

Windows XP Embedded SP2 Feature Pack 2007

Tutorial: Building and Deploying a Run-Time Image

This tutorial takes you through the process of setting up, building, and deploying a Windows XP Embedded run-time image.

This tutorial takes approximately two hours to complete.

This tutorial assumes you have installed Windows XP Embedded as described in the Installation Guide. Additionally, this tutorial requires a second hard drive, onto which the image is deployed.

In this tutorial, you complete the following major steps to create a run-time image:

[Step 1: Set up the Development System](#)

[Step 2: Create a Component for Target Devices](#)

[Step 3: Create a New Configuration](#)

[Step 4: Update the Configuration Settings](#)

[Step 5: Check Dependencies](#)

[Step 6: Build the Windows XP Embedded Run-Time Image](#)

[Step 7: Deploy the Windows XP Embedded Run-Time Image](#)

See Also

[Getting Started](#)

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Step 1: Set up the Development System

This tutorial requires that you configure your system to support the deployment of a Windows XP Embedded image by adding a second hard disk to your system. The first disk is for Windows XP Professional and the Windows XP Embedded tools. The second disk is where your Windows XP Embedded OS image will be deployed.

1. After installing Windows XP Professional and Windows XP Embedded tools, turn off the system.
2. Add the second hard drive to an empty slot on the IDE bus. This tutorial uses the following settings:
 - IDE Channel 1, Master: Windows XP Professional
 - IDE Channel 1, Slave: Windows XP Embedded OS deployment disk
3. Turn on the system and log on to Windows XP.
4. Right-click **My Computer** and choose **Manage**. The Computer Management window opens.
5. Select **Disk Management** from the Computer Management console tree. The Logical Disk Manager displays the available media on your system.

6. Right-click the unallocated space of the new hard disk (disk1) and select **New Partition**. Use the New Partition Wizard to create a primary partition, formatted for NTFS.
7. Access and edit your Boot.ini file, adding a line for the second hard disk. The Boot ARC path changes according to the IDE port to which the hard disk is configured. The Boot ARC path to add for this tutorial is **multi(0)disk(0)rdisk(1)partition(1)\WINDOWS="Microsoft Windows XP Embedded" /fastdetect**. For example, see the following Boot.ini file:

```
[boot loader]
timeout=30
default=multi(0)disk(0)rdisk(0)partition(1)\WINDOWS
[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINDOWS="Microsoft Windows XP Professional" /fastdetect
multi(0)disk(0)rdisk(1)partition(1)\WINDOWS="Microsoft Windows XP Embedded" /fastdetect
```

You are now ready to create a new component for the devices on your system.

See Also

[Step 2: Create a Component for Target Devices](#) | [Tutorial: Building and Deploying a Run-Time Image](#)

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Step 2: Create a Component for Target Devices

After your system is configured to support the deployment of a Windows XP Embedded image, you can create a devices component. The device component includes support for all the hardware attached to your system, including device drivers for video, networking, and so on.

1. Navigate to the Program Files\Windows Embedded\Utilities directory.
2. Run Tap.exe.

The resulting Devices.pmq file appears in the Program Files\Windows Embedded\Utilities directory.

3. Run Component Designer.
4. From the **File** menu, choose **Import**.

The **Choose File for Import** dialog box appears.

5. In the file list, choose Devices.pmq file and then choose **Open**.

The **Import File** dialog box appears.

6. Choose the **Start** button to import the Devices.pmq file into Component Designer.

It can take several minutes for the entries in the Devices.pmq file to be matched with the device drivers available in the database.

7. Choose the **Close** button when the import finishes.

The Devices.sld file appears in the SLD browser pane.

8. From the **File** menu, choose **Save** to save the .sld file.
9. From the **Tools** menu, choose **Component Database Manager**.

The Component Database Manager opens.

10. Choose the **Database** tab, and then choose **Import**.

The **Import SLD** dialog box appears.

11. Browse to the Devices.sld file, choose it, and choose **Open**.
12. Choose **Import**.

The .sld file is added to the database and the devices component is added to the database.

13. Close the **Import SLD** dialog box and the Component Database Manager.
14. Close Component Designer.

You are now ready to create a new configuration.

See Also

[Step 3: Create a New Configuration](#) | [Step 1: Set up the Development System](#) | [Tutorial: Building and Deploying a Run-Time Image](#) | [Identify Target Device Hardware](#)

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Step 3: Create a New Configuration

After creating a devices component, you can start building your run-time image. In Target Designer, you add components to your configuration. A configuration is a collection of components that constitutes a Windows XP Embedded OS image.

1. Run Target Designer.
2. From the **File** menu, choose **New**.

The **New Configuration** dialog box appears.

3. Type in a configuration name, for example, **MySystem**, and choose **OK**.

The MySystem.slx configuration appears in the configuration editor.

4. From the Component Browser, drag the **devices** component to the configuration editor pane.

The devices component is added to the configuration.

5. In the **Search** box, type **Explorer Shell** and choose the **Search** icon.

The Explorer Shell component, located in the Software\System\User Interface\Shells\ node, is highlighted in the component browser.

6. Drag the **Explorer Shell** component to the configuration editor pane. The Explorer shell is added to the configuration.
7. Using the same technique, add the following components:

Note Search starts from your last selected node in the component browser, and searches down from there. Select the top-level node in the component before choosing the Search icon.

- **NTFS** (Software\System\System Services\Base node)
- **NT Loader** (Software\System\System Services\Base node)
- **NTFS Format** (Software\System\Storage & File Systems\Applications node)
- **Language Support** to choose a default language component (Software\System\International\Infrastructure node)
- **User Interface Core** (Software\System\User Interface\Shells\Windows Shell)

You are now ready to update the configuration settings.

See Also

[Step 4: Update the Configuration Settings](#) | [Step 2: Create a Component for Target Devices](#) | [Tutorial: Building and Deploying a Run-Time Image](#)

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Step 4: Update the Configuration Settings

After creating your run-time image, there are several configuration settings that you must update, depending on the requirements of your run-time image and the target device.

1. Expand the **User Interface Core** component in the configuration editor and choose **Settings**.

The User Interface settings appear in the details pane.

2. Select the following check boxes:
 - Show My Computer on Start Menu
 - Show Desktop icons
 - Show Help and Support on Start Menu
 - Show Control Panel on Start Menu
 - Show Network Connections on Start Menu
 - Show Search on Start Menu
 - Show Run on Start Menu
 - Show Log Off on Start Menu (default)
 - Show Shut Down on Start Menu (default)
 - Show Internet Explorer on Start Menu
 - Show All Programs list on Start Menu
 - Lock Task bar (default)
 - Use Windows Classic folders (default)
 - Enable Drag and Drop on Start Menu (default)
3. At the top of the **MySystem** node in the configuration browser, choose **Settings**.

The configuration settings appear in the details pane.

4. Under Target Device Settings, choose **Show**.
5. Type the correct values for the second hard disk where the Windows XP Embedded OS will be deployed. For example, a second hard disk, with the letter D: and boot arc path of rdisk(1)partition(1) would require the following values:
 - Boot drive: D:
 - Windows folder: D:\WINDOWS
 - Program Files folder: D:\Program Files
 - Documents and Settings folder D:\Documents and Settings
 - Boot ARC path: multi(0)disk(0)rdisk(1)partition(1) (default)
 - Boot partition size (MB): 5000
 - Partition cluster size (bytes): 4096 (default)

You are now ready to check the dependencies of your configuration.

See Also

[Step 5: Check Dependencies](#) | [Step 3: Create a New Configuration](#) | [Tutorial: Building and Deploying a Run-Time Image](#)

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Step 5: Check Dependencies

After configuring your run-time image, check its dependencies before building.

1. From the **Configuration** menu, choose **Check Dependencies**.

The dependency check may run for a few minutes or longer, depending on the performance capabilities of your computer.

2. When the dependency check has completed, choose **Close**.

A task is added to the **Tasks** tab whenever more than one component is available to resolve a dependency.

3. If there are no tasks, proceed to Step 6: Build the Windows XP Embedded Run-Time Image.

- or -

Double-click a task on the **Tasks** tab.

The **Resolve Dependency** dialog box appears, and describes how many components must be selected to resolve the dependency, and listing the components available to do so.

4. Select components to resolve this dependency and choose **Add**.
5. Resolve all of the dependencies listed on the **Tasks** tab.

Note Resolving dependencies may introduce new dependencies.

6. Run the dependency check again, resolving any additional tasks.

Do this until no tasks appear on the **Tasks** tab.

7. After resolving all dependencies, close the **Dependency Check** dialog box.

You now have a complete configuration that is ready to build into a run-time image.

See Also

[Step 6: Build the Windows XP Embedded Run-Time Image](#) | [Step 4: Update the Configuration Settings](#) | [Tutorial: Building and Deploying a Run-Time Image](#)

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Step 6: Build the Windows XP Embedded Run-Time Image

After resolving all dependency issues for your configuration, you are ready to build it.

1. In Target Designer, choose the **Configuration** menu, and then choose **Build Target Image**.

The **Build MySystem.slx** dialog box appears.

2. Verify that the build type is set to **Release**, and then choose **Build**.

A message may be displayed about overwriting the contents of the Windows Embedded Images directory. Choose **Yes** to delete the directory contents.

Build progress is displayed in the **Build MySystem.slx** dialog box.

3. After the build completes, choose **Close**.
4. On the **File** menu, choose **Save**.
5. Close Target Designer when finished.

You are now ready to deploy your run-time image.

See Also

[Step 7: Deploy the Windows XP Embedded Run-Time Image](#) | [Step 5: Check Dependencies](#) | [Tutorial: Building and Deploying a Run-Time Image](#)

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Step 7: Deploy the Windows XP Embedded Run-Time Image

After the run-time image is built, it can be deployed.

1. In Windows Explorer, navigate to your run-time build directory, for example, C:\Windows Embedded Images.
2. Copy the contents of the build directory to your second hard disk.

For example, select all the files and directories in the build directory and drag them to the D: drive.

3. Restart your system.
4. At the Microsoft Windows OS Selection prompt, select your second hard disk. For example, select Microsoft Windows XP Embedded.

The Microsoft Windows XP Embedded splash screen is displayed and FBA starts.

5. FBA reboots your system. At the Microsoft Windows OS Selection prompt, select to boot the second hard disk to complete the First Boot Agent phase.

After the First Boot Agent phase is complete, you are automatically logged onto your Microsoft Windows XP Embedded system as administrator.

You have successfully deployed a run-time image. Using the steps and examples provided in this tutorial, you can create a run-time image for a specific target device.

See Also

[Step 6: Build the Windows XP Embedded Run-Time Image](#) | [Tutorial: Building and Deploying a Run-Time Image](#)

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