Build a Web application without writing any code, Part 1

Install and configure Rational Application Developer, DB2, and WebSphere Application Server

Skill Level: Intermediate

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Learn how to build a robust Web application. In this tutorial, learn how to install, set up, and configure trial versions of Rational® Application Developer for WebSphere® Software, DB2® Enterprise V9.0, and WebSphere Application Server V6.1. In Part 2, you will use Rational Application Developer to build a Web application using data from a DB2 database, and publish your page to a WebSphere Application Server, all without writing any code. IBM's middleware takes care of all the hard work so you can focus on your own unique business logic.

Section 1. Before you start

About this tutorial

If you are a Web application developer, enterprise application developer, XML developer, or someone curious about new IBM technologies and tools, this series is for you.

This tutorial describes how to install and configure Rational Application Developer, DB2, and WebSphere Application Server.

In Part 2 of this series, you will begin creating a Web application without writing any code.

Objectives

In this tutorial, learn how to install and set up Rational Application Developer for WebSphere Software, DB2 Enterprise V9, and WebSphere Application Server V6.1. You will also configure these technologies to begin creating a Web application (which you'll finish in Part 2).

Prerequisites

This tutorials assumes you have some understanding of Java, SQL, and XML. Knowledge of Web design is helpful, but not required.

System requirements

None

Product descriptions

In this two-part series you will be installing and using the following IBM products:
Rational Application Developer for WebSphere Software V7.0
> The IBM Rational Application Developer for WebSphere software application helps Java™ developers create Java/Java Platform, Enterprise Edition (J2EE), portal, Web, Web services, and Service-Oriented Architecture (SOA) applications. This integrated development environment helps you to rapidly design, develop, assemble, test, and deploy these applications.
> The Rational Application Developer visual tools can be leveraged to reduce manual coding by abstracting the J2EE programming model, making it easier for those less familiar with Java technology to complete development projects. It is designed to be a highly flexible development tool based on the Eclipse open framework, with a range of flexible installation options.

DB2 Enterprise V9.0
> DB2 9 (formerly known as Viper) is a leading edge hybrid data server capable of supporting both relational and pureXML™ storage. pureXML provides seamless integration of XML with relational data that speeds application development, improves search performance with highly optimized XML indexes, enables information as a service, and is flexible because both SQL and XQuery can be used to query XML data.

WebSphere Application Server V6.1
> IBM WebSphere Application Server V6.1 is the foundation of the IBM WebSphere software platform, and a key building block for a Service-Oriented Architecture (SOA). As the premier Java 2 Enterprise Edition (J2EE™) and Web services application platform, WebSphere Application Server V6.1

delivers a high performance transaction engine that can help you build, run, integrate and manage dynamic, On Demand Business™ applications.

Section 2. Rational Application Developer installation and setup

To install and set up Rational Application Developer for WebSphere Software:

1.   Begin by downloading Rational Application Developer. Navigate a Web browser to http://www.ibm.com/developerworks/downloads/r/rad/, as shown below.
     Figure 1. Trial download page

Trial: Rational Application Developer for WebSphere Software V7.0

Learn **Try** **Buy** **Support**

Download | Online trial

You can download a free trial version of Rational Application Developer for WebSphere Software or try it online.

Trial download

The evaluation period for this trial is 60 days.

This trial has all features enabled. However, some add-on components included in the for-purchase version of this product are not included in the download. These include:

- Crystal Reports Server 11
- CTG V6.0.2
- DB2 Express Edition V9.1
- Rational Agent Controller
- Rational ClearCase LT V7.0
- WebSphere Portal V5.1.0.3
- WebSphere Portal V6.0

Requirements

→ System requirements

developerWorks is conducting a pilot of a simpler, more flexible download and install program called IBM Installation Manager. As a result, for Rational Application Developer, there are two options for downloading your trial: Installation Manager, or Download Director.

Download using the new IBM Installation Manager (recommended)
IBM Installation Manager downloads and installs Rational trial software. With Installation Manager, you can choose the components of a trial you want to install, and you can even install and manage multiple trials at once. Download and then run Installation Manager to install the software described on this page. After the installation is complete you can modify, update, or uninstall the trial software using the Installation Manager (on Windows® platforms, use **Start** > **All Programs** > **Installation Manager**). The estimated download time using Installation Manager over a 1.5Mbps connection is 5 hours, 0 minutes. Learn more about this application in the Installation Manager FAQ.

To download using Download Director or HTTP, click the **Multiplatform** link below. The estimated download time using Download Director over a 1.5Mbps connection is 9 hours, 4 minutes. Download Director, which requires a Java-enabled browser, provides pause-and-resume capability, high-speed transfer, and file access through firewalls.

Operating system	Version	Size	Download method
Multiplatform	V7.0	5073MB	HTTP	Download Director

2.   Click the **Multiplatform** download link at the bottom of the panel.

3.   Yes, you do have to sign in with developerWorks to access the trial download.
Figure 2. developerWorks sign in

Rational Application Developer

Sign in

This site requires all users to sign in with IBM IDs and passwords, which can be used site-wide. You will need an IBM ID to continue. (If you have a PartnerWorld® or developerWorks™ user ID, that is considered your IBM ID).

Users who have completed the IBM registration process, sign in here.

➡ Sign in

If you do not have a universal IBM user ID, please register now, then return to sign in for this offering.

To find out more about the benefits of having an IBM Registration ID, visit the IBM ID Help and FAQ.

4. Follow the steps for the sign in process until you arrive at the download page.

5. From the download page, select all of the check boxes to install the full version of Rational Application Developer. This is a very large download, but you can customize which sections you want to download, if you want.
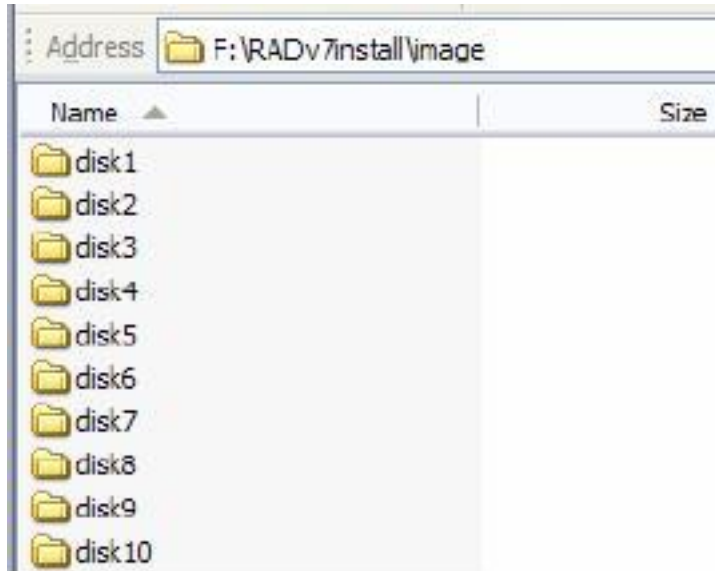   **Figure 3. Rational Application Developer download page**

6. Depending on your internet connection and how many options you selected, this might be a good time to get a cup of coffee or watch your favorite movie trilogy.

After all of your files have downloaded, begin the installation process.

7. Navigate to the directory of the downloaded files. (If you used Download Director, go to C:\DownloadDirector.)

8. Open the directory to see the downloaded disks.
   Rational Application Developer download directory

9. Double-click **disk1** to open the folder.

10. Double-click **launchpad.exe**.
    Figure 5. Rational Application Developer launchpad
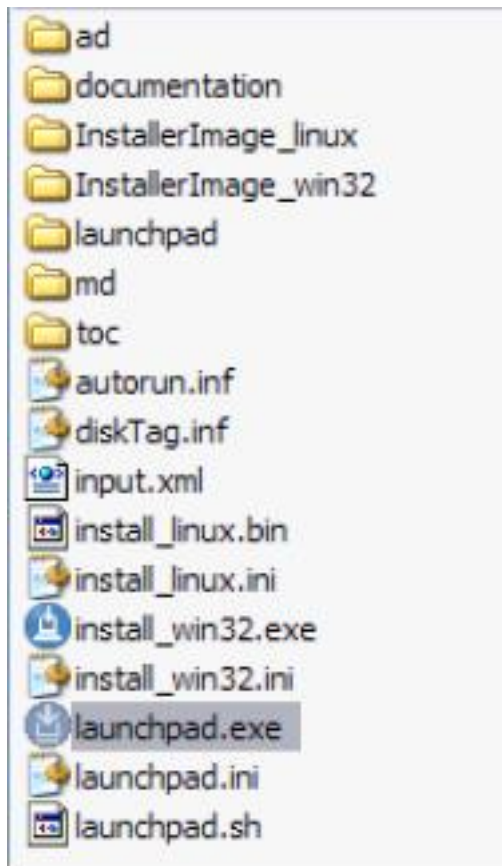
11. Click **Install IBM Rational Application Developer v7.0**.
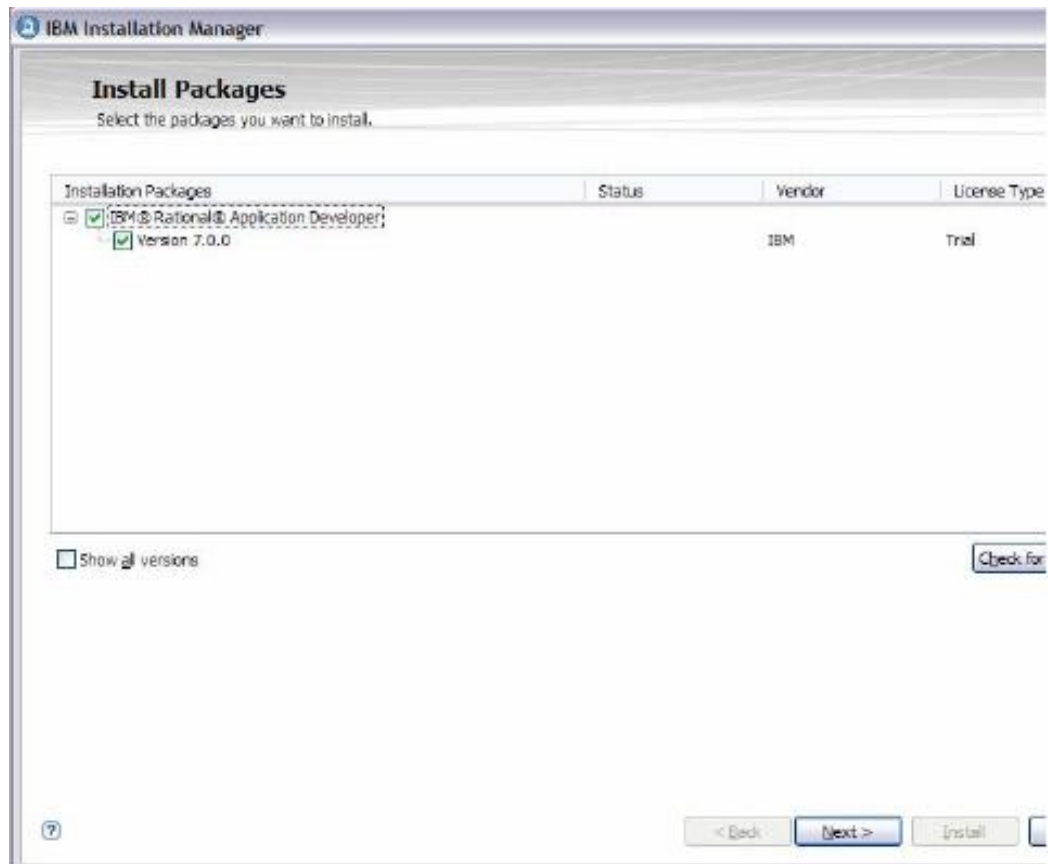   **Figure 6. Rational Application Developer installation**

12. If this is your first time downloading an IBM product, you will be prompted
     to install the Installation Manager.

13. Click **Next**.
   **Figure 7. Installation Manager wizard**
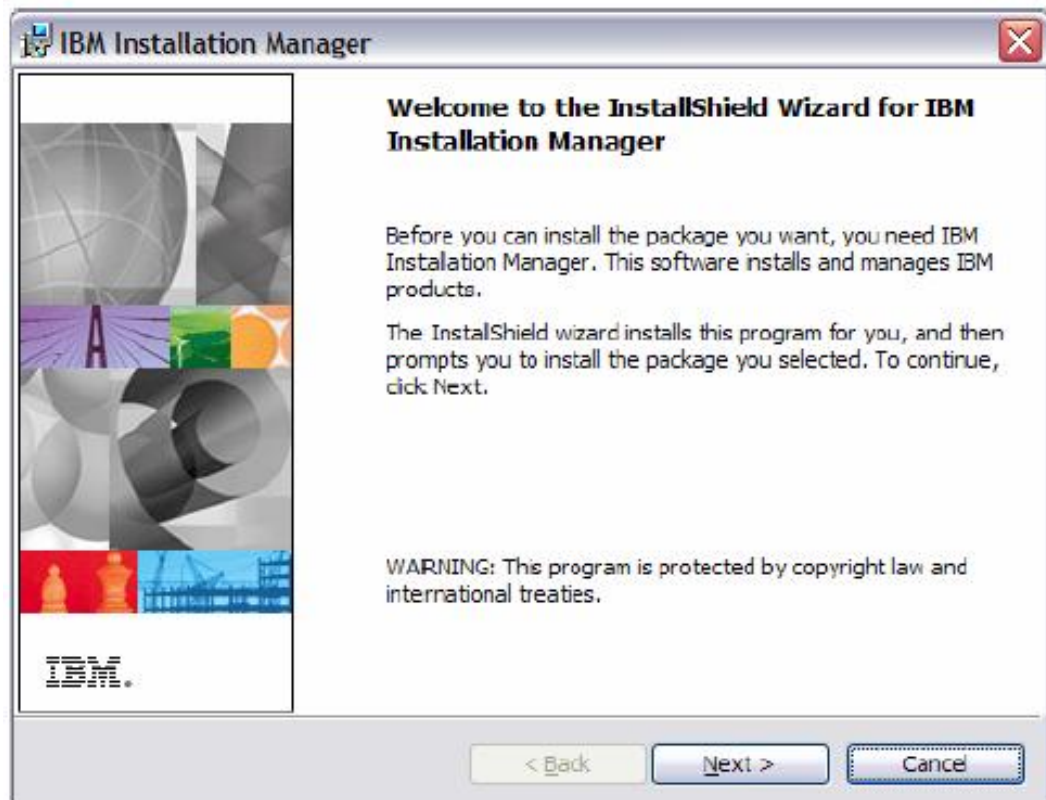
14. Accept the default settings and finish the installation.

15. After the Installation Manager installs, you should see the panel in Figure 8.
     Figure 8. Installation Manager

16. Check **Rational Application Developer** and all other check boxes, then click **Next**.

17. Accept the default instructions for all panels until you arrive at the Install Packages window to install specific features, as shown below.
     Figure 9. Rational Application Developer Features
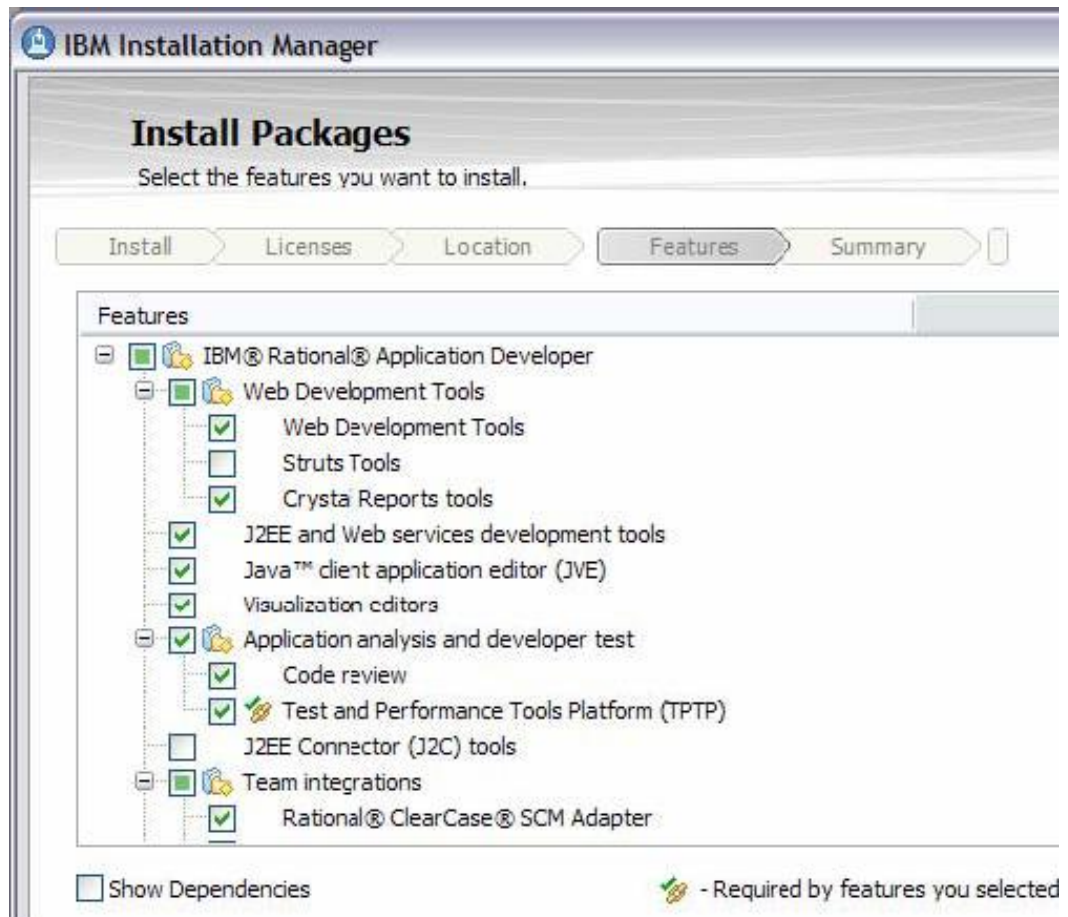
18. This is where you select all features to be installed in your workbench. If you want to explore all that Rational Application Developer has to offer, check everything.

19. Click **Next**.

20. Click **Install**.

You have now successfully installed Rational Application Developer. The next step is to install DB2 Enterprise v9.0, as described in the next section.

Section 3. DB2 Enterprise v9.0 installation and setup

To install and set up DB2 Enterprise v9.0:

1. Navigate a Web browser to http://www.ibm.com/developerworks/downloads/im/udb, as shown below.

Figure 10. DB2 trial download

2.   Select the **Multiplatform** link.

3.   Follow the same sign in procedure described in the first section.

4.   If you are running a 32-bit Windows machine, select the following download:
        Figure 11. Download Selection

5.   In the browser, click **Continue**.

6.   You might be asked to fill in more information about your use of DB2. After completing the information, click **I confirm**.
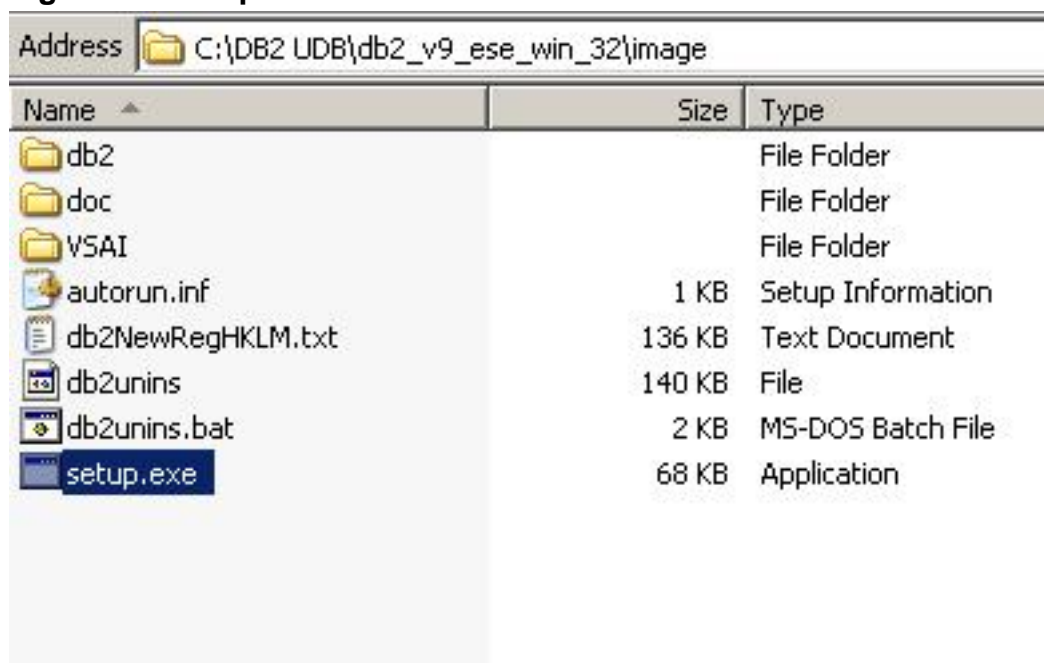
7.   Check the box **DB2 Enterprise 9 for Windows on 32-bit AMD and Intel systems (x86)**.
Figure 12. Download Selection

☑   DB2 Enterprise 9 for Windows on 32-bit AMD and Intel
    systems (x86)
    db2_v9_ese_win_32.zip (352MB)

⬇ Download now

8.   Follow the Download Director instructions to finish the installation.

9.   Navigate to the location of the downloaded files.

10. Expand db2_v9_ese_win_32 > image, and double-click the **setup.exe** file.
Figure 13. Setup

Address	C:\DB2 UDB\db2_v9_ese_win_32\image		
Name ▲		Size	Type
📁 db2			File Folder
📁 doc			File Folder
📁 VSAI			File Folder
🔧 autorun.inf		1 KB	Setup Information
📄 db2NewRegHKLM.txt		136 KB	Text Document
db2unins		140 KB	File
db2unins.bat		2 KB	MS-DOS Batch File
setup.exe		68 KB	Application

11. From the menu, select **Install a Product**.
Figure 14. Install a product

12. In the DB2 Enterprise Server Edition section, click **Install New**.
    Figure 15. DB2 Install New Enterprise Server

13. Follow the wizard to finish the installation of DB2 Enterprise Server.

14. Once you click **Finish** on the final page, you are done installing DB2 Enterprise Server.

You can optionally install the DB2 Client to work with the server, but it is not covered in this series (you will use Rational Application Developer instead).

Section 4. WebSphere Application Server V6.1 installation and setup

To install and set up WebSphere Application Server V6.1:

1. Begin downloading by navigate a Web browser to http://www.ibm.com/developerworks/downloads/ws/was, as shown below.
    Figure 16. Trial download page

2. Click the **Multiplatform** link.

3. Click the **Windows** link.

4. Again, you may be prompted to fill in additional information.

5. Use the Download Director to download the installation files onto your machine.

6. Navigate to the location of the downloaded files.

7. Unzip was.cd.6100.trial.base.windows.ia32.zip.

8. Expand the **WAS** folder.
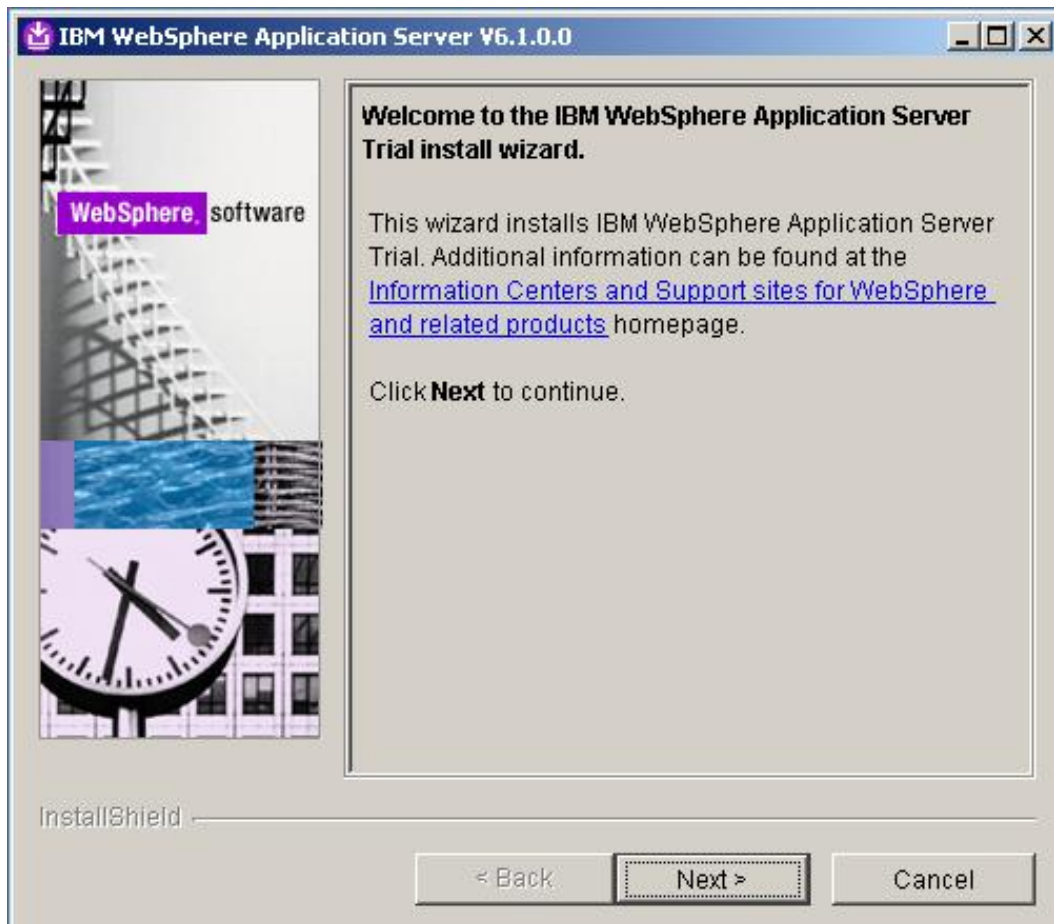
9. Double-click **install.exe**.
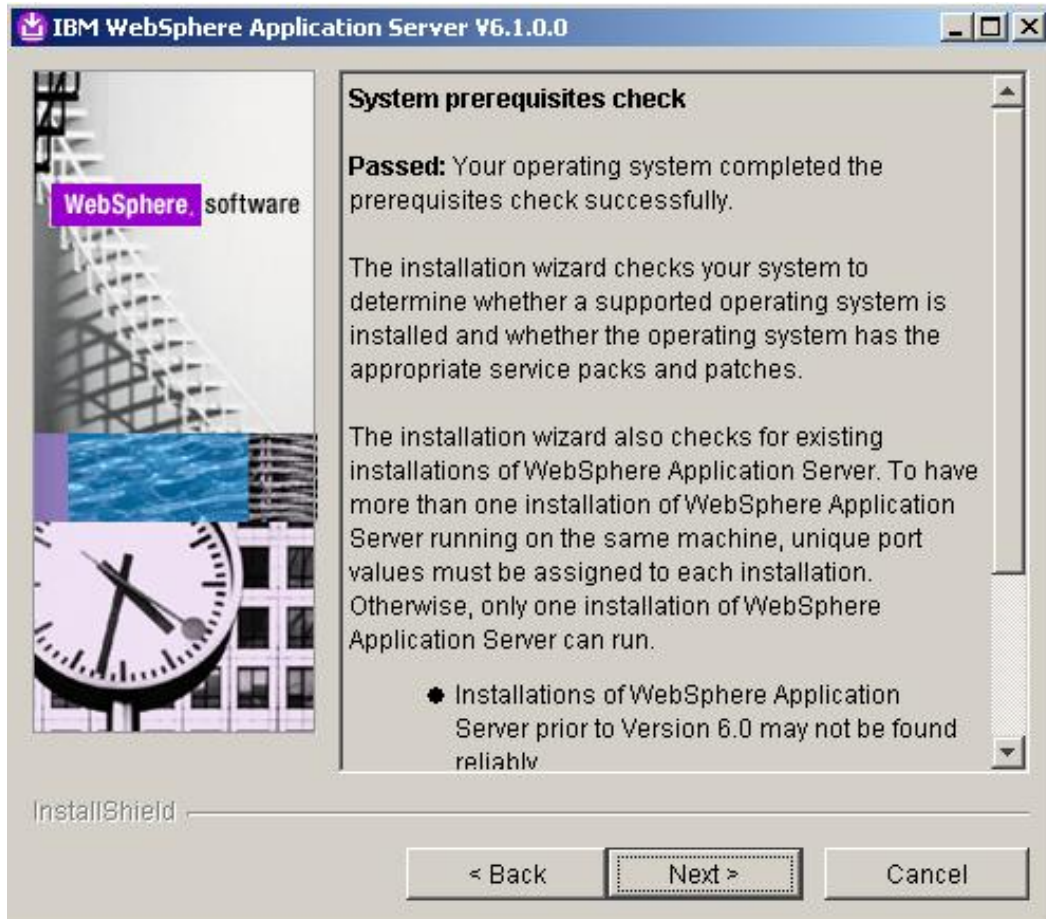   **Figure 17. WebSphere Application Server install.exe**
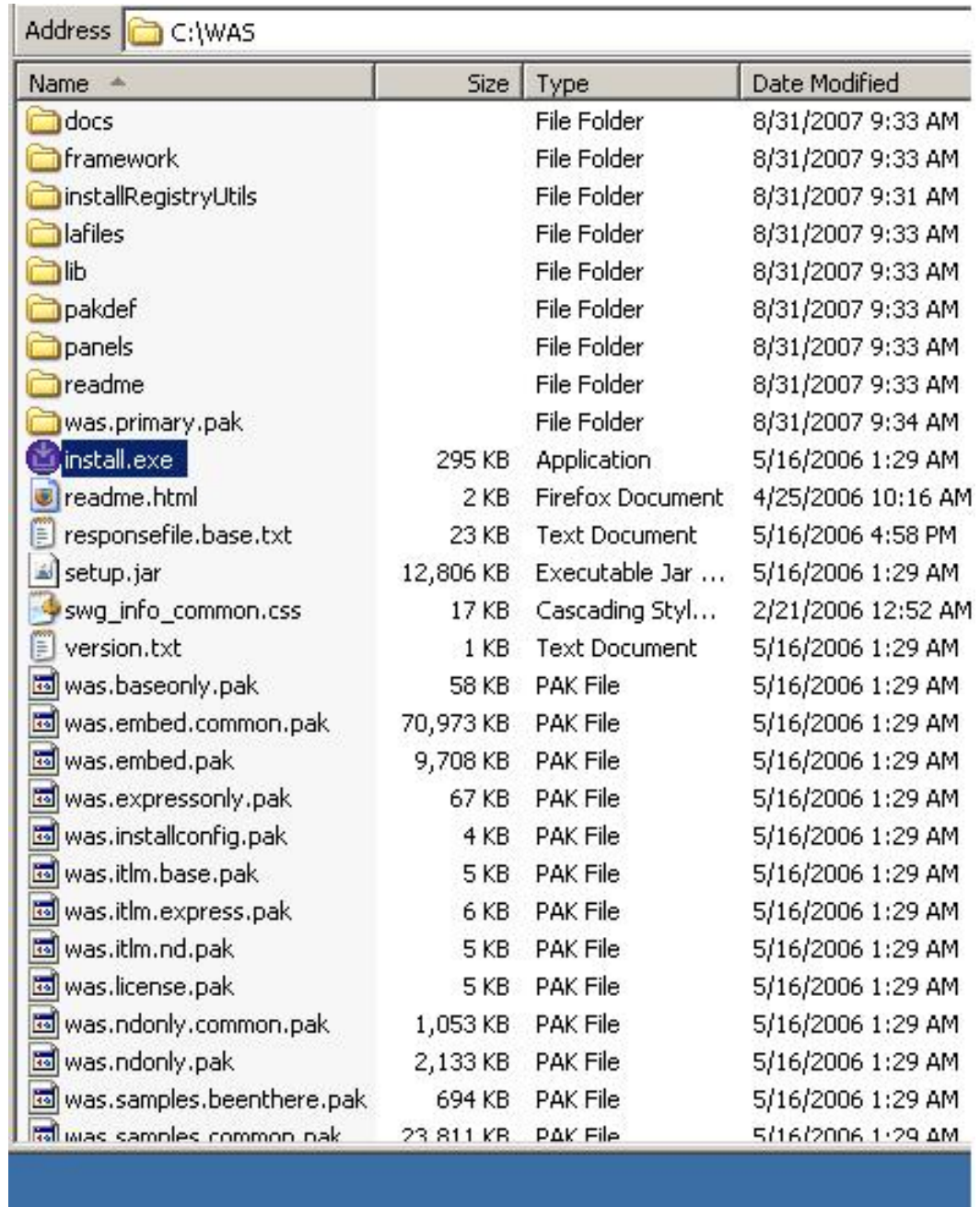
10. The WebSphere Application Server install wizard opens.
    Figure 18. WebSphere Application Server install wizard

11. Click **Next**.

12. Accept the terms, and click **Next**.

13. Ensure that your system passed the system prerequisites.
     Figure 19. System prerequisites check

14. Click **Next**.

15. Check the **Install the sample applications** box.

16. Click **Next**.

17. Accept the default installation location.

18. Click **Next**.

19. It's a good idea to enable administrative security at this point. You must assign a password for the sample application.
    Figure 20. Administrative security
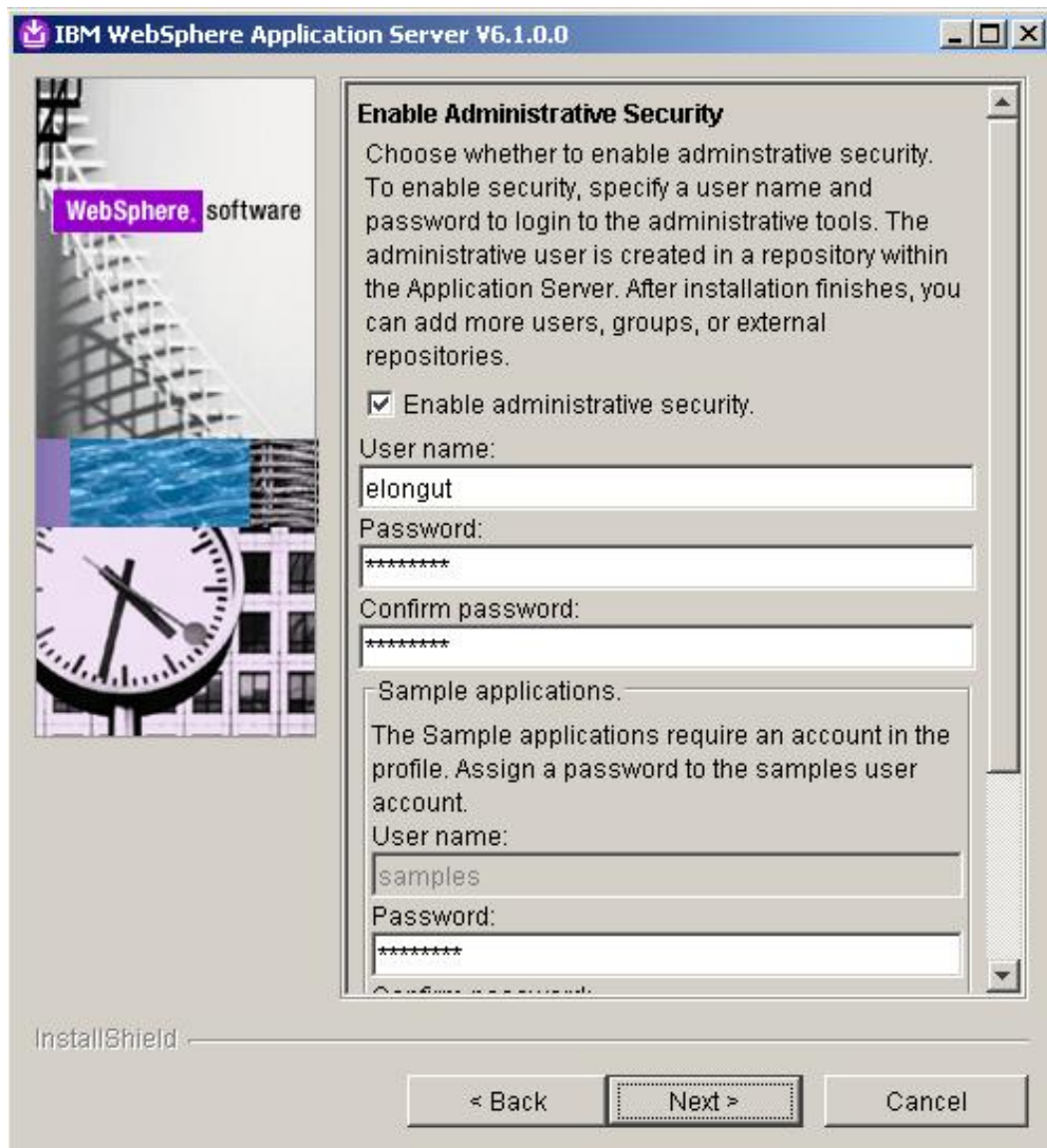
20. Click **Next**.

21. Review the summary and click **Next**.

22. WebSphere Application Server is now installed on your machine. You can optionally check the **Start first steps** Web page box and explore the features of WebSphere Application Server V6.1.

23. Click **Finish** to complete the installation.

Section 5. Conclusion

Congratulations! In this tutorial you installed and set up Rational Application Developer for WebSphere Software, DB2 Enterprise v9.0, and WebSphere Application Server.

In Part 2 of this series you will learn how to build, from scratch, a Web application that connects to a DB2 database and is published on WebSphere Application Server, without writing a single line of code.

Resources

Learn

- Visit the developerWorks Rational zone to expand your Rational skills.

- Visit the developerWorks Information Management zone to expand your DB2 skills.

- "Visualize with Rational Application Developer" (developerWorks, Feb 2006) introduces you to the process of creating UML and non-UML diagrams using Rational Application Developer.

- "Visualize with Rational Software Architect" (developerWorks, Mar 2006) explains how to create a UML model, apply a design pattern to that model, and, finally, transform the abstract model into actual code.

- "Discover IBM Rational visual tools for application developement" (developerWorks, Feb 2006) provides an overview of the benefits of using Rational tools, including Rational Web Developer, Rational Software Modeler, Rational Application Developer, and Rational Software Architect.

- IBM developerWorks Live! briefings are wonderful events for continued learning on a variety of emerging technologies from IBM and the open source community.

- Stay current with developerWorks technical events and webcasts.

Get products and technologies

- Download a free trial version of Rational Application Developer.

- Download a free trial version of DB2 Enterprise 9.

- Download a free trial version of WebSphere Application Server.

- Build your next development project with IBM trial software, available for download directly from developerWorks.

- Order the no-charge SEK for Rational, a two-DVD set containing the latest IBM trial software for Linux from DB2®, Lotus®, Rational®, Tivoli®, and WebSphere®.

Discuss

- Participate in developerWorks blogs and get involved in the developerWorks community.

About the author

Eric Long
Eric Long is a Software Engineer in the IBM Developer Skills Program. Eric graduated from The University of Texas with a degree in Computer Science. He

joined in July of 2004 and currently works in Austin, Texas. As a Software Engineer, he provides technical information to developers on open source and industry trends and technologies through speaking engagements, web content, and faculty consultations at IBM Academic Initiative member universities. His work also includes technical demos and content available at http://www.ibm.com/university.