

**IIS 10 Administration**

**Course Number:** IIS-106
**Duration:** 2 days

**Overview**

This IIS 10 Administration training course teaches attendees the procedures and best practices of web server administration for Microsoft’s Internet Information Server (IIS) version 10 for Windows Server 2016.

**Prerequisites**

No prior web server administration experience is required.

**Materials**

All students receive a comprehensive course manual, detailed hands-on lab exercise manual, and a training guide and slides from the course instructor.

**Software Needed on Each Student PC**

* Windows 10, Windows Server 2016 or 2019
* Related lab files that Accelebrate will provide

**Objectives**

* Learn to plan for and perform an IIS installation
* Understand IIS architecture and configuration
* Perform common IIS administration tasks using IIS Manager, AppCmd, and PowerShell
* Learn the techniques and best practices for IIS security and monitoring
* Gain an understanding of how to deploy, configure, and securely host web-based applications

**Outline**

* Introduction
	+ Role of a Web Server
	+ Static and Dynamic Content
	+ Security
	+ Authentication and Authorization
	+ Evolution of IIS
	+ HTTP/2
* Deployment Planning
	+ Windows Server Editions
	+ Nano Server
	+ Windows Installation Options
	+ Active Directory vs. Standalone
	+ IIS Modules
* Installation
	+ Server Manager
	+ PowerShell
	+ Upgrading from a Previous Version of IIS
	+ Automated Installation
* Server Footprint
	+ Folders and Files
	+ System Services
	+ Windows Users and Groups
* Tools for IIS Administration
	+ IIS Manager
	+ exe
	+ PowerShell
	+ Microsoft.Web.Administration API
* Basic Administration Objects
	+ Virtual Directories
	+ Applications
	+ Sites and Bindings
	+ Application Pools
* Configuration System
	+ Architecture
	+ Feature Delegation
	+ Configuration Editor
	+ Configuration Backups
* Remote IIS Administration
	+ IIS Management Service
	+ Users and Permissions
* Core Architecture
	+ HTTP.sys
	+ Worker Processes
	+ World Wide Web Publishing Service (W3SVC)
	+ Windows Activation Service (WAS)
* Request Pipeline
	+ Classic vs. Integrated Pipeline Mode
	+ Request Lifecycle Events
	+ IIS Modules
	+ ISAPI Handlers and Filters
	+ Static File Handler and MIME Types
	+ Failed Request Tracing (FRT)
	+ Modifying Execution Sequence
	+ URL Rewriting
* Monitoring and Logging
	+ Real-Time Monitoring
	+ Request Logging
	+ IIS Sub-Status Codes
	+ Application-Level Logging
	+ Centralized and Cloud-Based Logging
* Request Filtering and Limits
	+ Blocking Improper and Malicious Requests
	+ IP and Domain Restrictions
	+ Dynamic IP Restrictions
	+ Bandwidth Throttling
	+ Connection Limits and Timeouts
* Application Pool Performance
	+ Worker Process Initialization
	+ Automatic Recycling
	+ Effects of Recycling
	+ On Demand vs. Always Running
	+ Idle Timeout
	+ Idle Worker Process Page-Out
	+ Overlapped Recycle
	+ NET Application Domain Recycling
	+ CPU Affinity and Limits
	+ Rapid Fail Protection
* Application Pool Identity
	+ App Pool Identity vs. Authenticated User
	+ NTFS Permissions
	+ Use of Domain Accounts
	+ Interaction with Configuration System
	+ Debugging Permission Issues
* Authentication
	+ Anonymous Authentication
	+ HTTP Basic and Digest Authentication
	+ Kerberos and NTLM Authentication
	+ NET Forms Authentication
	+ Authentication for Web Services
	+ Delegation
* Authorization
	+ NTFS-Based Authorization
	+ URL-Based Authorization
	+ Application-Level Authorization
	+ Impersonation
* Certificates and HTTPS
	+ SSL, TLS, and HTTPS
	+ Obtaining and Installing a Server Certificate
	+ HTTPS Site Bindings
	+ Server Name Indication (SNI)
	+ Centralized Certificate Management
	+ Certificate Rebind
	+ Requiring HTTPS
	+ Client Certificates
	+ Client Certificate Account Mapping
* Caching and Compression
	+ Kernel-Mode Output Caching
	+ User-Mode Output Caching
	+ Downstream and Client Caching
	+ Response Compression
* NET Session State
	+ Session IDs
	+ In-Process Session State
	+ Using a State Server
* Web Farms
	+ Introduction
	+ Shared Configuration
	+ Shared Website Content
	+ Session State
	+ Machine Key
	+ Load Balancing
	+ Application Request Routing (ARR)
* Web Application Deployment
	+ Pushing vs. Pulling Content
	+ FTP and WebDAV
	+ Microsoft Web Deploy
	+ Dev, Staging, and Production Environments
	+ NET Core and Kestrel
	+ Deployment using Docker
* Conclusion