



HPE NonStop TCP/IP System Management U4176S

This 5-day course provides the knowledge and skills needed to incorporate the HPE NonStop servers into your TCP/IP environment and perform system configuration. Upon completion of the course, you will be familiar with the products and utilities that allow you to configure, monitor, modify, and control your system.

| | |
|---|--------------------------|
| HPE course number | U4176S |
| Course length | 5 days |
| Delivery mode | ILT |
| View schedule, local pricing, and register | View now |
| View related courses | View now |

Why HPE Education Services?

- IDC MarketScape leader 4 years running for IT education and training*
- Recognized by IDC for leading with global coverage, unmatched technical expertise, and targeted education consulting services*
- Key partnerships with industry leaders OpenStack®, VMware®, Linux®, Microsoft®, ITIL, PMI, CSA, and (ISC)²
- Complete continuum of training delivery options—self-paced eLearning, custom education consulting, traditional classroom, video on-demand instruction, live virtual instructor-led with hands-on lab, dedicated onsite training
- Simplified purchase option with HPE Training Credits

Audience

- System Managers
- Network Managers
- System Analysts
- Network technical support personnel

Prerequisites

- NonStop NS-series Server Administration I (U8528S) or
- HPE NonStop NS2100/NS2200 Server Administration I (HH673S) and familiarity with TCP/IP or
- NonStop S-series Field Support Training (U4170S) or
- HPE NonStop NB-Series Server Administration I (HG776S) and
- Six months experience managing NonStop servers

Course objectives

- Perform system configuration and management of HPE NonStop servers in:
- Conventional TCP/IP
 - Cluster I/O Protocols (CIP) and Cluster I/O Module (CLIMs)
 - TCP/IPv6
 - ServerNet LAN Systems Access (SLSA) Subsystem
 - Expand-over-IP

Benefits to you

- Configure and test conventional TCP/IP, CIP, and TCP/IPv6
- Configure Expand-over-IP
- Know how to troubleshoot TCP/IP subsystem problems
- Ensure maximum utilization of your current hardware to achieve a greater ROI

Detailed course outline

Module 1: TCP/IP Refresher

- History of protocol suite
- Four protocol layers
- Terminology
- IP and ICMP basics
- TCP basics
- UDP basics
- IPv4 vs IPv6
- Pv4 addressing
- IPv6 addressing
- Subnetting in IPv4 and IPv6
- Basics of ARP, DHCP, and DNS
- TCP/IP applications Learning Check LAB: TCP/IP Utilities on Windows®

Module 2: TCP/IP on NonStop

- Three TCP/IP subsystems
- Process-based vs library-based protocol stack
- SLSA (IOAME and VIO), adapters, and CLIMs
- Conventional TCP/IP implementation and supported protocols
- TCP/IPv6 implementation and features
- CIP implementation and features
- SCF interface
- TCP/IP and OSS Learning Check LAB: TCP/IP Utilities on NonStop

Module 3: Configuring Conventional TCP/IP

- Key subsystem processes: TCPIP, Listner, Telserv, Echo, Finger, FTP, ping
- Key files: hosts, services, resconf, portconf, protocol
- Defines and Params
- Starting the TCPIP process
- Starting the Listner and Telserv processes
- Telserv services and windows
- Configuring and starting a subnet
- Types of routes
- Adding and starting routes
- Verifying the configuration
- TCP/IP configuration for OSS, including inetd
- Problems and troubleshooting Learning Check LAB: Configuring a conventional TCP/IP Subsystem

Module 4: The CIP Subsystem

- Linux®-based components
 - NS-based components
 - Types of CLIMs supported
 - CLIM naming conventions
 - Protocols supported
 - PROVIDER object and relationship to CLIMs
 - Routing
 - SCF interface
 - climcmd utility
 - Partitioning, including changed granularity with J06.14
 - Failover
 - RR filtering Learning Check LAB: Exploring the CIP Subsystem with SCF and CLIMCMD
-

Module 5: Basic CIP/CLIM Configuration

- How to check on CIP subsystem status
- How to add, configure, and start a CLIM interface
- How to add and start a default route
- How to start the Listner and Telserv processes
- How to display network connections
- How to modify, stop, and delete an interface Learning Check LAB #1: Basic CIP/CLIM Configuration

Module 6: CIP/CLIM Configuration Options

- How to configure intra-CLIM failover
- How to configure CLIM-to-CLIM failover
- Network partitioning with MULTIPROV OFF
- Network partitioning with MULTIPROV ON
- How to achieve scalability with round-robin filtering Learning Check LAB #2: CIP/CLIM Configuration Options

Module 7: Basic TCP/IPv6 Configuration

- The structure of the TCP/IPv6 subsystem
- SCF syntax in the TCP/IPv6 context
- How to configure and start an IPv4 subnet
- How to configure and start a route
- The concept of ephemeral ports and how to configure them Learning Check

Module 8: TCP/IPv6 Configuration Options

- How to configure Logical Network Partitioning (LNP)
- How to configure round-robin filtering
- How to configure Ethernet failover with shared IP
- How to configure Ethernet failover with nonshared IP Lab#1 TCP/IPv6 configuration options

Module 9: Configuring IPv6 with TCP/IPv6

- The different operating modes of TCP/IPv6: INET, DUAL, and INET6
- How to add an INET subnet
- How to add a DUAL subnet
- How to add an INET6 subnet
- The difference between automatic and configured tunnels
- How to display TCP/IPv6 connections
- The roles of the IPNODES file and the ND6HOSTD process Lab #2—Configuring IPv6

Module 10: Configuring Expand-over-IP

- Expand basics (no details)
- Expand-over-IP line handler
- Adding the line and path
- Starting the line and path
- Verifying the configuration
- Problems and troubleshooting
Learning Check LAB: Expand-over-IP Configuration

Onsite Delivery Equipment Requirements

- One 2-processor NonStop NS-series server or NB-series server with VIOs or IOAME, IP CLIM and H06.2X or J06.06 and later version of the NonStop kernel operating system
- For the NS-series, IOAME two Multiport Ethernet ServerNet Adapters (M8800, G4SA) with cables, four recommended
- For the NS-series, VIO two M8801-4 VIO Expansion Boards for Ethernet are recommended
- Two 8-port 10/100 switched hubs, including cables (for a four-group lab environment)
- For Optional SWAN lab
- One 3880 SWAN concentrator, or 3881 SWAN II per system
- Two RS-232-C cable hoods, part number U11670, per SWAN
- Loopback test connector, part number U11674, per SWAN
- SLSA subsystem and TCP/IP products
- Expand product
- X25AM product or AT6100 product
- One IPv6 capable router

Next steps

- NonStop S-series SWAN Troubleshooting and Maintenance Workshop (U4175S), NonStop S-series Communications Products (U4166S), NonStop S-series ServerNet Cluster Workshop (U4174S)

Learn more at
hpe.com/ww/learnnonstop

Follow us:



© Copyright 2015–2016 Hewlett Packard Enterprise Development LP. The information contained herein is subject to change without notice. The only warranties for Hewlett Packard Enterprise products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. Hewlett Packard Enterprise shall not be liable for technical or editorial errors or omissions contained herein.

Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. The OpenStack Word Mark is either a registered trademark/service mark or trademark/service mark of the OpenStack Foundation, in the United States and other countries and is used with the OpenStack Foundation's permission. We are not affiliated with, endorsed or sponsored by the OpenStack Foundation or the OpenStack community. Pivotal and Cloud Foundry are trademarks and/or registered trademarks of Pivotal Software, Inc. in the United States and/or other countries. Linux is the registered trademark of Linus Torvalds in the U.S. and other countries. VMware is a registered trademark or trademark of VMware, Inc. in the United States and/or other jurisdictions. All other third-party trademark(s) is/are property of their respective owner(s).