Basic Software Distribution in System Center 2012 R2 Configuration Manager

Objectives	After completing this lab, you will be able to: • Create a classic package and program from an .msi file • Deploy a classic program • Run a classic deployment • Monitor the deployment • Create applications from .msi files • Deploy a required application • Enable alerts for application compliance • Deploy an optional application • Monitor application deployment
Prerequisites	This lab requires a Configuration Manager 2012 site that is installed and functioning properly (Primary1 is the site server virtual machine image). This lab also requires at least one Configuration Manager 2012 client (Client1 is the client computer in addition to the site server virtual machine being installed as a client).
Estimated Time to Complete This Lab	75 Minutes
Computers used in this Lab	Primary1 Client1 The password for the **administrator** account on all computers in this lab is: **password**.

1   CREATING A CLASSIC PACKAGE AND PROGRAMS

In this exercise, you will create a package and programs using the System Center 2012 R2 Configuration Manager administrator console. This process allows you to deploy software using processes very similar to those you may be familiar with from Configuration Manager 2007 or prior releases of Configuration Manager 2012.

Tasks	Detailed steps
Complete the following task on: **Primary1**	
1. Start the Configuration Manager Console	1. On the **Start** menu, click **Configuration Manager Console**.
	NOTE: The System Center 2012 R2 Configuration Manager console window appears displaying the Overview page for the Assets and Compliance workspace. You could also have launched the Configuration Manager Console by navigating to **Start** | **All Programs** | **Microsoft System Center 2012 R2** | **Configuration Manager**.
2. Create a classic package and programs	1. Click the **Software Library** workspace.
	NOTE: The Overview page from the Software Library workspace appears in the results pane. Notice that from this workspace, you can manage applications, software updates, and operating systems.
	2. In the navigation pane, expand **Application Management**, and then click **Packages**.
	NOTE: The list of packages appears in the results pane. Notice that there are two packages created by default. These packages are used with the operating system deployment feature – one is used to install the Configuration Manager client and the other to perform user state migration. Packages in Configuration Manager 2012 have the same basic features as they do in Configuration Manager 2007, and do not provide any of the advanced capabilities that applications do in Configuration Manager 2012.
	3. On the **Home** tab of the Ribbon, click **Create Package from Definition**.
	NOTE: The **Create Package from Definition Wizard Package Definition** dialog box appears allowing you to import the definition for this package. Notice that there are two built-in package definitions, neither of which we are going to use at this time.
	4. Click **Browse**.
	NOTE: The **Open** dialog box appears allowing you to select the package definition file to import. Just as in Configuration Manager 2007, you can import an .msi file as a package definition file, which is what we you will do in this lab.
	5. Open **\\Primary1\Lab Files\MSMath\MSMath.msi**.
	NOTE: The **Create Package from Definition Wizard Package Definition** dialog box appears displaying the package definition to import. Notice that "Microsoft Maths" appears in the list.
	6. Click **Next**.
	NOTE: The **Create Package from Definition Wizard Source Files** dialog box appears allowing you to configure whether or not this package contains

source files. Notice that if you imported a package definition via UNC, the default option is to always obtain source files from a source directory.

7. Click **Next**.

NOTE: The **Create Package from Definition Wizard Source Folder** dialog box appears allowing you to designate the folder to use as the source directory. Notice that the default folder is the same local location as the Windows Installer file was imported from (if you accessed the .msi file from a UNC path). It is recommended that you use UNC paths for content as when you create an application, you are required to use UNC paths as local paths are not accepted for application source files. However for 'classic' packages, you are still allowed to use local paths, just as you can with Configuration Manager 2007.

8. Click **Next**.

NOTE: The **Create Package from Definition Wizard Summary** dialog box appears indicating that the wizard is ready to create the package.

9. Click **Next**.

NOTE: The **Create Package from Definition Wizard Completion** dialog box appears indicating that the wizard has completed successfully.

10. Click **Close**, and then in the results pane, click **Microsoft Maths**.

NOTE: The new package now appears in the results pane of packages. Notice that the results pane displays the basic properties of the package, including the number of programs (we have six programs just like Configuration Manager 2007 creates when you use a Windows Installer file as a package definition). Also notice that the preview pane which displays information for the selected package, with tabs for Summary information (the default view), Programs (the six you just created with the wizard), and Deployments (of which there are none at this time).

You have now successfully created a package and program (in this case six programs) for software distribution. In the next exercise, you will deploy a program from the package to a client.

2   DEPLOYING A CLASSIC PROGRAM

In this exercise, you will deploy a classic program from the package you created in the previous exercise. This is very similar to advertising a program from a package in Configuration Manager 2007.

Tasks	Detailed steps
Complete the following task on: **Primary1**	
1. Deploy a classic program	1. From the **Packages** node of the Software Library workspace, click **Microsoft Maths**, and then on the **Home** tab of the Ribbon, click **Deploy**.
	NOTE: The **Deploy Software Wizard General** dialog box appears. Notice that you need to designate the software to be deployed. If you had started the **Deploy Software Wizard** from a program (from the **Programs** tab in the preview pane), the "Software" field would have been configured automatically.
	2. After **Software**, click **Browse**.
	NOTE: The **Select Software to Deploy** dialog box appears allowing you to select the program from this package that you want to deploy.
	3. Under **Name**, click **Per-system unattended**, and then click **OK**.
	NOTE: The **Deploy Software Wizard General** dialog box appears. Notice that the software to be deployed is now listed.
	4. After **Collection**, click **Browse**.
	NOTE: The **Select Collection** dialog box appears displaying the available device collections. For the lab environment, you will use a collection that includes all Configuration Manager clients (in this lab environment that is only three clients). However, in your production environments, you likely would use a collection with a smaller number of members than all clients. Notice that the list displays the number of members of each device collection.
	5. Under **Name**, click **Configuration Manager Clients**, and then click **OK**.
	NOTE: The **Deploy Software Wizard General** dialog box appears displaying current settings for the deployment, including the program, and target collection.
	6. Click **Next**.
	NOTE: The **Deploy Software Wizard Content** dialog box appears allowing you to configure the destination for the content.
	7. Click **Add**.
	NOTE: A new menu appears with options to target the content to a distribution point or a distribution point group. No distribution point groups have been created yet (you will create a distribution point group in the "Managing Content in System Center 2012 R2 Configuration Manager" lab). As a result, you will distribute to a distribution point.
	8. Click **Distribution Point**.
	NOTE: The **Add Distribution Points** dialog box appears displaying available distribution points. Notice that there is one distribution point available, that

being the site server - "Primary1".

9. Under **Available distribution points**, click to select **Primary1.ConfigMgrDom.local**, and then click **OK**.

NOTE: The **Deploy Software Wizard Content** dialog box appears displaying the distribution point to receive the content.

11. Click **Next**.

NOTE: The **Deploy Software Wizard Deployment Settings** dialog box appears allowing you to configure the purpose of the deployment. The "Purpose" is whether or not this program is available or required. An "available" deployment is the same as an "optional advertisement" in Configuration Manager 2007, while "required" is the same as "mandatory" from Configuration Manager 2007.

Notice also that for a required deployment, you can send wake-up packets (Wake On LAN feature), as well as allow content download at the deadline over metered Internet connections.

12. In the **Purpose** box, verify that **Required** is displayed, and then click **Next**.

NOTE: The **Deploy Software Wizard Scheduling** dialog box appears displaying the current schedule for the deployment. Notice that there is no assignment schedule created for this deployment. Also notice that the package is available immediately (as it is not configured to be available at a specific time), and does not expire (as it is not configured to expire automatically).

13. Click **New**.

NOTE: The **Assignment Schedule** dialog box appears. Notice that the default is to assign according to a schedule, which would be the current date and time.

14. Click **OK** to make the assignment applicable at the current date and time.

NOTE: The **Deploy Software Wizard Scheduling** dialog box appears displaying the current assigned schedule for the deployment.

15. Click **Next**.

NOTE: The **Deploy Software Wizard User Experience** dialog box appears displaying the current configuration for the deployment for user interaction.

16. Click **Next** to use the defaults of not allowing users to run this program independently of the deployment, to adhere to any configured maintenance windows, and to commit these changes to Windows Embedded clients (which is not applicable for this lab environment).

NOTE: The **Deploy Software Wizard Distribution Points** dialog box appears displaying the current configuration for the deployment for distribution point access.

17. Click **Next** to accept the default to download the content from the distribution point for clients on fast network boundaries, to not deploy to clients connecting through slow network boundaries, to allow sharing of content with other clients on the same subnet (Branch Cache integration), and to not allow fall back to unprotected distribution points.

NOTE: The **Deploy Software Wizard Summary** dialog box appears indicating that the deployment is ready to be created. Notice the configured values for software to deploy, the target collection (including a current member count value for the collection), the required intent, and the scheduling

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	information.
	18. Click **Next**.
	NOTE: The **Deploy Software Wizard Completion** dialog box appears indicating that the deployment was successfully created.
	19. Click **Close**.
	NOTE: The System Center 2012 R2 Configuration Manager console appears displaying the results pane of packages.
	20. In the preview pane, click the **Deployments** tab.
	NOTE: The deployment information for this package is displayed in the preview pane. Notice that this information includes the target collection, purpose, deployment date, and current percentage of successful executions of this program.
	You have now successfully created and deployed a package and program using the classic software distribution feature of Configuration Manager 2012. In the next procedure you will run the deployment on the client. You will initiate a policy polling event from the client, however Configuration Manager 2012 R2 (as well as Configuration Manager 2012 SP1) adds a new 'real-time actions' feature that does include initiating the same action from the Configuration Manager console.

In the following procedure, you will force the client computer to retrieve policies. This will trigger the deployment of the application that was targeted to the client. The lab refers to the client computer, which can be the site server, as it is installed as a client also.

Tasks	Detailed steps
Complete the following task on: **Client1**	
1. Force policy retrieval to run the program	1. In **Control Panel**, click **System and Security**, and then start **Configuration Manager**.
	Note: The **Configuration Manager Properties** dialog box appears displaying general attributes of the client.
	2. Click the **Actions** tab.
	Note: The **Configuration Manager Properties** dialog box appears displaying the available actions for the client.
	3. Click **Machine Policy Retrieval & Evaluation Cycle**, and then click **Run Now**.
	Note: A **Machine Policy Retrieval & Evaluation Cycle** message box appears indicating that the action may take several minutes to complete.
	4. Click **OK**.
	Note: The **Configuration Manager Properties** dialog box appears displaying the available actions for the client.

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	5. Click **OK**.
	Note: Applicable policies are retrieved for the client. After the policies have been processed, various balloons will appear in the client's system tray:
	• New software is available
	• Downloading and installing software
	• Installation complete
	These three balloons will display in very quick succession, as this is a very quick program installation. You may not see all three balloons, and may only see the "Installation complete" balloon.
	6. On the **Start** menu, point to **All Programs**, and then click **Microsoft Student**.
	Note: The Microsoft Student menu appears. Notice that the Microsoft Maths application was installed. Notice also that there is a shortcut for Microsoft Maths on the desktop as well as on the **Start** menu.

In the following procedure, you will verify that the deployment was successful using the System Center 2012 Configuration Manager console monitoring solution.

Tasks	Detailed steps
Complete the following task on: **Primary1**	
1. Verify deployment status	1. Click the **Monitoring** workspace.
	NOTE: The Monitoring Overview page appears in the results pane.
	2. In the navigation pane, click **Deployments**.
	NOTE: The list of deployments appears in the results pane.
	3. In the results pane, click **Microsoft Maths (Per-system unattended)**.
	NOTE: The status of the Microsoft Maths program appears in the preview pane. Notice that the preview pane includes a chart of deployment statistics (however the statistics are not up to date). By default, for classic software distribution, status is only updated (summarized) hourly. However you can force summarization as necessary.
	4. On the Ribbon, click **Run Summarization**.
	NOTE: A **Configuration Manager** message box appears indicating that summarization will occur throughout the hierarchy.
	5. Click **OK**.
	NOTE: The status of the Microsoft Maths program appears in the preview pane. Notice that the preview pane includes a chart of

	deployment statistics.
	6. On the Ribbon, click **Refresh**.
	NOTE: The status of the Microsoft Maths program appears in the preview pane. Notice that the preview pane includes a chart of deployment statistics, which should now be updated, provided the clients have returned status information.

The total status should change in various categories to equal the number of target clients, which is "3" for our target collection. |
| | 7. In the preview pane, under **Completion Statistics**, click **View Status**. |
| | **NOTE**: The **Deployment Status** appears in the results pane. Notice the success status details include the individual resources that successfully ran the program under "Asset Details". Also notice that a sticky node is added to the navigation pane under the Deployments node.

Status information for classic software distribution takes a little time to be generated and processed. As a result, you may not see any updated status for this deployment until later in this lab.

You have now successfully created a classic Configuration Manager 2012 package and program, and deployed it to a client. You have also used the console status to validate that the application was successfully deployed. |

3   CREATING A CONFIGURATION MANAGER APPLICATION

In this exercise, you will create a Configuration Manager 2012 application. This process is different than how you deploy software with Configuration Manager 2007.

Tasks	Detailed steps
Complete the following task on: **Primary1**	
1. Start the Configuration Manager Console	1. If not already running, on the **Start** menu, click **Configuration Manager Console**. NOTE: The System Center 2012 R2 Configuration Manager console window appears displaying the Overview page of the Assets and Compliance workspace.
2. Create an application	1. Click the **Software Library** workspace. NOTE: The Overview page of the Software Library workspace appears in the results pane. If the console was still running, the Software Library workspace should be displaying the list of packages in the results pane. 2. In the navigation pane, expand **Application Management**, and then click **Applications**. NOTE: The list of applications appears in the results pane. Notice that there are no applications created by default. Applications are a replacement for packages and programs that you are familiar with from Configuration Manager 2007 (although Configuration Manager 2012 still supports the classic software distribution process using packages and programs - without providing the new features that applications provide). Applications provide many new features over packages and programs, some of which you will experience in this lab. 3. On the Ribbon, click **Create Application**. NOTE: The **Create Application Wizard General** dialog box appears allowing you to configure basic information for the application. 4. Verify that **Automatically detect information about this application from installation files** is selected. 5. In the **Type** box, verify that **Windows Installer (*.msi file)** is displayed, and then click **Browse**. NOTE: The **Open** dialog box appears allowing you to designate the source of the application. 6. Open **\\Primary1\Lab Files\CcmTools\Ccmtools.msi**. NOTE: The application source must be accessed through a UNC connection. The **Create Application Wizard General** dialog box appears displaying the configured information for the application. 7. Click **Next**. NOTE: The **Create Application Wizard Import Information** dialog box appears indicating that the import of the application was successful. Notice that the "Product Code" value was imported from the Windows Installer file. 8. Click **Next**. NOTE: The **Create Application Wizard General Information** dialog box

	appears allowing you to configure information for the application. Notice that the installation program was automatically determined from the .msi file, and that the default installation is for the system if the resource is a device, otherwise it will install for a user. Notice also the installation program is the Windows installer command to install this application.
	9. In the **Name** box, type **CCM Tools** 10. In the **Publisher** box, type **Microsoft** 11. In the **Software version** box, type **4.0** 12. Click **Next**.
	NOTE: The **Create Application Wizard Summary** dialog box appears indicating that the wizard is ready to create the application. Notice the information presented in the "Details" for the application.
	13. Click **Next**.
	NOTE: The new application is created. When complete, the **Create Application Wizard Completion** dialog box appears indicating that the wizard has completed successfully the creation of the application.
	14. Click **Close**.
	NOTE: The new application now appears in the results pane of applications. Notice that the results pane displays the basic properties of the application, including the number of deployment types (similar to a program for a package, of which we only have one). Also notice that the preview pane which displays information for the selected package, with tabs for Summary information (the default view), Deployment Types (the MSI-based deployment type you just created with the wizard), and Deployments (of which there are none at this time). You have now successfully created an application. In the next exercise, you will deploy the application to the members of a collection.

4   DEPLOYING A REQUIRED APPLICATION

In this exercise, you will deploy the application that you created in the previous exercise. You will deploy this application as a required application, which will force the client to run the deployed application at the configured time.

Tasks	Detailed steps
Complete the following task on: **Primary1**	
1. Deploy a required application	1. From the results pane of the **Applications** node, click **CCM Tools**, and then on the Ribbon, view the items in the **Deployment** group.
	NOTE: There are three actions available - "Simulate Deployment", "Deploy", and "Distribute Content". You will perform a deployment now, which will initiate content distribution also. You will perform a "Simulate Deployment" action in a different lab. The "Distribute Content" action will not deploy the application to clients, rather just distribute the application content to the distribution points designated in the wizard. You will perform content distribution as part of the application deployment process.
	2. Click **Deploy**.
	NOTE: The **Deploy Software Wizard General** dialog box appears. Notice that the "Software" value has been configured from the application highlighted when the wizard was started.
	3. After **Collection**, click **Browse**.
	NOTE: The **Select Collection** dialog box appears displaying the available user collections (the default target audience for application deployment). We are going to deploy this application to a client, not a user (you will experience user targeted application deployment in the "Advanced Software Distribution" lab).
	4. Under **Select Collection**, click **Device Collections**.
	NOTE: The **Select Collection** dialog box appears displaying the available device collections. We will use a collection that contains all Configuration Manager clients, however, in your production environment you would likely use a collection with a smaller number of collection members than a collection of all clients. Notice that the **Select Collection** dialog box displays the number of members of each collection. This can be useful when selecting target collections for deployment.
	5. Under **Name**, click **Configuration Manager Clients**, and then click **OK**.
	NOTE: The **Deploy Software Wizard General** dialog box appears displaying current settings for the deployment, which is configured for the application to deploy as well as the target collection.
	6. Click **Next**.
	NOTE: The **Deploy Software Wizard Content** dialog box appears allowing you to configure the destination for the content. This is the same process you'd experience if you did a "Distribute Content" action from the Ribbon.
	7. Click **Add**.
	NOTE: A new menu appears with options to target the content to a distribution

point or a distribution point group. No distribution point groups have been created yet (you will create a distribution point group in the "Managing Content in System Center 2012 R2 Configuration Manager" lab). As a result, you will distribute to a distribution point.

8. Click **Distribution Point**.

NOTE: The **Add Distribution Points** dialog box appears displaying available distribution points. Notice that there is one distribution point available.

9. Under **Available distribution points**, click to select **Primary1.ConfigMgrDom.local**, and then click **OK**.

NOTE: The **Deploy Software Wizard Content** dialog box appears displaying the target for the content distribution (your one distribution point).

10. Click **Next**.

NOTE: The **Deploy Software Wizard Deployment Settings** dialog box appears displaying the current configuration for the deployment.

11. In the **Action** box, verify that **Install** is displayed.

NOTE: Configuration Manager 2012 also supports uninstall deployments to remove deployed applications, regardless of whether or not Configuration Manager 2012 deployed the application. You will experience application uninstallation in the "Managing Applications" lab.

12. In the **Purpose** box, click **Required**.

13. Click **Next** to accept the defaults of not pre-deploying the software to a user's primary device, to not send wake-up packets, and to not allow downloads at the deadline over metered Internet connections.

NOTE: The "Pre-deploy software to the user's primary device" allows predeployment of content, and application installation targeted to user's primary device (through a user device affinity relationship), without the user being logged on. In our scenario, we are deploying to systems, so this is not necessary. However, in production, you may be targeting users and likely deploying after hours, so that may be important for your deployments.

The **Deploy Software Wizard Scheduling** dialog box appears displaying the current schedule for the deployment. Notice that the application deployment is configured by default to install as soon as possible.

14. Click **Next** to deploy the application to be installed automatically as soon as possible.

NOTE: The **Deploy Software Wizard User Experience** dialog box appears displaying the current configuration for the deployment for user interaction. Notice that the default configuration is to display the deployment in Software Center, to display all notifications, to adhere to any maintenance windows, and to commit this deployment to Windows Embedded devices (not applicable in our lab environment).

15. Click **Next** to accept the default values.

NOTE: The **Deploy Software Wizard Alerts** dialog box appears allowing you to configure the creation of alerts if the percent of successful deployments is below a configured value, as well as to enable integration with Microsoft Operations Manager.

16. Click **Create a deployment alert when the threshold is lower than the following**, and then in the **Percent success** box, type **60**

NOTE: Notice that the alert compliance data is only evaluated after a week's

		time. For a production deployment, that may be acceptable to allow time for clients to install the application, however for our lab, we need results more quickly.
		17. Set the date and time to the current date and time (click the drop down for the date and click today's date). You will also have to set the time to at least the current time in order to click **Next**.
		18. Click **Next** to accept the default of no alert creation on failures, and no Operations Manager integration.
		NOTE: The **Deploy Software Wizard Summary** dialog box appears indicating that the deployment is ready to be created. Notice the configured values for software to deploy, the target collection, the required purpose, and the scheduling values.
		19. Click **Next**.
		NOTE: The **Deploy Software Wizard Completion** dialog box appears indicating that the deployment was successfully created.
		20. Click **Close**.
		NOTE: The System Center 2012 R2 Configuration Manager console appears displaying the results pane of applications in the results pane of the Applications node. Notice that the summary information, including current deployment statistics, for this application is displayed in the preview pane. Also notice that at this time, there are no statistics for this deployment.
		21. In the preview pane, click the **Deployments** tab.
		NOTE: The deployment information for this application is displayed. Notice that this information includes the target collection, intended purpose, scheduled date, and current percentage of successful executions of this program. You have now successfully created and deployed an application using Configuration Manager 2012. You also configured this application deployment to generate an alert if the success compliance is not at least 90% immediately, which is unrealistic for production, however applicable for our lab.
2.	Update the deployment status	1. Click the **Monitoring** workspace.
		NOTE: The Monitoring Overview page appears in the results pane. If the console was running from the previous exercises, the Monitoring workspace displays the Deployments node.
		2. In the navigation pane, click **Deployments**.
		NOTE: The list of deployments appears in the results pane. Notice that the "CCM Tools" deployment appears. Also notice that the preview pane includes a chart of deployment statistics.
		3. In the results pane, click **CCM Tools**, and then on the Ribbon, click **Run Summarization**.
		NOTE: A **Configuration Manager** message box appears indicating that the summarization will occur throughout the hierarchy.
		4. Click **OK**.
		NOTE: The status of the "CCM Tools" deployment is summarized. This process takes a moment to update. There will not be any new data to display, other than the "Unknown" value will be updated in the chart and statistics to display the two clients in our target collection. You will deploy the application on the

In the following procedure, you will force the client computer to retrieve policies. This will trigger the deployment of the application that was targeted to the client. The lab refers to the client computer, which can be the site server, as it is installed as a client also. However, if you want the alert to be generated, only retrieve policies on one of the two clients, otherwise they both will be compliant, and no alert will be generated.

Tasks	**Detailed steps**
Complete the following task on: **Client1**	
1. Force policy retrieval to install the application	1. In **Control Panel**, click **System and Security**, and then start **Configuration Manager**.
	Note: The **Configuration Manager Properties** dialog box appears displaying general attributes of the client.
	2. Click the **Actions** tab.
	Note: The **Configuration Manager Properties** dialog box appears displaying the available actions for the client.
	3. Click **Machine Policy Retrieval & Evaluation Cycle**, and then click **Run Now**.
	Note: A **Machine Policy Retrieval & Evaluation Cycle** message box appears indicating that the action may take several minutes to complete.
	4. Click **OK**.
	Note: The **Configuration Manager Properties** dialog box appears displaying the available actions for the client.
	5. Click **OK**.
	Note: Applicable policies are retrieved for the client. After the policies have been processed, various balloons will appear in the client's system tray:
	• Software updates are required
	• Downloading and installing software
	• Installation complete
	These three balloons will display in very quick succession, as this is a very quick program installation. You may only see the "Installation complete" balloon.
	6. On the **Start** menu, point to **All Programs**, and then click **ConfigMgr 2007 Toolkit**.
	Note: The **ConfigMgr 2007 Toolkit** menu appears. Notice that the ConfigMgr 2007 Toolkit includes multiple programs, such as CliSpy and Trace32. This is an indication that the deployment

Tasks	Detailed steps
	was successful. It will take the client a moment to send in the compliance state information. The default configuration is for clients to send state information to the site every 15 minutes. However these images have been changed to every two minutes, **which you should not do in your production environments**.

In the following procedure, you will verify that the deployment was successful using the System Center 2012 Configuration Manager console monitoring system.

Tasks	Detailed steps
Complete the following task on: **Primary1**	
1. Verify deployment status	1. Click the **Monitoring** workspace.
	NOTE: The Monitoring workspace appears displaying the available deployments in the results pane. Notice that the "CCM Tools" deployment appears. Also notice that the preview pane includes a chart of deployment statistics (however the statistics are not up to date).
	2. In the results pane, click **CCM Tools**, and then on the Ribbon, click **Run Summarization**.
	NOTE: A **Configuration Manager** message box appears indicating that the summarization will occur throughout the hierarchy.
	3. Click **OK**.
	NOTE: The status of the "CCM Tools" deployment is summarized. This process takes a moment to update. There should now be new data to display, with one client showing success. If the updated status does not appear, wait another minute, run summarization again, and then refresh the console.
	4. On the Ribbon, click **View Status**.
	NOTE: The **Deployment Status** page appears in the results pane, with the client that successfully deployed this application listed under "Asset Details". Notice that there are tabs for each "State" of the deployment from clients. Notice also that a sticky node is added to the navigation pane under **Deployments**. At this time, hopefully only one of the clients has installed the application and reported a compliance of success.
2. View alert status	1. Click the **Software Library** workspace.
	NOTE: The **Software Library** workspace appears displaying the list of applications in the results pane.
	2. In the navigation pane, click **Application Management**.
	NOTE: The **Application Management** page appears. Notice that the bottom portion of the results pane displays "Recent Alerts", and that there is one recent alert displayed. Notice that the current compliance (33%) is below the current

		configured threshold of 60%. You will now install the required application on the second client to cause the alert to be canceled automatically.
3.	Install the required application on the second client and validate alert status	1. Initiate a **Machine Policy Retrieval & Evaluation Cycle** on the second client (which should be "Primary1").
		NOTE: It will take a couple of minutes for the application to install and report compliance state.
		2. Use the **Deployments** node of the **Monitoring** workspace to update the state of the deployment.
		NOTE: The status should now indicate that both clients are compliant.
		3. Use the **Application Management** node of the **Software Library** workspace to validate that the alert is no longer active.
		You have now successfully created a Configuration Manager 2012 application, and deployed it as a required deployment to a client. You have also used the in-console monitoring feature to validate that the application was successfully deployed. You also used the alert feature of application management in Configuration Manager 2012 to automatically generate, and cancel, alerts based on deployment compliance.
		In the next exercise, you will create an available application deployment.

5 DEPLOYING AN AVAILABLE CONFIGURATION MANAGER APPLICATION

In this exercise, you will create another Configuration Manager 2012 application. This application will then be deployed as an optional application (now called "available" in Configuration Manager 2012). This will show you the differences between required and available applications in Configuration Manager 2012.

Tasks	Detailed steps
Complete the following task on: **Primary1**	
1. Create the application	1. Click the **Software Library** workspace.
	NOTE: The Software Library workspace appears displaying the Application Management page in the results pane.
	2. In the navigation pane, expand **Application Management**, and then click **Applications**.
	NOTE: The list of applications appears in the results pane. Notice that there is one application listed, that being the 'CCM Tools" application you created previously in this lab.
	3. On the Ribbon, click **Create**.
	NOTE: A new menu of available actions appears. Notice that you can create or import an application.
	4. Click **Create Application**.
	NOTE: The **Create Application Wizard General** dialog box appears allowing you to configure basic information for the application.
	5. Verify that **Automatically detect information about this application from installation files** is selected.
	6. In the **Type** box, verify that **Windows Installer (*.msi file)** is displayed, and then click **Browse**.
	NOTE: The **Open** dialog box appears allowing you to designate the source of the application.
	7. Open **\\Primary1\Lab Files\DcmTools\Dcmtools.msi**.
	NOTE: The application source must be accessed through a UNC connection. The **Create Application Wizard General** dialog box appears displaying the configured information for the application.
	8. Click **Next**.
	NOTE: The **Create Application Wizard Import Information** dialog box appears indicating that the import of the application was successful. Notice that the Product Code was detected as part of the import process.
	9. Click **Next**.
	NOTE: The **Create Application Wizard General Information** dialog box appears allowing you to configure information for the application. Notice that the installation program was automatically determined from the .msi file, and that the default installation is for the system (if targeted to a device) instead of a user.

		10. In the **Name** box, type **Settings Tools**
		11. In the **Publisher** box, type **Microsoft**
		12. In the **Software version** box, type **4.0**
		13. Click **Next**.
		NOTE: The **Create Application Wizard Summary** dialog box appears indicating that the wizard is ready to create the application. Notice the information presented in the Details for the application.
		14. Click **Next**.
		NOTE: The new application is created. When complete, the **Create Application Wizard Completion** dialog box appears indicating that the wizard has completed successfully the creation of the application.
		15. Click **Close**.
		NOTE: The new application now appears in the results pane of applications. Notice that the results pane displays the basic properties of the application, including the number of deployment types (we only have one). Also notice that the preview pane which displays information for the selected package, with tabs for Summary information (the default view), Deployment Types (the MSI-based deployment type you just created with the wizard), and Deployments (of which there are none at this time).
2.	Deploy an available (optional) application	1. In the results pane of the **Applications** node, click **Settings Tools**, and then on the Ribbon, click **Deploy**.
		NOTE: The **Deploy Software Wizard General** dialog box appears. Notice that the "Software" value has been configured from the application highlighted when the wizard was started.
		2. After **Collection**, click **Browse**.
		NOTE: The **Select Collection** dialog box appears displaying the available user collections. We are going to target clients, not users, in this lab. You will target users in the "Advanced Software Distribution" lab.
		3. Under **Select Collection**, click **Device Collections**.
		NOTE: The **Select Collection** dialog box appears displaying the available device collections. We will use a collection that contains all Configuration Manager clients (three clients in this lab environment), however, in your production environment you would likely use a collection with a smaller number of collection members than all your Configuration Manager clients. Notice that the **Select Collection** dialog box displays the number of members of each collection. This can be useful when selecting target collections for deployment.
		4. Under **Name**, click **Configuration Manager Clients**, and then click **OK**.
		NOTE: The **Deploy Software Wizard General** dialog box appears displaying current settings for the deployment.
		5. Click **Next**.
		NOTE: The **Deploy Software Wizard Content** dialog box appears allowing you to configure the content recipients for the application.
		6. Click **Add**.
		NOTE: A new menu appears. Notice that you can distribute to a distribution point or a distribution point group. As you have no distribution point groups created in this lab (you will use distribution point groups in the "Managing

Content" lab), you will target a distribution point.

7. Click **Distribution Point**.

NOTE: The **Add Distribution Points** dialog box appears displaying available distribution points. Notice that there is one distribution point available in the lab environment.

8. Under **Available distribution points**, click to select **Primary1.ConfigMgrDom.local**, and then click **OK**.

NOTE: The **Deploy Software Wizard General** dialog box appears displaying the target recipient for the application content, that being the site server as a distribution point.

10. Click **Next**.

NOTE: The **Deploy Software Wizard Deployment Settings** dialog box appears displaying the current configuration for the deployment.

11. In the **Action** box, verify that **Install** is displayed.

NOTE: Configuration Manager 2012 supports an uninstall action to remove applications previously deployed regardless of whether or not Configuration Manager 2012 deployed the application. You will experience application uninstallation in the "Managing Applications" lab.

12. In the **Purpose** box, verify that **Available** is listed, and then click **Next**.

NOTE: The **Deploy Software Wizard Scheduling** dialog box appears displaying the current schedule for the deployment. Notice that the application deployment is not configured to deploy automatically (is only available, not required), and that it is available to clients now.

13. Click **Next**.

NOTE: The **Deploy Software Wizard User Experience** dialog box appears displaying the current configuration for the deployment for user interaction. Notice that the default configuration is that the deployment is displayed in Software Center, however to only show notifications for a required restart. Notice also that maintenance windows are not applicable for available application deployments as the user decides when to install the application, and that any deployments to Windows Embedded devices will be persisted.

14. In the **User notifications** box, click **Display in Software Center and show all notifications**, and then click **Next**.

NOTE: The **Deploy Software Wizard Alerts** dialog box appears allowing you to configure the creation of alerts if the percent of failed deployments is above a configured value, as well as to enable integration with Microsoft Operations Manager.

15. Click **Next** to accept the default of no alert and no Operations Manager integration.

NOTE: The **Deploy Software Wizard Summary** dialog box appears indicating that the deployment is ready to be created. Notice the configured values for software to deploy, the target collection, the intended action, the purpose, and the scheduling values.

16. Click **Next**.

NOTE: The **Deploy Software Wizard Completion** dialog box appears indicating that the deployment was successfully created.

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		17. Click **Close**.
		NOTE: The System Center Configuration Manager console appears displaying the results pane of applications in the results pane of the Applications node.
		18. In the preview pane, click the **Summary** tab.
		NOTE: The summary information for this application is displayed. Notice that this information includes current deployment statistics. Also notice that at this time, there are no statistics for this deployment.
		19. In the preview pane, click the **Deployments** tab.
		NOTE: The deployment information for this application is displayed. Notice that this information includes the target collection, intended purpose, scheduled date, and current percentage of compliant recipients for this deployment. You have now successfully created and deployed an application using Configuration Manager 2012.
3.	Update the deployment status	1. Click the **Monitoring** workspace.
		NOTE: The Monitoring workspace appears with the list of deployments in the results pane. Notice that the Settings Tools deployment appears.
		2. In the results pane, click **Settings Tools**.
		NOTE: The Settings Tools summary information appears in the preview pane.
		3. On the Ribbon, click **Run Summarization**.
		NOTE: A **Configuration Manager** message box appears indicating that the summarization process will occur throughout the hierarchy.
		4. Click **OK**.
		NOTE: The status of the Settings Tools deployment is summarized. This process takes a moment to update. There will not be any new data to display, as an available deployment to systems only provides statistics for attempted deployments, of which there have been none so far. You will deploy the application on the client(s) in the next procedure.

In the following procedure, you will force the client computer to retrieve policies. This will trigger the deployment of the application that was targeted to the client. The lab refers to the client computer, which can be the site server, as it is installed as a client also.

Tasks	Detailed steps
Complete the following task on: **Client1**	
1. Force policy retrieval to install the application	1. In **Control Panel**, click **System and Security**, and then start **Configuration Manager**.
	Note: The **Configuration Manager Properties** dialog box appears displaying general attributes of the client.
	2. Click the **Actions** tab.
	Note: The **Configuration Manager Properties** dialog box appears displaying the available actions for the client.
	3. Click **Machine Policy Retrieval & Evaluation Cycle**, and then click **Run Now**.
	Note: A **Machine Policy Retrieval & Evaluation Cycle** message box appears indicating that the action may take several minutes to complete.
	4. Click **OK**.
	Note: The **Configuration Manager Properties** dialog box appears displaying the available actions for the client.
	5. Click **OK**.
	Note: Applicable policies are retrieved for the client. After the policy has been processed, the **New software is available** balloon appears, as well as the **New software is available** icon in the system tray.
	6. In the System Tray, click the **New software is available** icon.
	Note: A new menu appears.
	7. Click **Open Software Center**.
	Note: The Software Center window appears displaying deployments targeted to the computer. Notice that "Settings Tools" appears as an available application.
	8. Under **Name**, click **Settings Tools**, and then click **INSTALL**.
	Note: The "Settings Tool" software is installed. When complete, the Software Center's Installation Status tab appears indicating that the software is installed. Notice that this tab also indicates that "CCM Tools" and "Microsoft Maths" are also installed.
	9. Close the Software Center window.
	10. On the **Start** menu, point to **All Programs**, and then point to **ConfigMgr 2007 Toolkit**.
	Note: The ConfigMgr 2007 Toolkit menu appears. Notice that the ConfigMgr 2007 Toolkit includes multiple programs, including three new tools, all starting with "DCM" as part of the name. This

	is an indication that the deployment was successful.

In the following procedure, you will verify that the deployment was successful using the System Center 2012 Configuration Manager in-console monitoring system.

Tasks	Detailed steps
Complete the following task on: **Primary1**	
1. Verify deployment status	1. Click the **Monitoring** workspace.
	NOTE: The Monitoring workspace appears displaying the list of deployments appears in the results pane. Notice that the "Settings Tools" deployment appears. Also notice that the preview pane includes a chart of deployment statistics (however the statistics are not up to date.
	2. In the results pane, click **Settings Tools**, and then on the Ribbon, click **Run Summarization**.
	NOTE: A **Configuration Manager** message box appears indicating that the summarization process will occur throughout the hierarchy.
	3. Click **OK**, wait a moment, and then on the Ribbon, click **Refresh**.
	NOTE: The status of the "Settings Tools" deployment is summarized. This process takes a moment to update. There should now be new data to display, with at least one client showing success. If no clients report success, wait another minute for state messages to be received and processed, and then force another summarization cycle and then refresh the console.
	4. On the Ribbon, click **View Status**.
	NOTE: The **Deployment Status** page appears in the results pane, displaying the various states for this deployment. At this point, you should only have "Success" for at least one client, as displayed under "Asset Details". Notice also that a sticky node is added to the navigation pane under the Deployments node with status for this deployment.

You have now successfully created and deployed two Configuration Manager 2012 applications. One application was installed automatically on the clients, while the other was an optional deployment. You have also used the in-console monitoring feature to validate that the application was successfully deployed.

There are additional labs available for software distribution, including "Advanced Software Distribution", "Managing Applications", and "Managing Content". |