

**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