Course Title: Microsoft Hyper-V 3.0

Date/Time/Sessions: Tue/Thur | 2/25-3/6 | 6:30-9:30pm.

Course Description:
Hands-on training for the installation and configuration of Microsoft Core Server 2012 and Microsoft Datacenter 2012. With emphasis on the Management of the Server and the management and creation of Virtual machines that run on them. This is the Hyper-v 3.0 Microsoft product and PowerShell 3.0.

Course Prerequisite(s):
Basic PC/Server hardware and Microsoft PC/Server OS understanding or equivalent experience in Systems Administration.

Course Objectives:
Demonstrate installation and configuration of Hyper-v 3.0 Core and Datacenter 2012. At the end of the course, you should gain an understanding of the functionality in Microsoft Hyper-v 3.0 and be able to:
• Install and configure Hyper-v 3.0 Core and Datacenter 2012 versions (aka hyper-v 3.0)
• Install and manage virtual switches
• Deploy and manage virtual machines
• Update/apply patches
• Backup and disaster recovery of virtual machines
• Use PowerShell command-lets to do basic functions and get an inventory report and write a simple PowerShell script.

Next Class Possibilities:
Microsoft cloud computing using Hyper-v 3.0 and System Center 2012, learn clustering and redundant networking skills.

Instructor Notes:
In this class you will learn the basics of what a hypervisor is and some of the differences between VMware and Microsoft Hyper-v. You will gain hands on experience with installing, configuring and using CLOUD computing virtual machines. After this class you should have mastered the skills to create/\manage a vHost (Microsoft Hyper-v 3.0 virtual Server) and create Virtual Machines (server or PC) that run on the vHost. You will demonstrate a knowledge of what a Hypervisor is and how to apply\leverage one in your work environment. You will demonstrate a knowledge of what a Virtual Machine is and how to apply\leverage one in your work environment.

Textbook(s): None. All book type material will be provided in electronic PDF format. You will receive summarized notes and links to helpful online resources and a copy of the PowerPoint of the class presentation in PDF form.

Lesson Plan
Session 1:
What is a hypervisor and how does it work.
Lab 1: Install, configure and update Microsoft Core Server 2012 with hyper-V 3.0 to get it ready to host Virtual machines and be easily managed remotely with third party apps.
Lab 2: Create Virtual switch(s) and learn the different kinds and what they are used for.
Lab 3: Creating a Virtual Machine, vCPU, vRAM, virtual Hardisk, vNIC and attaching it to a vSwitch.

Session 2:
Lab 4: Modifying Virtual Machines and learning how to manipulate VHD and VHDx files
Lab 5: Using Virtual Machine Templates to deploy virtual machines and Backing up your VM’s for disaster recovery purposes.
Lab 6: Converting: VMware Virtual Machine to Hyper-v Virtual Machine and Physical Server to Hyper-v Virtual Machine. This will help you to migrate from VMware to Hyper-v or migrate a physical server to be a virtual machine. Simple PowerShell vHost and VM inventory report.

Session 3:
Lab 1: Install, configure and update Microsoft DataCenter Server 2012 with hyper-V 3.0 to get it ready to host Virtual machines and be easily managed remotely with the provided Microsoft Hyper-v Manager tools.
Lab 2: Create Virtual switch(s)
Lab 3: Creating a Virtual Machine, vCPU, vRAM, virtual Hardisk, vNIC and attaching it to a vSwitch with the new virtual machine wizard.

Session 4:
Lab 4: Modifying Virtual Machines and learning how to manipulate VHD and VHDx files
Lab 5: Using Virtual Machine Templates to deploy virtual machines and Backing up your VM’s for disaster recovery purposes.
Lab 6: Basic PowerShell 3.0 command-lets and using them in PowerShell scripts to make repetitive tasks easier and get an inventory report of the vHost and the VM’s running on it.