



iTP WebServer Workshop for NonStop Servers U4160S

HPE course number	U4160S
Course length	4 days
Delivery mode	ILT
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Learn the basics of installing, configuring, and securing HPE iTP WebServer solutions along with the management procedures needed to support the operation of the iTP WebServer. Hands-on lab exercises give you programming experience in the iTP WebServer environment. This four-day course is 60 percent lecture and 40 percent hands-on labs using HPE NonStop servers.

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*
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- 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

- Personnel involved with installation, management, programming, and support of the iTP WebServer and applications developed in the iTP WebServer environment

Prerequisites

- A working knowledge of C or C++ and Java programming languages

Course objective

At the conclusion of this course, you should be able to:

- Explain the development of commercial data processing on the Internet
- Describe the basic features of World Wide Web technology
- Configure a basic iTP WebServer file server environment
- Alter the basic configuration to enable advanced control options in the iTP WebServer

- Enhance the environment to perform secure transactions using the Secure Sockets Layer (SSL) protocol
- Manage and control the operation of the iTP WebServer environment
- Describe the Common Gateway Interface (CGI) standard for interfacing with web servers, the HPE Pathway CGI implementation, and the differences between the two approaches
- Describe the implementation of Java servlets and Java Server Pages (JSPs) and how they differ from generic CGI and Pathway CGI
- Code, compile, deploy, and execute Java servlets and JSPs in the iTP WebServer environment using the Apache Tomcat container

* Realize Technology Value with Training, IDC Infographic 2037, Sponsored by HPE, January 2016

Benefits to you

- Minimize time spent programming and increase your productivity by learning to use HPE NonStop iTP WebServer software
- Learn how to configure and manage an iTP WebServer environment, saving time and increasing your productivity with HPE NonStop iTP WebServer software
- Learn how to enable your existing Pathway applications for browser based access using iTP WebServer in order to modernize your existing Pathway applications
- Learn how to build and deploy Java servlets in the iTP WebServer environment using the Apache Tomcat container

Detailed course outline

Module 1: Web Technology on the Internet

- Origin of the Internet
- Packet switching
- ARPAnet
- Emergence of international operations
- Creation of a common protocol
- TCP/IP addresses and domains
- The World Wide Web
- Transaction classes—the new model

Module 2: TS/MP and iTP WebServer Components

- Major design goals for NonStop systems
- NonStop system—layered environment
- TS/MP environment
- Server class concept
- Distributed TS/MP implementation
- Pathway/TS product
- Client/server using RSC and TS/MP products
- iTP WebServer architecture
- iTP WebServer and iTP active transaction pages
- Application migration
- Migrating client/server applications

Module 3: iTP WebServer Functions and Products

- Basic file server
- File content—usefulhtml
- Browser processing of HTML documents
- Generic CGI processing
- CGI script—hellogci
- Pathway legacy systems
- Java servlets
- Active Transaction Pages (ATP) applications
- Resource Locator Service (RLS)
- Anonymous ticketing

Module 4: Security Considerations

- Existing private networks
- Intercompany communication
- Applications on the Internet
- Problems for commercial use of the Internet
- Message security—encryption methods
- Encryption algorithms
- Relative speed
- Certificate Authorities (CAs)
- Using the certificate
- Emerging Internet standards for WWW
- Secure Sockets Layer (SSL)
- Private Communication Technology (PCT) protocol
- iTP WebServer support
- Atalla WebSafe Internet security processor
- iTP WebServer/Atalla WebSafe Internet security processor integration

Module 5: Preinstallation Planning

- Hardware and software requirements
- Checking product files
- System checks—DNR, TCP/IP, and OSS
- Safeguard subsystem considerations
- TMF and SQL/MP environments
- Java development kit requirement

Module 6: Installation

- Installing iTP WebServer software
 - Out-of-box installation
 - setup script
 - Administration server overview
 - setup script dialog
 - Administration server
 - iTP WebServer environment
 - Standard commands
 - EMS template installation
 - Installing and configuring the RLS
 - Lab: basic installation
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Module 7: Configuration

- iTP WebServer PATHMON configuration
- TS/MP component configuration
- Server class configurations
- Overriding server class parameters
- Accept directive
- Logging function and modes
- Log file content
- Selecting log format
- Logging domain names—reverselookup
- Finding content files
- Mapping URLs to OSS files
- Partitioning content using filemap
- Mapping URLs to Guardian file space
- Returning default HTML documents
- Region commands
- Automatic directory indexing
- Requiring a password
- User ID and password prompts
- Virtual host support
- Defining server messages
- Customized message display
- Multipurpose Internet Mail Extensions (MIME)
- iTP WebServer MIME types
- Standard MIME types for iTP WebServer
- Processing local server class and generic-CGI requests
- Processing requests for other environments
- Running with Guardian files and commands
- Server-side includes
- Lab: customized installation

Module 8: Configuring for Security

- Basic security
- Configuring for SSL and PCT
- AcceptSecureTransport—other options
- Distinguished Names (DNs)
- Certificates
- Obtaining a certificate
- Creating a public/private key pair
- keyadmin command output
- Certificate request message
- Installing the certificate
- Certificate record
- RequireSecureTransport for secure access
- Hardware encryption with WebSafe2 Internet security processor
- Enabling hardware encryption
- Installing and configuring the WID
- The WebSafe2 Internet security processor
- The make_key_websafe utility
- How hardware encryption works
- Lab: security

Module 9: Additional Management Issues

- Log-file maintenance
- Improving DNS performance
- TS/MP management
- Checking status and server class status
- Displaying server configuration
- Performance—server statistics
- PATHMON status
- Controlling TS/MP logging
- Using command files for configuration
- Extended configuration from the OSS environment
- Viewing EMS log files
- Lab: pathway demonstration

Module 10: Pathway CGI Programming

- Generic CGI processing
- CGI environment variables
- Generic CGI performance
- Default MIME type
- Pathway CGI implementation and procedures
- Automatic form decoding
- Processing input in a pathway CGI program
- HTML form
- Structured database access
- Pathway CGI coding considerations
- Maintaining context
- Configuring a pathway CGI server class
- Using MIME types
- Security design considerations

Module 11: Java Servlets and JSP

- Introduction to Java
- iTP secure WebServer servlet architecture
- Java servlet implementation
- Java development kit directory structure
- Java compilation
- Java servlet standard API and code
- JDBC transaction drivers
- Transaction unaware driver
- ddl2java tool and using ddl2java
- JPathsend
- Installing NonStop Servlets for JavaServer Pages (NSJSP)
- setup script
- Directory and configuration overview
- Configuring the servlet server class
- Java Server Pages (JSP)
- Lab: Java servlet and JSP programming

Course data sheet

Onsite Delivery Equipment Requirements	<ul style="list-style-type: none">• NonStop H-series server• 30 MB of memory per student (plus swap space for one NonStop TS/MP application per student)	<ul style="list-style-type: none">• Appropriate Ethernet controller
Server Software Requirements	<ul style="list-style-type: none">• NonStop server requirements:<ul style="list-style-type: none">– H06.16 or later version of the NonStop operating system– iTP secure WebServer (exportable) version 6 or greater (SJ99V6 or greater)– NonStop Server for Java, SDK 1.5.2 or greater (HSJ96V5A or greater)	<ul style="list-style-type: none">– NonStop Servlets for JavaServer Pages (HSJ88V6 or greater)– NonStop TM/MP, NonStop SQL/MP, Safeguard, OSS, and NonStop TS/MP applications• TCP/IP• LAN access to the Internet is preferred
Client Hardware Requirements	<ul style="list-style-type: none">• PC with minimum of:<ul style="list-style-type: none">– 256 Mhz processor	<ul style="list-style-type: none">– 64 MB of RAM– Hard drive with 20 MB free space
Client Software Requirements	<ul style="list-style-type: none">• Windows® operating system• Outside View or other 6530 and VT 100+ emulator• TCP/IP stack (preferably Microsoft®)	<ul style="list-style-type: none">• Microsoft Internet Explorer browser software• All workstations must have TCP/IP addresses

Next steps

- Web Services for NonStop Server (U8525S) or Web Foundations for NonStop Systems (U3959S)

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