

About This Exam Review Kit

Microsoft Technology Associate Certification Exam Review Kit: 98-366 Networking Fundamentals

Exam Review Kit Description

- This Microsoft® Technology Associate (MTA) Certification Exam Review Kit is a series of 20 review lessons intended to reinforce concepts in preparation for the *MTA Certification Exam: 98-366 Networking Fundamentals* and/or serve as a resource and guide for teachers and faculty to create their own additional student learning experiences.
- It is assumed that students taking an MTA certification exam have completed and/or are currently taking academic courses and/or job experiences that address the exam objective domain.
- The MTA Exam Review Kits:
 - Are intended to supplement (not supplant) existing academic courses
 - Are not intended to serve as foundational content for academic courses
 - Are directly and closely tied to the objective domain of each individual MTA exam
 - Are platform-specific or -agnostic in accord with the objective domain of each MTA exam.
- Because each certification exam has approximately 20 objectives, this MTA Exam Review Kit includes twenty 50-minute review lessons.
- The build of materials for each review lesson includes a lesson plan, lesson delivery materials, and student activity documents.
- MTA certification exams test breadth of technical knowledge and help students explore career options before choosing a specialized career path with minimal investment of time and money. MTA certifications measure and validate the fundamental technology skills that are in demand today and provide an essential foundation to build a career in technology. Earning MTA certification provides students with a credential that validates fundamental technology industry knowledge and motivates them to succeed in continued studies, compete on admissions, and prepare for a career in technology. The MTA certifications enable students to prove their commitment to technology and connect with a community of more than five million Microsoft Certified Professionals (MCPs).
- Teachers and faculty can easily integrate the new MTA certification exams into existing schedules and curricula, and deliver exams right in the classroom, on their own schedules.

Audience

- This Exam Review Kit is intended for students ages 15–24 years who have an interest in technology and technology careers and are preparing for the MTA Certification Exam: 98-366 Networking Fundamentals exam, and seeking to prove introductory knowledge of and skills with networking.

- It is recommended that exam candidates be familiar with the concepts of and have hands-on experience with the technologies described here either by taking relevant training courses or by working with tutorials and samples available on MSDN[®]. Although minimal hands-on experience with the technologies is recommended, job experience is not assumed for these exams.
- Candidates for this exam are in the process of expanding their knowledge and skills in the following areas:
 - Windows ServerV
 - WindowsV-based networking
 - Network management tools
 - DNS
 - TCP/IP
 - Names resolution process
 - Network protocols and topologies

Student Prerequisites

This course requires that you meet the following prerequisites:

- It is assumed that students taking an MTA certification exam have completed and/or are currently taking academic courses and/or job experiences that address the exam objective domain.
- It is expected that students have had experience with Windows Server and Windows-based networking.

Exam Review Kit Objective Domain

This Exam Review Kit provides lessons that reinforce previous learning in the following objectives:

1. Understanding Network Infrastructures

- 1.1. Understand the concepts of the Internet, intranet, and extranet.
This objective may include but is not limited to: VPN, security zones, firewalls.
- 1.2. Understand local area networks (LANs).
This objective may include but is not limited to: perimeter networks; addressing; reserved address ranges for local use (including local loopback IP), VLANs; wired LAN and wireless LAN.
- 1.3. Understand wide area networks (WANs).
This objective may include but is not limited to: leased lines, dial-up, ISDN, VPN, T1, T3, E1, E3, DSL, and cable and their characteristics (speed, availability).
- 1.4. Understand wireless networking.
This objective may include but is not limited to: types of wireless networking standards and their characteristics (802.11A, B, G, N including different GHz ranges), types of network security (for example, WPA/WEP/802.1X), point-to-point (P2P) wireless, wireless bridging.
- 1.5. Understand network topologies and access methods.
This objective may include but is not limited to: star, mesh, and ring.

2. Understanding Network Hardware

2.1. Understand switches.

This objective may include but is not limited to: transmission speed; number and type of ports; number of uplinks; speed of uplinks; managed or unmanaged switches; VLAN capabilities; Layer 2 and Layer 3 switches, security options; hardware redundancy; support; backplane speed; switching types, MAC table; understanding capabilities of hubs vs. switches.

2.2. Understand routers.

This objective may include but is not limited to: transmission speed considerations, directly connected routes, static routing, dynamic routing (routing protocols), default routes; routing table and how it selects best routes; routing table memory, NAT, software routing in Windows Server.

2.3. Understand media types.

This objective may include but is not limited to: cable types and their characteristics, including media segment length and speed; fibre optic; twisted pair shielded or non-shielded; cabling, wireless; susceptibility to external interference (for example, machinery, power cables); susceptibility to electricity (for example, lightning), susceptibility to interception.

3. Understanding Protocols and Services

3.1. Understand the OSI model.

This objective may include but is not limited to: OSI model; TCP model; examples of devices, protocols, and applications and which OSI/TCP layer they belong to; TCP and UDP; well-known ports for most-used purposes (not necessarily Internet); packets and frames.

3.2. Understand IPv4.

This objective may include but is not limited to: addressing, subnetting; NAT, static IP, gateway; APIPA; network classes, classful/classless IP addressing;; reserved address ranges for local use (including local loopback IP).

3.3. Understand IPv6.

This objective may include but is not limited to: subnetting; IPconfig; why use IPv6; addressing; IPv4toIPv6 tunneling protocols to ensure backwards compatibility; dual IP stack; subnetmask; gateway; ports; packets; reserved address ranges for local use (including local loopback IP)

3.4. Understand names resolution.

This objective may include but is not limited to: DNS, WINS, steps in the name resolution process

3.5. Understand networking services.

This objective may include but is not limited to: DHCP, IPsec, remote access

3.6. Understand TCP/IP.

This objective may include but is not limited to: tools such as ping; tracert; pathping; Telnet; IPconfig; netstat, reserved address ranges for local use (including local loopback IP); protocols.

Exam Review Kit Timing

Each of the 20 Review Lessons in this collection is intended to be used in a single 50-minute class period.

Exam Review Kit Materials

The following materials are included in this Exam Review Kit:

- Review Lessons: A plan for teacher and student activities in reviewing the learning objectives and providing the key points that are critical to the success of the in-class review experience.
- Microsoft PowerPoint® presentations: A structure for classroom lectures and discussions.
- Student activities: A hands-on platform for applying the knowledge and skills reviewed in the lesson.
- Student activity answer keys: Solutions to student activities.
- Additional resources: Various resources to expand the reviewing and learning opportunities.

Software Requirements

The following software is suggested for this series of review lessons:

- Windows XP® or Windows 7®
- Windows Server 2008®

Instructional Preparation Activities

It is highly recommended that you complete the following instructional preparation activities:

- Familiarize yourself with the objectives of each lesson.
- Walk through each Review Lesson presentation slide deck and read the corresponding Instructor Notes (located in the notes view of the presentation slide deck) for the lesson. *Note that additional hidden slides are used in each slide deck to accommodate the amount of Instructor Notes information for a given topic.*
- Familiarize yourself with the student activity.
- Practice presenting each module.
- Identify the key points and must-know information for each topic.
- Perform each demonstration and hands-on lab.
- Anticipate the questions that students might have.
- Identify examples, analogies, impromptu demonstrations, and additional delivery tips that will help to clarify module content and provide a more meaningful learning experience for your specific audience.
- Customize and enhance your instructor notes.

Review the updated information about the Microsoft Certification Program on the Microsoft Learning Certifications website

(<http://www.microsoft.com/learning/en/us/certification/certdefault.aspx>).