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Cert Guide

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MCSA 70-410

Installing and Configuring Windows Server® 2012 R2

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MCSA 70-410 Cert Guide: Installing and Configuring Windows Server 2012 R2

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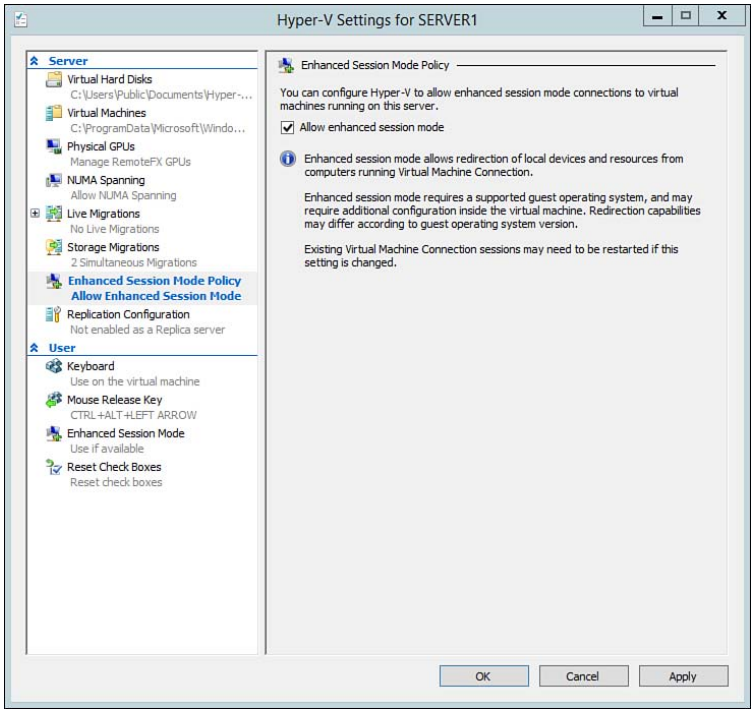


Figure 7-18 Allow Enhanced Session Mode.

2. On the guest operating system, ensure that **Remote Desktop Services** is enabled and that the account logged in with is a member of the local Remote Desktop Services group or local Administrators group.

3. Ensure that **Guest Integration Services** is enabled and running on the guest operating system.

4. When these conditions are met, use the Virtual Machine Connection window to connect to a VM. Hyper-V will use Enhanced Session Mode to interact with the guest operating system. The Virtual Machine Connection window will prompt you to configure the Display and Local Resources, as shown in Figures 7-19, 7-20, and 7-21.

   As an option, you might choose to save settings for future connections to this VM. Settings are stored in a separate file for each VM under `%appdata%\roaming\Microsoft\Windows\Hyper-V\Client\1.0`.

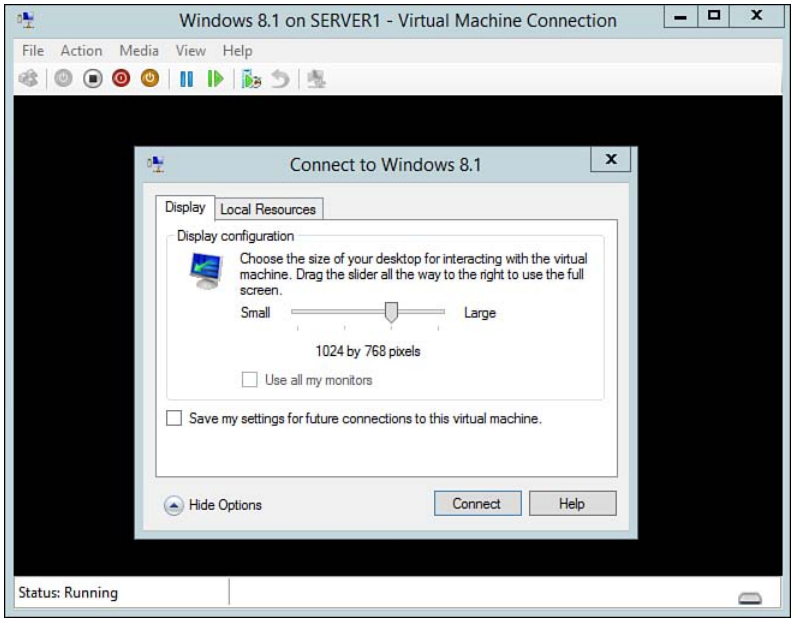


Figure 7-19 Enhanced Session Mode display settings.

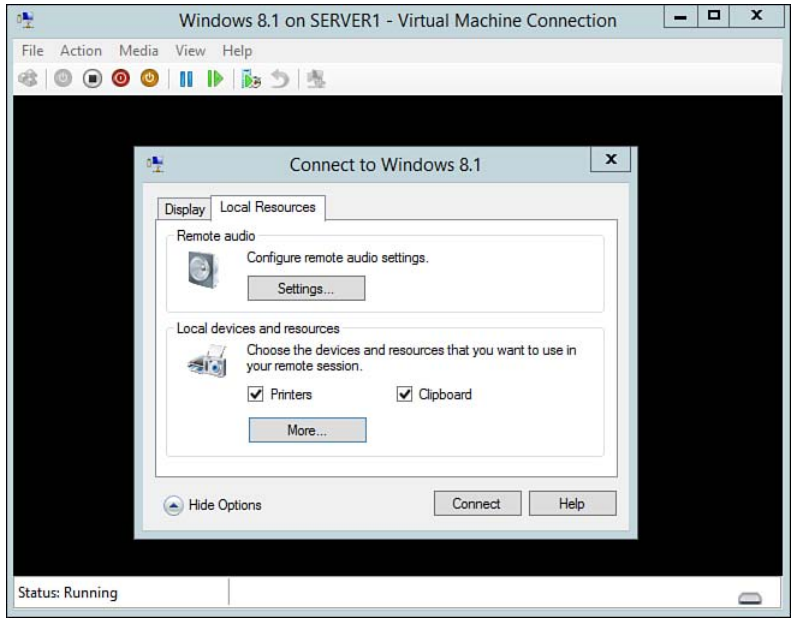


Figure 7-20 Enhanced Session Mode local resources.

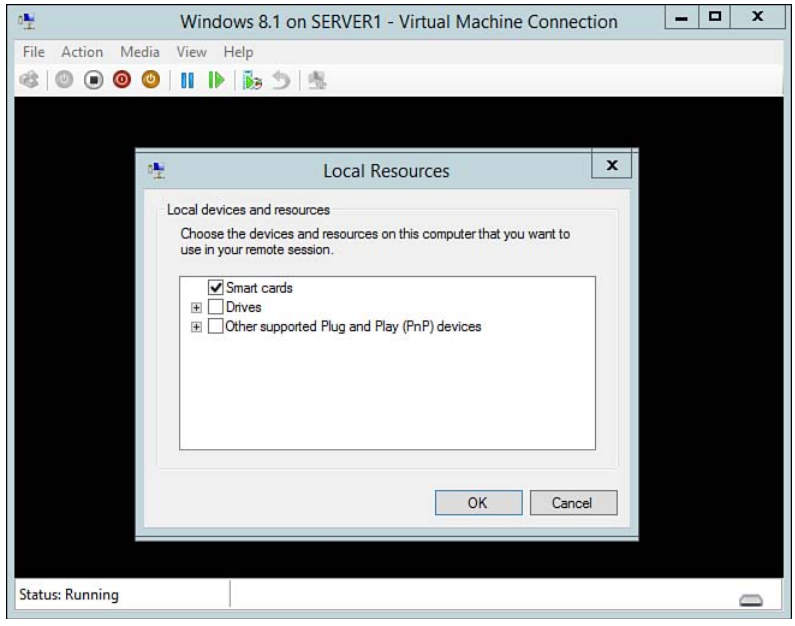


Figure 7-21 Enhanced Session Mode more local resources.

NOTE For more information, refer to "Virtual Machine Connection – Enhanced Session Mode Overview" at http://technet.microsoft.com/en-us/library/dn282274.aspx.

Managing Virtual Machines

There are several things an administrator can do to manage a VM. From the connection window shown previously in Figure 7-16, there are several tasks to choose from under the menu bar. We will focus on the Action, Media, and Clipboard items, but also know that you can configure View settings and invoke the Help menu when in need.

NOTE Depending on the current state of the VM, not all of the menu items will be available. The Clipboard menu item is not present until the VM has been started.

Virtual Machine Actions

We have already looked at the Settings under the File menu. The Action menu (see Figure 7-22) contains the following items:

Key Topic

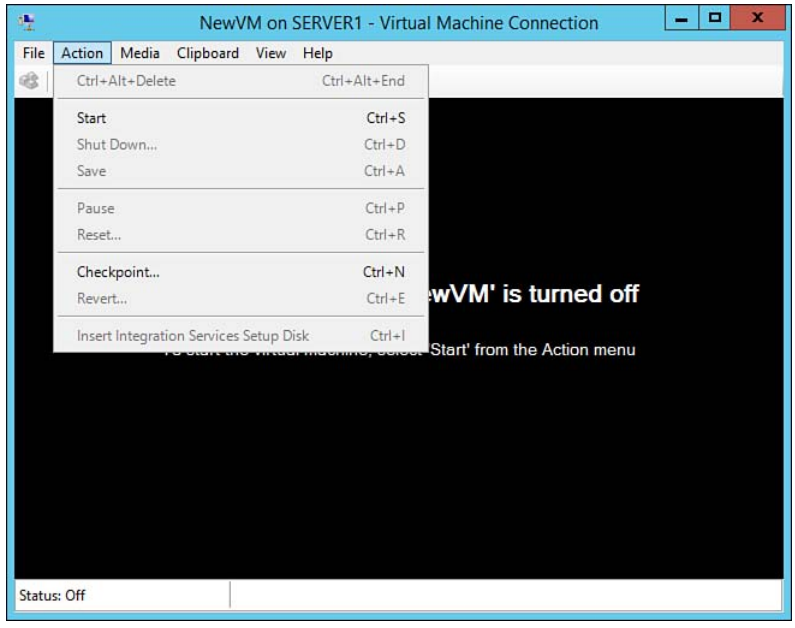


Figure 7-22 Virtual Machine Connection Action menu.

- **Ctrl+Alt+Delete:** Sends the Ctrl+Alt+Delete sequence to the VM. Use the Ctrl+Alt+End combination on the Host to send the Ctrl+Alt+Delete sequence to the VM.
- **Start:** Powers up or starts the VM.
- **Shut Down:** Initiates a guest operating system shutdown or graceful shutdown. All running processes are completed before the system powers down.
- **Turn Off:** Available after a VM is powered on, the turn off option cuts the power to the VM similar to a hard shutdown.
- **Save:** Saves the current state of the VM. Processor and memory resources are freed up and made available for other VMs.
- **Pause:** Suspends the state of a VM. Memory is not freed up, but processing resources are made available for other VMs.
- **Reset:** Resets the VM and restarts it. Similar to pressing a reset button on a physical computer. A hard restart is performed.

- **Checkpoint:** Previously known as a snapshot, a checkpoint creates a point in time backup of the VM state and configuration. The backup is written to disk. Multiple checkpoints can exist depending on available storage space assigned to your checkpoint location folder. This option is useful when making changes, testing new software, or in a lab environment.
- **Revert:** Allows you to roll back or revert to a previously created checkpoint.
- **Insert Integration Services Setup Disk:** Mounts the integration services setup disk to enable you to add/remove services.

Virtual Machine Media Options

You can complete the following tasks using the virtual machine Media Menu item:

- **DVD Drive:** Enables you to eject a mounted ISO (Generation 2), a insert a new ISO (Generation 2), or switch to a specific physical optical drive (Generation 1).
- **Diskette Drive:** Allows you to eject or mount a different virtual floppy disk (Generation 1).

Virtual Machine Clipboard Options

Available when a VM has been started, you can complete the following tasks using the VM Clipboard Menu item:

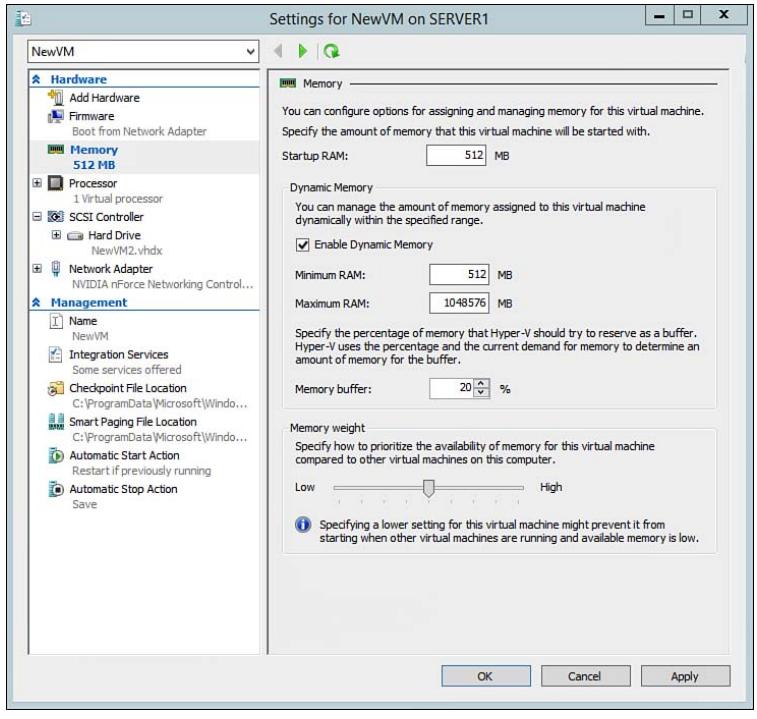
- **Type clipboard text:** Enables you to insert or paste the contents of the clipboard generated from a copy command on a different VM or the Hyper-V host.
- **Capture screen:** Enables you to capture the screen into the clipboard similarly to the print screen function. This is useful when documenting or building a testing environment.

Configuring Dynamic Memory

Introduced with Windows Server 2008 R2 SP1, Hyper-V Dynamic Memory is an option to enhance memory utilization for VMs. It helps free up memory in the pool by reallocating a portion of RAM assigned to idle or underutilized VMs. This ultimately helps reduce cost by allowing you to squeeze more VMs onto a single host. It also provides you with more flexibility to support a dynamically changing environment. You can configure dynamic memory via the following methods:

- Upon creation of a new VM
- By modifying the memory settings of an existing VM that is in a powered off state

You can enable Dynamic Memory options in the VM Settings dialog box by selecting the **Enable Dynamic Memory** check box as shown in Figure 7-23.



Key Topic

Figure 7-23 Virtual machine dynamic memory.

When a new VM is configured, you will specify initial startup memory. The startup memory is the amount of RAM required to start up and run a VM in a steady state of normal operation. Additional memory is required upon startup due to loading all drivers, services, and core operating system components. As the startup routine normalizes, you might find that the memory consumption drops and eventually levels off.

As workload increases, additional RAM is assigned to the VM based on the workload needs. The Dynamic Memory option enables you to specify a minimum and maximum amount of RAM to be allocated to the VM. The minimum memory setting is used to reserve memory for the VM. It is the minimum required for the VM.