

Veritas NetBackup 9.1: Administration

Course Summary

Description

Acquire the skills to make your data protection strategy successful with the Veritas NetBackup 9.1: Administration course. You will learn the general principles, configuration, and management of NetBackup, including how to best utilize the NetBackup tools and interfaces, effectively monitor backup and restore operations, and ensure that the data recovery objectives are met.

Objectives

At the end of this course, students will be able to:

- Describe the functions of the Primary/Master server, media servers, and clients.
- Describe how NetBackup backs up and restores data.
- Use the NetBackup Administration Console, Web User Interface, and OpsCenter.
- Configure and manage NetBackup security certificates.
- Configure, manage, and Monitor BasicDisk and AdvancedDisk storage units and storage unit groups.
- Configure file system backup policies and schedules.
- Perform manual backups and user-directed backups.
- Restore files using the Java or Windows BAR interface and OpsCenter Operational Restore.
- Provision storage and configure MSDP.
- Manage NetBackup cloud backups and cloud storage.
- Optimize file system backups with NetBackup Accelerator.
- Backup, restore and protect virtual environments like VMware and Hyper-V.
- Configure Storage Lifecycle Policies (SLPs) and initiate jobs that use SLPs.
- Protect and manage the NetBackup catalog.
- Configure NetBackup WORM protection.
- Optimize NetBackup for performance.
- Generate NetBackup reports in NetBackup, OpsCenter, and APTARE IT Analytics.
- Initiate NetBackup upgrades using VxUpdate.
- Identify and use resources for troubleshooting
- NetBackup, including the support information gathering tools.

Topics

- Introducing NetBackup
- Configuring NetBackup Policies and Schedules
- Protecting File Systems
- Configuring Media Server Deduplication
- Configuring Cloud Storage
- Optimizing Filesystem Backups
- Protecting VMware Environments
- Recovering VMware Environments
- Duplicating and Replicating Backups
- Protecting the NetBackup Catalog
- Configuring Immutable and Indelible Storage
- Generating NetBackup Reports
- Upgrading and Updating NetBackup
- Collecting Logs and Diagnostic Information
- Appendix A: Protecting Hyper-V Environment
- Appendix B: Protecting NAS Data
- Appendix C: Configuring and Managing Tape Storage
- Appendix D: Performing Instant Recovery

Audience

This course is intended for technical professionals responsible for the design, configuration, operation, monitoring, or support of NetBackup.

Prerequisites

Students should be familiar with general network and storage concepts, and the administration and configuration of Windows or Linux operating systems. Knowledge of virtualization and cloud technologies is useful.

Duration

Five days

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Course Outline

I. *Introducing NetBackup*

- A. Data Protection and the NetBackup Environment
- B. NetBackup and Flex Appliances: Overview
- C. NetBackup Integrated Solutions
- D. NetBackup Installation
- E. NetBackup Administration Interfaces
- F. Labs:
- G. Exercise A: Creating Users and Groups
- H. Exercise B: Installing the NetBackup Primary/Master
 - I. Server Software
 - J. Exercise C: Installing the NetBackup Java Remote
- K. Administration Console
- L. Exercise D: Installing the NetBackup Media Server
 - M. Software
- N. Exercise E: Installing the NetBackup Client Software
- O. Exercise F: Exploring the NetBackup Administration
 - P. Console

II. *Working with the NetBackup Web UI*

- A. NetBackup Web User Interface
- B. Configuring NetBackup for Single Sign-On
- C. Protecting Workload Assets
- D. Managing Role-based Access Control
- E. Alerts and Notifications
- F. Managing User Sessions
- G. Labs:
- H. Exercise A: Accessing and Navigating the NetBackup
 - I. Web User Interface
- J. Exercise B: Configuring Role-based Access Control
- K. Exercise C: Configuring NetBackup for Single Sign-On
- L. Exercise D: Viewing and Configuring Notifications
- M. Exercise E: Managing User Sessions

III. *Performing NetBackup Certificate Administration*

- A. Understanding Security Certificates
- B. Working with Certificate Revocation Lists
- C. Configuring NetBackup Security Certificates
- D. Managing NetBackup Security Certificates
- E. Using External Security Certificates with NetBackup
- F. Labs:

- G. Exercise A: Viewing NetBackup Certificates
- H. Exercise B: Manually deploying NetBackup Certificates
- I. Exercise C: Revoking and Reissuing Host ID-based
 - J. Certificates
- K. Exercise D: Using External Certificates with NetBackup

IV. *Configuring Basic and Advanced Disk Storage*

- A. NetBackup Storage Device Concepts
- B. Configuring a BasicDisk Storage Unit
- C. Configuring AdvancedDisk
- D. Managing AdvancedDisk Storage
- E. Configuring Storage Unit Groups
- F. Labs:
- G. Exercise A: Configuring a BasicDisk Storage Unit
 - H. Exercise B: Configuring AdvancedDisk Storage
- I. Exercise C: Monitoring and Managing AdvancedDisk
 - J. Storage
- K. Exercise D: Configuring a Storage Unit Group

V. *Configuring NetBackup Policies and Schedules*

- A. Backup Policies: Overview
- B. Creating and Configuring Policy Attributes
- C. Creating a Policy Schedule
- D. Adding Clients to a Policy
- E. Creating Backup Selections
- F. Exclude and Include Lists
- G. Managing Policies
- H. Labs:
- I. Exercise A: Configuring a Policy to Use a Frequency based Schedule
- J. Exercise B: Configuring a Policy to Use a Calendar based Schedule
- K. Exercise C: Managing NetBackup Policies

VI. *Protecting File Systems*

- A. Performing Manual Backup Operations
- B. Using and Customizing the NetBackup Activity Monitor
- C. Performing User-directed Backups
- D. Backup Job-related Tips
- E. Introduction to Restores
- F. Performing Restore Operations Using the NetBackup

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Course Outline (cont'd)

- G. Web UI
- H. Performing Restore Operations Using the BAR interface
- I. Labs:
- J. Exercise A: Using and Customizing the Activity Monitor
- K. Exercise B: Performing Manual Backups
- L. Exercise C: Performing User-initiated Backups
- M. Exercise D: Restoring Client Files to their Original
- N. Location
- O. Exercise E: Restoring Client Files to an Alternate File
- P. System Location
- Q. Exercise F: Restoring Client Files to an Alternate Client
- R. System

VII. *Configuring Media Server Deduplication*

- A. Introduction to MSDP
- B. Variable-Length Deduplication
- C. MSDP Architecture
- D. Planning a Deployment
- E. Provisioning Storage and Configuring MSDP
- F. Labs:
- G. Exercise A: Configuring NetBackup Media Server
- H. Deduplication
- I. Exercise B: Configuring a Policy to Use MSDP Storage
- J. Exercise C: Performing Backups to MSDP Storage
- K. Exercise D: Configuring and Using Client-side
- L. Deduplication
- M. Exercise E: Managing and Monitoring NetBackup MSDP
- N. Storage

VIII. *Configuring Cloud Storage*

- A. Using the Cloud with NetBackup
- B. Configure NetBackup Cloud Storage
- C. Managing NetBackup Cloud Backups and Cloud Storage
- D. Labs:
- E. Exercise A: Performing Preliminary Tasks
- F. Exercise B: Configuring Cloud Storage in NetBackup

- G. Exercise C: Configuring and Performing Backups to the
- H. Cloud
- I. Exercise D: Restoring Client Data from Cloud-based
- J. Storage

IX. *Optimizing Filesystem Backups*

- A. File System Backup Challenges
- B. Optimizing File System Backups
- C. Optimizing File System Backups with NetBackup
- D. Accelerator
- E. NetBackup FlashBackup
- F. Using multiple data streams
- G. Handling Busy Files on UNIX and Windows File Systems
- H. Labs:
- I. Exercise A: Configuring and Performing Synthetic
- J. Backups
- K. Exercise B: Optimizing Backups Using the NetBackup
- L. Accelerator
- M. Exercise C: Optimizing Backups Using NetBackup
- N. FlashBackup
- O. Exercise D: Configuring and Using Multiple Data
- P. Streams

X. *Protecting VMware Environments*

- A. Introduction to Virtual Machine Backups
- B. Configuring VMware Backups
- C. Performing VMware Backups
- D. Labs:
- E. Exercise A: Configuring NetBackup to Perform VMware
- F. Backups
- G. Exercise B: Configuring a VMware Policy
- H. Exercise C: Performing and Monitoring VMware Virtual
- I. Machine Backups
- J. Exercise D: Excluding Disks from a VMware Virtual
- K. Machine Backup
- L. Exercise E: Configuring Continuous Data Protection

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Course Outline (cont'd)

XI. Recovering VMware Environments

- A. Performing VMware Restores
- B. Instant Access and Instant Rollback for VMware
- C. VMware Agentless Restores
- D. Labs:
- E. Exercise A: Recovering Virtual Machine Files (agent based)
- F. Exercise B: Recovering a VMware Virtual Machine Disk
- G. Exercise C: Recovering an Entire VMware Virtual Machine
- H. Machine
- I. Exercise D: Using the VMware Agentless Restore
- J. Exercise E: Downloading Files and Folders from a VM
- K. Backup Image
- L. Exercise F: Creating Instant Access VM from a
- M. NetBackup Backup Image
- N. Exercise G: Instant Rollback for VMs
- O. Exercise H: Performing Restores on CDP Protected
- P. Backup

XII. Duplicating and Replicating Backups

- A. Duplication Strategies
- B. Storage Lifecycle Policy: Concepts
- C. Using Storage Lifecycle Policies
- D. Additional Storage Lifecycle Policy Features and
- E. Benefits
- F. Labs:
- G. Exercise A: Configuring a Storage Lifecycle Policy
- H. Exercise B: Configuring a Policy to Use an SLP
- I. Exercise C: Customizing SLP Settings
- J. Exercise D: Viewing and Monitoring SLP Operations
- K. Exercise E: Using SLPs to Perform MSDP Optimized
- L. Duplication
- M. Exercise F: Configuring SLPs for Replicating Backup
- N. Images

XIII. Protecting the NetBackup Catalog

- A. Understanding NetBackup Catalog
- B. Protecting the NetBackup Catalog
- C. Performing NetBackup Catalog Recovery
- D. Maintaining the NetBackup Catalog
- E. Labs:
- F. Exercise A: Verifying Catalog Configuration Files
- G. Exercise B: Configuring and Running NetBackup
- H. Catalog Backups
- I. Exercise C: Recovering the Catalogs Using the
- J. NetBackup Catalog Recovery Wizard
- K. Exercise D: Performing Catalog Operations
- L. Exercise E: Configuring a Policy for Catalog Archive

XIV. Configuring Immutable and Indelible Storage

- A. Ransomware Overview
- B. NetBackup Protect Against Ransomware
- C. Configuring NetBackup WORM Protection
- D. Backup Anomaly Detection
- E. Labs:
- F. Exercise A: Configuring Disk Pool and WORM Storage
- G. Unit
- H. Exercise B: Configuring NetBackup Policy
- I. Exercise C: Understanding Catalog Operations on
- J. WORM Image Copy
- K. Exercise D: Configuring and Identifying Backup Anomaly

XV. Generating NetBackup Reports

- A. Generating Reports in NetBackup
- B. NetBackup OpsCenter
- C. Generating NetBackup Reports in OpsCenter
- D. Generating Reports Using APTARE IT Analytics
- E. Labs:
- F. Exercise A: Using the NetBackup Reports Utility
- G. Exercise B: Configuring OpsCenter Data Collection for
- H. NetBackup
- I. Exercise C: Generating Reports Using OpsCenter

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Course Outline (cont'd)

XVI. Upgrading and Updating NetBackup

- A. NetBackup Upgrades: Overview
- B. VxUpdate: Overview
- C. Deployment Policy Management
- D. Initiating Upgrades Using VxUpdate
- E. VxUpdate: Error Codes
- F. Labs:
- G. Exercise A: Populating the Repository with NetBackup
- H. Packages
- I. Exercise B: Configuring a Deployment Policy
- J. Exercise C: Manually Initiating Upgrades from the
- K. Primary/Master Server Using VxUpdate
- L. Exercise D: Initiating Upgrades from the Client Using
- M. VxUpdate
- N. Exercise E: Viewing the Deployment Job Status

XVII. Collecting Logs and Diagnostic Information

- A. Performing Basic NetBackup Troubleshooting
- B. Identifying NetBackup Processes, Services, and
- C. Daemons
- D. NetBackup Logging: Overview
- E. Using Support Utilities
- F. Using NetBackup Support Resources
- G. Labs:
- H. Exercise A: Viewing the NetBackup Services
- I. Exercise B: Using the nbsu and nbcplogs Commands
- J. Exercise C: Viewing and Setting Debug Logging
- K. Properties
- L. Exercise D: Enabling NetBackup Legacy Debug Logging
- M. Exercise E: Viewing Debug Logging Levels for Unified
- N. Logs
- O. Exercise F: Using the Logging Assistant

XVIII. Appendix A: Protecting Hyper-V Environment

- A. Introduction to NetBackup for Hyper-V
- B. Configuring Hyper-V Backups
- C. Configuring NetBackup Policies for Hyper-V

- D. Performing and Monitoring Hyper-V Backups
- E. Performing Hyper-V Restores
- F. Performing Hyper-V Restores with the NetBackup Add-in
- G. for SCVMM
- H. Labs:
- I. Exercise A: Configuring NetBackup Communication with
- J. Hyper-V
- K. Exercise B: Configuring a Hyper-V Intelligent Policy and
- L. Backing Up Hyper-V Virtual Machines
- M. Exercise C: Restoring Individual Files
- N. Exercise D: Restoring the Full Hyper-V Machine
- O. Exercise E: Performing Hyper-V Backups and Restores
- P. in an SCVMM Environment

XIX. Appendix B: Protecting NAS Data

- A. Introduction to NetBackup for NDMP
- B. Preparing for NDMP Backups
- C. Configuring Local NDMP Backup
- D. Configuring Remote NDMP Backups
- E. Accelerator for NDMP Filers
- F. Protecting a NetApp cDOT NDMP Filer
- G. Understanding NDMP Three-way Backups
- H. Data Protection Configuring NDMP Three-way Backups
- I. Dynamic NAS (DNAS) Data Protection
- J. Labs:
- K. Exercise A: Authorizing NetBackup Access to NDMP
- L. Hosts
- M. Exercise B: Configuring and Performing NDMP Backups
- N. Exercise C: Using NetBackup Accelerator for NDMP
- O. Exercise D: Performing NDMP Restores
- P. Exercise E: Performing Prerequisite Tasks for D-NAS
- Q. Configuration
- R. Exercise F: Configuring and Performing D-NAS Backups
- S. Exercise G: Restoring D-NAS Backups

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Course Outline (cont'd)

XX. Appendix C: Configuring and Managing Tape Storage

- A. Media Manager Storage Units
- B. Configuring Tape Devices
- C. Verifying Tape Storage
- D. NetBackup Media Concepts
- E. Configuring Media
- F. Managing Robots and Tape Drives
- G. Monitoring Media and Media States
- H. Managing Tapes
- I. NetBackup Device Troubleshooting
- J. Common NetBackup Device Issues
- K. Media And Device Selection
- L. Media-related Status Codes
- M. Using Multiple Data Streams
- N. Optimizing Tape Drive Performance Using Multiplexing
- O. Troubleshooting Frozen and Suspended Media
- P. Labs:
- Q. Exercise A: Verifying and Discovering Tape Devices
- R. Exercise B: Viewing Configured Tape Devices
- S. Exercise C: Configuring Tape Devices
- T. Exercise D: Configuring Volume Pools
- U. Exercise E: Configuring Media
- V. Exercise F: Viewing Tape Drive and Robot Configuration
- W. Settings
- X. Exercise G: Using the Device Monitor to Monitor and
- Y. Manage Tape Drives
- Z. Exercise H: Managing Media
- AA. Exercise I: Using the Robtest Utility
- BB. Exercise J: Running NetBackup Reports from the
- CC. Command Line
- DD. Exercise K: Media State Management Using the
- EE. Command Line

XXI. Appendix D: Performing Instant Recovery

- A. Using VMware Instant Recovery
- B. VMware Instant Recovery: Differences
- C. VMware Instant Recovery: Process
- D. VMware Instant Recovery: Options
- E. NetBackup Plug-in in vSphere Web Client
- F. Instant Recovery Cleanup
- G. Executing the nbrestorevm Command
- H. Labs:
- I. Exercise A: Performing Non-NetBackup Pre-requisite
- J. Tasks for IRV
- K. Exercise B: Performing NetBackup Pre-requisite Tasks
- L. for IRV
- M. Exercise C: Performing Instant Recovery for VMware
- N. Using the vSphere Web Client