Microsoft

Microsoft Training and Certification Guide

Current as of March 16, 2015

Welcome to the **Microsoft Training and Certification Guide.** This guide is intended to provide a quick, comprehensive view of our training and certification landscape, and covers all of the training requisites and upgrade paths that lead to modern Microsoft Certifications. Use this guide to help you achieve your IT goals.

New editions of this guide will be provided periodically. To ensure that you're referencing the most recent information, be sure to replace this tool as new editions are provided. Please send questions and feedback to certquest@microsoft.com.

Microsoft Learning Partners: Please send questions on print version availability and orders to desktopsalestool@microsoft.com.

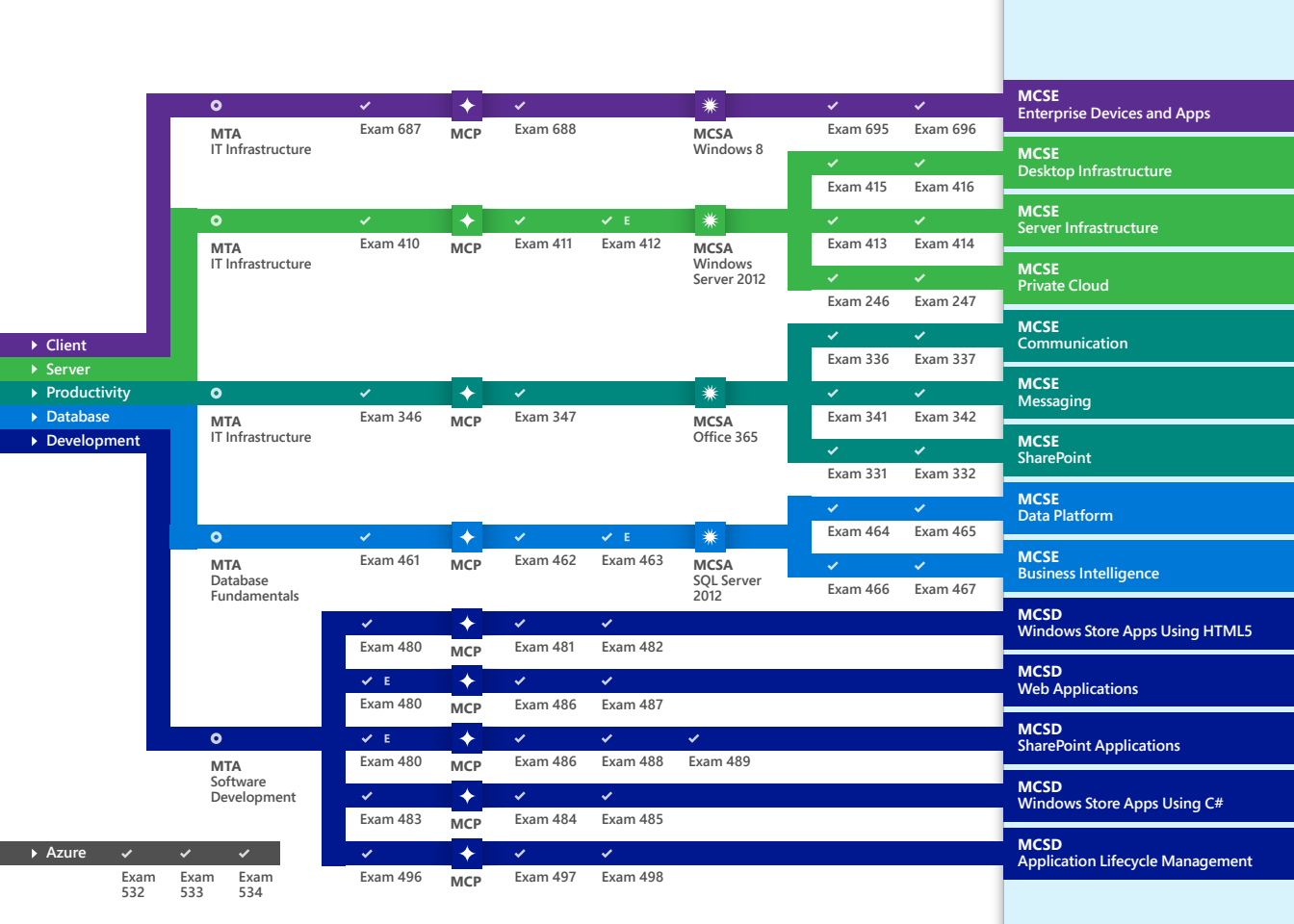| Experiential validation	**+**	Certification	**+**	Continuous learning
Get recognized for your real-world experience. Earn certification credit for reviewed software apps in the **AppToCert Program.**		Robust validation of your knowledge through exams. Regardless of your career stage, there's a certification that fits.		**Keep your skills current with:** Instructor-led training from Microsoft Learning Partners. Online, on-demand courses from Microsoft Virtual Academy.

⊖ Skills validation

Certifications

		Audience:	Level:	Recertification required:
Microsoft Technology Associate	Validates fundamental knowledge of technology concepts	IT Pro and Developer	Entry	No
Microsoft CERTIFIED Professional	Earned after passing first specialist, intermediate, or expert exam	IT Pro and Developer	N/A	No
Microsoft Specialist	Validates knowledge and skills in a specialized area of technology	IT Pro and Developer	N/A	No
Microsoft CERTIFIED Solutions Associate	Validates core technical skills required for technology infrastructure	IT Pro	Intermediate	No
Microsoft CERTIFIED Solutions Expert	Validates application of deep skills to design and implement solutions on-premises and in the cloud	IT Pro	Expert	Every 3 years
Microsoft CERTIFIED Solutions Developer	Validates application of deep skills to design and develop solutions across multiple devices	Developer	Expert	Every 2 years

Microsoft Certification Roadmap

Categories (left sidebar):
- ▶ Client
- ▶ Server
- ▶ Productivity
- ▶ Database
- ▶ Development
- ▶ Azure

Path	MTA	MCP				MCSA		

Client
- MTA IT Infrastructure — Exam 687 | MCP | Exam 688 | | MCSA Windows 8 | Exam 695 | Exam 696 → MCSE Enterprise Devices and Apps

Server
- MTA IT Infrastructure — Exam 410 | MCP | Exam 411 | Exam 412 E | MCSA Windows Server 2012
  - Exam 695 | Exam 696 → MCSE Enterprise Devices and Apps
  - Exam 415 | Exam 416 → MCSE Desktop Infrastructure
  - Exam 413 | Exam 414 → MCSE Server Infrastructure
  - Exam 246 | Exam 247 → MCSE Private Cloud

Productivity
- MTA IT Infrastructure — Exam 346 | MCP | Exam 347 | | MCSA Office 365
  - Exam 336 | Exam 337 → MCSE Communication
  - Exam 341 | Exam 342 → MCSE Messaging
  - Exam 331 | Exam 332 → MCSE SharePoint

Database
- MTA Database Fundamentals — Exam 461 | MCP | Exam 462 | Exam 463 E | MCSA SQL Server 2012
  - Exam 464 | Exam 465 → MCSE Data Platform
  - Exam 466 | Exam 467 → MCSE Business Intelligence

Development
- MTA Software Development
  - Exam 480 | MCP | Exam 481 | Exam 482 → MCSD Windows Store Apps Using HTML5
  - Exam 480 E | MCP | Exam 486 | Exam 487 → MCSD Web Applications
  - Exam 480 E | MCP | Exam 486 | Exam 488 | Exam 489 → MCSD SharePoint Applications
  - Exam 483 | MCP | Exam 484 | Exam 485 → MCSD Windows Store Apps Using C#
  - Exam 496 | MCP | Exam 497 | Exam 498 → MCSD Application Lifecycle Management

Azure
- Exam 532 | Exam 533 | Exam 534

Client

Microsoft Technology Associate
MTA: IT Infrastructure

LEVEL

1

Passing any one exam achieves MTA certification.
Pass two IT Infrastructure exams to validate the breadth of skills needed to pursue MCSA Client path.

COURSE 40349
EXAM 98-349

Windows Operating System Fundamentals

- Understanding Operating System Configurations
- Installing and Upgrading Client Systems
- Managing Applications
- Managing Files and Folders
- Managing Devices
- Understanding Operating System Maintenance

EXAM 98-368

Mobility and Device Fundamentals

- Understand Device Configurations
- Understand Data Access and Management
- Understand Device Security
- Understand Cloud Services
- Understand Enterprise Mobility

MTA

Microsoft Certified Solutions Associate
MCSA: Windows 8

Passing both exams is required to achieve MCSA certification.

MTA

COURSE 20687
EXAM 687

Configuring Windows 8.1

- Install and Upgrade to Windows 8.1
- Configure Hardware and Applications
- Configure Network Connectivity
- Configure Access to Resources
- Configure Remote Access and Mobility
- Monitor and Maintain Windows Clients
- Configure System and Data Recovery Options

COURSE 20688
EXAM 688

Supporting Windows 8.1

- Support Operating System and Application Installation
- Support Resource Access
- Maintain Windows Clients and Devices

MCSA
WINDOWS 8

Upgrade Paths from Windows 7
MCSA: Windows 8

Passing one exam is required to achieve MCSA certification.

LEVEL **U**

MCITP:

ENTERPRISE DESKTOP ADMINISTRATOR ON WINDOWS 7

ENTERPRISE DESKTOP SUPPORT TECHNICIAN ON WINDOWS 7

MCSA:

WINDOWS 7

COURSE 20689
EXAM 689

Upgrading Your Skills to MCSA Windows 8

- Install and Upgrade to Windows 8.1
- Configure Hardware and Applications
- Configure Remote Access and Mobility
- Configure System and Data Recovery Options

- Support Operating System and Application Installation
- Maintain Resource Access
- Support Windows Clients and Devices

MCSA
WINDOWS 8

Upgrade Paths from earlier versions of Windows
MCSA: Windows 8

Passing one exam is required to achieve MCSA certification.

MCDST:

WINDOWS XP

MCSA or MCSE:

WINDOWS 2000
WINDOWS SERVER 2003

COURSE 20689
EXAM 692

Upgrading Your Windows XP Skills to MCSA Windows 8

- Install and Upgrade to Windows 8.1
- Configure Hardware and Applications
- Configure Remote Access and Mobility
- Configure System and Data Recovery Options

- Support Operating System and Application Installation
- Maintain Resource Access
- Support Windows Clients and Devices

MCSA
WINDOWS 8

Microsoft Certified Solutions Expert
MCSE: Enterprise Devices and Apps

Passing both exams is required to achieve MCSE certification.

MCSA
WINDOWS 8

OR

MCSA
WINDOWS SERVER 2012

COURSE 20695
EXAM 695

Deploying Windows Devices and Enterprise Apps

- Implement the Operating System Deployment (OSD) Infrastructure
- Implement a Lite Touch Deployment
- Implement a Zero Touch Deployment
- Create and Maintain Desktop Images
- Prepare and Deploy the Application Environment

COURSE 20696
EXAM 696

Managing Enterprise Devices and Apps

- Deploy and Manage Virtual Applications
- Deploy and Manage Desktop and Mobile Applications
- Plan and Implement Software Updates
- Manage Compliance and Endpoint Protection Settings
- Manage Configuration Manager Clients
- Manage Inventory Using Configuration Manager
- Provision and Manage Mobile Devices

MCSE
ENTERPRISE DEVICES AND APPS

Server

Microsoft Technology Associate
MTA: IT Infrastructure

LEVEL

1

Passing any one exam achieves MTA certification.
Pass all three IT Infrastructure exams to validate the breadth of skills needed to pursue MCSA certification.

COURSE 40365
EXAM 98-365

Windows Server Administration Fundamentals

- Understanding Server Installation
- Understanding Server Roles
- Understanding Active Directory
- Understanding Storage
- Understanding Server Performance Management
- Understanding Server Maintenance

COURSE 40366
EXAM 98-366

Networking Fundamentals

- Understanding Network Infrastructures
- Understanding Network Hardware
- Understanding Protocols and Services

COURSE 40367
EXAM 98-367

Security Fundamentals

- Understanding Security Layers
- Understanding Operating System Security
- Understanding Network Security
- Understanding Security Software

MTA

Microsoft Certified Solutions Associate
MCSA: Windows Server 2012

Passing all three exams is required to achieve MCSA certification.

MTA

COURSE 20410
EXAM 410

Installing and Configuring
Windows Server 2012

- Install and Configure Servers
- Configure Server Roles
  and Features
- Configure Hyper-V
- Deploy and Configure
  Core Network Services
- Install and Administer
  Active Directory
- Create and Manage
  Group Policy

COURSE 20411
EXAM 411

Administering Windows
Server 2012

- Deploy, Manage, and
  Maintain Servers
- Configure File and
  Print Services
- Configure Network
  Services and Access
- Configure a Network Policy
  Server Infrastructure
- Configure and Manage
  Active Directory
- Configure and Manage
  Group Policy

COURSE 20412
EXAM 412*

Configuring Advanced
Windows Server 2012 Services

- Configure and Manage
  High Availability
- Configure File and
  Storage Solutions
- Implement Business Continuity
  and Disaster Recovery
- Configure Network Services
- Configure the Active
  Directory Structure
- Configure Access and Information
  Protection Solutions

  **See page 56 for available
  exam substitutions.*

MCSA
**WINDOWS
SERVER 2012**

Upgrade Paths to
MCSA: Windows Server 2012

Passing one exam is required to achieve MCSA certification.

MCITP:

VIRTUALIZATION ADMINISTRATOR ON WINDOWS SERVER 2008 R2

ENTERPRISE MESSAGING ADMINISTRATOR 2010

SHAREPOINT ADMINISTRATOR 2010

ENTERPRISE DESKTOP ADMINISTRATOR

LYNC SERVER ADMINISTRATOR 2010

MCSA:

WINDOWS SERVER 2008

→

COURSE 20417
EXAM 417

Upgrading Your Skills to MCSA Windows Server 2012

- Deploy and Configure Core Network Services
- Create and Manage Group Policy
- Configure File and Print Services
- Install and Configure Servers
- Configure Server Roles and Features
- Configure Hyper-V
- Install and Administer Active Directory
- Deploy, Manage, and Maintain Servers
- Configure Network Services and Access

- Configure a Network Policy Server Infrastructure
- Configure and Manage Active Directory
- Configure and Manage Group Policy
- Configure and Manage High Availability
- Configure File and Storage Solutions
- Implement Business Continuity and Disaster Recovery
- Configure Network Services

MCSA
WINDOWS SERVER 2012

Microsoft Certified Solutions Expert
MCSE: Desktop Infrastructure

Passing both exams is required to achieve MCSE certification.

MCSA
WINDOWS
SERVER 2012

COURSE 20415
EXAM 415

Implementing a Desktop Infrastructure

- Create and Maintain Desktop Images
- Design and Deploy Desktops
- Plan and Implement a Remote Desktop Services Infrastructure
- Design and Configure Desktop Settings
- Manage and Maintain a Desktop Infrastructure

COURSE 20416
EXAM 416

Implementing Desktop Application Environments

- Design and Prepare the Application Environment
- Design and Implement a Presentation Virtualization Environment
- Design and Implement an Application Virtualization Environment
- Deploy, Manage, and Maintain the Application Environment
- Design Business Continuity for the Desktop and Application Environment

MCSE
DESKTOP
INFRASTRUCTURE

Microsoft Certified Solutions Expert
MCSE: Server Infrastructure

Passing both exams is required to achieve MCSE certification.

MCSA
WINDOWS
SERVER 2012

COURSE 20413
EXAM 413

Designing and Implementing a Server Infrastructure

- Plan and Deploy a Server Infrastructure
- Design and Implement Network Infrastructure Services
- Design and Implement Network Access Services
- Design and Implement an Active Directory Infrastructure (Logical)
- Design and Implement an Active Directory Infrastructure (Physical)

COURSE 20414
EXAM 414

Implementing an Advanced Server Infrastructure

- Manage and Maintain a Server Infrastructure
- Plan and Implement a Highly Available Enterprise Infrastructure
- Plan and Implement a Server Virtualization Infrastructure
- Design and Implement Identity and Access Solutions

MCSE
SERVER
INFRASTRUCTURE

Microsoft Certified Solutions Expert
MCSE: Private Cloud

Passing both exams is required to achieve MCSE certification.

MCSA
WINDOWS
SERVER 2012

COURSE 20246
EXAM 246

Monitoring and Operating a Private Cloud Using System Center 2012

- Configure Data Center Process Automation
- Deploy Resource Monitoring
- Monitor Resources
- Configure and Maintain Service Management
- Manage Configuration and Protection

COURSE 20247
EXAM 247

Configuring and Deploying a Private Cloud Using System Center 2012

- Design and Deploy System Center
- Configure System Center Infrastructure
- Configure the Fabric
- Configure System Center Integration
- Configure and Deploy Virtual Machines and Services

MCSE
PRIVATE
CLOUD

Productivity

Microsoft Technology Associate
MTA: IT Infrastructure

Passing any one exam achieves MTA certification.
Pass all four IT Infrastructure exams to validate the breadth of skills needed to pursue MCSA certification.

COURSE 40365
EXAM 98-365

Windows Server Administration Fundamentals

- Understanding Server Installation
- Understanding Server Roles
- Understanding Active Directory
- Understanding Storage
- Understanding Server Performance Management
- Understanding Server Maintenance

COURSE 40366
EXAM 98-366

Networking Fundamentals

- Understanding Network Infrastructures
- Understanding Network Hardware
- Understanding Protocols and Services

COURSE 40367
EXAM 98-367

Security Fundamentals

- Understanding Security Layers
- Understanding Operating System Security
- Understanding Network Security
- Understanding Security Software

EXAM 98-369

Cloud Fundamentals

- Understand the Cloud
- Enable Microsoft Cloud Services
- Administer Office 365 and Microsoft Intune
- Use and Configure Microsoft Cloud Services
- Support Cloud Users

MTA

Microsoft Certified Solutions Associate
MCSA: Office 365

Passing two exams achieves an MCSA certification.

MTA

COURSE 20346
EXAM 346

Managing Office 365 Identities and Requirements

- Provision Office 365
- Plan and Implement Networking and Security in Office 365
- Manage Cloud Identities
- Implement and Manage Identities by Using DirSync
- Implement and Manage Federated Identities [Single Sign-On (SSO)]
- Monitor and Troubleshoot Office 365 Availability and Usage

COURSE 20346
EXAM 347

Enabling Office 365 Services

- Manage Clients and End-User Devices
- Provision SharePoint Online Site Collections
- Configure Exchange Online and Lync Online for End Users
- Plan for Exchange Online and Lync Online

MCSA
OFFICE 365

Microsoft Certified Solutions Expert
MCSE: Communication

Passing both exams is required to achieve MCSE certification.

MCSA
OFFICE 365

OR

MCSA
WINDOWS
SERVER 2012

COURSE 20336
EXAM 336

**Core Solutions of Microsoft
Lync Server 2013**

- Plan and Design a Lync Topology
- Plan and Design Lync Features
- Deploy and Configure Lync
- Manage Operations and Data
  Resiliency for Lync

COURSE 20337
EXAM 337

**Enterprise Voice and Online Services
with Microsoft Lync Server 2013**

- Design Enterprise Voice
- Design and Configure Network Services
- Configure Enterprise Voice
- Plan and Configure a Lync Online
  Hybrid Solution

MCSE
COMMUNICATION

Microsoft Certified Solutions Expert
MCSE: Messaging

Passing both exams is required to achieve MCSE certification.

MCSA
OFFICE 365

OR

MCSA
WINDOWS SERVER 2012

COURSE 20341
EXAM 341

Core Solutions of Microsoft Exchange Server 2013

- Plan, Install, Configure, and Manage Transport
- Install, Configure, and Manage the Mailbox Role
- Plan, Install, Configure, and Manage Client Access
- Design and Manage an Exchange Infrastructure

COURSE 20342
EXAM 342

Advanced Solutions of Microsoft Exchange Server 2013

- Configure, Manage, and Migrate Unified Messaging
- Design, Configure, and Manage Site Resiliency
- Troubleshooting
- Configure and Manage Compliance, Archiving, and Discovery Solutions
- Implement and Manage Coexistence, Hybrid Scenarios, Migration, and Federation

MCSE
MESSAGING

Microsoft Certified Solutions Expert
MCSE: SharePoint

Passing both exams is required to achieve MCSE certification.

MCSA
OFFICE 365

OR

MCSA
WINDOWS
SERVER 2012

COURSE 20331
EXAM 331

Core Solutions of Microsoft SharePoint Server 2013

- Design a SharePoint Topology
- Plan Security
- Install and Configure SharePoint Farms
- Create and Configure Web Applications and Site Collections
- Maintain a Core SharePoint Environment

COURSE 20332
EXAM 332

Advanced Solutions of Microsoft SharePoint Server 2013

- Plan Business Continuity Management
- Plan a SharePoint Environment
- Upgrade and Migrate a SharePoint Environment
- Create and Configure Service Applications
- Manage SharePoint Solutions, BI, and Systems Integration

MCSE
SHAREPOINT

Database

Microsoft Technology Associate
MTA: Database Fundamentals

Passing any one exam achieves MTA certification.
Pass a set of four IT Infrastructure exams to validate breadth of skills needed for a DBA career.

COURSE 40364
EXAM 98-364

Database Fundamentals

- Understanding Security Layers
- Understanding Operating System Security
- Understanding Network Security
- Understanding Security Software

IT INFRASTRUCTURE
COURSES AND EXAMS

- Windows Operating System Fundamentals
- Windows Server Administration Fundamentals
- Networking Fundamentals
- Security Fundamentals

MTA

Microsoft Certified Solutions Associate
MCSA: SQL Server 2012

Passing all three exams is required to achieve MCSA certification.

MTA

COURSE 20461
EXAM 461

Querying Microsoft
SQL Server

- Create Database Objects
- Work with Data
- Modify Data
- Troubleshoot and Optimize

COURSE 20462
EXAM 462

Administering Microsoft
SQL Server Databases

- Install and Configure
- Maintain Instances and
  Databases
- Optimize and Troubleshoot
- Manage Data
- Implement Security
- Implement High Availability

COURSE 20463
EXAM 463*

Implementing a Data
Warehouse with Microsoft
SQL Server

- Design and Implement a
  Data Warehouse
- Extract and Transform Data
  Load Data
- Configure and Deploy
  SSIS Solutions
- Build Data Quality Solutions

**See page 56 for available
exam substitutions.*

MCSA
SQL SERVER
2012

Upgrade Paths to
MCSA: SQL Server 2012

Passing two exams is required to achieve MCSA certification.

MCTS:

SQL SERVER 2008, IMPLEMENTATION AND MAINTENANCE

SQL SERVER 2008, BUSINESS INTELLIGENCE DEVELOPMENT AND MAINTENANCE

SQL SERVER 2008, DATABASE DEVELOPMENT

MCSA:

SQL SERVER 2008

EXAM 457

Transition Your MCTS on SQL Server 2008 to MCSA: SQL Server 2012, Part 1

- Create Database Objects
- Work with Data
- Modify Data
- Troubleshoot and Optimize Queries
- Install and Configure SQL Server
- Maintain Instances and Databases
- Optimize and Troubleshoot SQL Server

EXAM 458

Transition Your MCTS on SQL Server 2008 to MCSA: SQL Server 2012, Part 2

- Manage Data
- Implement Security
- Implement High Availability
- Design and Implement a Data Warehouse
- Extract and Transform Data
- Load Data
- Configure and Deploy SSIS Solutions
- Build Data Quality Solutions

MCSA

SQL SERVER 2012

Microsoft Certified Solutions Expert
MCSE: Data Platform

Passing both exams is required to achieve MCSE certification.

MCSA
SQL SERVER 2012

COURSE 20464
EXAM 464

Developing Microsoft SQL Server Databases

- Implement Database Objects
- Implement Programming Objects
- Design Database Objects
- Optimize and Troubleshoot Queries

COURSE 20465
EXAM 465

Designing Database Solutions for Microsoft SQL Server

- Design Database Structure
- Design Databases and Database Objects
- Design Database Security
- Design a Troubleshooting and Optimization Solution

MCSE
DATA PLATFORM

Microsoft Certified Solutions Expert
MCSE: Business Intelligence

Passing both exams is required to achieve MCSE certification.

MCSA
SQL SERVER 2012

COURSE 20466
EXAM 466

Implementing Data Models and Reports with Microsoft SQL Server

- Build an Analysis Services Database
- Manage, Maintain, and Troubleshoot an SSAS Database
- Build a Tabular Data Model
- Build a Report with SQL Server Reporting Services (SSRS)

COURSE 20467
EXAM 467

Designing Business Intelligence Solutions with Microsoft SQL Server

- Plan Business Intelligence (BI) Infrastructure
- Design BI Infrastructure
- Design a Reporting Solution
- Design BI Data Models
- Design an ETL Solution

MCSE
BUSINESS INTELLIGENCE

Development

Microsoft Technology Associate
MTA: Software Development

Passing any one exam achieves MTA certification.
Pass additional exams to validate breadth of skills needed for given MCSD path.

COURSE 40361
EXAM 98-361

Software Development Fundamentals

- Understanding Core Programming
- Understanding Object-Oriented Programming
- Understanding General Software Development
- Understanding Web Applications
- Understanding Desktop Applications
- Understanding Databases

COURSE 40363
EXAM 98-363

Web Development Fundamentals

- Programming Web Applications
- Working with Data and Services
- Troubleshooting and Debugging Web Applications
- Working with Client-Side Scripting
- Configuring and Deploying Web Applications

COURSE 40375
EXAM 98-375

HTML5 Application Development Fundamentals

- Manage the Application Life Cycle
- Build the User Interface by Using HTML5
- Format the User Interface by Using CSS
- Code by Using JavaScript

COURSE MVA
EXAM 98-379

Software Testing Fundamentals

- Describe Testing Fundamentals
- Describe Testing Methodology
- Create Software Tests
- Manage Software Testing Projects
- Work with Bugs
- Automate Software Testing

MTA

Microsoft Certified Solutions Developer
MCSD: Windows Store Apps Using HTML5 (AppToCert)

MCSD certification is earned by passing App Review, publishing to Windows Store, and passing a single exam.

MTA

App Review (HTML5)

- Design the UI Layout and Structure
- Design and Implement Process Lifecycle Management
- Plan for the Application Deployment
- Implement Search
- Implement Share
- Manage Application Settings and Preferences
- Implement WinJS Controls
- Create Layout-Aware Apps to Handle Windowing Modes
- Design and Implement the App/Nav Bar
- Manage Input Devices
- Design and Implement Navigation in an App
- Create and Manage Tiles
- Retrieve Data Remotely

COURSE 20482
EXAM 482

Advanced Windows Store App Development using HTML5 and JavaScript

- Develop Windows Store Apps
- Discover and Interact with Devices
- Program User Interaction
- Enhance the User Interface
- Manage Data and Security
- Prepare for a Solution Deployment

MCSD
WINDOWS STORE APPS USING HTML5

Microsoft Certified Solutions Developer
MCSD: Windows Store Apps Using HTML5 (Exam Only)

Passing all three exams is required to achieve MCSD certification.

MTA

COURSE 20480
EXAM 480

Programming in HTML5 with JavaScript and CSS3

- Implement and Manipulate Document Structure and Objects
- Implement Program Flow
- Access and Secure Data
- Use CSS3 in Applications

COURSE 20481
EXAM 481

Essentials of Developing Windows Store Apps using HTML5 and JavaScript

- Design Windows Store Apps
- Develop Windows Store Apps
- Create the User Interface
- Program User Interaction
- Manage Security and Data

COURSE 20482
EXAM 482

Advanced Windows Store App Development using HTML5 and JavaScript

- Develop Windows Store Apps
- Discover and Interact with Devices
- Program User Interaction
- Enhance the User Interface
- Manage Data and Security
- Prepare for a Solution Deployment

MCSD
WINDOWS STORE APPS USING HTML5

Upgrade Paths to
MCSD: Web Applications

Passing two exams is required to achieve MCSD certification.

MCPD:

WEB DEVELOPER 4

COURSE 20480
EXAM 480

Programming in HTML5 with JavaScript and CSS3

- Implement and Manipulate Document Structure and Objects
- Implement Program Flow
- Access and Secure Data
- Use CSS3 in Applications

COURSE 20486, 20487
EXAM 492

Upgrade your MCPD: Web Developer 4 to MCSD: Web Applications

- Design the Application Architecture
- Design the User Experience (UX)
- Develop the User Experience
- Troubleshoot and Debug Web Applications
- Design and Implement Security
- Access Data
- Design and Implement WCF Services
- Deploy Web Applications and Services

MCSD

WEB APPLICATIONS

Microsoft Certified Solutions Developer
MCSD: Web Applications

Passing all three exams is required to achieve MCSD certification.

MTA

COURSE 20480
EXAM 480*

Programming in HTML5 with JavaScript and CSS3

- Implement and Manipulate Document Structure and Objects
- Implement Program Flow
- Access and Secure Data
- Use CSS3 in Applications

  See page 56 for available exam substitutions.

COURSE 20486
EXAM 486

Developing ASP.NET MVC Web Applications

- Design the Application Architecture
- Design the User Experience
- Develop the User Experience
- Troubleshoot and Debug Web Applications
- Design and Implement Security

COURSE 20487
EXAM 487

Developing Windows Azure and Web Services

- Accessing Data
- Querying and Manipulating Data by Using the Entity Framework
- Designing and Implementing WCF Services
- Creating and Consuming Web API-based Services
- Deploying Web Applications and Services

MCSD
WEB APPLICATIONS

Microsoft Certified Solutions Developer
MCSD: SharePoint Applications

LEVEL**3**

Passing all four exams is required to achieve MCSD certification.

→ → → →

COURSE 20480
EXAM 480*

Programming in HTML5 with JavaScript and CSS3

- Implement and Manipulate Document Structure and Objects
- Implement Program Flow
- Access and Secure Data
- Use CSS3 in Applications

*See page 56 for available exam substitutions.

COURSE 20486
EXAM 486

Developing ASP.NET MVC Web Applications

- Design the Application Architecture
- Design the User Experience
- Develop the User Experience
- Troubleshoot and Debug Web Applications
- Design and Implement Security

COURSE 20488
EXAM 488

Developing Microsoft SharePoint Server 2013 Core Solutions

- Plan and Design SharePoint Sites
- Implement Authorization and Authentication
- Access and Manage Data
- Implement SharePoint Solutions
- Implement the User Experience and Information Architecture
- Create Business Processes
- Create Office Applications

COURSE 20489
EXAM 489

Developing Microsoft SharePoint Server 2013 Advanced Solutions

- Design and Implement Search
- Implement Business Connectivity Services
- Implement User Profiles and Customize Social Workload
- Implement Enterprise Content Management and Web Content Management
- Design for Performance and Troubleshooting
- Implement Managed Metadata Service

MCSD
SHAREPOINT APPLICATIONS

Microsoft Certified Solutions Developer
MCSD: Windows Store Apps Using C# (AppToCert)

MCSD certification is earned by passing App Review, publishing to Windows Store, and passing a single exam.

MTA

App Review (C#)

- Design the UI Layout and Structure
- Design and Implement Process Lifecycle Management
- Plan for the Application Deployment
- Implement Search
- Implement Share
- Manage Application Settings and Preferences
- Create Layout-Aware Apps to Handle Windowing Modes
- Design and Implement the App/Nav Bar
- Design and Implement Data Presentation
- Create and Manage Tiles
- Manage Input Devices
- Design and Implement Navigation in an App
- Retrieve Data Remotely

COURSE 20485
EXAM 485

Advanced Windows Store App Development using C#

- Develop Windows Store Apps
- Discover and Interacting with Devices
- Program User Interaction
- Enhance the User Interface
- Manage Data and Security
- Prepare for a Solution Deployment

MCSD
WINDOWS STORE APPS USING C#

Microsoft Certified Solutions Developer
MCSD: Windows Store Apps Using C# (Exam Only)

Passing all three exams is required to achieve MCSD certification.

MTA

COURSE 20483
EXAM 483

Programming in C#

- Manage Program Flow
- Create and Use Types
- Debug Applications and Implement Security
- Implement Data Access

COURSE 20484
EXAM 484

Essentials of Developing Windows Store Apps using C#

- Design Windows Store Apps
- Develop Windows Store Apps
- Create the User Interface
- Program User Interaction
- Manage Security and Data

COURSE 20485
EXAM 485

Advanced Windows Store App Development using C#

- Develop Windows Store Apps
- Discover and Interacting with Devices
- Program User Interaction
- Enhance the User Interface
- Manage Data and Security
- Prepare for a Solution Deployment

MCSD
WINDOWS STORE APPS USING C#

Microsoft Certified Solutions Developer
MCSD: Application Lifecycle Management

Passing all three exams is required to achieve MCSD certification.

MTA

COURSE 20496
EXAM 496

Administering Microsoft Visual Studio Team Foundation Server 2012

- Install and Configure Team Foundation Server
- Manage Team Foundation Server
- Customize Team Foundation Server for Team Use
- Administer Version Control

EXAM 497

Software Testing with Visual Studio 2012

- Create and Configure Test Plans
- Manage Test Cases
- Manage Test Execution

EXAM 498

Delivering Continuous Value with Visual Studio 2012 Application Lifecycle Mgmt

- Define an Effective End-to-End Software Development Lifecycle
- Define the ALM Process
- Define a Software Iteration
- Define End Value for the Software Iteration
- Develop Customer Value with High Quality
- Integrate Development and Operations

MCSD
APPLICATION LIFECYCLE MANAGEMENT

Microsoft Specialist
Microsoft Specialist: Azure

Passing any one exam is required to achieve Microsoft Specialist certification.

COURSE 20532
EXAM 532

Developing Microsoft Azure Solutions

- Design and Implement Websites
- Create and Manage Virtual Machines
- Design and Implement Cloud Services
- Design and Implement a Storage Strategy
- Manage Application and Network Services

COURSE 20533
EXAM 533

Implementing Microsoft Azure Infrastructure Solutions

- Implement Websites
- Implement Virtual Machines
- Implement Cloud Services
- Implement Storage
- Implement an Azure Active Directory
- Implement Virtual Networks

EXAM 534

Configuring Advanced Windows Server 2012 Services

- Design Microsoft Azure Infrastructure and Networking
- Secure Resources
- Design an Application Storage and Data Access Strategy
- Design an Advanced Application
- Design Websites
- Design a Management, Monitoring, and Business Continuity Strategy

Upgrade

Upgrade Paths from Windows 7
MCSA: Windows 8

Passing one exam is required to achieve MCSA certification.

MCITP:

ENTERPRISE DESKTOP ADMINISTRATOR ON WINDOWS 7

ENTERPRISE DESKTOP SUPPORT TECHNICIAN ON WINDOWS 7

MCSA:

WINDOWS 7

COURSE 20689
EXAM 689

Upgrading Your Skills to MCSA Windows 8

- Install and Upgrade to Windows 8.1
- Configure Hardware and Applications
- Configure Remote Access and Mobility
- Configure System and Data Recovery Options
- Support Operating System and Application Installation
- Maintain Resource Access
- Support Windows Clients and Devices

MCSA
WINDOWS 8

Upgrade Paths from earlier versions of Windows
MCSA: Windows 8

Passing one exam is required to achieve MCSA certification.

MCDST:

WINDOWS XP

MCSA or MCSE:

WINDOWS 2000
WINDOWS SERVER 2003

COURSE 20689
EXAM 692

Upgrading Your Windows XP Skills to MCSA Windows 8

- Install and Upgrade to Windows 8.1
- Configure Hardware and Applications
- Configure Remote Access and Mobility
- Configure System and Data Recovery Options

- Support Operating System and Application Installation
- Maintain Resource Access
- Support Windows Clients and Devices

MCSA
WINDOWS 8

Upgrade Paths to
MCSA: Windows Server 2012

Passing one exam is required to achieve MCSA certification.

✳ →

MCITP:

VIRTUALIZATION ADMINISTRATOR ON WINDOWS SERVER 2008 R2

ENTERPRISE MESSAGING ADMINISTRATOR 2010

SHAREPOINT ADMINISTRATOR 2010

ENTERPRISE DESKTOP ADMINISTRATOR

LYNC SERVER ADMINISTRATOR 2010

MCSA:

WINDOWS SERVER 2008

COURSE 20417
EXAM 417

Upgrading Your Skills to MCSA Windows Server 2012

- Deploy and Configure Core Network Services
- Create and Manage Group Policy
- Configure File and Print Services
- Install and Configure Servers
- Configure Server Roles and Features
- Configure Hyper-V
- Install and Administer Active Directory
- Deploy, Manage, and Maintain Servers
- Configure Network Services and Access

- Configure a Network Policy Server Infrastructure
- Configure and Manage Active Directory
- Configure and Manage Group Policy
- Configure and Manage High Availability
- Configure File and Storage Solutions
- Implement Business Continuity and Disaster Recovery
- Configure Network Services

MCSA
WINDOWS SERVER 2012

Upgrade Paths to
MCSA: SQL Server 2012

Passing two exams is required to achieve MCSA certification.

MCTS:

SQL SERVER 2008, IMPLEMENTATION AND MAINTENANCE

SQL SERVER 2008, BUSINESS INTELLIGENCE DEVELOPMENT AND MAINTENANCE

SQL SERVER 2008, DATABASE DEVELOPMENT

MCSA:

SQL SERVER 2008

EXAM 457

Transition Your MCTS on SQL Server 2008 to MCSA: SQL Server 2012, Part 1

- Create Database Objects
- Work with Data
- Modify Data
- Troubleshoot and Optimize Queries
- Install and Configure SQL Server
- Maintain Instances and Databases
- Optimize and Troubleshoot SQL Server

EXAM 458

Transition your MCTS on SQL Server 2008 to MCSA: SQL Server 2012, Part 2

- Manage Data
- Implement Security
- Implement High Availability
- Design and Implement a Data Warehouse
- Extract and Transform Data
- Load Data
- Configure and Deploy SSIS Solutions
- Build Data Quality Solutions

MCSA
SQL SERVER 2012

Upgrade Paths to
MCSD: Web Applications

Passing two exams is required to achieve MCSD certification.

MCPD:

WEB DEVELOPER 4

→

COURSE 20480
EXAM 480

Programming in HTML5 with JavaScript and CSS3

- Implement and Manipulate Document Structure and Objects
- Implement Program Flow
- Access and Secure Data
- Use CSS3 in Applications

→

COURSE 20486, 20487
EXAM 492

Upgrade your MCPD: Web Developer 4 to MCSD: Web Applications

- Design the Application Architecture
- Design the User Experience (UX)
- Developer the User Experience
- Troubleshoot and Debug Web Applications
- Design and Implement Security
- Access Data
- Design and Implement WCF Services
- Deploy Web Applications and Services

MCSD

WEB APPLICATIONS

Guidance

BY JOB ROLE

BY JOB ROLE	ENTRY LEVEL	ASSOCIATE LEVEL	EXPERT LEVEL	PATH	PAGE
BI and Reporting Engineer	MTA: Database Fundamentals	MCSA: SQL Server 2012	MCSE: Business Intelligence	Database	30
Business Analyst	MTA: Database Fundamentals	MCSA: SQL Server 2012	MCSE: Business Intelligence	Database	30
Cloud Developer	MTA: Software Development	*Progress towards Expert Level*	MCSD: Web Applications	Development	35–36
Cloud Engineer/Administrator	MTA: IT Infrastructure	MCSA: Windows Server 2012	MCSE: Private Cloud	Server	18
Computer Programmer	MTA: Software Development	*Progress towards Expert Level*	MCSD: Windows Store Apps Using C#	Development	38–39
Computer System Analyst	MTA: IT Infrastructure	MCSA: Windows Server 2012	MCSE: Server Infrastructure	Server	17
Computer User Support Specialist	MTA: IT Infrastructure	MCSA: Windows 8	MCSE: Enterprise Devices and Apps	Client	11
Data Center Manager	MTA: IT Infrastructure	MCSA: Windows Server 2012	MCSE: Server Infrastructure	Server	17
Database Administrator/Designer	MTA: Database Fundamentals	MCSA: SQL Server 2012	MCSE: Data Platform	Database	29
Desktop Management Technician/Admin	MTA: IT Infrastructure	MCSA: Windows 8	MCSE: Enterprise Devices and Apps	Client	11
Exchange Server Administrator	MTA: IT Infrastructure	MCSA: Office 365	MCSE: Messaging	Productivity	23

BY JOB ROLE

BY JOB ROLE	ENTRY LEVEL	ASSOCIATE LEVEL	EXPERT LEVEL	PATH	PAGE
Field Service Technician	MTA: IT Infrastructure	MCSA: Windows Server 2012	MCSE: Server Infrastructure	Server	17
Help Desk Analyst	MTA: IT Infrastructure	MCSA: Windows 8	MCSE: Enterprise Devices and Apps	Client	11
Information Assurance Technician	MTA: IT Infrastructure	MCSA: Windows Server 2012	MCSE: Server Infrastructure	Server	17
Information System Manager	MTA: IT Infrastructure	MCSA: Windows Server 2012	MCSE: Server Infrastructure	Server	17
IT Support Admin/Specialist/Technician	MTA: IT Infrastructure	MCSA: Windows Server 2012	MCSE: Server Infrastructure	Server	17
Mobile Application Developer	MTA: Software Development	*Progress towards Expert Level*	MCSD: Windows Store Apps Using C#	Development	38–39
Network Administrator/Engineer/Technician/Support Specialist	MTA: IT Infrastructure	MCSA: Windows Server 2012	MCSE: Server Infrastructure	Server	17
Project Manager (IT Pro)	MTA: IT Infrastructure	MCSA: Windows Server 2012	MCSE: Server Infrastructure	Server	17
Project Manager (S/W Dev)	MTA: Software Development	*Progress towards Expert Level*	MCSD: Application Lifecycle Management	Development	40
Security Administrator/Analyst/Architect/Engineer/Consultant	MTA: IT Infrastructure	MCSA: Windows Server 2012	MCSE: Server Infrastructure	Server	17
Server Administrator	MTA: IT Infrastructure	MCSA: Windows Server 2012	MCSE: Server Infrastructure	Server	17

BY JOB ROLE

BY JOB ROLE	ENTRY LEVEL	ASSOCIATE LEVEL	EXPERT LEVEL	PATH	PAGE
SharePoint Administrator	MTA: IT Infrastructure	MCSA: Office 365	MCSE: SharePoint	Productivity	24
SharePoint Developer	MTA: Software Development	*Progress towards Expert Level*	MCSD: SharePoint Applications	Development	37
Software Architect	MTA: Software Development	*Progress towards Expert Level*	MCSD: Windows Store Apps Using C#	Development	38–39
Software Build Engineer	MTA: Software Development	*Progress towards Expert Level*	MCSD: Application Lifecycle Management	Development	40
Software Developer	MTA: Software Development	*Progress towards Expert Level*	MCSD: Windows Store Apps Using C#	Development	38–39
Software Quality Assurance Engineer	MTA: Software Development	*Progress towards Expert Level*	MCSD: Application Lifecycle Management	Development	40
Solutions Engineer	MTA: Software Development	*Progress towards Expert Level*	MCSD: Windows Store Apps Using C#	Development	38–39
Solutions Engineer	MTA: Software Development	*Progress towards Expert Level*	MCSD: Application Lifecycle Management	Development	40
Systems Admin/Engineer/Analyst	MTA: IT Infrastructure	MCSA: Windows Server 2012	MCSE: Server Infrastructure	Server	17
Technical Support Specialist	MTA: IT Infrastructure	MCSA: Windows Server 2012	MCSE: Server Infrastructure	Server	17
Telecommunications Consultant	MTA: IT Infrastructure	MCSA: Office 365	MCSE: Communication	Productivity	22

BY JOB ROLE

BY JOB ROLE	ENTRY LEVEL	ASSOCIATE LEVEL	EXPERT LEVEL	PATH	PAGE
Test Engineer	MTA: Software Development	*Progress towards Expert Level*	MCSD: Application Lifecycle Management	Development	40
Video Game Designer	MTA: Software Development	*Progress towards Expert Level*	MCSD: Windows Store Apps Using C#	Development	38–39
Virtualization Engineer/Administrator	MTA: IT Infrastructure	MCSA: Windows Server 2012	MCSE: Private Cloud	Server	18
Web Administrator	MTA: Software Development	*Progress towards Expert Level*	MCSD: Web Applications	Development	36
Web Developer	MTA: Software Development	*Progress towards Expert Level*	MCSD: Web Applications	Development	36

Exam substitutions:

You can substitute any of the following exams for Exam 412: 1) Exam 346: Managing Office 365 Identities and Requirements, 2) Exam 409: Server Virtualization with Windows Server Hyper-V and System Center, or 3) Exam 462: Administering Microsoft SQL Server 2012 Databases.

You can substitute any of the following exams for Exam 463: 1) Exam 411: Administering Windows Server 2012, 2) Exam 412: Configuring Advanced Windows Server 2012 Services, 3) Exam 417: Upgrading your Skills to MCSA Windows Server 2012, or 4) Exam 483: Programming in C#.

You can substitute Exam 483: Programming in C# for Exam 480.