Microsoft® Virtual Labs

Hyper-V Edition

Microsoft Application Virtualization (App-V) 5.0 Overview

Microsoft

Table of Contents

Microsoft Application Virtualization (App-V) 5.0 Overview

Objectives

After completing this lab, you will be better able to:

- Tour common administration tasks
- Migrate from prior versions and coexistence with App-V 4.6
- Enable application to application communication with Virtual Application Extensions and Connection Groups
- Reduce storage requirements for Remote Desktop and VDI with Shared Content Store
- Configure Clients for Reporting and viewing Custom SQL Server Reporting Services reports.

Scenario

Contoso has been using App-V and wants evaluate App-V 5.0. Administrators for Contoso are often working at several facilities and on computers that aren't their own and want quick and easy web-based access to perform administrative tasks with App-V such as provisioning applications to new users. They would also like to automate more of their day to day tasks and offload tasks to junior administrators.

Estimated Time to Complete This Lab

90 Minutes

Computers used in this Lab


DC


Client2 - Alan


Client2 - Ed


AppVSvr


Client1


RDS1

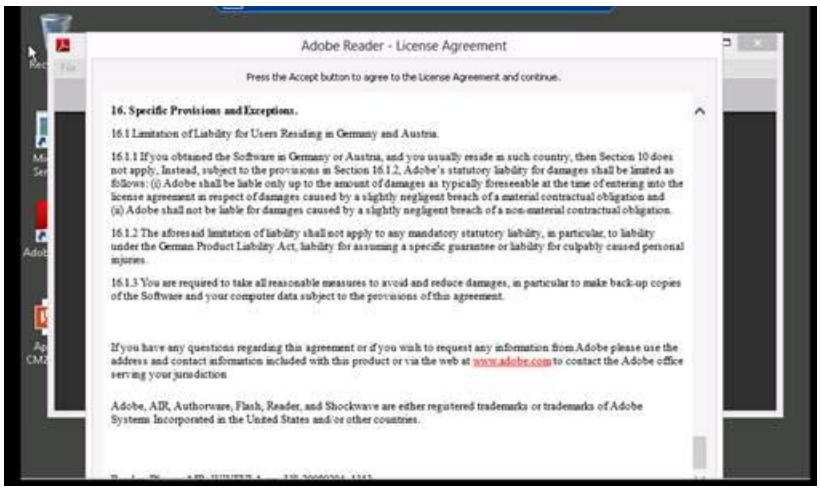

Sequencer1

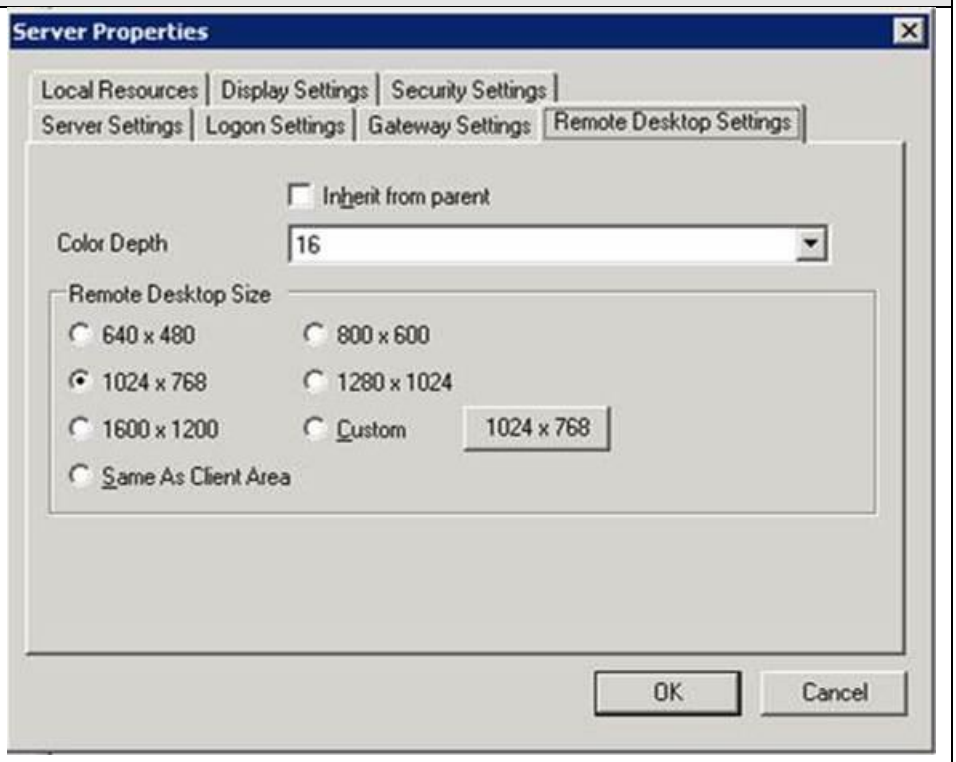
The password for the Administrator account on all computers in this lab is:
Pa$$w0rd

Exercise 1
Tour of Administration Tasks

Scenario

Contoso has been using App-V and wants evaluate App-V 5.0. Administrators for Contoso are often working at several facilities and on computers that aren't their own and want quick and easy web-based access to perform administrative tasks with App-V such as provisioning applications to new users. They would also like to automate more of their day to day tasks and offload tasks to junior administrators.

Tasks	Detailed Steps
Complete the following task on: **AppVSvr** **1. Exploring published App-V Packages**	***Note:*** *It is recommended to run on a machine with at least 1280 x 1024 or 1440 x 900* *If your resolution is too small to see the full screen:*  ***Note****: You can adjust your resolution by right clicking the Virtual machine in the left hand pane and hit* ***disconnect****.* *Then right click the VM and hit* ***Properties****, then click on the* ***Remote Desktop Settings*** *tab, uncheck* ***Inherit from parent*** *and click a* ***Remote Desktop Size*** *of* ***1280 x 1024*** *or higher.*

Tasks	Detailed Steps
	 ***Note**: Click **OK**, then double click the VM again to connect to it.* *Try the lab again and it should work with scroll bars* **a.** Log on to the **AppVSvr** machine as user **Contoso\Administrator** with password **Pa$$w0rd**. **b.** Access the **App-V Server Management Console** by opening **Internet Explorer** from the taskbar and browsing to **http://localhost:888/Console.html** ***Note**: The App-V Server Management Console is now a web site powered by Microsoft Silverlight. Maximize the browser window for easier navigation.* **c.** The Packages panel currently lists a number of packages including the **adobereader9_4** package. Notice that the status of the **adobereader9_4** package is displayed as published. ***Note**: This indicates that the application is available to the appropriate users.*
Complete the following task on: **AppVSvr** **2. Assigning Users**	**a.** Right-click the **adobereader9_4** package and select **edit active directory access**. **b.** Notice that the **Contoso\Research** domain group has been **Granted Access**. **c.** Click **Close**. ***Note**: The sub-panel now changes to the properties sub-panel for the adobereader9_4 package.*
Complete the following task on: **AppVSvr** **3. Examining the Default Configuration of a Package**	**a.** In the upper **Packages** panel, right-click the **Adobereader9_4** package and select **edit default configuration**. ***Note**: The Default Configuration sub-panel appears.* **b.** In the **Default Configuration** sub-panel, select the **Applications** node. ***Note**: The Adobe Reader 9 application is shown as included in this package and that it is enabled for distribution. Had this been a package that contained a suite of applications, each application in the suite would be listed and could be enabled or disabled for distribution individually.*

Tasks	Detailed Steps
	c. In the **Default Configuration** sub-panel, select the **Shortcuts** node. **d.** Scroll-down through the **Shortcuts** sub-window. Notice the shortcuts that are defined. Scrolling further takes you to controls to Add new shortcuts and Edit existing shortcuts. **e.** In the **Default Configuration** sub-panel, select the **File Types** node. **f.** Scroll-down through the File Types sub-sub-window and notice the various File Type Associations that are included in this package and their values. **g.** In the **Default Configuration** sub-panel, select the **Advanced** node. ***Note**: The options to export the current configuration set to an XML file as well as import a previously exported .xml configuration file for this package.* **h.** In the **Default Configuration** sub-panel, click **Close**.
Complete the following task on:  **AppVSvr** **4. App-V Servers**	**a.** In the left-hand tree, select the **Servers** node. ***Note**: The Servers panel appears on the right.* **b.** Notice the Register New Server option in the upper-right quadrant of the panel. This allows you to register additional App-V publishing servers. **c.** Right-click the **CONTOSO\APPVSVR** shown in the list. Notice the option to unregister existing App-V Publishing Servers. ***Note**: DO NOT unregister the server.*
Complete the following task on:  **AppVSvr** **5. App-V Admins**	**a.** In the left-hand tree, select the **Admin** (gear icon) node. ***Note**: The Administrators panel appears to the right.* **b.** Notice the Add Administrator option in the upper-right quadrant of the panel. This allows you to define additional users and groups as administrators within the App-V Management Server.
Complete the following task on:  **Client2** **6. No Q: Drive**	**a.** Log on to the **Client2** machine as user **Contoso\Ed** with password **Pa$$w0rd**. **b.** Click the **File Explorer** tile. **c.** In the left-hand tree, select the **Computer** node. **d.** Notice that there is no longer **Q:** drive present as there has been in previous versions of App-V. App-V 5.0 does not require a dedicated drive letter. ***Note**: The R: drive is a DaRT recovery image location providing additional support options.* **e.** Close **Windows Explorer**.
Complete the following task on:  **Client2** **7. Explore the App-V 5.0 client interface**	**a.** Mouse to the upper right hand corner to raise the **Charms** Bar. In the Charms Bar select the **Search** charm. **b.** In the **Apps** search field enter **Virtual**, in the App results click the **Microsoft Application Virtualization Client** app. ***Note**: This is the App-V 5.0 Client Management Console* **c.** In the **Overview** pane, notice the 3 tiles that represent the 3 main client-side operations: **Update**, **Download all virtual applications** and **Work Offline**. ***Note**: Each tile can be clicked to manually perform the task described in the title of each tile.* **d.** Select the Virtual Apps pane by clicking the word **VIRTUAL APPS**. In the Virtual Apps pane, you can see a list of all packages currently available to the user. ***Note**: If no packages are shown, the hosted virtual machine may be experiencing slower than normal performance. Wait about 20 seconds then press F5 to refresh.* **e.** Select the App Connection Groups pane by clicking on the words **APP**

Tasks	Detailed Steps
	CONNECTION GROUPS. In the Connection Groups pane, you can see the relationships developed to allow bi-directional communication for related but separately packaged applications. **f.** Notice that there are currently no assigned Connection Groups for this user. We will create one later. **g.** Close the App-V Client Management Console.
Complete the following task on:  **Client2** **8. Package Format**	**a.** On the **Desktop**, right-click the icon for **XMLNotepad** and select **Properties**. **b.** Notice that the shortcut target for **XMLNotepad** points directly to the application executable. In App-V 5.0, virtual applications leverage Windows standards, and are stored right in the local file system and need no "launcher." **c.** Click **Open File Location** **d.** Click **Cancel** to close the **XMLNotepad** property window. ***Note**: Windows Explorer is now showing the virtualized application's files. Notice the gray "x" icons. Those icons indicate that the files are sparse files, not the actual files. They are merely placeholders because the application has not yet been streamed and cached on the client.* **e.** On the **Desktop** launch **XMLNotepad**. ***Note**: This is the icon to launch virtualized XMLNotepad.* **f.** When **XMLNotepad** opens, close **XMLNotepad** **g.** Back in the Windows Explorer window, notice that the file icons have changed from the "gray x" icons to their normal color icons. This indicates that the files are now the actual files because the application was streamed and cached on the client upon the first launch of the application. Close **Windows Explorer**.

Complete the following task on:
  **Client2**
9. Publishing PowerPoint Viewer and Excel Viewer packages on the client using PowerShell.
	***Note**: The commands used in the task have also been placed in C:\LabCommands.txt so you can copy/paste rather than type if you prefer.*
	a. Continuing on **Client2** as user **Contoso\Ed**
	b. Mouse to the upper right hand corner to raise the **Charms** Bar. In the Charms Bar select the **Search** charm.
	c. In the **Apps** search field enter **Powershell**.
	d. In the Apps search results, right click the **Windows PowerShell** app. At the bottom of the screen, click Run as Administrator.
	e. Click **Yes** on the UAC window.
	f. Use the following commands to add the App-V package for PowerPoint Viewer via PowerShell. At the **PowerShell prompt**, enter the following commands:
	`Import-Module AppvClient`
	g. This command makes the App-V Client commandlets available for use in the **PowerShell** session
	`Add-AppvClientPackage –Path \\AppVSvr\content\Microsoft_PowerPoint_Viewer_2007\Microsoft_PowerPoint_Viewer_2007.appv`
	h. The **Add-AppvClientPackage** command makes the App-V package available to the local client.
	`Mount-AppvClientPackage –Name "Microsoft_PowerPoint_Viewer_2007"`
	i. The **Mount-AppvClientPackage** command instructs the App-V Client to download and cache 100% of the application. This step may take a few moments.
	`Publish-AppvClientPackage –Name "Microsoft_PowerPoint_Viewer_2007" –Global`
	j. The **Publish-AppvClientPackage** command makes the App-V package visible to

Tasks	Detailed Steps
	users. The **–Global** switch allows all users of this client to access the package. **k.** Mouse to the upper-right hand corner to raise the **Charms** Bar. In the Charms Bar select the **Search** charm. **l.** In the **Apps** search field type **PowerPoint Viewer** ***Note**: The presence of this app means the application has been published.* **m.** For greater ease, the above three commands can be combined using pipes **|** into a single command line. Raise the **Charms** Bar, select the **Start** charm. Click the **Desktop** tile. At the already open **PowerShell** prompt, enter the following command: `Add-AppVClientPackage –path \\AppVSvr\content\Microsoft_ExcelViewer_2007_MNT\Microsoft_ExcelViewer_2007_MNT.appv |Mount-AppVClientPackage|Publish-AppvClientPackage –Global` ***Note**: The example above combines Adding, Mounting and Publishing the App-V package into a single command line. The output from previous commands is used as the input for subsequent commands. This is why, in the example above, there was no need to type the App-V package path for the Mount command and no need to type the package name for the Publish command.* **n.** Mouse to the upper-right hand corner to raise the **Charms** Bar. In the Charms Bar select the **Search** charm. **o.** In the Apps search field type **Office Excel Viewer**. Click the **Microsoft Office Excel Viewer** app. ***Note**: Excel Viewer launches.* **p.** Close **Excel Viewer**. **q.** Logoff **Client2**.

Exercise 2

Migration from prior versions and coexistence with App-V 4.6

Scenario

Contoso would like to deploy App-V 5.0 to a set of users for trial. Ed, an administrator from Contoso, will convert an App-V application from a prior version of App-V to App-V 5.0 and prepare it for use in the new environment. As part of their migration strategy, Contoso will provide both App-V 4.6 and App-V 5.0 applications to their users until their migration to App-V 5.0 is complete.

Tasks	Detailed Steps
Complete the following task on:  **Client1** **1. Show that 4.6 SP2 Client and App-V 5.0 Client are both installed**	**a.** Log on to the **Client1** machine as user **Contoso\Ed** with password **Pa$$w0rd**. **b.** Open **Windows Explorer** and in the left-hand tree, select the **Computer** root node. **c.** Notice the presence of a **Q:** drive. This shows that the App-V 4.6 Client is installed. **d.** Close **Windows Explorer**. **e.** From the **Start Menu**, select **Control Panel**, then **Administrative Tools**. **f.** Open the **Application Virtualization Client** and select **Yes** at the UAC prompt. **g.** Click on Help and **About Application Virtualization Client….** Notice the version is **4.6.2.24020** **h.** Click on **OK** and close the **App-V 4.6 SP2 Client** console. **i.** From the **Start Menu**, select **All Programs**, **Microsoft Application Virtualization Client**, **Microsoft Application Virtualization**. **j.** Click **About** and notice the version **5.0.285.0** **k.** Click on **Close** and close the **App-V 5.0 Client** console.
Complete the following task on:  **Client1** **2. Show the virtual App running in the 4.6 Client.**	**a.** Click **Start > All Programs > App-V 4.6 Applications> Orca** **b.** The **Orca** application opens. **c.** Notice the App-V 4.6-style progress bar in the lower-right corner of the screen as Orca launches. **d.** Bring the Control Panel, Administrative Tools window back to the foreground and then double click **Application Virtualization Client**. Click **Yes** at the UAC window. **e.** In the App-V 4.6 Client management console, select the **Applications** node. **f.** Notice that the Orca application package status shows **In Use 100%**. This demonstrates that the application has opened within the App-V 4.6 Client. **g.** Logoff **Client1**.
Complete the following task on:  **Sequencer1** **3. Use the App-V 5.0 Package Converter to convert the 4.6**	***Note**: The commands used in the task have also been placed in C:\LabCommands.txt so you can copy/paste rather than type if you prefer.* **a.** Log on to the **Sequencer1** machine as user **Contoso\Administrator** with password **Pa$$w0rd**. **b.** Click **Start > All Programs > Accessories > Windows PowerShell > Windows PowerShell** **c.** At the PowerShell prompt, enter the following commands to perform the

Tasks	Detailed Steps

package to an App-V 5.0 package.	conversion:
	`Import-Module AppVPkgConverter`
	`ConvertFrom-AppvLegacyPackage –SourcePath "\\DC\Content\Microsoft Orca" –DestinationPath "C:\LabFiles"`
	d. When the conversion has completed, enter the following command to create the destination folder for the converted package on the App-V 5.0 server:
	`MD "\\AppVSvr\content\Microsoft Orca"`
	e. Enter the following command to copy the converted package to the destination folder on the App-V 5.0 server (all one line):
	`Copy "C:\LabFiles\*.*" "\\AppVSvr\content\Microsoft Orca"`

Complete the following task on:  **Sequencer1** **4. Publish the app on the App-V 5.0 Server.**	**a.** Access the **App-V Server Management Console** by opening **Internet Explorer** and selecting the **Application Virtualization Console** favorite. **b.** Maximize the IE window. **c.** By default the Management console opens to the PACKAGES page. **d.** Click **ADD** or **UPGRADE PACKAGES**. **e.** Click **Browse**, enter **\\AppVSvr\content** and click **Open**. **f.** Browse to and select **Microsoft Orca\Microsoft Orca.appv** click on **Open** and click **Add**. **g.** When the import operation completes in the Package Import panel, click **Close**. ***Note**: The Packages panel now lists the Microsoft Orca package. Notice that the status is displayed as unpublished.* **h.** Right-click the **Microsoft Orca** package and select **edit active directory access**. **i.** The Find Valid Active Directory Groups and Grant Access sub-panel appears. **j.** Enter: **Contoso\IT** and click **Check**. **k.** Click to select the **IT [Contoso.com]** result and click **Grant Access**. ***Note**: The IT [Contoso.com] entry is now listed in the AD Entities With Access column.* **l.** Click **Close**. **m.** In the upper Packages panel, right-click the **Microsoft Orca** package and select **publish**. ***Note**: The package status now displays with green as published and is ready to be streamed by users in the Contoso\IT group that was specified earlier.*
Complete the following task on:  **DC** **5. De-provision the Orca application from the App-V 4.5 SP2 Server.**	**a.** Log on to **DC** as user **Contoso\Administrator** with password **Pa$$w0rd**. **b.** Click **Start > Administrative Tools > Application Virtualization Management Console**. **c.** Expand **dc.contoso.com**, select the **Applications** node, right-click the **Orca application** and select **Properties**. **d.** Un-check the **Enabled** box to disable the application and click **OK**.
Complete the following task on:  **DC** **6. Examine coexistence**	**a.** Log on to the **Client1** machine as user **Contoso\Ed** with password **Pa$$w0rd**. **b.** Click **Start > All Programs** and notice that the App-V 4.6 Applications folder and the Orca shortcut that was in that folder is no longer present. **c.** Click **Start**. Right click the **Orca** shortcut and click **Properties**. **d.** Examine the path shown in the Target field. Notice that this shows a location in the 5.0 client location. Click **Cancel**. **e.** Click **Start > Orca** to launch Orca from within the App-V 5.0 Client to show that

Tasks	Detailed Steps
	the converted package launches successfully. **f.** Logoff **Client1**.

Exercise 3

Enabling application to application communication with Virtual Application Extensions and Connection Groups

Scenario

Now that Contoso has migrated applications to App-V 5.0, they would like to take advantage of flexible virtualization options that enable App-V applications to communicate with each other and with traditionally installed applications.

A new feature in the App-V v5 Management Server is the ability to publish individual resources such as packages and connection groups to machines rather than users. They would also like to examine the v5 feature of publishing a connection group to the Client2 machine where the applications have already been published to the user.

Tasks	Detailed Steps
Complete the following task on: **Client2** **1. Show an email link within Adobe Reader 9 launching a separately virtualized outlook mail client.**	**a.** Log in to machine **Client2** as user **Contoso\Alan** with password **Pa$$w0rd** **b.** Click the **Desktop** tile. **c.** Right-click the **App-V 46 CM2012.PDF** file and select **Open with > Adobe Reader 9.4**. This instance of Adobe Reader has been virtualized. **d.** If the EULA appears click **Accept**. **e.** On page one, scroll down and click the mailto link **labexample@contoso.com** and click **Allow** at the Security Warning. ***Note**: Virtualized Microsoft Outlook 2013 will open to create a new email message. Depending on the performance of the hosted VMs this may take a few moments to open.* **f.** Minimize but do not close the Untitled Message window. **g.** Mouse over to the upper-right corner of the **Desktop** to raise the Charms bar. Click the **Search** charm. **h.** The Apps menu appears. Click an empty area near the top of the Apps menu to shrink the search bar revealing the shortcut for the Microsoft Application Virtualization Client console. (Orange cube icon) **i.** Click the **Microsoft Application Virtualization Client** console. **j.** The App-V Client Virtual Application Management console will open. Select the **VIRTUAL APPS** pane. **k.** Notice that the **Office 15** and **AdobeReader9_4** package status shows that they are currently **In Use**. ***Note**: This demonstrates Virtual Application Extension where virtual applications can interact with local or other virtual applications. The virtual application "MAILTO" protocol handler has been registered natively and is available to local and other virtual applications.* **l.** Keep the Virtual Application Management console open. **m.** Close the **Untitled Message** window and click **No** when asked to save. **n.** Close **Adobe Reader 9.**
Complete the following task on:	**a.** Switch to **AppVServer**. Continue using **Contoso\Administrator**. **b.** Select the **Packages** pane; notice that there are separate **Microsoft Office 15** and **Semblio Add-In** packages.

Tasks	Detailed Steps
AppVServer **2. Show that virtual applications are isolated by default**	***Note**: Microsoft Semblio is an Add-in for Microsoft Word which, when installed, adds an Academic tab to the Office Ribbon.*
Complete the following task on: **Client2** **3. Show that virtual applications are isolated by default**	**a.** Switch to **Client2**. Continue using **Contoso\Alan**. **b.** Notice the **Microsoft Semblio Authoring** shortcut on the desktop. **c.** Right-click the **Semblio** shortcut and click **properties**, notice the path to the executable as being an App-V 5.0 path. **d.** Mouse over to the upper-right corner of the **Desktop** to raise the Charms bar. Click the **Start** charm. **e.** Scroll to the right in the **Start** menu and click the **Word 2013** app. **f.** Microsoft Word opens. Click the **Blank Document** template. **g.** Notice that in the Ribbon there is no tab labeled **Academic**. ***Note**: Notice that although we have seen in the App-V Management console that both Office and Semblio are present on this machine; the Word application cannot access the Semblio plug-in because Semblio was virtualized into a separate virtual application package.* **h.** Close **Microsoft Word 2013** and **Microsoft Semblio Authoring Properties**.
Complete the following task on: **AppVSvr** **4. Add two separately virtualized applications into the same connection group and publish the connection group to the Client2 AD group which contains the computer account for the Client2 machine.**	**a.** Switch to **AppVSvr** **b.** In the App-V Server Console in the left-hand tree, select **Connection Groups**. **c.** Click the **ADD CONNECTON GROUP** link in the upper-right corner. ***Note**: New Connection Group appears in the list* **d.** Click on the name of the **New Connection Group**, a rename box appears. Rename the group to **Office with Semblio** and press **enter** to accept the rename. **e.** In the lower pane, next to the **CONNECTED PACKAGES** header, click the **EDIT** link. **f.** In the lower right **PACKAGES** pane: **g.** Select the **Microsoft Office 15** package and click the **Left Arrow** icon. **h.** Select the **Semblio Add-in** package and click the **Left Arrow** icon. **i.** Click **Apply**. **j.** Click **Close**. **k.** In the lower pane, next to the **AD ACCESS** header, click the **EDIT** link. **l.** In the text field in the lower pane, enter **Contoso\CLIENT2** and click **Check**. **m.** Select **CLIENT2 [Contoso.com]** and click **Grant Access**. **n.** Click **Close**. **o.** In the upper pane, right-click the **Office with Semblio** connection group and select **Publish**. ***Note**: The connection group was just published to a domain group containing a machine account. Publishing data targeted to machines can only be retrieved using a Global refresh. For this reason the next step will be to log off and back on to Client2 to perform a global refresh which operates in the context of the machine rather than the standard context of the user.*
Complete the following task on:	**a.** Switch to **Client2**. **b.** Logoff from **Client2**. **c.** Logon to **Client2** as user **Contoso\Alan** with password **Pa$$w0rd**

Tasks	Detailed Steps
 **Client2** **5. Show the two separately virtualized applications interacting**	**d.** Scroll to the right in the **Start** menu and click the **Word 2013** app. **e.** Microsoft Word opens. When an application is brought in to a connection group it will return to a 'first run' operating condition. As a result you are prompted to configure updates. Select **Ask me later** and click **Accept**. **f.** Click the **Blank Document** template. **g.** Notice that in the Ribbon there is now a tab labeled **Academic**. ***Note**: If you experience problems with the Academic tab not being present. Logoff and logon to Client 2 as Alan and reopen Word 2013.* **h.** In the ribbon, select the **Academic** tab. ***Note**: Notice now that the Semblio functions are present within word. When separate virtual application packages are combined in a Connection Group, they open within the same virtual environment and can access each other's resources.* **i.** Close **Microsoft Word 2013**.

Exercise 4

Reducing storage requirements for Remote Desktop and VDI with Shared Content Store

Scenario

Contoso already has a large Session Virtualization implementation and are looking into VDI. They have already identified that the storage requirements across 150 Session based servers as well as the potential for hundreds to thousands of VDI desktops will make it cost prohibitive. The App-V and Remote Desktop Services administrators are setting up and testing the new Shared Content Store feature in 5.0.

Tasks	Detailed Steps

Complete the following task on:
  **RDS1**
1. Publish virtualized XMLNotepad as an RDS WebApp
	***Note**: The commands used in the task have also been placed in C:\LabCommands.txt so you can copy/paste rather than type if you prefer.*
	a. Log on to **RDS1** as user **Contoso\Administrator** with password **Pa$$w0rd**
	b. Mouse over to the upper-right hand corner of the **Desktop** to raise the Charms Bar. In the Charms Bar, select the **Search** charm.
	c. In the Apps search field type **Powershell**, press **Enter**. Click the **Windows Poweshell** tile.
	d. At the **PowerShell** prompt enter:
	`Import-Module AppVClient`
	`Add-AppvClientPackage –path \\AppVSvr\content\XMLNotepad\XMLNotepad.appv | Publish-AppvClientPackage –Global`
	e. Close **Windows PowerShell**.
	f. Start **Server Manager** from the taskbar (furthest left icon).
	g. Wait for the Server Manger app to load all the services configured on the server. Once completed, on the left-hand side, click **Remote Desktop Services**.
	h. On the left-hand side click Collections. It may take a moment to load all available collections. Click **QuickSessionCollection**.
	i. Under the **RemoteApp Programs** section, click **Tasks**, click **Publish RemoteApp Programs**.
	j. The Publish RemoteApp Programs wizard will now populate all programs currently available for publishing. Scroll-down the application list and notice the virtual **XML Notepad 2007** application is displayed. Select the box next to **XML Notepad 2007** and click **Next**.
	k. Click **Publish**.
	l. Once the publishing has completed, click **Close**.
	m. Close **Server Manager**.

Complete the following task on:  **RDS1** **2. Show published application on client consists of just**	**a.** Right-click the **XML Notepad 2007** shortcut on the **Desktop** and select **Properties**. **b.** Select **Open File Location**. **c.** Click **Cancel** to close the XMLNotepad property window. **d.** Right-click the **Help.chm** file and select **Properties** and notice the **Size** is listed as **476 KB** however the Size on Disk shows only **4KB** is taken. This is showing that the package has not been cached on the client **e.** Click **Cancel**.

Tasks	Detailed Steps
sparse files and is not streamed to the client.	**f.** Notice the gray **x** icons next to files showing that these are only sparse files.
Complete the following task on:  **RDS1** **3. Launch application. Show local application is still just sparse file demonstrating that the app is not cached locally.**	**a.** On the **Desktop** launch the **XMLNotepad** shortcut. ***Note**: This is the icon to launch virtualized XMLNotepad.* **b.** When **XMLNotepad** opens, switch to **Windows Explorer** **c.** Notice that the file icons for the application are still shown with the "gray x" icons showing that they are still sparse files. This indicates that the application is running on the RDS1 machine but has not been cached on the RDS1 machine. **d.** Close **XMLNotepad**.
Complete the following task on:  **Client1** **4. Launch XMLNotepad from RDS WebApp.**	**a.** Log on to the **Client1** machine as user **Contoso\Ed** with password **Pa$$w0rd** **b.** Open **Internet Explorer** and in the favorites list, select **RD Web Access (https://RDS1.contoso.com/rdweb)** **c.** Enter the user as **Contoso\Ed** with password **Pa$$w0rd** and click **Sign-in**. **d.** Launch the **XmlNotepad** web app. ***Note**: Accept any certificate notifications and XmlNotepad WebApp opens. In the demo environment, this process may take a few moments.* **e.** Once **XMLNotepad** has opened leave it open and switch back to the **RDS1** machine. **f.** Refresh the view of the **Root** folder in Windows Explorer. **g.** Notice that the file icons for the application are still shown with the "gray x" icons showing that they are still sparse files. This indicates that the application is running on the RDS1 machine but has not been cached on the RDS1 machine.

Exercise 5

Configuring Clients for Reporting and viewing Custom SQL Server Reporting Services reports.

Scenario

Contoso has setup App-V servers and has clients running virtual applications daily. The App-V administrators have installed SQL Reporting Services on the App-V management server to support reporting. They have recently starting deploying and updating applications and need to ensure delivery has been successful. There has been a recent hotfix to the App-V client and they need to determine which machines have yet to receive the patch. Additionally, they wish to track which applications are not being frequently used in order to reduce licensing costs in their company.

Tasks	Detailed Steps

Complete the following task on:
  **Client1**
1. Setup Client1 to report XML files to AppVSvr.
	***Note**: The commands used in the task have also been placed in C:\LabCommands.txt so you can copy/paste rather than type if you prefer.*
	a. Switch to the **Client1** machine.
	b. Close all open windows.
	c. Click **Start > All Programs > Accessories > Windows PowerShell > Windows PowerShell | Right Click > Run as Administrator**
	d. Click **Yes** at the UAC prompt.
	e. At the PowerShell prompt, enter the following commands to configure reporting:
	`Import-Module appvclient`
	`Set-AppVClientConfiguration –ReportingEnabled 1`
	`–ReportingStartTime 1 –ReportingRandomDelay 60`
	`–ReportingInverval 1 –ReportingServerURL \\AppVSvr\apppvreporting`
	***Note**: The parameters in this command line include the following:*
	ReportingEnabled: When set to 1, this enables reporting on the client
	ReportingStartTime: Sets when the client will start reporting data. This is a 24 hour format (0-23)
	ReportingRandomDelay: Specifies a delay time for data to be sent to the server. The client will randomly generates a delay time between 0 and this parameter, then waits that duration from the ReportingStartTime before sending data. This helps prevent overloading the App-V management server.
	ReportingInterval: This specifies how often data is sent to the server.
	ReportingServerURL: When set to a UNC path, the client will generate an XML file and upload it to the specified location. When set to an App-V Reporting Server URL, it will automatically upload the data into the AppVReporting database.

Complete the following task on:  **Client1** **2. View the reporting**	**a.** Click **Start > All Programs > Accessories > System Tools > Task Scheduler**. **b.** In the right-hand pane, expand **Task Scheduler Library**, expand **Microsoft**, expand **AppV**, click **Reporting** **c.** Notice the reporting task that has been created. It runs at 1:00 AM every day (ReportingStartTime = 1), with the next run time set to a random time anywhere from 1AM to 2AM (ReportingRandomDelay = 60).

Tasks	Detailed Steps
Scheduled task	**d.** Close **Task Scheduler**.
Complete the following task on:  **Client1** **3. Manually send report data to AppVSvr**	***Note**: The commands used in the task have also been placed in C:\LabCommands.txt so you can copy/paste rather than type if you prefer.* **a.** In the open PowerShell window, enter the following command to manually submit a report to AppVSvr. `Send-AppVClientReport` **b.** Close **PowerShell** **c.** Logoff **Client1**
Complete the following task on:  **AppVSvr** **4. View the reporting data on AppVSvr**	**a.** Switch to **AppVSvr**. Continue using **Contoso\Administrator**. **b.** Open **Windows Explorer**, navigate to **C:\AppVReporting**. **c.** Notice there is a single file in this location. This the reporting file submitted by the client. Right click the file and select **Open With > Notepad**. **d.** In **Notepad**, click **Format > Word Wrap**. ***Note**: This file contains information on a client regarding what packages have been loaded, when they have been run, and basic information regarding the client.* **e.** Close **Notepad**.
Complete the following task on:  **AppVSvr** **5. Open SRSS Home Page**	**a.** Continuing on **AppVSvr** as **Contoso\Administrator**. **b.** Open **Internet Explorer** from the taskbar. **c.** In **Favorites**, click the link for **SSRS Home**. ***Note**: This may take several minutes to load.* *To save time in the demo, reporting data has been prepopulated into the reporting database.*
Complete the following task on:  **AppVSvr** **6. View all the client versions in the environment.**	**a.** Click the report icon for the **AppV Client Versions**. ***Note**: All of the clients currently in our environment are all running the latest release of the App-V client. In production environments, this report can be utilized to find clients that need upgrades or hotfixes.* **b.** Scroll to the right to see the **App-V Client** versions. **c.** Click anywhere on the pie graph. **d.** Notice that the reporting feature allows you to see specific data regarding the client's operating system versions. **e.** In the top-left corner, click **Home**. ***Note**: In a production environment with thousands of clients, this report could be used to evaluate that all client computers were running on the same App-V Client version.*
Complete the following task on:  **AppVSvr** **7. View the Average Use times for specific applications in your environment.**	**a.** Click the report **Average Use Time for All Applications** **b.** Notice average use times can be determined for App-V applications. Click the blue bar to the right of **Adobe Reader 9**. **c.** Notice usage times can be broken down on a per-machine basis. Click the blue bar to the right of **Client1.contoso.com**. **d.** Notice usage times can be broken down on a per-user basis. ***Note**: In a production environment, you can find applications that are not being used in your environment. This can be helpful in finding users that are licensed for high cost applications, but rarely use them.* **e.** In the top-left corner, click **Home**.
Complete the following	**a.** Click the report **Package Versions**.

Tasks	Detailed Steps
task on:  **AppVSvr** **8. View the status of a package update.**	**b.** In the **Package Name** drop down, select **XMLNotepad**. **c.** Click **View Report**. **d.** Notice there are two versions of an application deployed. This indicates a user has not launched an updated application yet, or there is a problem with the client. Click the blue section of the pie graph. **e.** Notice again the reporting feature allows viewing specific machine information. ***Note**: In a production environment this data can be useful to accurately determine the status of an update rollout.* **f.** [End of Demo]