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Academy

Infrastructure Experts

(2 Days)

Preface

Welcome to the GSR Academy, where we believe in empowering individuals and teams with the skills they need to excel in today's dynamic and ever-evolving tech landscape.

At GSR Academy, we are not just committed to helping people gain new skills; it is our passion! Our workshops are curated and led by industry professionals, including Developers and System Architects, who have extensive experience working on real projects. This ensures that our training offerings are relevant, practical, and in line with the latest industry trends.

We understand that every team is unique, and their learning needs may vary. That's why we take pride in offering customized workshops that cater to your specific requirements. Whether you need to upskill your team in Ansible Development for seamless IT automation, implement a robust Single Sign-On Solution with Keycloak, or fine-tune your Linux systems for optimal performance, we've got you covered.

Introduction

Welcome to the Infrastructure Experts Workshop, In today's rapidly evolving digital landscape, staying ahead in the realm of IT infrastructure is essential. This workshop is meticulously crafted to empower IT professionals with advanced skills in Linux internals, Docker, Certificate Management, and an insightful overview of ELK (Elasticsearch, Logstash, and Kibana).

As technology continues to redefine the way we work and operate, proficiency in managing and optimizing infrastructure becomes increasingly critical. Whether you're a seasoned IT veteran or a budding enthusiast, this workshop is designed to provide a comprehensive understanding of key technologies and methodologies shaping modern infrastructure management.

Led by industry experts and seasoned practitioners, this workshop promises an immersive learning experience tailored to meet the demands of today's IT landscape. Through a combination of theoretical insights, hands-on exercises, and real-world case studies, participants will gain practical skills and knowledge that can be immediately applied in their professional endeavors.

Join us as we delve deep into the intricacies of Linux internals, exploring its architecture, kernel operations, and advanced troubleshooting techniques. Discover the power of Docker and containerization, learning how to streamline application deployment, enhance scalability, and optimize resource utilization.

Certificate management is a crucial aspect of securing digital assets in any organization. In this workshop, participants will learn best practices for certificate deployment, renewal, and revocation, ensuring robust security posture and compliance adherence.

Whether you're seeking to advance your career, stay abreast of emerging trends, or enhance your organization's infrastructure capabilities, the Infrastructure Experts Workshop offers a transformative learning journey that equips you with the skills and knowledge to thrive in today's dynamic IT landscape. Join us and embark on a journey towards becoming a proficient infrastructure expert!

Training Modules

Module 1: Advanced Linux

- Linux kernel overview
- Storage subsystem and filesystem implementation under the Linux kernel
- File system types, differences, and best practices
- Logging methods
- Advanced log processing

Module 2: Linux Security

- chroot Isolation
- Privilege Escalation
- Rootkit Detection Tools
- Securing Sensitive Files
- Hardening Network Services
- Security Compliance & Auditing

Module 3: Operational Maintenance in Production Environments

- Understanding current service state
- Services Hot Reload
- Downtime detection and prevention
- Overview of Production good practices

Module 4: Advanced Docker Container Management

- Custom Docker Image Creation
- Docker Compose and Swarm Orchestration
- Docker Secrets Management
- Volume Encryption
- Container Monitoring Tools
- Syslog Integration with Docker Engine

Module 5: Efficient Server Directory Synchronization with Rsync

- Rsync Fundamentals
- Basic Rsync Commands
- Incremental Backups
- File Permissions Handling
- Rsync Over SSH
- Automating with Cron
- Monitoring and Logging

Module 6: Linux Certificate Management

- Storage Locations: Understand where to store certificates on Linux for system-wide and user-specific use
- System-Wide Management: Learn tools and practices for managing system-wide certificates to maintain secure communication
- User-Specific Management: Explore methods for managing certificates at the user level and configuring applications accordingly

Module 7: Python for Linux Management

- Task Automation
- System Administration
- Shell Command Interaction
- Configuration Management
- Monitoring and Alerting
- Custom Tooling and APIs

Module 8: ELK Stack and Syslog Monitoring

- ELK Stack Overview
- Syslog Client/Server Monitoring
- Essential Components
- Logstash for Log Ingestion
- Elasticsearch for Log Storage
- Kibana for Visualization