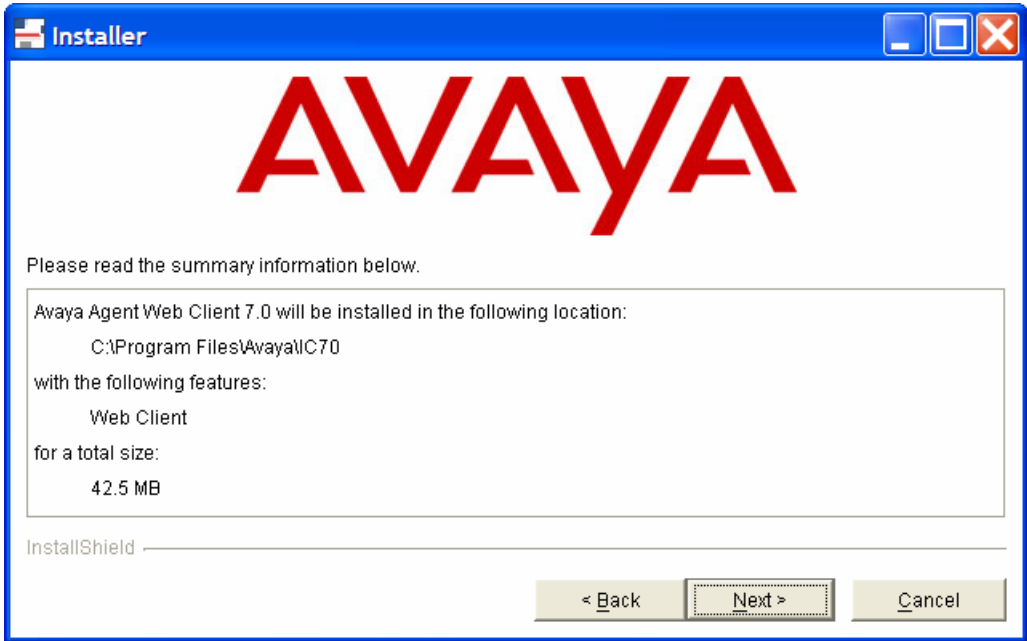
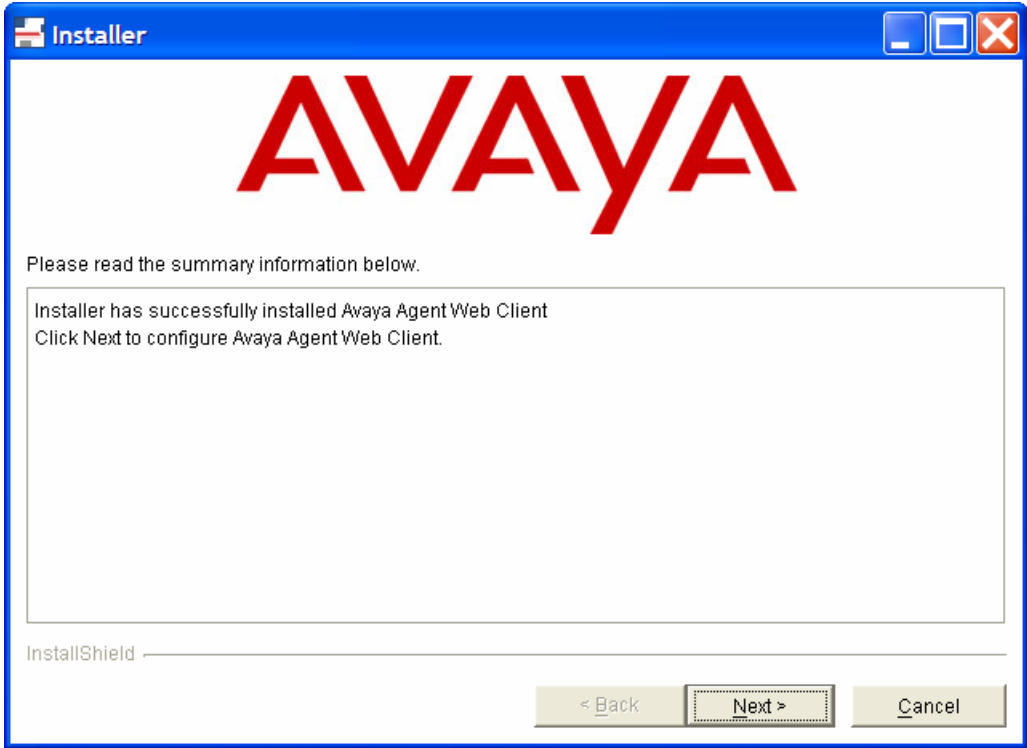
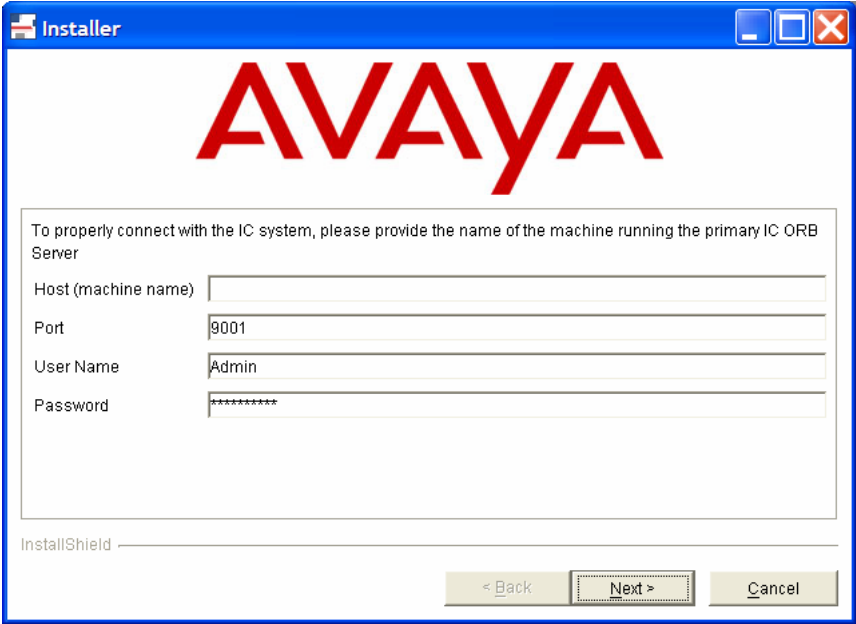
Step	Description
1.	Log in to the machine that hosts IBM WAS with an account with administrator privileges.
2.	Insert the Avaya Agent Web Client CD into the CD-ROM drive. Avaya Agent Web Client installation starts automatically. If “autorun” is disabled, navigate to the “Windows” or “Win32” directories on the CD and double-click “Setup.exe”.
3.	The License agreement panel is displayed. Read and Accept the license agreement and click Next to continue.  The screenshot shows a Windows-style installer window titled 'Installer'. The Avaya logo is prominently displayed in red. Below the logo, a text box contains the license agreement. The agreement states that Avaya Inc. grants a non-exclusive license for use on a single-user personal computer, on a server for multiple users, or on an intranet, provided a backup copy is made. Two radio buttons are present: 'I accept the terms of the license agreement.' (which is selected) and 'I do not accept the terms of the license agreement.'. At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Figure 31

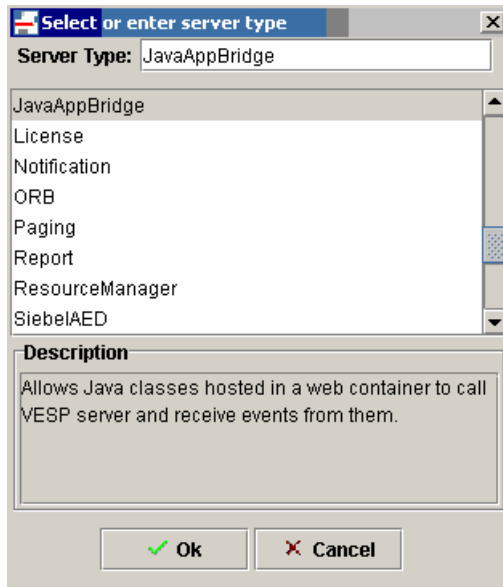
Step	Description
4.	Click Next to install the application in the default installation directory.  Figure 32
5.	Avaya Agent Web Client installation displays an installation summary window. Click Next if the installation configuration is correct. Avaya Agent Web Client installation starts copying the requested files to the server. The process can take several minutes.  Figure 33

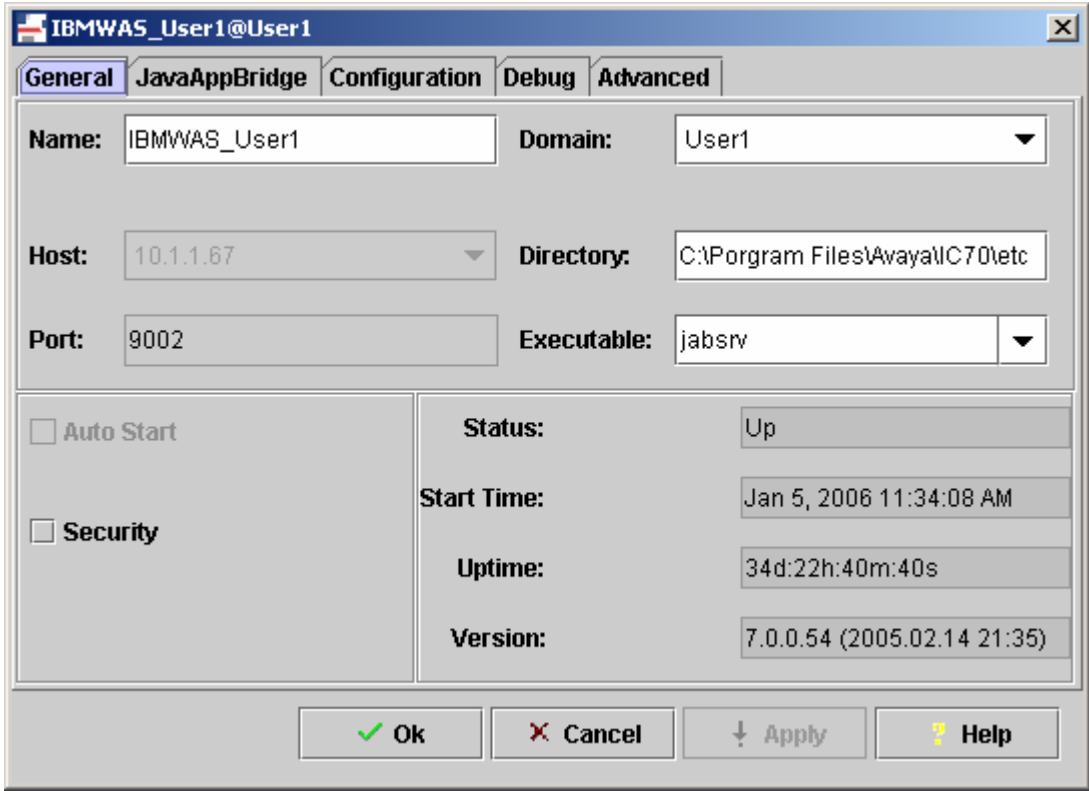
Step	Description
6.	The following installation summary window is displayed. Click Next to continue.  Figure 34

Step	Description
7.	Enter the information requested in the following fields: • Host - enter the name of the Avaya IC machine that hosts the primary ORB server (ICVoice1). • Port - enter the port assignment for the primary server. The port is typically “9001”. To verify the port assignment, see the primary server configuration in IC Manager. Enter an Avaya IC administrative user name and password and click Next to continue. Avaya Agent Web Client installation copies the server implementation file “vesp.imp” from the machine that hosts the primary ORB server to the Avaya Agent Web Client machine.  Figure 35
8.	Click Next, when the system displays an installation successful message. In the next Installation screen, select or unselect the “View Readme” check box to view or not view the “Readme” file. The Avaya Agent Web Client “Readme” opens in Adobe Acrobat. Close Acrobat to return to the Avaya IC installer and click Finish to complete the installation.

8. Java Application Bridge Configuration

This section describes how to configure the Java Application Bridge. The Application server for Avaya Agent Web Client uses the Java Application Bridge to communicate with the Avaya IC servers and databases. The Java Application Bridge is not a true Avaya IC server. The Java Application Bridge impersonates each agent who logs in to the Avaya Agent Web Client. When the Java Application Bridge makes a request for an agent, the Java Application Bridge mirrors the domain structure of the agent. A Java application bridge must be created for each IBM WAS that hosts an Avaya Agent Web Client application.

Step	Description
1.	In IC Manager, select the “Server” tab. Select “Server” → “New”. A pop-up window is displayed with a list of servers. Select “JavaAppBridge” from the list of servers and click OK.  Figure 36 The pop-up window closes and the “JavaAppBridge” server window is displayed.

Step	Description
2.	Select the “General” tab and complete the following fields. • Name – enter the name of the Java Application Bridge. • Domain – select the Avaya IC user domain for the Java Application Bridge. • Host – enter the IP Address of the server that hosts the IBM WAS. • Port – enter the port assignment of the Java Application Bridge. • Directory – enter the path to the “etc” directory for Avaya Agent Web Client (i.e., C:\Program Files\Avaya\IC70\etc). • Executable – Enter “jabsrv”. Record the Name value for the Java Application Bridge for use later. Click OK to finish the configuration. Figure 37 shows the Java Application Bridge General tab after the above configuration is completed.  Figure 37
3.	The Java Application Bridge requires an agent account for Avaya IC. This agent account is used when the IBM WAS Application server is created. By default, the Avaya IC seed data includes one agent account “dcobridge1”. This account was used for the Java Application Bridge in the Avaya IC system.

9. Package the Avaya Agent Web Client Application

This section describes how to package the Avaya Agent Web Client application using the IBM WAS Application Server Toolkit. These steps are executed on the **webserver** machine located in DMZ which has an IP address of 103.1.1.41.

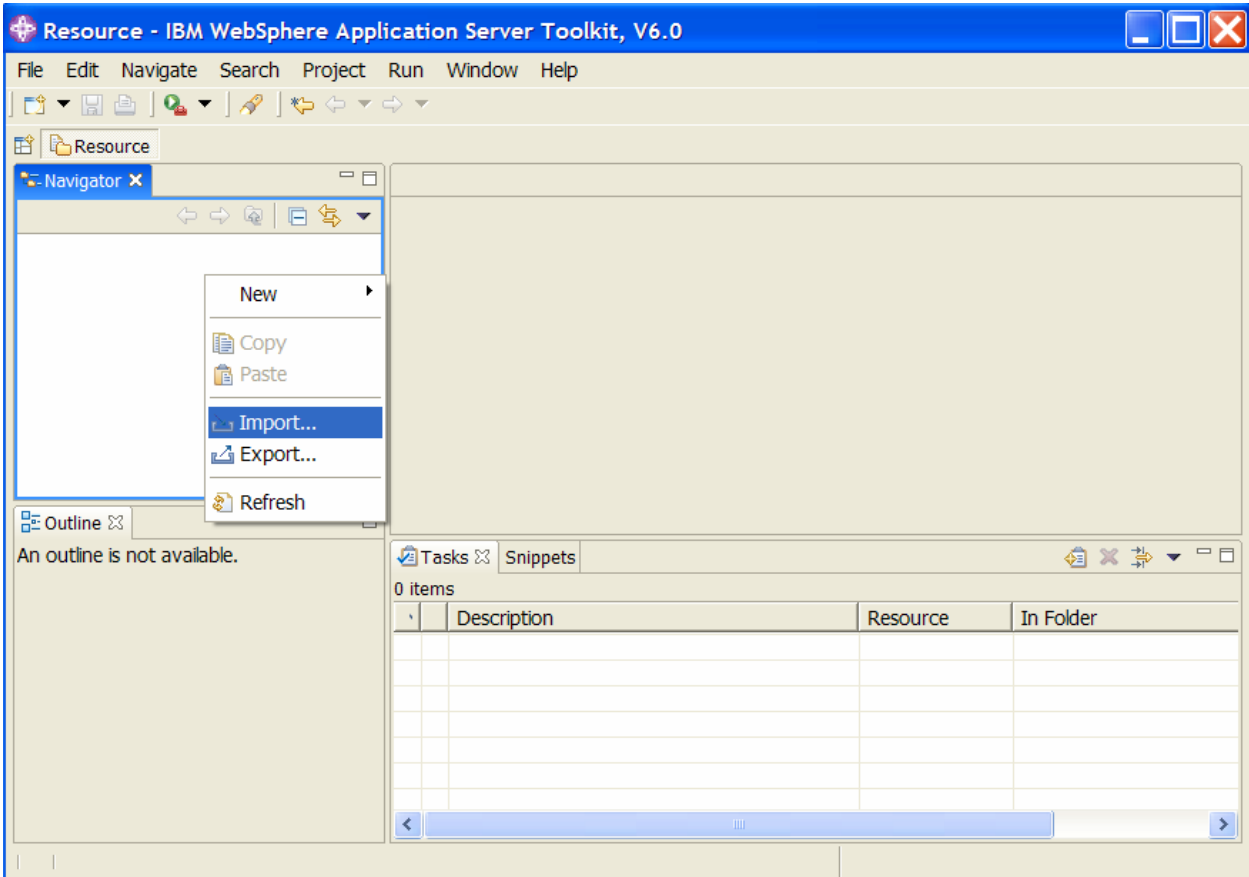
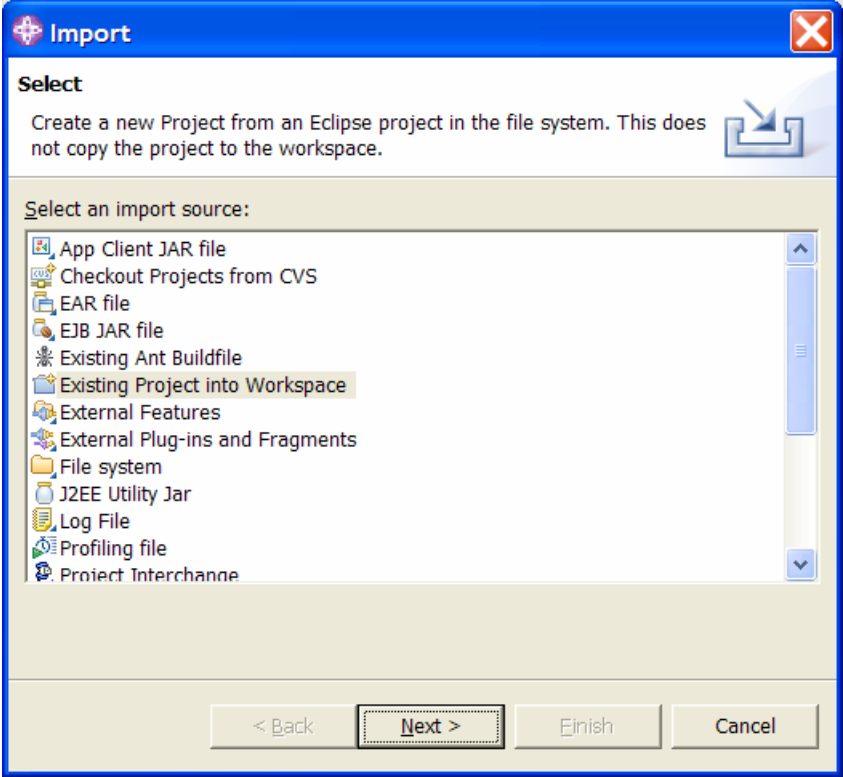
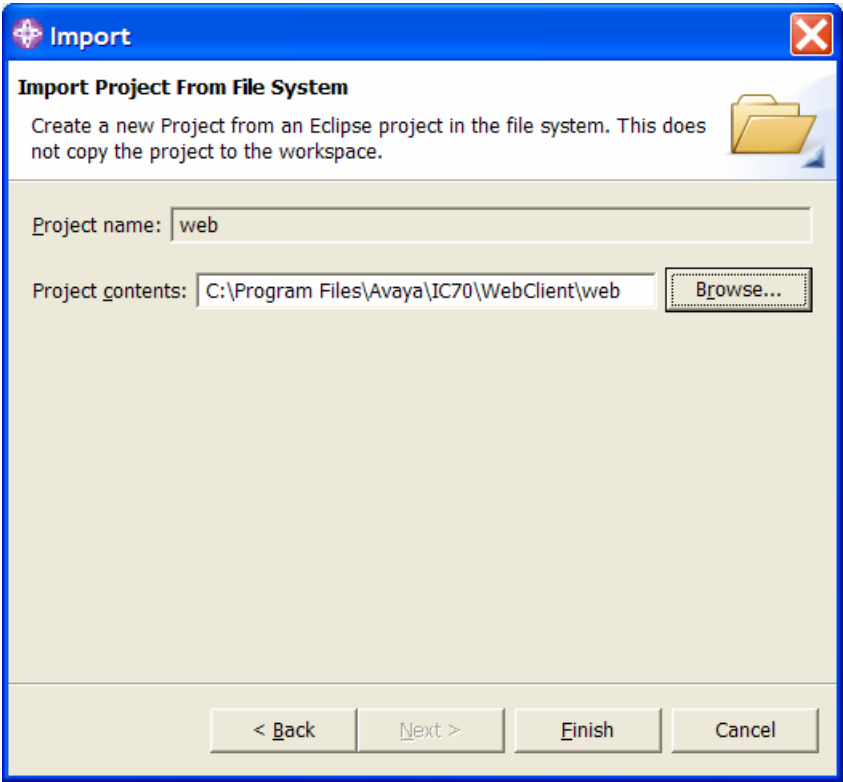
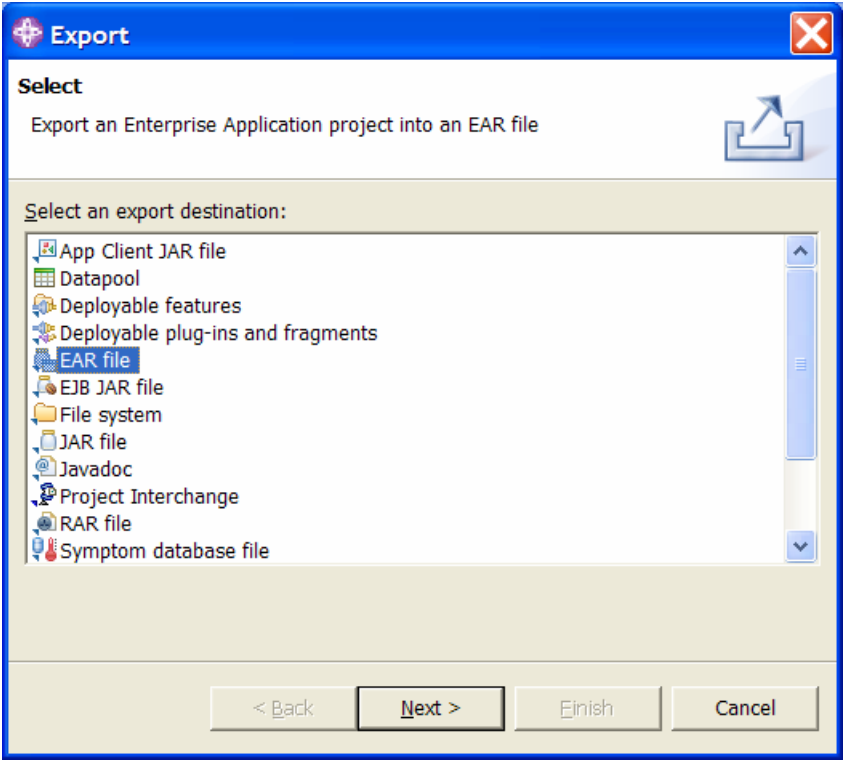
Step	Description
1.	In IBM ASTK, right-click an empty area in the “Navigator” pane and select “Import”. 

Figure 38

Step	Description
2.	In the Import dialog box select “Existing Project into Workspace” and click Next.  The screenshot shows the Eclipse 'Import' dialog box. The title bar says 'Import'. Below the title bar, there's a 'Select' section with a description: 'Create a new Project from an Eclipse project in the file system. This does not copy the project to the workspace.' To the right of this text is a small icon of a folder with an arrow pointing into it. Below this is a list box titled 'Select an import source:'. The list contains the following items: 'App Client JAR file', 'Checkout Projects from CVS', 'EAR file', 'EJB JAR file', 'Existing Ant Buildfile', 'Existing Project into Workspace' (which is highlighted), 'External Features', 'External Plug-ins and Fragments', 'File system', 'J2EE Utility Jar', 'Log File', 'Profiling file', and 'Project Interchange'. At the bottom of the dialog are four buttons: '< Back', 'Next >' (which is highlighted), 'Finish', and 'Cancel'. Figure 39

Step	Description
3.	In the Import Project from File System dialog box, browse to the “C:\Program Files\Avaya\IC70\WebClient\web” directory. Verify that the project name has been automatically entered by the system after clicking OK. Click Finish to continue.  Figure 40
4.	Repeat Steps 1 through 3, using the following location in Step 3 “C:\Program Files\Avaya\IC70\WebClient\application”.
5.	In the Navigator pane of IBM ASTK, select the “application” project. Right-click on “application” and select “Export”.

Step	Description
5.	In the Export window select “EAR File” and click Next to continue.  Figure 41

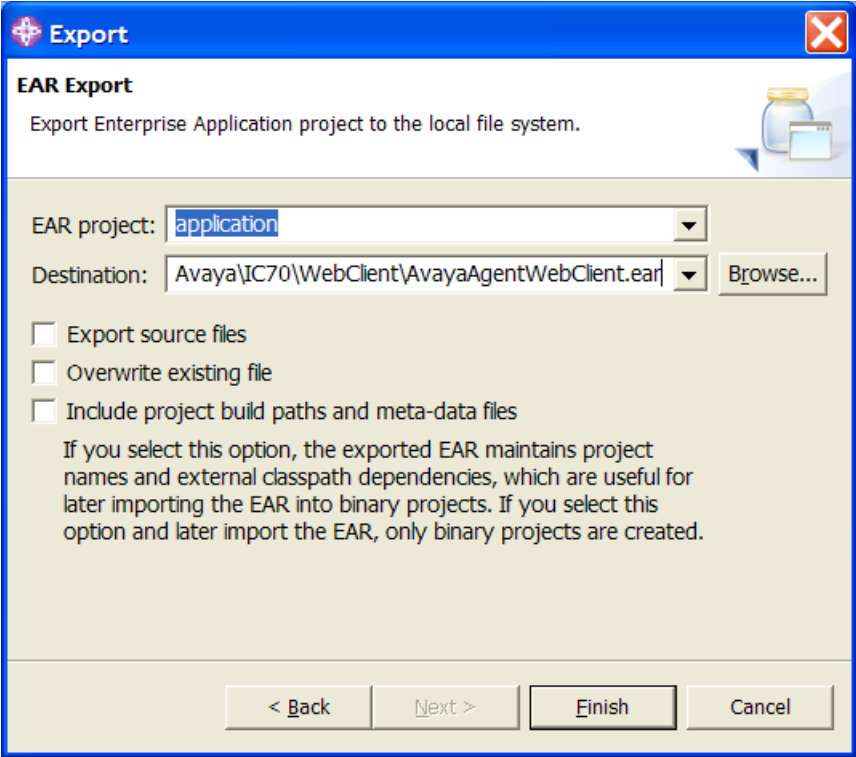
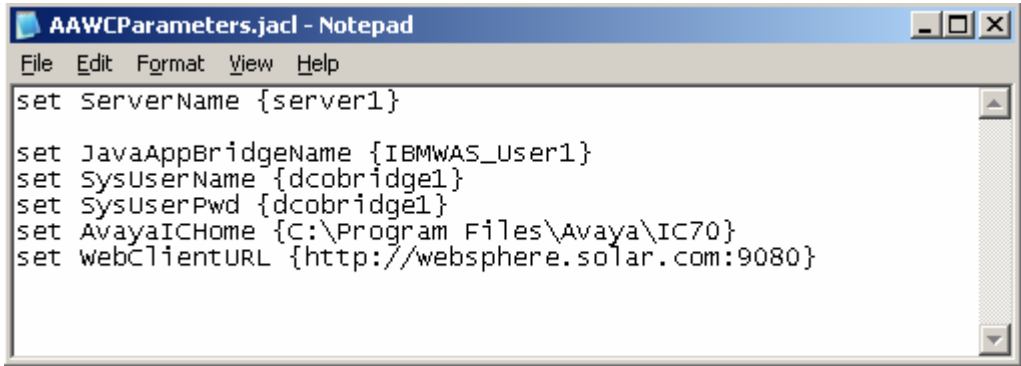
Step	Description
6.	Complete the following fields in the EAR Export dialog box: - Enterprise Application project name - Enter application. - Destination - Enter the EAR file for Avaya Agent Web Client. Type in the following location, or select Browse and navigate to the location “C:\Program Files\Avaya\IC70\WebClient\AvayaAgentWebClient.ear”. - Export source files - Clear this check box. - Overwrite existing files without warning - Clear this check box. - Include project build paths and meta-data files - Clear this check box. - Click Finish. 

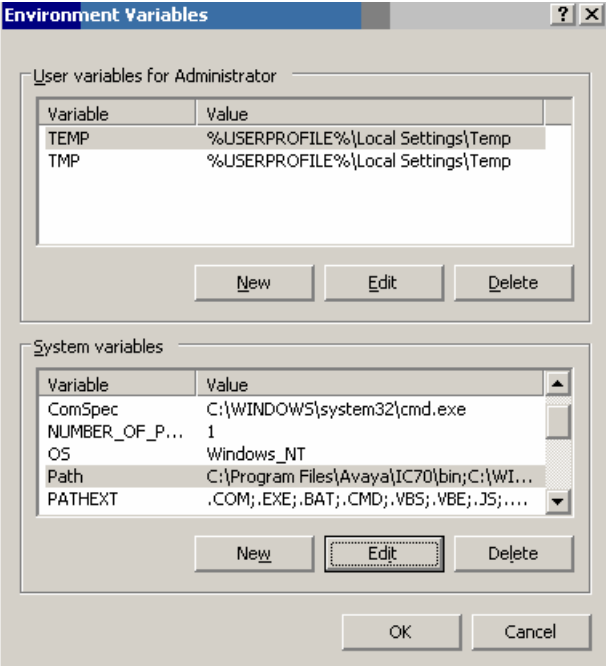
Figure 42

10. Configure IBM WAS

This section describes how to configure the IBM WAS to deploy the Avaya Agent Web Client.

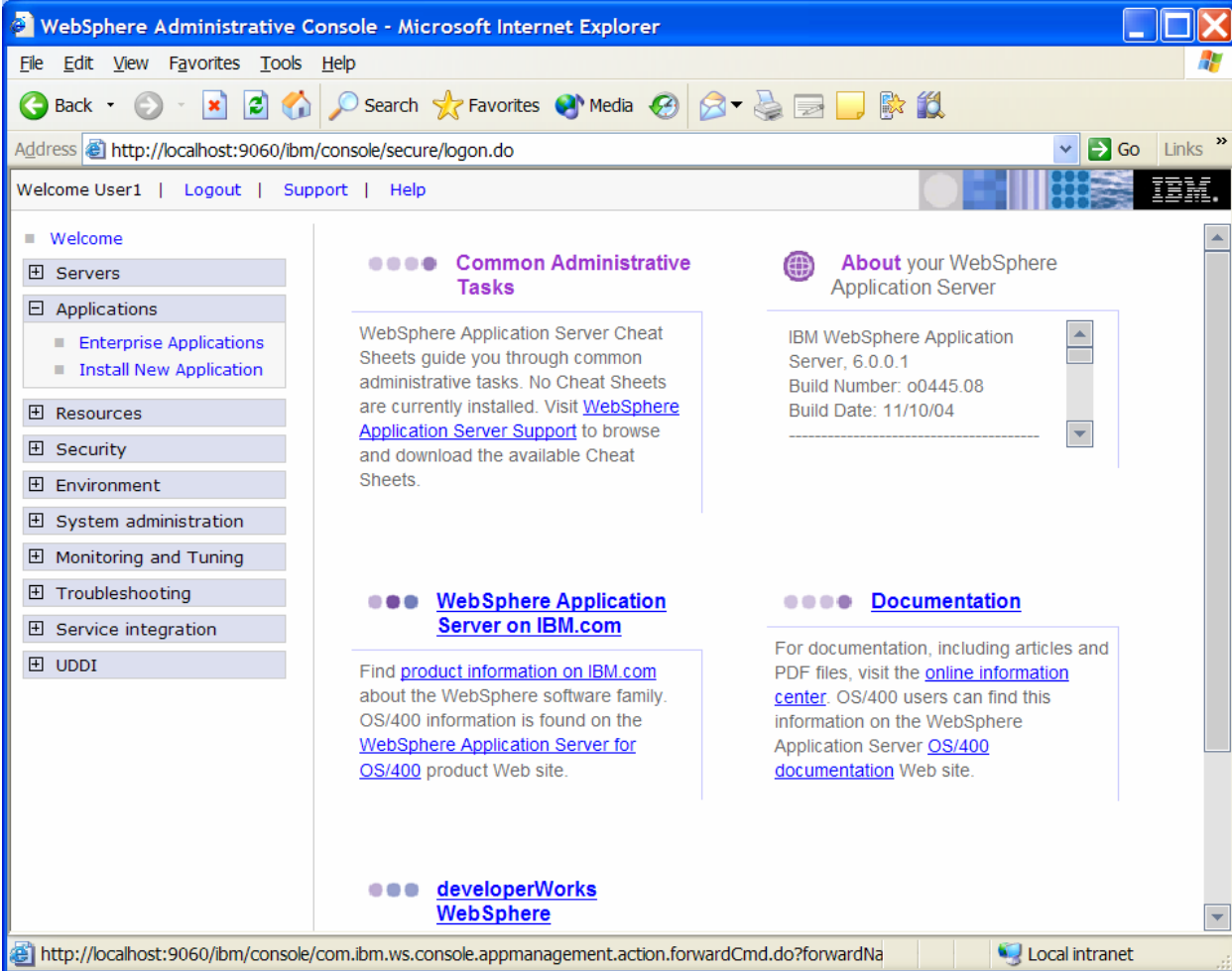
Step	Description
1.	The following scripts need to be setup in order to configure IBM WAS for the Avaya Agent Web Client: • AAWCConfigure.jacl • AAWCParameters.jacl To set up the JACL scripts copy the JACL scripts listed above from “C:\Program Files\Avaya\IC70\config” to the following directory: “WAS_INSTALL_ROOT/AppServer/profiles/default/bin” where “WAS_INSTALL_ROOT” is the directory path where the IBM WAS software was installed and “default” is the profile name.
2.	In a text editor, open “AAWCParameters.jacl”. The contents of the file should include the following text: <pre>set ServerName {server1} set JavaAppBridgeName {JavaAppBridgeName_mymachine} set SysUserName {dcobridge1} set SysUserPwd {dcobridge1} set AvayaICHome {C:/Avaya/IC70} set WebClientURL {http://mymachine.mycompany.com:9080}</pre>

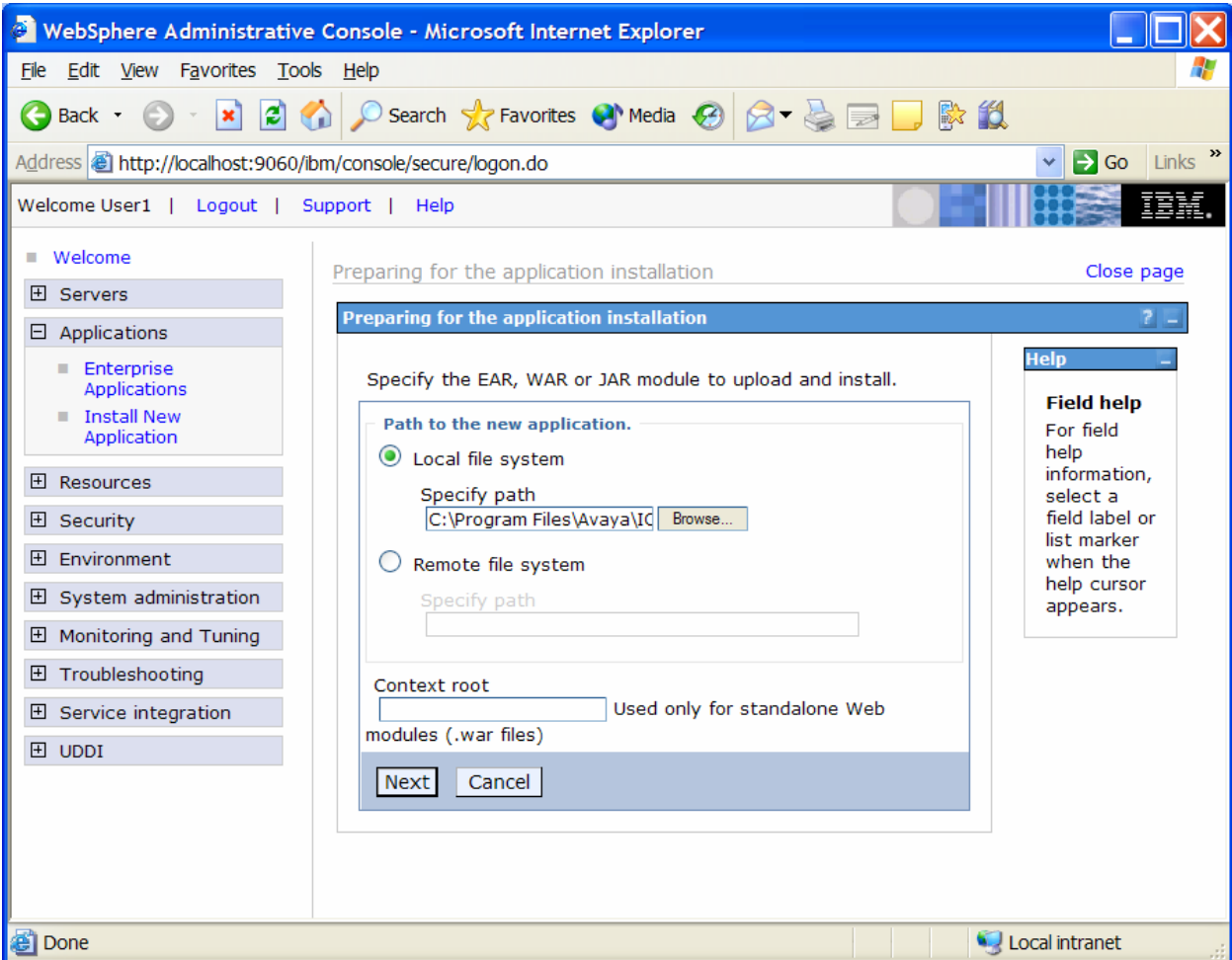
Step	Description
3.	Customize the following values in “AAWCPParameters.jacl”: • ServerName (Default value: server1) - Enter the name of the IBM WAS application server that will host the Avaya Agent Web Client application. • JavaAppBridgeName (Default value: JavaAppBridgeName_mymachine) - Enter the name of the Java Application Bridge that was created in Section 8, Step 2. • SysUserName (Default value: dcobridge1) - Enter the name of the administrative user that was created in Section 8, Step 3. • SysUserPwd (Default value: dcobridge1) - Enter the password of the administrative user that was created in Section 8, Step 3. • AvayaICHome (Default value: C:/Avaya/IC70) - Enter the path to the directory where the Avaya Agent Web Client software was installed. The “AvayaICHome” value is case-sensitive. • WebClientURL (Default value: http://mymachine.mycompany.com:9080) - Enter the URL for Avaya Agent Web Client in one of the following formats: “HTTP_protocol://WAS_SERVER_NAME:port”, where port is an available port that can be used to access the Avaya Agent Web Client application. Figure 43 shows the AAWCPParameter.jacl file for the configuration described in these Application Notes.  Figure 43 Save the “AAWCPParameters.jacl” file in the same location.

Step	Description
4.	Verify the environment variable by reviewing the Windows environment variables. Right-click on “My Computer” → “Properties” and select the “Advanced” tab. Click the Environment Variables button and verify that the Avaya IC installer added the following directory to the Path variable: “IC_INSTALL_DIR\IC70\bin”, where “IC_INSTALL_DIR\IC70” is the installation directory of the Avaya Agent Web Client software. If necessary, add the directory path for Avaya Agent Web Client to the Path variable.  Figure 44
5.	Apply the JACL scripts on the IBM WAS server using the following procedures: • In a Command Prompt window, navigate to the following directory “\WAS_INSTALL_ROOT\AppServer\profiles\default\bin”, where “WAS_INSTALL_ROOT” is the directory path where the IBM WAS server was installed and “default” is the profile name. • Execute the following command: “startServer server1”, where “server1” is the name of the IBM WAS server that hosts the IBM WAS Administrative Console. • When that command is successful, execute the following command: “wsadmin -f AAWCConfigure.jacl”.

11. Deploy Web Application EAR File

When the Avaya Agent Web Client application is deployed, Avaya highly recommends that the JSP files used by Avaya Agent Web Client must be pre-compiled. When the JSP Files are pre-compiled, the IBM WAS server does not need to access and compile the JSPs when the Avaya Agent Web Client application is run for the first time after deployment. If the JSP files are not pre-compiled, some Avaya Agent Web Client components can take significantly longer to open for the first agent to log in than for all subsequent agents.

Step	Description
1.	In the left pane of the IBM WAS Administrative Console, select “Applications” → “Install New Application”.  Figure 45

Step	Description
2.	In the Preparing for the application installation page, select Browse and navigate to the location of the “AvayaAgentWebClient.ear” file. The EAR file was created in Section 9, Step 6. Click Next to continue.  Figure 46
3.	In the next “Preparing for the application installation” page accept the default settings and click Next to continue.
4.	In the last “Preparing for the application installation” page, select Continue.

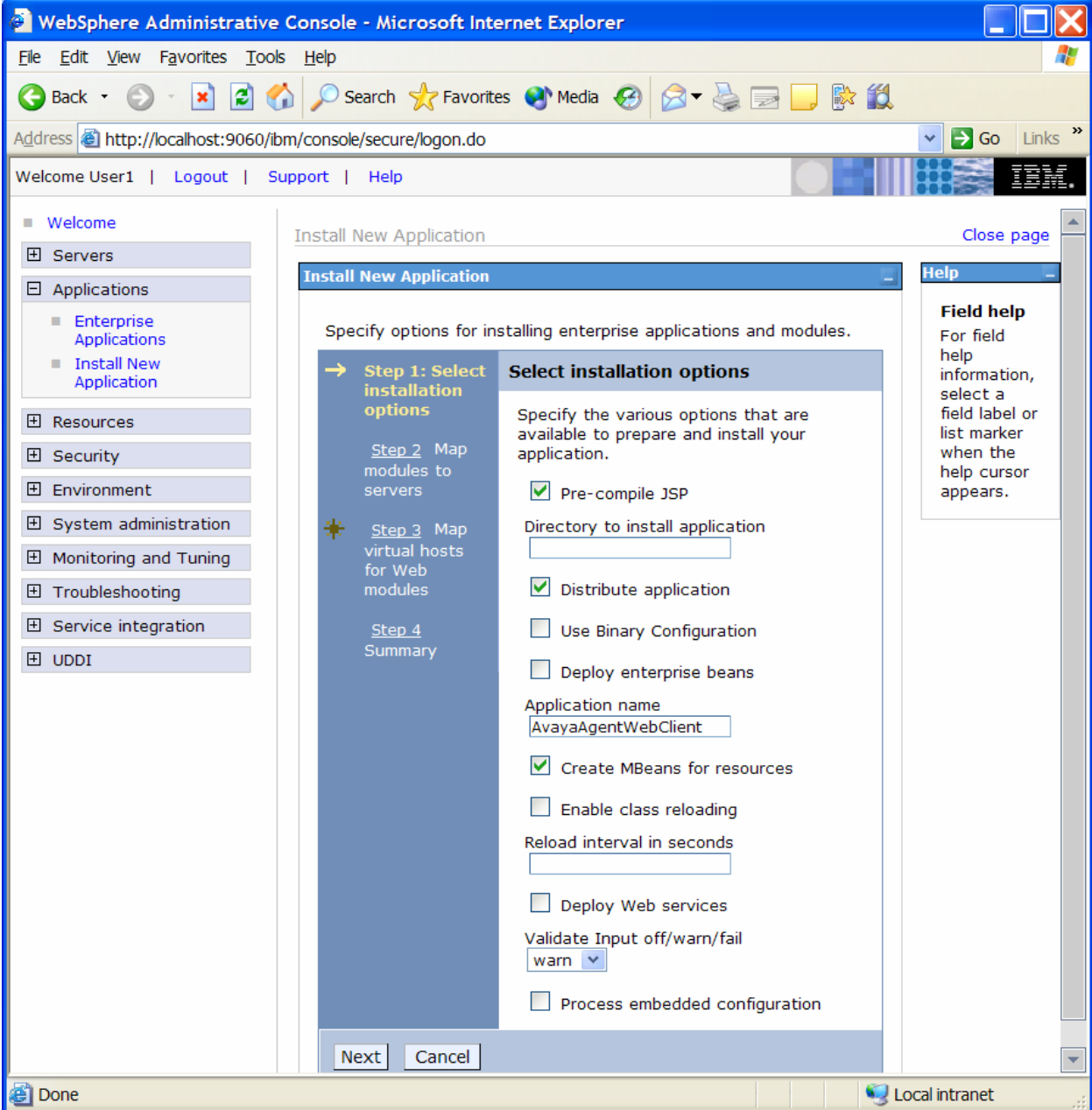
Step	Description
5.	In the Install New Application page: • Select and check the “Pre-compile JSP” field. • In the Application name field, enter a name for the application. For example, enter “AvayaAgentWebClient”. • Accept defaults for all other fields. Click Next to continue.
	 The screenshot displays the WebSphere Administrative Console interface within a Microsoft Internet Explorer browser window. The browser's address bar indicates the URL <code>http://localhost:9060/ibm/console/secure/login.do</code>. The console's left-hand navigation menu includes sections for Welcome, Servers, Applications (with sub-links for Enterprise Applications and Install New Application), Resources, Security, Environment, System administration, Monitoring and Tuning, Troubleshooting, Service integration, and UDDI. The main content area is titled "Install New Application" and prompts the user to "Specify options for installing enterprise applications and modules." It features a multi-step process on the left: Step 1 (selected), Step 2 (Map modules to servers), Step 3 (Map virtual hosts for Web modules), and Step 4 (Summary). The "Select installation options" section on the right contains several checkboxes: "Pre-compile JSP" (checked), "Distribute application" (checked), "Use Binary Configuration" (unchecked), "Deploy enterprise beans" (unchecked), "Create MBeans for resources" (checked), "Enable class reloading" (unchecked), "Reload interval in seconds" (with an empty input field), "Deploy Web services" (unchecked), "Validate Input off/warn/fail" (a dropdown menu currently showing "warn"), and "Process embedded configuration" (unchecked). The application name is entered as "AvayaAgentWebClient" in the "Application name" field. At the bottom of the configuration area are "Next" and "Cancel" buttons. A "Field help" sidebar on the far right provides instructions on how to use the help cursor. The status bar at the bottom of the browser window shows "Done" and "Local intranet".

Figure 47

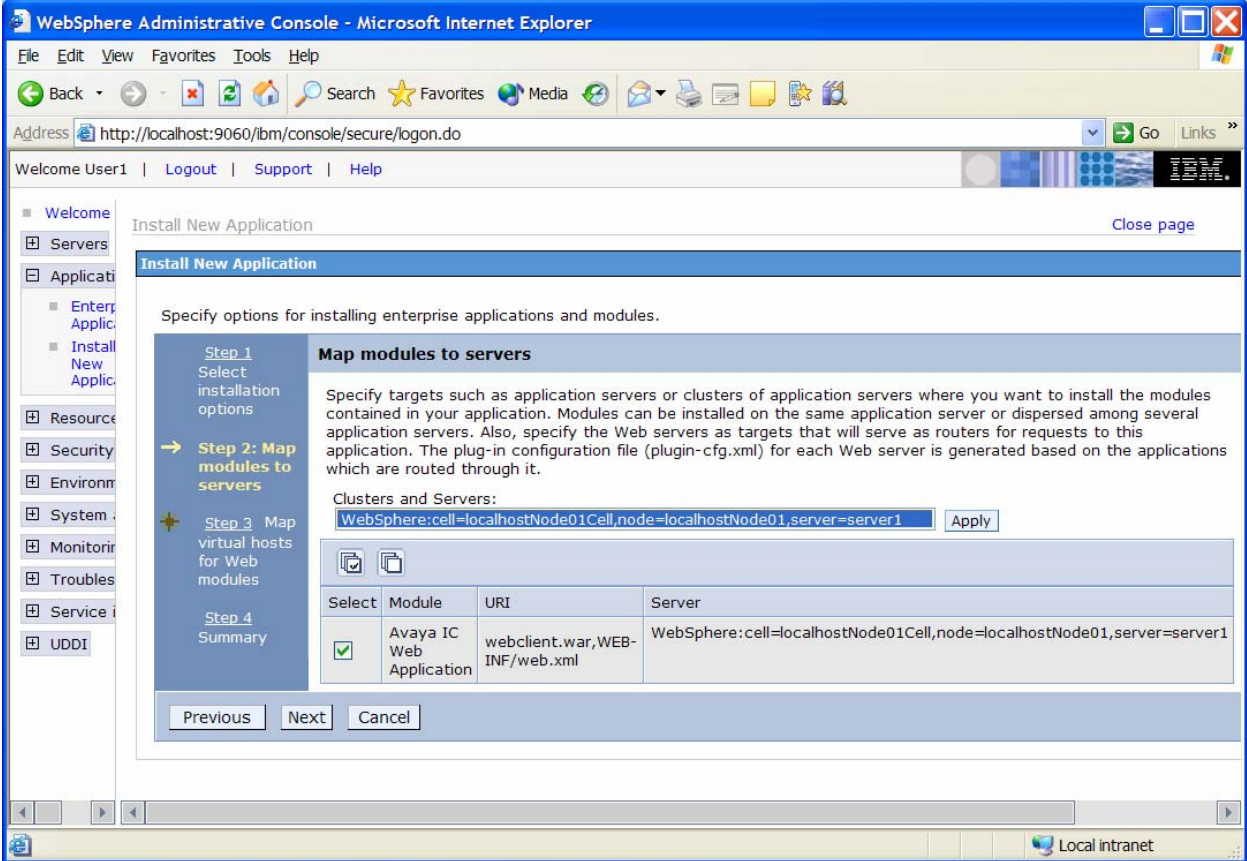
Step	Description
6.	In the “Map modules to servers” page: - In the “Clusters and Servers” box, select the name of the IBM WAS server that hosts Avaya Agent Web Client. - In the “Module” table, check the boxes for all of the modules. - Click Apply above the Module table. - Verify that the IBM WAS server name in the Server column of the Module table matches the IBM WAS server that hosts the Avaya Agent Web Client. If the IBM WAS server names do not match, repeat this step. Click Next to continue. 

Figure 48

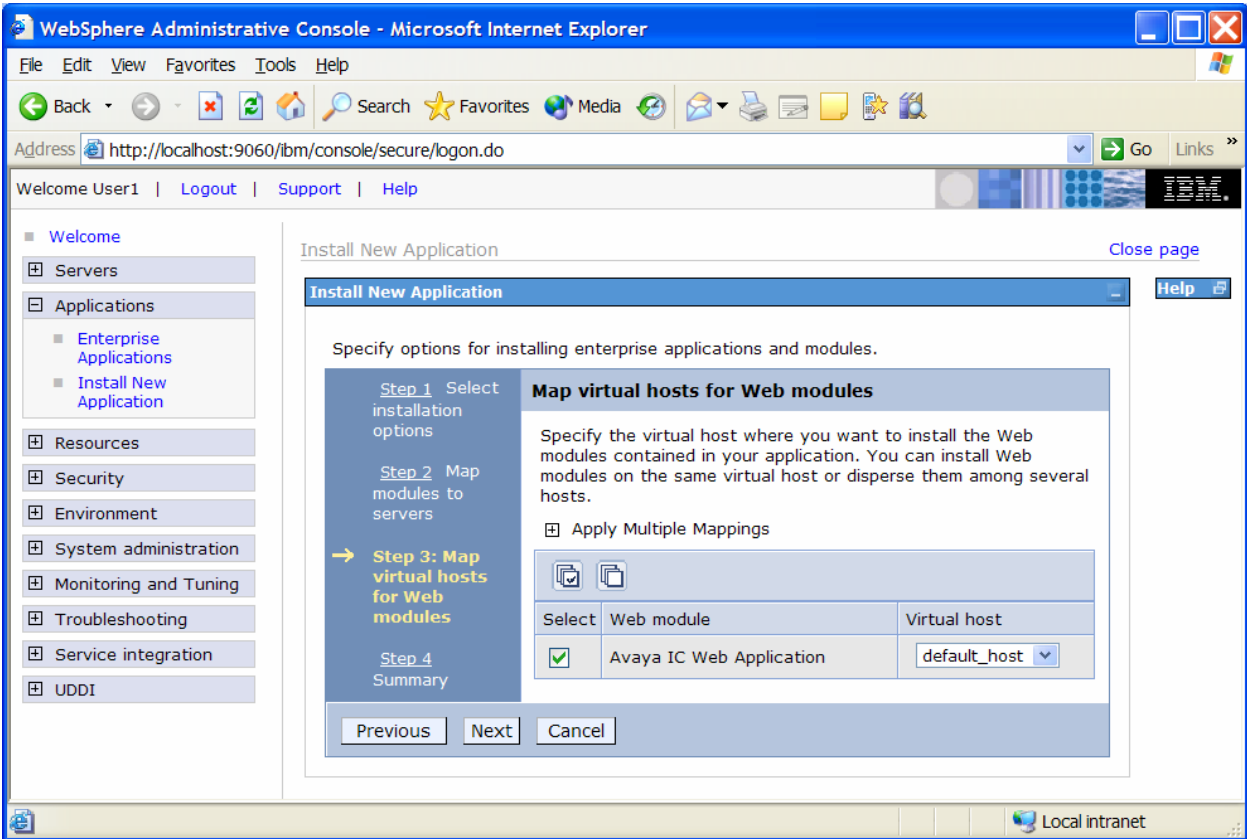
Step	Description
7.	In the “Map virtual hosts for Web modules” page, accept the default values for all fields and click Next to continue. 

Figure 49

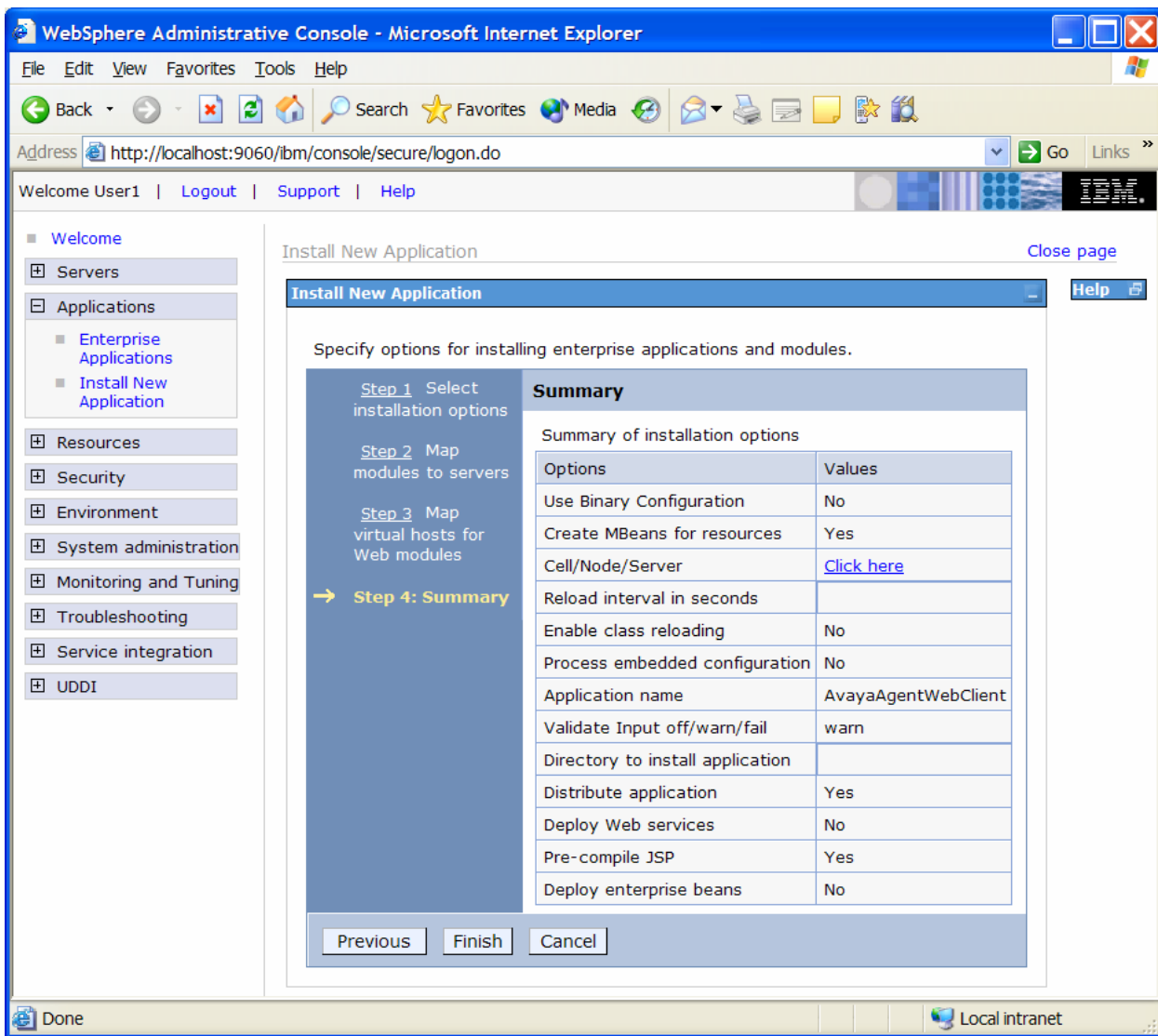
Step	Description																												
8.	Select Finish on the “Summary” page to begin installing the application.  The screenshot shows the WebSphere Administrative Console in a Microsoft Internet Explorer browser window. The address bar shows <code>http://localhost:9060/ibm/console/secure/logon.do</code>. The left sidebar contains a tree view with categories like Servers, Applications, Resources, Security, Environment, System administration, Monitoring and Tuning, Troubleshooting, Service integration, and UDDI. The main content area is titled 'Install New Application' and shows a 'Summary' tab. The summary table lists the following options and values: <table border="1"> <thead> <tr> <th>Options</th> <th>Values</th> </tr> </thead> <tbody> <tr> <td>Use Binary Configuration</td> <td>No</td> </tr> <tr> <td>Create MBeans for resources</td> <td>Yes</td> </tr> <tr> <td>Cell/Node/Server</td> <td>Click here</td> </tr> <tr> <td>Reload interval in seconds</td> <td></td> </tr> <tr> <td>Enable class reloading</td> <td>No</td> </tr> <tr> <td>Process embedded configuration</td> <td>No</td> </tr> <tr> <td>Application name</td> <td>AvayaAgentWebClient</td> </tr> <tr> <td>Validate Input off/warn/fail</td> <td>warn</td> </tr> <tr> <td>Directory to install application</td> <td></td> </tr> <tr> <td>Distribute application</td> <td>Yes</td> </tr> <tr> <td>Deploy Web services</td> <td>No</td> </tr> <tr> <td>Pre-compile JSP</td> <td>Yes</td> </tr> <tr> <td>Deploy enterprise beans</td> <td>No</td> </tr> </tbody> </table> At the bottom of the summary page, there are three buttons: 'Previous', 'Finish', and 'Cancel'. The 'Finish' button is highlighted.	Options	Values	Use Binary Configuration	No	Create MBeans for resources	Yes	Cell/Node/Server	Click here	Reload interval in seconds		Enable class reloading	No	Process embedded configuration	No	Application name	AvayaAgentWebClient	Validate Input off/warn/fail	warn	Directory to install application		Distribute application	Yes	Deploy Web services	No	Pre-compile JSP	Yes	Deploy enterprise beans	No
Options	Values																												
Use Binary Configuration	No																												
Create MBeans for resources	Yes																												
Cell/Node/Server	Click here																												
Reload interval in seconds																													
Enable class reloading	No																												
Process embedded configuration	No																												
Application name	AvayaAgentWebClient																												
Validate Input off/warn/fail	warn																												
Directory to install application																													
Distribute application	Yes																												
Deploy Web services	No																												
Pre-compile JSP	Yes																												
Deploy enterprise beans	No																												
9.	Save the changes to the IBM WAS Master Configuration by selecting the “Save to the Master Configuration” option. Click Save on the next page. Note: The IBM WAS Administrative Console may show the IBM WAS application status as Unavailable. This status is acceptable at this stage in the deployment.																												

Figure 50

12. Start IBM HTTP Server

This section describes how to start the IBM HTTP Server.

Step	Description
1.	Open the Windows Services panel on the webserver machine. Navigate to Programs → Administrative Console .
2.	Set the startup type to “Manual” for the World Wide Web Publishing Service. Stop the service.
3.	Set the startup type to “Manual” for the IIS Administrative Service. Stop the service.
4.	Start the service for IBM HTTP Server.

13. Start Avaya Agent Web Client on Windows

This section describes how to start the Avaya Agent Web Client in a Microsoft Windows Server Operating System environment.

Step	Description
1.	From the Windows Program menu, right-click on the following IBM WebSphere menu items and copy the shortcuts to the desktop: • Start the server • Stop the server

Step	Description
2.	Perform the following actions for the Windows desktop shortcuts created in Step 1: - Right-click the shortcuts and select “Properties”. - If necessary, replace the information in the “Target” field with the correct profile and server information for the Avaya Agent Web Client. - Click OK. Figure 51
3.	Double-click the appropriate shortcut to stop and start the IBM WAS server.

14. Verification Steps

In the field, the following tests can be performed to verify the Avaya IC 7.0 Thin Client (Avaya Agent Web Client) configuration is working properly.

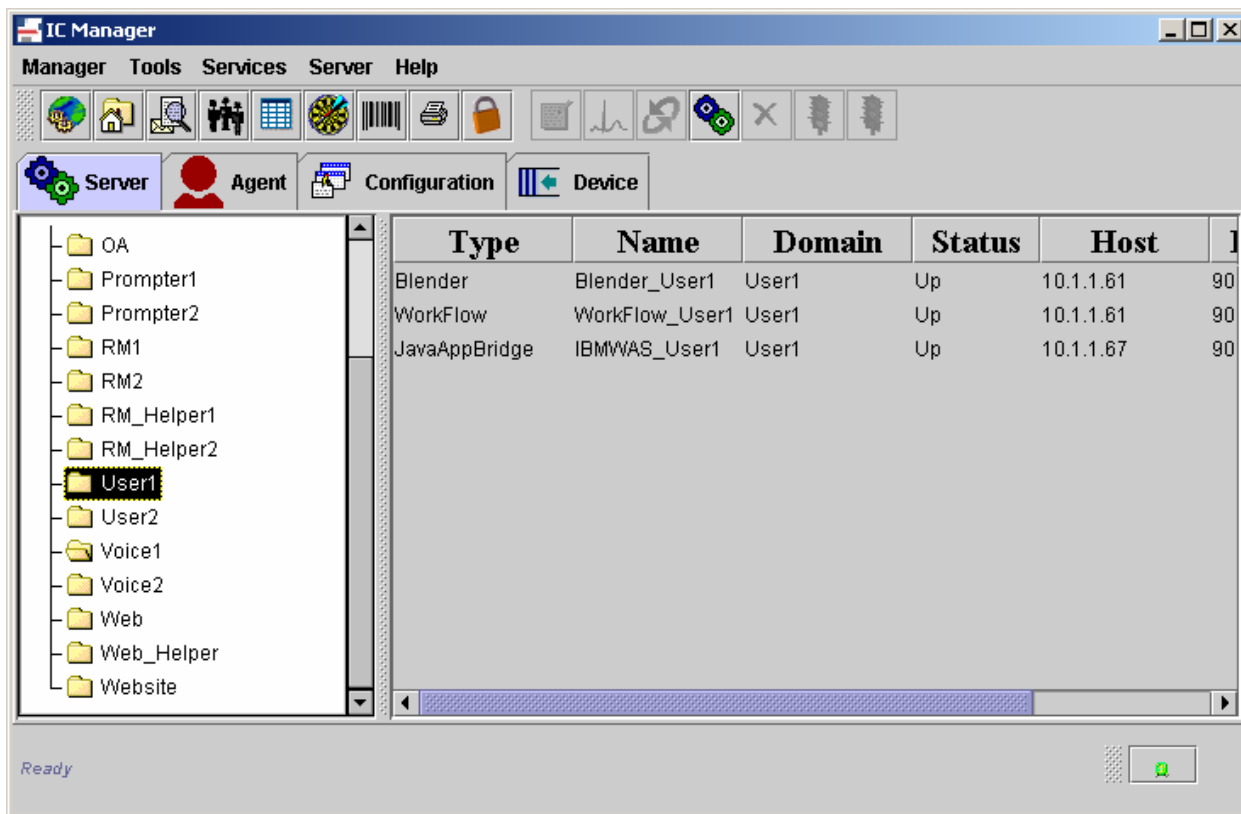
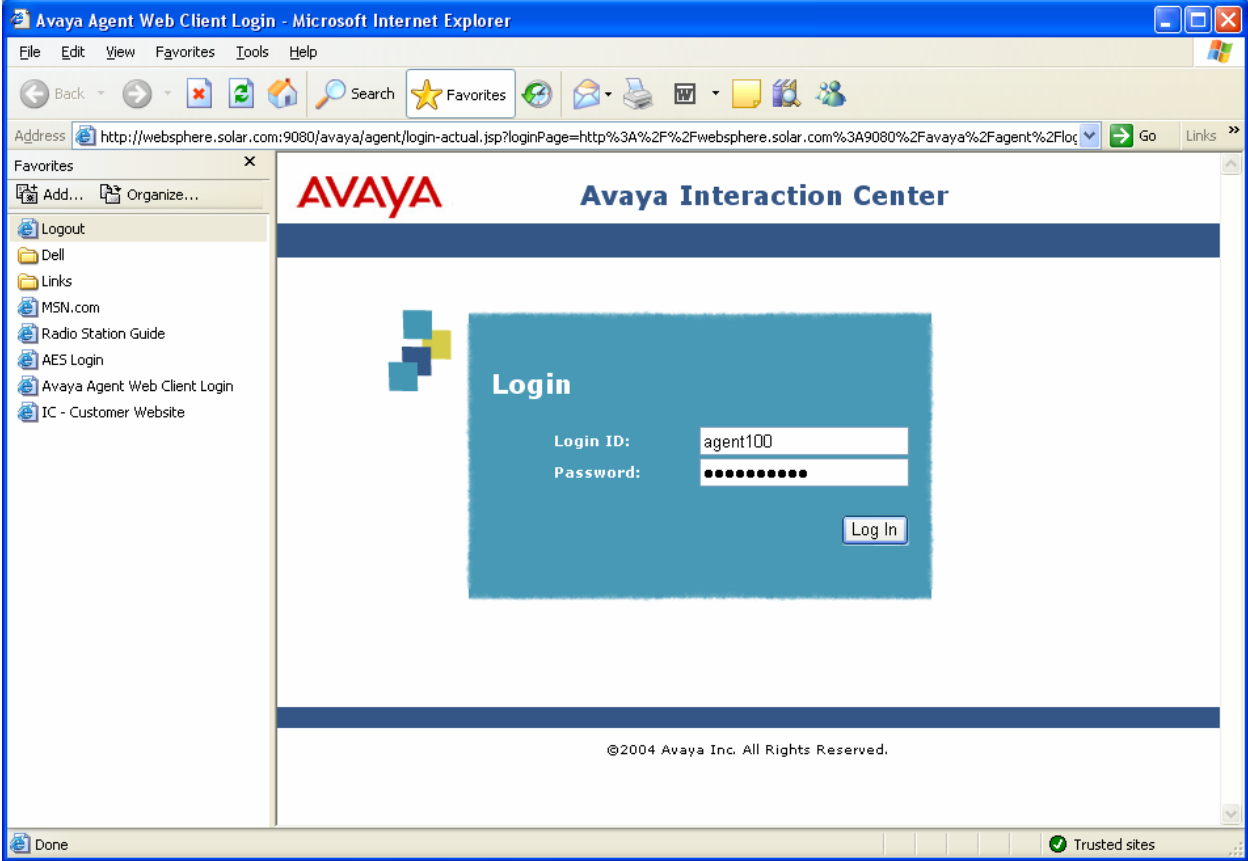
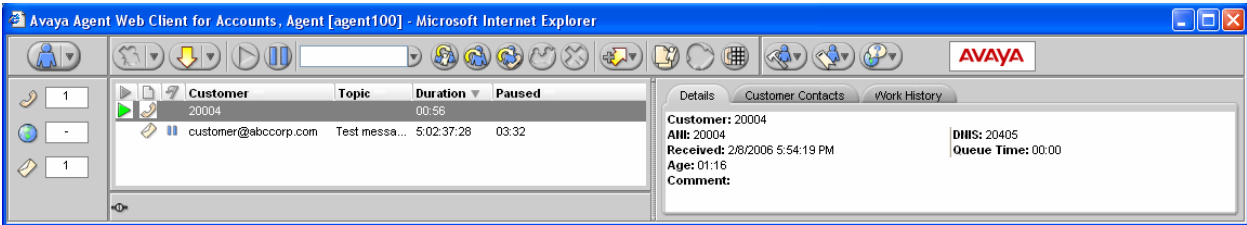
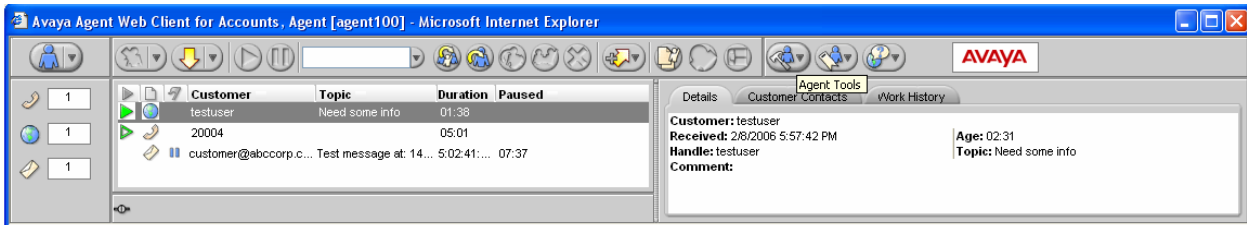
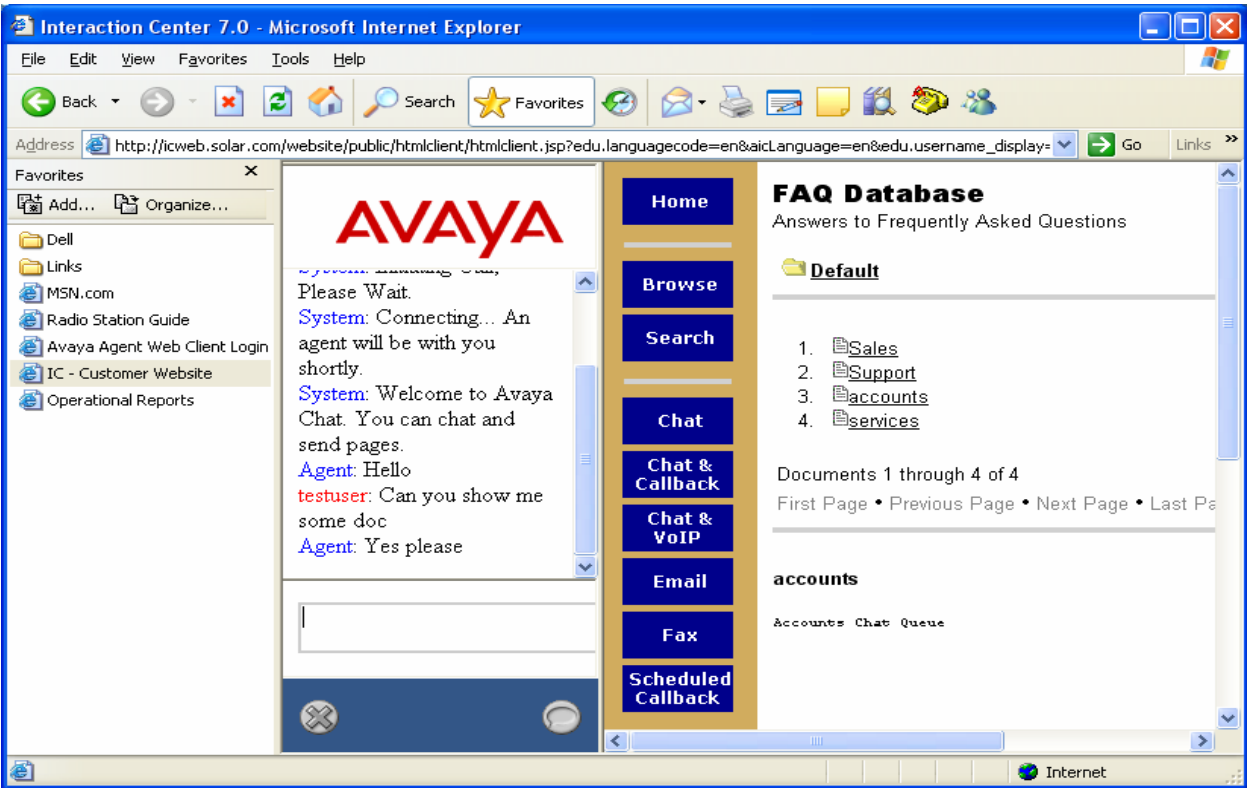
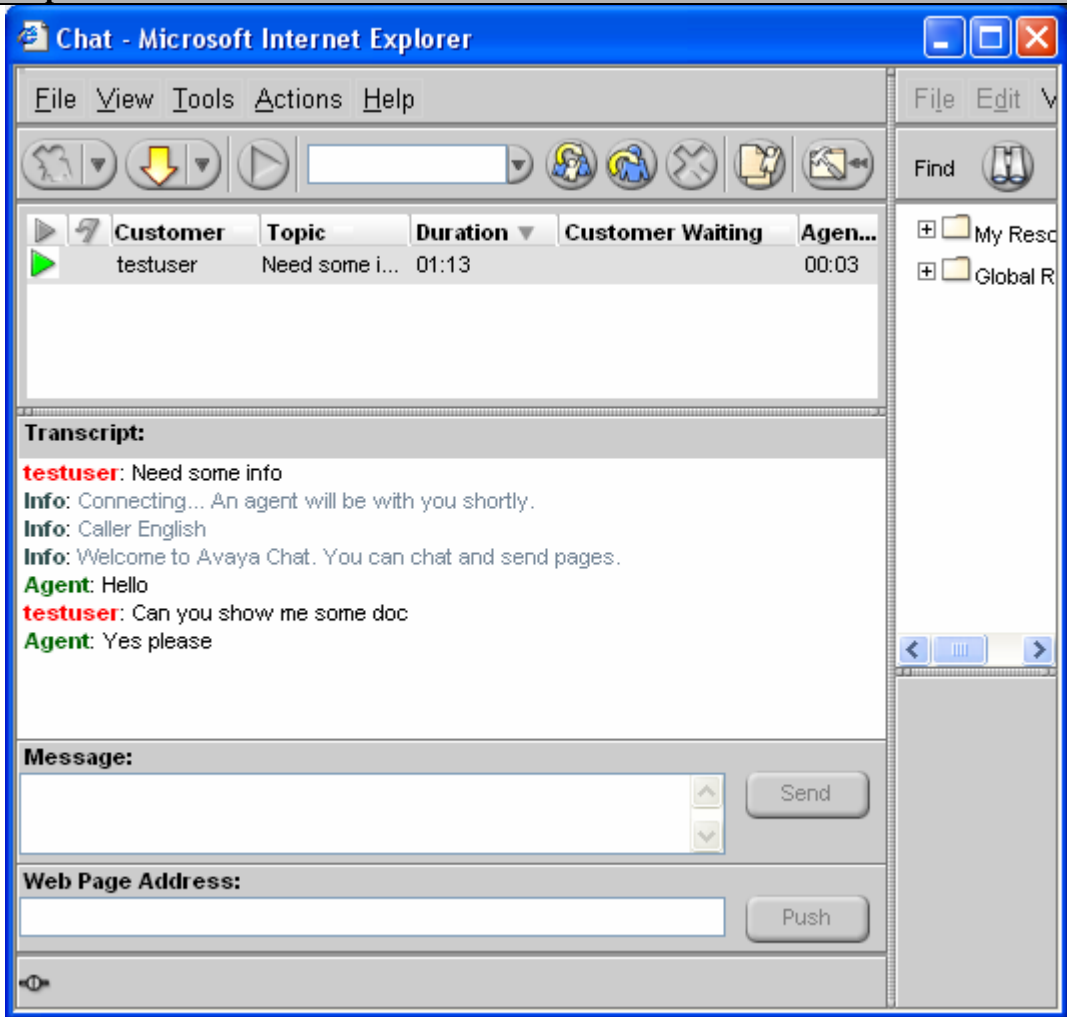
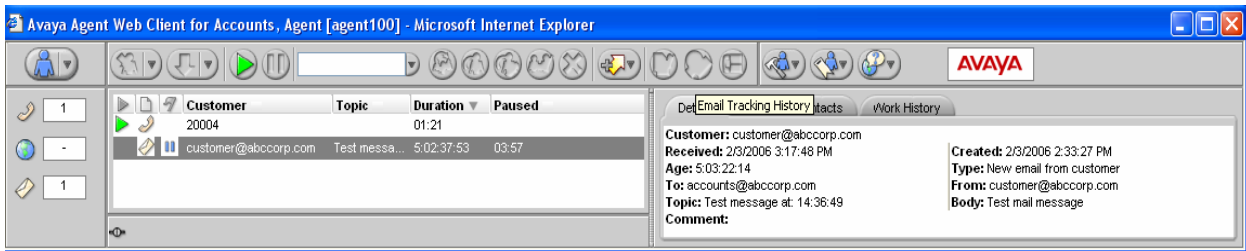
Step	Description																								
1.	Verify that the IBM WAS server for the Avaya Agent Web Client has started or stopped correctly by reviewing the log files in the following directory: “WAS_INSTALL_ROOT\AppServer\profiles\default\logs” directory, where “WAS_INSTALL_ROOT” is the directory path where the IBM WAS software was installed and “default” is the profile name. For example, to verify that a server has started correctly, review the following files: • startServer.log • systemOut.log																								
2.	Verify in IC Manager that the Java Application Bridge is running after starting the Avaya Agent Web Client.  The screenshot shows the IC Manager application window. The 'Configuration' tab is selected, displaying a tree view on the left and a table on the right. The tree view shows a hierarchy of folders including OA, Prompter1, Prompter2, RM1, RM2, RM_Helper1, RM_Helper2, User1 (highlighted), User2, Voice1, Voice2, Web, Web_Helper, and Website. The table on the right lists the configuration details for the selected 'User1' folder. <table><thead><tr><th>Type</th><th>Name</th><th>Domain</th><th>Status</th><th>Host</th><th>IP</th></tr></thead><tbody><tr><td>Blender</td><td>Blender_User1</td><td>User1</td><td>Up</td><td>10.1.1.61</td><td>90</td></tr><tr><td>WorkFlow</td><td>WorkFlow_User1</td><td>User1</td><td>Up</td><td>10.1.1.61</td><td>90</td></tr><tr><td>JavaAppBridge</td><td>IBMWAS_User1</td><td>User1</td><td>Up</td><td>10.1.1.67</td><td>90</td></tr></tbody></table>	Type	Name	Domain	Status	Host	IP	Blender	Blender_User1	User1	Up	10.1.1.61	90	WorkFlow	WorkFlow_User1	User1	Up	10.1.1.61	90	JavaAppBridge	IBMWAS_User1	User1	Up	10.1.1.67	90
Type	Name	Domain	Status	Host	IP																				
Blender	Blender_User1	User1	Up	10.1.1.61	90																				
WorkFlow	WorkFlow_User1	User1	Up	10.1.1.61	90																				
JavaAppBridge	IBMWAS_User1	User1	Up	10.1.1.67	90																				

Figure 52

Step	Description
3.	Verify the following prerequisites on all agent workstations that will be used to access Avaya IC 7.0 Thin Client: • Internet Explorer version 6 or higher with the Sun Java Plug-in version 1.4.2_08 enabled. • Microsoft DirectX version 9 or higher.
4.	Configure the Internet Options of Internet Explorer as follows: • Security level: Medium if agents use Windows 2003. • ActiveX controls: allow to run. • Add the URL of the IBM WAS server running Avaya Agent Web Client to the “Trusted Sites” list. • Proxy server settings: Add the fully qualified domain name of the IBM WAS server to the proxy “Exceptions” field. • Pop-up blockers: disable or configure to allow pop-ups on the IBM WAS server URL.

Step	Description
5.	In a web browser, navigate to http://WAS_SERVER_NAME/avaya/agent/login.jsp, where “WAS_SERVER_NAME” is the fully qualified domain name of the machine that hosts the IBM WAS server. Log in to Avaya IC with the Login ID and Password of an agent in the Avaya IC system.  Figure 53
6.	The following web page is displayed at the bottom of the screen upon logging in to Avaya IC. Make the agent available to accept incoming contacts by clicking “” → “Available” → “All Channels”.

Step	Description
7.	Place an incoming call to the contact center and verify Avaya IC routes the customer contact to the available Avaya IC 7.0 Thin Client agent. Double-click the contact to answer the customer call and verify two-way audio.  Figure 54
8.	Verify successful web chat channel operation for incoming web chats.  Figure 55  Figure 56

Step	Description
	 Figure 57
9.	Verify successful e-mail channel operation for incoming e-mails.  Figure 58

15. Conclusion

These Application Notes provide configuration steps required to install Avaya Agent Web Client in a two machine environment. The first machine is located in the private network and hosts IBM Webserver Application Server, and Avaya IC 7.0 Thin Client software. The second machine is located in the demilitarized (DMZ) zone, and hosts web service, IBM Application Server Tool Kit and IBM HTTP server software.

16. References

Product documentation for Avaya products may be found at <http://support.avaya.com>.

[1] “*Avaya Interaction Center Release 7.0 Installation and Configuration, Issue 3, July 2005, Document ID: 07-300100*”.

Product documentation for IBM products may be found at: <http://www.ibm.com/support/us/>.

[2] “*Installation Guide for WebSphere Application Server, Software Version 6*”.

[3] “*Installation Guide for IBM HTTP Server, Software Version 6*”.

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