HPE DIA120 – Diagnostics 9.x Essentials

Overview

This course introduces you to the HPE Diagnostics product and shows you how to use Diagnostics to visualize, analyze, and ultimately improve the performance of enterprise applications. The course describes how to install, configure, and tune the Diagnostics components, how to troubleshoot the Diagnostics system performance, and how to use of the Diagnostics Profiler in Java EE/.NET environments. In addition to core capabilities, architecture, and navigation of Diagnostics, this course introduces techniques for performance trending and analysis of complex performance issues and bottlenecks. This course uses a workshop format with the emphasis on the hands-on lab exercises, which use Diagnostics version 9.2.

Learning method

You will receive expert instruction from a Diagnostics specialist. This course uses a workshop format with the emphasis on the hands-on lab exercises, which use Diagnostics version 9.2.

Each student will receive a copy of the HPE Diagnostics Essentials manual. This manual is used throughout the course and proves a useful reference tool upon completion of the course.

Duration: 5 days

Who will benefit from this course?

- Operations Managers responsible for managing the performance of Java EE or .NET applications
- Application support/Operations Managers/Developers Tier II tasked with being able to triage performance issues to a specific application component or tier
- Developers and Architects requiring problem isolation methodologies for drilling down into the core application elements comprising Java EE or .NET environments

Course prerequisites

- Administration knowledge of Windows/UNIX environments
- Operational knowledge of Java EE or .NET applications infrastructure
- Basic understanding of Internet and web protocols
- Fundamental understanding of the key components comprising composite applications
- General knowledge of object oriented programming
- Familiarity with network, system, and application monitoring concepts

What you can expect to gain from this course?

After completing this course, you should be able to:

- Describe the architecture of a Diagnostics 9.20 implementation
- Install and configure the Diagnostics 9.20 Windows server
- Install and configure the Diagnostics 9.20 Probe Agent for Java and .NET
- Install and configure the Diagnostics 9.20 Collector for SQL Server and Oracle
- Explain custom instrumentation
- Size and tune Diagnostics 9.20 server and Probe Agents
- Troubleshoot Diagnostics 9.20 issues using the Diagnostics logs

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Course Content

Module 1: Course Overview

- Class description
- Participant introductions
- Class schedule
- Prerequisites and out-of-scope topics
- Lab environment

Module 2: Composite Application Management

- HPE approach and value proposition
- Diagnostics key features and benefits

Module 3: Concepts, Components, and Requirements

- Diagnostics components and their communication
- Diagnostics architecture and Enterprise Server UI
- Diagnostics Profiler application for data collection
- Diagnostics data model

Module 4: Installing the Diagnostics Server

- Installation requirements of the Diagnostics server
- Sizing, scalability, and licenses for the server
- Installation of the Diagnostics server
- Managing server licenses
- Performing alert configuration
- Exploring the server configuration pages

Module 5: Installing the Diagnostics Java Agent

- Overview of the Diagnostics agents
- Java Agent (J2EE Agent) installation
- JRE Instrumenter installation

Module 6: Installing the Diagnostics .NET Agent

- .NET Agent deployment
- .NET Agent installation
- Enabling/Disabling standard instrumentation

Module 7: Configuring Java EE Application Server

- Overview of the Application Server
- WebLogic for Diagnostics monitoring
- Configuring the Application Server

Module 8: Configuring .NET Applications

- Identifying .NET applications, .point files, and layers
- Configuring Agent metrics and LWMD
- Configuring and monitoring non-IIS-based processes

Module 9: Diagnostics Product Functionality Overview

- Overview of the Diagnostics Profiler
- Features of the Diagnostics Profiler
- Profiler GUI

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Module 10: Diagnostics Collector Installation and Configuration

- Overview of the Diagnostics Collector
- Installing the Diagnostic Collector
- Monitoring the Oracle 10G and SQL Server

Module 11: Diagnostics Product Enterprise Server UI Overview

- Diagnostics server
- Standard views and drill downs
- Enterprise Server UI

Module 12: Diagnostics Integration with Business Service Management

- HPE's Application Performance Management (APM)
- HIs, KPIs, and Diagnostics topology
- Diagnostic integration and troubleshooting

Module 13: Diagnostics Integration with LoadRunner

- Load testing components
- Pre- and post-integration installation
- Tuning LR with Diagnostics using additional configuration
- Performance analysis using LR
- Examining load test

Module 14: Diagnostics Integration with SiteScope

- SiS integration and its properties
- Configuring SiS monitors to send metric data
- Troubleshooting common integration problems

Module 15: Diagnostics Core Concepts Review

- User authentication and authorization
- Applications and their artefacts
- Synthetic and business transactions
- Metrics and alerting
- Dashboards, instance trees, and call profiles
- Snapshots and data export in Diagnostics

Module 16: Diagnostics Application Instrumentation

- Instrumentation overhead, including:
  - Examples and use cases of instrumentation
  - Advanced instrumentation
  - Dynamic instrumentation

Module 17: Query Engine and Data Exporting

- Diagnostics data storage
- Concepts of client and granularities
- Exporting data out of the Diagnostics database

Module 18: Transaction Management Application

- Transaction Management (TM) applications:
  - TM administration
  - TM reports
- Diagnostics in TM reports

- TM from SH
- TM use cases

Module 19: Tuning Agent

- Communication models between Probes and the Diagnostics server
- Buffers, networking, and registration of the Probes

Module 20: Troubleshooting Diagnostics

- Troubleshooting methods
- Process of using log files
- Details on the health view page
- Common Probe issues
- Application server crashes
- Challenges of missing data and application overhead

Module 21: Tuning Server

- Concepts of Diagnostics servers, including:
  - Communication models
  - Networking/registration
  - Timeouts
  - Data aggregation/instance rules
  - Purging/persistence
  - Time management
  - Thresholds and threshold enhancements

Related Courses

- BSM120 – Business Service Management 9.x Essentials
- RUM120 – Real User Monitor 9.x Essentials Workshop
- SS120 – SiteScope 11.x Essentials