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## Cisco Networking Academy CCNA Equipment List

This equipment list supports the CCNA v7 curriculum.

(Academies that plan to offer CCNA Security v2 and leverage this equipment should be aware that the equipment requirements for CCNA Security labs include 3 routers and 3 switches)

### Lab Equipment Requirements in this Spreadsheet

- Equipment Lists: Option 1, Option 2, Option 3 (Note: Select option from below that would best fit your specific curriculum delivery audience and budget. Option 1 requires the least investment and provides all needed equipment for CCNA labs. Options 2 & 3 can support labs with advanced service modules, Unified Communications features, or to support more complex topologies.)
- Optional Products
- Additional Lab Hardware and Software Required

### Equipment List (Option 1)

The Cisco 4221 router shown in Option 1 should be ordered with IOS-XE Image with Payload Encryption:  
e.g. SISR4200UK9-xxx (select a current version for xxx), Cisco ISR 4200 Series IOS XE Universal

| Qty | Product Number   | Description  | Notes |
|-----|--|--|-------|
| 2   | ISR4221/K9   | Cisco ISR 4221 (2GE, 2NIM, 8G FLASH, 4G DRAM, IPB) See note above regarding IOS-XE image.  | 1, 2  |
| 2   | WS-C2960+24TC-L (IN BRAZIL: SUBSTITUTE WS-C2960+24TC-BR= IN RUSSIA: SUBSTITUTE WS-C2960R+24TC-L) | Catalyst 2960 Plus 24 10/100 + 2T/SFP LAN Base Image   | 1, 2  |
| 1   | Wireless Router  | Wireless router (generic brand) with WPA2 support.<br>Note: Wireless router is required for course #2 - Switching, Routing, and Wireless Essentials (SRWE) |       |

### Equipment List (Option 2)

The Cisco 4321 router shown in Option 2 should be ordered with IOS-XE Image with Payload Encryption:  
e.g. SISR4300UK9-xxx (select a current version for xxx), Cisco ISR 4300 Series IOS XE Universal

| Qty | Product Number   | Description  | Notes |
|-----|--|--|-------|
| 2   | ISR4321/K9   | Cisco ISR 4321 (2GE, 2NIM, 4G FLASH, 4G DRAM, IPB). See note above regarding IOS-XE image.   | 1, 2  |
| 2   | WS-C2960+24TC-L (IN BRAZIL: SUBSTITUTE WS-C2960+24TC-BR= IN RUSSIA: SUBSTITUTE WS-C2960R+24TC-L) | Catalyst 2960 Plus 24 10/100 + 2T/SFP LAN Base Image   | 1, 2  |
| 1   | Wireless Router  | Wireless router (generic brand) with WPA2 support.<br>Note: Wireless router is required for course #2 - Switching, Routing, and Wireless Essentials (SRWE) |       |

### Equipment List (Option 3)

The Cisco 4331 router shown in Option 3 should be ordered with IOS-XE Image with Payload Encryption:  
e.g. SISR4300UK9-xxx (select a current version for xxx), Cisco ISR 4300 Series IOS XE Universal

| Qty | Product Number   | Description  | Notes |
|-----|--|--|-------|
| 2   | ISR4331/K9   | Cisco ISR 4331 (3GE, 2NIM, 1SM, 4G FLASH, 4G DRAM, IPB). See note above regarding IOS-XE image.  |       |
| 2   | WS-C2960+24TC-L (IN BRAZIL: SUBSTITUTE WS-C2960+24TC-BR= IN RUSSIA: SUBSTITUTE WS-C2960R+24TC-L) | Catalyst 2960 Plus 24 10/100 + 2T/SFP LAN Base Image   | 1, 2  |
| 1   | Wireless Router  | Wireless router (generic brand) with WPA2 support.<br>Note: Wireless router is required for course #2 - Switching, Routing, and Wireless Essentials (SRWE) |       |

### Optional Products

|                         | ACS-4220-RM-19=   | 19 inch rack mount kit for Cisco ISR 4220 (Note: this kit is compatible with ISR4221) |       |
|-------------------------|-------------------|---|-------|
|                         | NIM-2T=           | 2-Port Serial WAN Interface card  | 5     |
|                         | CAB-SS-V35MT=     | V.35 Cable, DTE Male to Smart Serial, 10 Feet   |       |
|                         | CAB-SS-V35FC=     | V.35 Cable, DCE Female to Smart Serial, 10 Feet                                       |       |
| <b>Console Cables</b>   |                   |   |       |
| Qty                     | Product Number    | Description   | Notes |
|                         | CAB-CONSOLE-USB=  | Console Cable 6ft with USB Type A and mini-USB Type B                                 | 2     |
|                         | CAB-CONSOLE-RJ45= | Console Cable 6ft with RJ45 and DB9F  | 2     |
| <b>Service Products</b> |                   |   |       |
|                         | Product Number    | Description   |       |
|                         | CON-SNT-WSC296TC  | SNTC-8X5XNBD Catalyst 2960 24 10/100 + 2 1000BT LAN                                   |       |
|                         | CON-SNT-ISR4221K  | SNTC-8X5XNBD Cisco ISR 4221 (2GE, 2NIM, 8G FLASH, 4G DRAM, IPB)                       |       |
|                         | CON-SNT-ISR4321K  | SNTC-8X5XNBD Cisco ISR 4321 (2GE, 2NIM, 4G FLASH, 4G DRAM, IPB)                       |       |

|                                       |   |   |     |
|---------------------------------------|---|---|-----|
|                                       | CON-SNT-ISR4331K<br><b>(IN BRAZIL: SUBSTITUTE CON-SNT-ISR43BK9)</b> | SNTC-8X5XNBD Cisco ISR 4331 (2GE,2NIM,4G FLASH,4G DRAM,IPB) |     |
| <b>Optional Equipment for NETLAB+</b> |   |   |     |
|                                       | HWIC-16A=   | 16-Port Async HWIC  | 6   |
|                                       | NIM-16A=  | 16-Port Async Serial NIM                                    | 5,7 |
|                                       | CAB-HD8-ASYNC=  | High Density 8-port EIA-232 Async Cable                     |     |
|                                       | CAB-ASYNC-8=  | Async cable Octopus Cable for Async NIM                     | 5,7 |
|                                       | WS-C2960+48TC-L   | Catalyst 2960 Plus 48 10/100 + 2 T/SFP LAN Base             | 4   |
|                                       | CON-SNT-WSC2968C  | SNTC-8X5XNBD Catalyst 2960 Plus 48 10/100 + 2 T/SFP L       |     |

#### Additional Lab Hardware and Software Required

| Hardware |   |       |
|----------|---|-------|
| Qty      | Description   | Notes |
| 1        | (optional) PC acting as an application server (MS Windows Server or Windows 7 or later)                           |       |
| 3        | Desktop PCs acting as clients (MS Windows 7 or later)   |       |
| 2        | Wireless LAN Adapters for the client PCs  |       |
| --       | Ethernet cables and Serial Cables as required   |       |
| Software |   |       |
| Qty      | Description   | Notes |
| --       | Packet Tracer v7.3  |       |
| --       | Tera Term source SSH client software for lab PCs.   |       |
| --       | Oracle VirtualBox, most recent version.   |       |
| --       | Wireshark version 2.5 or higher.  |       |
| --       | Open-source server software: For various services and protocols, such as Telnet, SSH, HTTP, DHCP, FTP, TFTP, etc. |       |

**NOTE 1:** The Networking Academy - Image & Hardware Support Document lists the tested and supported IOS images for each hardware platform that provide expected and consistent results for the lab exercises. Routers and switches always ship with the latest IOS version and it may be necessary to move them to the tested and supported IOS image. The NetAcad Maintenance program allows instructors to download the recommended IOS image at no cost. The Image & Hardware Support Document and information on signing up for NetAcad Maintenance can be found in the Equipment Information section of [netacad.com](http://netacad.com)

**NOTE 2:** Console cables are not included with the purchase of new network devices and they have been added in the optional equipment section. Our recommendation is to purchase one console cable with each router or switch. CAB-CONSOLE-RJ45= cable is supported on all devices (Routers, Switches and ASAs). CAB-CONSOLE-USB= cable is supported on the 4321 and 4331 routers.

**NOTE 3:** The 4221 router does not support the Unified Communications Technology Package. Voice labs are supported on the 4321/4331 routers. There are no voice labs in the CCNA curricula; however, this could be an issue for academies that wish to use the devices to also teach a voice course as well as CCNA.

**NOTE 4:** Recommended for institutions using NETLAB+ as a control switch

**NOTE 5:** Not supported by 1921, 1941, 2901, 2911 router

**NOTE 6:** Not supported by ISR 4321 router

**NOTE 7:** NIM-16A= requires IOS-XE 16.3.1 or later