

## Course Description

This course provides hands on experience installing and configuring Windows Server 2008 to work with clients including Windows Vista. Students will perform full and core CD-based standard installation, deploy an image, configure and tune the server and assign roles and services. Attendees will practice local and remote administration of security, network, data and hardware in hands on labs.

After installing an Active Directory domain controller, students will create and assign users, groups, permissions, rights, policies and profiles. Attendees will configure and troubleshoot the TCP/IP network, create custom consoles and Powershell scripts, and implement a backup strategy. We'll investigate network products, such as Internet Information Server (IIS) 7.0, Terminal Services, and Sharepoint. Local security, such as group policy objects (GPO), Encrypting File System (EFS), BitLocker, rights and permissions, Firewall, Windows Server Update Services (WSUS), and Network Level Authentication.

Students will use enterprise tools such as clustering, virtualization, Distributed File System (DFS), and File System Resource Manager (FSRM). Comprehensive labs and exercises give the students real experience deploying, managing and troubleshooting the Windows 2008 infrastructure.

## Students Will Learn

- **Server Installation and Imaging**
- **Powershell Administration**
- **Terminal Services and RemoteApp**
- **Sharepoint Integration and IIS 7.0**
- **User and Group Configuration**
- **Permissions and Security**
- **Active Directory Architecture and Installation**
- **Clustering and Server Virtualization**
- **System Backup and Update Management**
- **IPv4 and IPv6 Network Addressing**
- **Vista Integration**

## Prerequisites

Understanding of a Microsoft Windows Environment and familiarity with the desktop, files and folders. Previous server administration is helpful but not required.

## Course Outline

### Overview of Windows Server 2008

- Windows Architecture
- Windows Server 2008 Editions
- Server Roles
- Disk Management
- Powershell
- Terminal Services
- Virtualization
- Internet Information Services (IIS 7.0)
- Patch and Update Management
- Tuning System Performance
- Remote Assistance
- Backup and Recovery
- Licensing and Activation
- System Center
- Active Directory

### Installing Windows

- Hardware Requirements
- CD Installation
- Windows 2008 Core Installation
- Windows Deployment Services (WDS)
- Boot Configuration Data (BCD)
- Upgrading Existing Operating Systems

### Configuring Windows

- Initial Configuration Tasks (ICT)
- Command line Server Core configuration

### Windows Management

- Server Manager
- Remote Server Admin Tools (RSAT)
- Event Viewer
- Event Subscription
- Performance and Reliability Monitor
- Performance Logs and Alerts
- Windows Hardware Error Architecture (WHEA)
- Tuning System Performance
- Windows System Resource Manager (WSRM)
- Windows Remote Management (WinRM)
- Shutdown Event Tracker

### Windows Vista Interoperability

- Windows Vista Editions
- User Interface
- Domain Membership
- System Recovery
- Multiple Group Policies

## **Administering Users and Groups**

- Creating Local Users and Groups
- Creating Domain Users and Groups
- Local and Domain Groups
- Setting User Rights
- User Profiles
- Setting the Accounts Policy
- Upgraded Security Accounts Manager (SAM) Database
- User Account Control (UAC)
- Administrator Approval Mode (AAM)

## **Networking**

- TCP/IP version 4 (IPv4)
- IPv4 Addressing
- TCP/IP version 6 (IPv6)
- Dynamic Host Configuration Protocol (DHCP)
- Understanding Workgroups and Domains
- TCP/IP Diagnostic Tools
- Windows Firewall
- Network Troubleshooting

## **Dynamic Host Configuration Protocol**

- DHCP Lease Process
- Troubleshooting DHCP Clients
- Authorizing a DHCP Server in Active Directory
- Scopes
- Reservations
- DHCP Options

## **Security Features**

- BitLocker Drive Encryption
- Multiple Local GPOs (MLGPOs)
- Encrypting File System
- NTFS Permissions
- User Rights

## **Active Directory Domain Services**

- AD DS Architecture
- Domains, Trees and Forests
- Organizational Units (OU)
- Read-Only Domain Controller (RODC)
- Flexible Single Master of Operation (FSMO) Roles
- Global Catalog
- Schema
- Domain Controller Installation
- DNS Requirements
- Configuring Active Directory
- Delegating Authority
- Replication Improvements

## **Group Policy**

- Implementing Security
- Desktop Configuration
- Distributing Applications
- Domain and Local Policies
- Group Policy Management Console (GPMC)

## **Microsoft Management Console 3.0**

- Snap-Ins
- Standard Consoles
- Customizing Consoles
- Task Pads

## **Managing Windows Updates**

- Windows Server Update Service (WSUS)
- Patch Management
- Configuring Clients
- WSUS Distribution

## **Powershell**

- Logon Scripts
- Cmdlets
- Scripting
- Variables
- Interacting with Windows Management Interface (WMI)
- Manipulating Objects
- System Analysis

## **Virtualization**

- Planning and Design
- Hyper-V
- Hardware Requirements
- Virtual Server
- Consolidating Resources
- Isolating Services
- Licensing Requirements

## **Clustering**

- High Availability
- Cluster Models
- Planning
- Failover

## **Internet Information Server**

- IIS 7.0 Architecture
- IIS Manager
- Installation and Configuration
- Migrating Sites from IIS 6.0
- Authentication

- Delegation of Authority
- URL Authentication
- Application Pool
- Request Filtering Overview
- Secure Socket Layer (SSL)
- Remote Administration
- Media Publishing
- Core Server Limitations
- Dynamic Content
- Optimizing Performance
- Troubleshooting

### **Data Storage**

- Disk Quotas
- Disk Defragmentation
- Offline Files
- Extending and Shrinking Volumes
- Distributed File System (DFS)
- File Server Resource Manager (FSRM)
- Auditing Object Access

### **Permissions**

- NTFS File and Folder Permissions
- Permission Inheritance
- Effective Permissions
- Shared Folder Permissions
- Administrative Shares

### **Distributed File System (DFS)**

- DFS Replication
- Domain-based DFS
- Namespace Root
- Access-based Enumeration
- Diagnostic Reports
- Replication Groups

### **File System Resource Manger (FSRM)**

- Configuring Quotas
- File Screening
- Reporting

### **System Recovery and Restoration**

- Server Backup and Restore
- Volume Shadow Copy Service
- System State Data
- Automated System Recovery (ASR)
- Recovery Console

### **Tuning Application Performance**

- Application Compatibility Administration Tool
- Setting Environment Variables

- RemoteApp Applications

### **Terminal Services**

- Terminal Services Architecture
- Remote Desktop
- Remote Applications
- TS Web Access
- Mapping Local Resources
- Terminal Server Licensing
- TS Gateway Server
- TS Session Broker
- Remote Desktop Client 6.0
- Network Level Authentication

### **Remote Assistance**

- Requesting Remote Assistance
- Enabling Remote Assistance Offer
- Sending an Invitation File
- Responding to an Assistance Request

### **Hardware**

- Driver Management
- Device Manager
- Troubleshooting Hidden Devices

## **Equipment Requirements**

**(This apply's to our hands-on courses only)**

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

## **Course Length**

5 Days