

# Concepts and Facilities for HPE NonStop Systems U4147S

<b>HPE course number</b>	U4147S
<b>Course length</b>	4 day
<b>Delivery mode</b>	ILT, VILT
<b>View schedule, local pricing, and register</b>	<a href="#">View now</a>
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This course is an extensive introduction to HPE NonStop servers and to the system software that makes them reliable, scalable, open, and fast. Topics also include HPE NonStop server application, database, networking, security, and operations environment topics and is the foundation and prerequisite for most other HPE NonStop courses. The course is 60 percent lecture and 40 percent hands-on labs using HPE Integrity NonStop servers.

## Why HPE Education Services?

- IDC MarketScape leader 5 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 SUSE
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- Simplified purchase option with HPE Training Credits

## Audience

- Application designers and developers
- System managers and network managers
- Data communications programmers
- Technical support personnel

## Prerequisites

Before attending this course, students must have::

- Knowledge of basic computer and IT concepts

## Course Objectives

After completing this course, students will be able to:

- Understand the unique capabilities of HPE NonStop servers
- Understand how availability, data integrity, high performance, and flexibility are assured with HPE Integrity NonStop servers
- Learn the concepts and facilities for application development and management, database and system management, networking, and security
- Learn how to use the full capabilities of your system through hands-on lab exer

## Detailed course outline

<b>Module 0 - Course Overview</b>	<ul style="list-style-type: none"> <li>History and general characteristics of HPE NonStop servers</li> <li>Application areas where NonStop servers are commonly used</li> </ul>	<ul style="list-style-type: none"> <li>Fault-tolerant operating system</li> <li>Introduce the Guardian and OSS user environments</li> </ul>
<b>Module 1 - Introduction to HPE NonStop Systems</b>	<ul style="list-style-type: none"> <li>History and general characteristics of HPE NonStop servers</li> <li>Application areas where NonStop servers are commonly used</li> </ul>	<ul style="list-style-type: none"> <li>Fault-tolerant operating system</li> <li>Introduce the Guardian and OSS user environments</li> </ul>
<b>Module 2 - NonStop Technical Library</b>	<ul style="list-style-type: none"> <li>Accessing the NonStop Technical Library (NTL)</li> <li>Browsing and searching to find documents and information</li> </ul>	<ul style="list-style-type: none"> <li>HPE NonStop OS release, release version, and release version update</li> <li>Lab</li> </ul>
<b>Module 3 - NonStop Operating System</b>	<ul style="list-style-type: none"> <li>Basic characteristics and functions of the NonStop OS</li> <li>Differentiate between a process and a program</li> <li>Why a message-based operating system?</li> </ul>	<ul style="list-style-type: none"> <li>Major functions of the HPE NonStop OS file and message systems</li> <li>Process pairs role in ensuring fault tolerance</li> </ul>
<b>Module 4 - Guardian Environment</b>	<ul style="list-style-type: none"> <li>Guardian user IDs</li> <li>Accessing the NonStop server</li> <li>Managing the Guardian user environment</li> </ul>	<ul style="list-style-type: none"> <li>Guardian file system</li> <li>TACL commands</li> <li>Labs</li> </ul>
<b>Module 5 - The Open System Services (OSS) Environment</b>	<ul style="list-style-type: none"> <li>OSS definition, file system, types, and security</li> <li>NonStop facilities and tools based on OSS</li> <li>Guardian, OSS, and shared APIs</li> </ul>	<ul style="list-style-type: none"> <li>Guardian and OSS text files</li> <li>Labs</li> </ul>
<b>Module 6 - Requesters and Servers</b>	<ul style="list-style-type: none"> <li>The primary goal and OLTP requirements</li> <li>Application modularity basic design principle and advantages</li> <li>Pathway and the requester-server model</li> </ul>	<ul style="list-style-type: none"> <li>Requester-server approach</li> <li>Lab</li> </ul>
<b>Module 7 - Pathway Application Environment</b>	<ul style="list-style-type: none"> <li>The Pathway solution and components</li> <li>NonStop TS/MP and Pathway/ITS components</li> <li>Terminal Control Program (TCP)</li> </ul>	<ul style="list-style-type: none"> <li>Non-TCP and RSC client access to Pathway servers</li> <li>ITP WebServer definition and processing modes</li> <li>Lab</li> </ul>
<b>Module 8 - Application Services</b>	<ul style="list-style-type: none"> <li>Transaction processing environments available on NonStop servers</li> <li>Core services for applications on NonStop servers</li> </ul>	<ul style="list-style-type: none"> <li>Service-Oriented Architecture definition, characteristics, and benefits</li> <li>SOA and the HPE NonStop server</li> </ul>
<b>Module 9 - Application Development Environments</b>	<ul style="list-style-type: none"> <li>Tools and components</li> <li>HPE Enterprise Toolkit (ETK) — NonStop edition</li> <li>NonStop Development Environment for Eclipse (NSDEE)</li> </ul>	<ul style="list-style-type: none"> <li>Visual Inspect</li> <li>Code coverage tools</li> <li>Emulation, accelerated, and native modes of operation</li> </ul>
<b>Module 10 - Database Management</b>	<ul style="list-style-type: none"> <li>Relational database concepts</li> <li>Database file structures and terminology</li> <li>Relational databases available on NonStop servers</li> </ul>	<ul style="list-style-type: none"> <li>Enscribe Database Record Manager</li> <li>HPE NonStop SQL/MP and HPE NonStop SQL/MX</li> <li>Labs</li> </ul>

<b>Module 11 - NonStop TMF and RDF</b>	<ul style="list-style-type: none"> <li>• Major threats to OLTP data integrity</li> <li>• ACID properties of online transactions</li> <li>• How Transaction Management Facility (TMF) protects data integrity</li> <li>• Criteria for placing transaction delimiters in application code</li> </ul>	<ul style="list-style-type: none"> <li>• Remote Database Facility (RDF) functions and components</li> <li>• NonStop AutoTMF and NonStop AutoSynch</li> <li>• Lab</li> </ul>
<b>Module 12 – NonStop Server Hardware Architecture</b>	<ul style="list-style-type: none"> <li>• HPE NonStop Multi-core Architecture</li> <li>• HPE NonStop Value Architecture</li> <li>• HPE NonStop Advanced Architecture</li> </ul>	<ul style="list-style-type: none"> <li>• HPE Integrity NonStop NS-series and NB-series</li> <li>• HPE Integrity NonStop X BladeSystem (NonStop X)</li> <li>• Hardware fault tolerance</li> </ul>
<b>Module 13 - NonStop Server System Management</b>	<ul style="list-style-type: none"> <li>• NonStop server manageability strategy</li> <li>• Element and enterprise management</li> <li>• Problem detection and response tools</li> <li>• HPE Systems Insight Manager (SIM) and NonStop plugins</li> </ul>	<ul style="list-style-type: none"> <li>• NonStop server system management issues</li> <li>• What is different about managing a NonStop server?</li> <li>• Labs</li> </ul>
<b>Module 14 - Security</b>	<ul style="list-style-type: none"> <li>• Basic security protection in the Guardian environment</li> <li>• Security facilities in the OSS environment</li> </ul>	<ul style="list-style-type: none"> <li>• Safeguard software and auditing</li> <li>• Additional HPE security products</li> </ul>
<b>Module 15 - Networking and Data Communications</b>	<ul style="list-style-type: none"> <li>• Networking requirements and connecting NonStop systems</li> <li>• Features and functions of Expand networking software</li> </ul>	<ul style="list-style-type: none"> <li>• Industry-wide networking protocols</li> <li>• Communications hardware available for NonStop servers</li> </ul>
<b>Module 16 - Information Sources and Education Planning</b>	<ul style="list-style-type: none"> <li>• Sources of information on NonStop servers and software</li> <li>• Useful NonStop web sites</li> </ul>	<ul style="list-style-type: none"> <li>• Connect - International HPE Users' Group and regional user groups</li> <li>• NonStop professional services and support programs</li> </ul>

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