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Mastering Keycloak

A Comprehensive 1-Day Course

FA-0535 · 1-Day

DevOps, Cloud & Infrastructure · Cybersecurity

Introduction

This one-day intensive training program is designed to provide you with an in-depth understanding of Keycloak, an open-source identity and access management solution. Throughout the day, you will explore various aspects of Keycloak, from installation and configuration to advanced features and security best practices.

Learning outcomes

By the end of this course, you will be able to:

- Understand the fundamentals of identity and access management (IAM).
- Install and set up Keycloak on different platforms.
- Configure Keycloak realms, clients, and users.
- Implement Single Sign-On (SSO) and Multi-Factor Authentication (MFA) with Keycloak.
- Integrate Keycloak with different applications and platforms.
- Explore advanced features like user federation, custom themes, and scripting.
- Secure your Keycloak deployment using best practices.
- Troubleshoot common Keycloak issues.
- Stay updated with the latest Keycloak developments and resources.

Prerequisites

Before enrolling in this course, participants should have:

- Basic understanding of identity and access management concepts.
- Familiarity with web application development and HTTP protocols.

- Knowledge of Linux command-line interface (CLI).
- A laptop or desktop computer with administrative privileges (for hands-on labs).

Training outline

1. Module 1: Introduction to Identity and Access Management (IAM)

- Overview of IAM concepts
- The role of IAM in modern applications
- Keycloak as an IAM solution
- Benefits of using Keycloak

2. Module 2: Installing and Setting Up Keycloak

- System requirements and prerequisites
- Downloading and installing Keycloak
- Initial configuration and setup
- Accessing the Keycloak admin console

3. Module 3: Keycloak Fundamentals

- Understanding realms, clients, and users
- User authentication and authorization
- Role-based access control (RBAC)
- Identity providers and federation

4. Module 4: Configuring Keycloak Realms

- Creating and managing realms
- Configuring realm settings and themes
- Realm-level security settings
- User self-registration and password policies

5. Module 5: Working with Clients and Users

- Creating client applications

- Configuring client settings
- Adding and managing users
- User attributes and social logins
- User account management options

6. Module 6: Single Sign-On (SSO) and Multi-Factor Authentication (MFA)

- Enabling SSO across applications
- Setting up MFA for enhanced security
- Implementing SSO and MFA in a practical scenario
- Troubleshooting SSO and MFA issues

7. Module 7: Integrating Keycloak with Applications

- Configuring application adapters
- Implementing authentication flows
- Protecting APIs with Keycloak
- Implementing fine-grained authorization policies

8. Module 8: Advanced Keycloak Features

- User federation and external identity providers
- Customizing Keycloak themes and templates
- Scripting with Keycloak
- Real-time user sessions and logout strategies

9. Module 9: Securing Keycloak Deployments

- Security best practices for Keycloak
- Hardening Keycloak server settings
- Securing communication channels
- Monitoring and auditing Keycloak logs

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