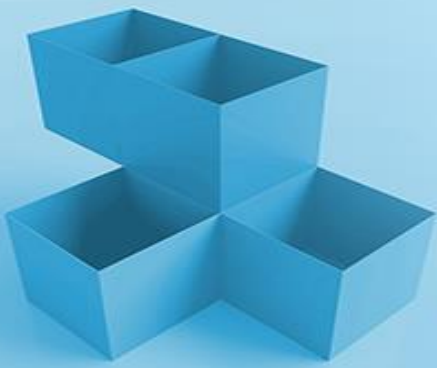


# StorageGRID Software Troubleshooting



Delivery: ILT/VILT

Duration: 3 days

Training Units: 36

## Course Description

In this course, you learn troubleshooting skills to support the implementation and lifecycle management of NetApp® StorageGRID® software. Through theoretical explanations and hands-on exercises, you learn and control the architecture, options, services, and features of the StorageGRID system. You learn the security and authentication mechanisms, logging and monitoring resources, and Apache Cassandra implementation. You also learn the processes to expand and upgrade the system. Finally, you learn about FabricPool technology and investigate Simple Storage Service (S3) issues.

## Audience

Professionals and engineers who use or implement StorageGRID solutions (from all audience types)

## Job Role

Systems administrator, operator, engineer

## Prerequisites

- 6 to 12 months of StorageGRID experience
- The NetApp StorageGRID Implementation Engineer accreditation
- Good knowledge of Simple Storage Service (S3)
- *StorageGRID Troubleshooting Essentials*
- DataStax DS101 and DS201 training courses

## Objectives

This course focuses on enabling you to do the following:

- Understand the networking architecture of a StorageGRID deployment
- Describe the load-balancing features of StorageGRID
- Review the StorageGRID services and ports
- Understand the impact of the StorageGRID options
- Understand the Cassandra implementation in StorageGRID
- Review the StorageGRID security and authentication mechanisms
- Define the StorageGRID logging and monitoring resources
- Review the expansion and upgrade processes
- Examine FabricPool technology with StorageGRID
- Investigate S3 issues with StorageGRID

## Course Content

This course includes the following modules, lessons, and exercises:

Modules	Lessons	Exercises
<b>Module 1: StorageGRID networking</b>	StorageGRID network topology	Examining StorageGRID network architecture
<b>Module 2: StorageGRID software concepts</b>	<ul style="list-style-type: none"><li>• Grid node services</li><li>• Managing node services</li><li>• StorageGRID configuration options</li></ul>	Exploring nodetool commands
<b>Module 3: StorageGRID logging and monitoring</b>	<ul style="list-style-type: none"><li>• StorageGRID service log files</li><li>• StorageGRID audit logging</li><li>• Log analysis</li><li>• Log forwarding</li></ul>	Managing StorageGRID logs
<b>Module 4: Troubleshooting Cassandra</b>	<ul style="list-style-type: none"><li>• Cassandra fundamentals</li><li>• Cassandra startup</li><li>• Nodetool</li></ul>	Examining Cassandra fundamentals
<b>Module 5: Troubleshooting StorageGRID decommission, expansion, and upgrade</b>	<ul style="list-style-type: none"><li>• StorageGRID decommissioning</li><li>• StorageGRID expansion process and issues</li><li>• StorageGRID major version upgrade</li></ul>	Decommissioning and upgrading

<p><b>Module 6: StorageGRID authentication and user management</b></p>	<ul style="list-style-type: none"> <li>• StorageGRID authorization and authentication</li> <li>• StorageGRID multitenancy implementation</li> </ul>	<p>Configuring StorageGRID authentication</p>
<p><b>Module 7: Troubleshooting StorageGRID security issues</b></p>	<ul style="list-style-type: none"> <li>• StorageGRID security</li> <li>• StorageGRID system hardening</li> <li>• Certificate-related Issues</li> </ul>	<p>Troubleshooting StorageGRID authorization</p>
<p><b>Module 8: StorageGRID performance troubleshooting</b></p>	<ul style="list-style-type: none"> <li>• StorageGRID performance factors</li> <li>• Identify performance bottlenecks</li> </ul>	<p>Examining StorageGRID performance details</p>
<p><b>Module 9: ONTAP FabricPool with StorageGRID</b></p>	<ul style="list-style-type: none"> <li>• FabricPool object store</li> <li>• Investigate object store unavailability</li> <li>• Troubleshooting connection issues</li> <li>• Object store access issues</li> </ul>	<p>Troubleshooting ONTAP FabricPool technology</p>
<p><b>Module 10: Troubleshoot S3 client and application issues</b></p>	<ul style="list-style-type: none"> <li>• Troubleshoot S3 request failures</li> <li>• S3 request logging</li> </ul>	

Course ID: STRSW-ILT-TROSGRID  
13 March 2023