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 desktopsalesstool@microsoft.com.*
<table>
<thead>
<tr>
<th>Experiential validation</th>
<th>Certification</th>
<th>Continuous learning</th>
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</thead>
<tbody>
<tr>
<td>Get recognized for your real-world experience.</td>
<td>Robust validation of your knowledge through exams. Regardless of your career stage, there’s a certification that fits.</td>
<td>Keep your skills current with: Instructor-led training from Microsoft Learning Partners. Online, on-demand courses from Microsoft Virtual Academy.</td>
</tr>
</tbody>
</table>
| Earn certification credit for reviewed software apps in the AppToCert Program. | | }

Skills validation
## Certifications

<table>
<thead>
<tr>
<th>Certification Type</th>
<th>Audience</th>
<th>Level</th>
<th>Recertification required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Technology Associate</td>
<td>IT Pro and Developer</td>
<td>Entry</td>
<td>No</td>
</tr>
<tr>
<td>Microsoft Certified Professional</td>
<td>IT Pro and Developer</td>
<td>N/A</td>
<td>No</td>
</tr>
<tr>
<td>Microsoft Certified Specialist</td>
<td>IT Pro and Developer</td>
<td>N/A</td>
<td>No</td>
</tr>
<tr>
<td>Microsoft Certified Solutions Associate</td>
<td>IT Pro</td>
<td>Intermediate</td>
<td>No</td>
</tr>
<tr>
<td>Microsoft Certified Solutions Expert</td>
<td>IT Pro</td>
<td>Expert</td>
<td>Every 3 years</td>
</tr>
<tr>
<td>Microsoft Certified Solutions Developer</td>
<td>Developer</td>
<td>Expert</td>
<td>Every 2 years</td>
</tr>
</tbody>
</table>

- Validates fundamental knowledge of technology concepts
- Earned after passing first specialist, intermediate, or expert exam
- Validates knowledge and skills in a specialized area of technology
- Validates core technical skills required for technology infrastructure
- Validates application of deep skills to design and implement solutions on-premises and in the cloud
- Validates application of deep skills to design and develop solutions across multiple devices
Client
Microsoft Technology Associate

MTA: IT Infrastructure

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
Microsoft Certified Solutions Associate
MCSA: Windows 8

Passing both exams is required to achieve MCSA certification.

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
Upgrade Paths from Windows 7

MCSA: Windows 8

Passing one exam is required to achieve MCSA certification.

MCSA:

WINDOWS 7

MCITP:

ENTERPRISE DESKTOP ADMINISTRATOR ON WINDOWS 7
ENTERPRISE DESKTOP SUPPORT TECHNICIAN ON 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
Upgrade Paths from earlier versions of Windows

MCSA: Windows 8

Passing one exam is required to achieve MCSA certification.

COURSE 20689
EXAM 692

MCSA or MCSE:

- 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

MCDST:

WINDB0WS XP

WINDB0WS 2000
WINDB0WS SERVER 2003
Microsoft Certified Solutions Expert

MCSE: Enterprise Devices and Apps

Passing both exams is required to achieve MCSE certification.

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
Server
Microsoft Technology Associate

MTA: IT Infrastructure

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
Microsoft Certified Solutions Associate
MCSA: Windows Server 2012

Passing all three exams is required to achieve MCSA certification.

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.
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
Microsoft Certified Solutions Expert
MCSE: Desktop Infrastructure

Passing both exams is required to achieve MCSE certification.

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
Microsoft Certified Solutions Expert
MCSE: Server Infrastructure

Passing both exams is required to achieve MCSE certification.

<table>
<thead>
<tr>
<th>COURSE 20413</th>
<th>EXAM 413</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designing and Implementing a Server Infrastructure</td>
<td></td>
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<tr>
<td>• Plan and Deploy a Server Infrastructure</td>
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<tr>
<td>• Design and Implement Network Infrastructure Services</td>
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<tr>
<td>• Design and Implement Network Access Services</td>
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<tr>
<td>• Design and Implement an Active Directory Infrastructure (Logical)</td>
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<tr>
<td>• Design and Implement an Active Directory Infrastructure (Physical)</td>
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<thead>
<tr>
<th>COURSE 20414</th>
<th>EXAM 414</th>
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</thead>
<tbody>
<tr>
<td>Implementing an Advanced Server Infrastructure</td>
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<tr>
<td>• Manage and Maintain a Server Infrastructure</td>
<td></td>
</tr>
<tr>
<td>• Plan and Implement a Highly Available Enterprise Infrastructure</td>
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<tr>
<td>• Plan and Implement a Server Virtualization Infrastructure</td>
<td></td>
</tr>
<tr>
<td>• Design and Implement Identity and Access Solutions</td>
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</tr>
</tbody>
</table>
Microsoft Certified Solutions Expert
MCSE: Private Cloud

Passing both exams is required to achieve MCSE certification.

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
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
Microsoft Certified Solutions Associate
MCSA: Office 365

Passing two exams achieves an MCSA certification.

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
Microsoft Certified Solutions Expert

MCSE: Communication

Passing both exams is required to achieve MCSE certification.

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

OR

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
Microsoft Certified Solutions Expert
MCSE: Messaging

Passing both exams is required to achieve MCSE certification.

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
Microsoft Certified Solutions Expert
MCSE: SharePoint

Passing both exams is required to achieve MCSE certification.

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
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
Microsoft Certified Solutions Associate

MCSA: SQL Server 2012

Passing all three exams is required to achieve MCSA certification.

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.
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
Microsoft Certified Solutions Expert
MCSE: Data Platform

Passing both exams is required to achieve MCSE certification.

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
Microsoft Certified Solutions Expert
MCSE: Business Intelligence

Passing both exams is required to achieve MCSE certification.

**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
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.

<table>
<thead>
<tr>
<th>COURSE 40361</th>
<th>EXAM 98-361</th>
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</thead>
<tbody>
<tr>
<td>Software Development Fundamentals</td>
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<tr>
<td>• Understanding Core Programming</td>
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<tr>
<td>• Understanding Object-Oriented Programming</td>
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<tr>
<td>• Understanding General Software Development</td>
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<tr>
<td>• Understanding Web Applications</td>
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<tr>
<td>• Understanding Desktop Applications</td>
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<tr>
<td>• Understanding Databases</td>
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<table>
<thead>
<tr>
<th>COURSE 40363</th>
<th>EXAM 98-363</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Development Fundamentals</td>
<td></td>
</tr>
<tr>
<td>• Programming Web Applications</td>
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<tr>
<td>• Working with Data and Services</td>
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<tr>
<td>• Troubleshooting and Debugging Web Applications</td>
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<tr>
<td>• Working with Client-Side Scripting</td>
<td></td>
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<tr>
<td>• Configuring and Deploying Web Applications</td>
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<table>
<thead>
<tr>
<th>COURSE 40375</th>
<th>EXAM 98-375</th>
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</thead>
<tbody>
<tr>
<td>HTML5 Application Development Fundamentals</td>
<td></td>
</tr>
<tr>
<td>• Manage the Application Life Cycle</td>
<td></td>
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<tr>
<td>• Build the User Interface by Using HTML5</td>
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<tr>
<td>• Format the User Interface by Using CSS</td>
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<tr>
<td>• Code by Using JavaScript</td>
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<table>
<thead>
<tr>
<th>COURSE MVA</th>
<th>EXAM 98-379</th>
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<tbody>
<tr>
<td>Software Testing Fundamentals</td>
<td></td>
</tr>
<tr>
<td>• Describe Testing Fundamentals</td>
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<tr>
<td>• Describe Testing Methodology</td>
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<tr>
<td>• Create Software Tests</td>
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<td>• Manage Software Testing Projects</td>
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<tr>
<td>• Work with Bugs</td>
<td></td>
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<tr>
<td>• Automate Software Testing</td>
<td></td>
</tr>
</tbody>
</table>
MCSD certification is earned by passing App Review, publishing to Windows Store, and passing a single exam.

**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
Microsoft Certified Solutions Developer

MCSD: Windows Store Apps Using HTML5 (Exam Only)

Passing all three 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

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
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
Microsoft Certified Solutions Developer
MCSD: Web Applications

Passing all three 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

*CSee 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
Microsoft Certified Solutions Developer
MCSD: SharePoint Applications

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

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

Passing all three exams is required to achieve MCSD certification.

COURSE 20483
EXAM 483
MTA
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
Microsoft Certified Solutions Developer

MCSD: Application Lifecycle Management

Passing all three exams is required to achieve MCSD certification.

**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
Azure
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
Upgrade Paths from earlier versions of Windows

MCSA: Windows 8

Passing one exam is required to achieve MCSA certification.

**MCDST:**

**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

**MCSA or MCSE:**

**LEVEL U**

- Support Operating System and Application Installation
- Maintain Resource Access
- Support Windows Clients and Devices
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
Upgrade Paths to
MCSA: SQL Server 2012

Passing two exams is required to achieve MCSA certification.

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
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
Guidance
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Exam substitutions:


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

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