

[RH415]: Red Hat Security: Linux in Physical, Virtual, and Cloud

Length : 4 days
Delivery Method : Instructor-led (Classroom)

Course Overview

Manage security of Red Hat Enterprise Linux systems deployed in bare-metal, virtual, and cloud environments

Red Hat Security: Linux in Physical, Virtual, and Cloud (RH415) is designed for security administrators and system administrators who need to manage the secure operation of servers running Red Hat® Enterprise Linux®, whether deployed on physical hardware, as virtual machines, or as cloud instances.

This course is based on Red Hat Enterprise Linux 7.5, Red Hat Satellite 6.3, Red Hat Ansible® Engine 2.5, Red Hat Ansible Tower 3.2, and Red Hat Insights.

Maintaining security of computing systems is a process of managing risk through the implementation of processes and standards backed by technologies and tools. In this course, you will learn about resources that can be used to help you implement and comply with your security requirements.

Audience Profile

System administrators, IT security administrators, IT security engineers, and other professionals responsible for designing, implementing, maintaining, and managing the security of Red Hat Enterprise Linux systems and ensuring their compliance with the organization's security policies.

At Course Completion

Impact on the organization

This course is intended to develop the skills needed to reduce security risk and to implement, manage, and remediate compliance and security issues in an efficient way. The tools and techniques can be used to ensure that systems are configured and deployed in a way that meets security and compliance needs, that they continue to meet those requirements, and that all existing systems can be audited and remediations and changes consistently applied as those requirements are revised. This flexibility may help the business to efficiently reduce risk of security breaches, which have a high cost in business disruption, brand erosion, loss of customer and shareholder trust, and financial costs for post-incident remediation. In addition, the organization may be able to use the tools in this course to help demonstrate that compliance requirements set by customers, auditors, or other stakeholders have been met.

Impact on the individual

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As a result of attending this course, you should be able to use security technologies included in Red Hat Enterprise Linux to manage security risk and help meet compliance requirements.

You should be able to demonstrate these skills:

- Analyze and remediate system compliance using OpenSCAP and SCAP Workbench, employing and customizing baseline policy content provided with Red Hat Enterprise Linux.
- Monitor security-relevant activity on your systems with the kernel's audit infrastructure.
- Explain and implement advanced SELinux techniques to restrict access by users, processes, and virtual machines.
- Confirm the integrity of files and their permissions with AIDE.
- Prevent unauthorized USB devices from being used with USBGuard.
- Protect data at rest but provide secure automatic decryption at boot using NBDE.
- Proactively identify risks and misconfigurations of systems and remediate them with Red Hat Insights.
- Analyze and remediate compliance at scale with OpenSCAP, Red Hat Insights, Red Hat Satellite, and Red Hat Ansible Tower.

***Red Hat has created this course in a way intended to benefit our customers, but each company and infrastructure is unique, and actual results or benefits may vary. ***

You should be able to demonstrate these skills:

- Manage compliance with OpenSCAP.
- Enable SELinux on a server from a disabled state, perform basic analysis of the system policy, and mitigate risk with advanced SELinux techniques.
- Proactively identify and resolve issues with Red Hat Insights.
- Monitor activity and changes on a server with Linux Audit and AIDE.
- Protect data from compromise with USBGuard and storage encryption.
- Manage authentication controls with PAM.
- Manually apply provided Ansible Playbooks to automate mitigation of security and compliance issues.
- Scale OpenSCAP and Red Hat Insights management with Red Hat Satellite and Red Hat Ansible Tower.

Pre-Requisites

- Be a Red Hat Certified Engineer (RHCE®), or demonstrate equivalent Red Hat Enterprise Linux knowledge and experience

Course Outline

Module 1: Manage security and risk

Lessons

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- Define strategies to manage security on Red Hat Enterprise Linux servers.

Module 2: Automate configuration and remediation with Ansible

Lessons

- Remediate configuration and security issues with Ansible Playbooks.

Module 3: Protect data with LUKS and NBDE

Lessons

- Encrypt data on storage devices with LUKS and use NBDE to manage automatic decryption when servers are booted.

Module 4: Restrict USB device access

Lessons

- Write playbooks that use variables to simplify management of the playbook and facts to reference information about managed hosts.

Module 5: Control authentication with PAM

Lessons

- Manage authentication, authorization, session settings and password controls by configuring pluggable authentication modules (PAMs)

Module 6: Record system events with audit

Lessons

- Record and inspect system events relevant to security, using the Linux kernel's audit subsystem and supporting tools.

Module 7: Monitor file system changes

Lessons

- Detect and analyze changes to a server's file systems and their contents using AIDE.

Module 8: Mitigate risk with SELinux

Lessons

- Improve security and confinement between processes by using SELinux and advanced SELinux techniques and analyses.

Module 9: Manage compliance with OPENSCAP

Lessons

- Evaluate and remediate a server's compliance with security policies by using OpenSCAP

Module 10: Automate compliance with Red Hat Satellite

Lessons

- Automate and scale your ability to perform OpenSCAP checks and remediate compliance issues using Red Hat Satellite.

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Module 11: Analyze and remediate issue with Red Hat Insights

Lessons

- Identify, detect, and correct common issues and security vulnerabilities with Red Hat Enterprise Linux systems by using Red Hat Insights.

Module 12: Perform a comprehensive review

Lessons

- Review the content covered in this course by completing hands-on review exercises.

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