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Site Reliability Engineering (SRE) Practitioner℠

VERSION 1

Global Best Practice

For professionals ready to apply SRE practices that strengthen reliability, resilience, and service excellence!

Course Description

PeopleCert

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Site Reliability Engineering (SRE) Practitioner℠ Course Description

Overview

The SRE (Site Reliability Engineering) Practitioner℠ course introduces ways to scale services economically and reliably in an organization. It explores collaboration, design, automation, and smart incident response practices and tools to improve agility, cross-functional collaboration, and transparency of health of services towards building resiliency.

The course equips participants with practices, methods, and tools to guide people across the organization involved in reliability using real-life scenarios and case stories. Upon completion of the course, participants will have tangible takeaways to leverage when back in the office, such as implementing SRE models that fit their organizational context, establishing effective Service Level Objects (SLOs), building advanced observability and AIOps into distributed systems, platforms for self-service, building resiliency by design and effective incident response strategies.

The course is developed by leveraging a broad range of SRE sources, engaging with experienced transformation leaders and practitioners in the SRE space, and working with organizations embracing SRE to extract real-life best practices and has been designed to teach the key principles and practices necessary for starting and evolving their SRE practices.

This course positions learners to successfully complete the SRE Practitioner℠ certification exam.

Course objectives

At the end of the course, the following **learning objectives** are expected to be **achieved:**

- gain a practical view of how to successfully implement a flourishing SRE culture in your organization
- understand underlying principles of SRE and what it is not in terms of anti-patterns, and how you become aware of them to avoid them
- understand how to realize organizational impact of SRE practices
- acing the art of SLIs and SLOs in a distributed ecosystem and extending the usage of error budgets beyond normal to ensure stakeholders needs are consistently met
- build security and resilience into a distributed, zero-trust environment, by design
- how to implement full stack observability, distributed tracing and bring about an observability-driven development culture
- curating data using AI to move from reactive to proactive and predictive incident management and how you use DataOps to build clean data lineage
- how to use platform engineering and Value Stream Management platforms to support self-service portals
- how GenAI can help SREs improve automation
- implement practical Chaos Engineering
- major incident response strategies for a SRE based on incident command framework, and examples of anatomy of unmanaged incidents
- SRE transformation strategies
- understanding the SRE role and understanding why reliability is everyone's problem
- SRE success story learnings.

Audience

The target audience for the SRE Practitioner[SM] course are professionals, including:

- anyone focused on large-scale service scalability and reliability
- anyone interested in modern IT leadership and organizational change approaches
- business managers
- business stakeholders
- change agents
- consultants
- DevOps practitioners
- IT directors
- IT managers
- IT team leaders
- Product Owners
- QA practitioners
- Scrum masters
- Security practitioners
- software engineers
- Site Reliability Engineers
- system integrators
- tool providers.

Official Training Materials (OTM) | Learner

- Learner Workbook (excellent post-class reference)
- Sample documents, templates, tools, and techniques
- Access to additional value-added resources and communities

Prerequisites

It is highly recommended that learners attend the SRE Foundation[SM] course with an accredited PeopleCert Accredited Training Organization and earn the SRE Foundation[SM] certification prior to attending the SRE Practitioner[SM] course and exam. An understanding and knowledge of common SRE terminology, concepts, principles, and related work experience are recommended.

Certification exam

This DEVOPS INSTITUTE® certification exam is accredited, administered, and managed by PeopleCert.
Successfully passing (65%) the 90-minute examination, consisting of 40 multiple-choice questions, leads to the SRE Practitioner[SM] certificate.

Course outline

- **Course introduction**
  - Course goals
  - Course agenda
- **Module 1: SRE anti-patterns**
  - SRE principles and practices (recap)
  - SRE myths and anti-patterns
  - SRE practices for incident response
- **Module 2: SLO is a proxy for customer happiness**
  - What has changed with SLO?
  - Identifying system boundaries for setting SLIs is critical
  - How do you use error budgets beyond the velocity versus stability debate?
- **Module 3: Building secure and reliable systems**
  - Non-abstract, large-scale design
  - Fault-tolerant design patterns
  - Designing for security
  - Designing for resiliency, scalability, performance, reliability, and security
- **Module 4: Full-stack observability**
  - The complexity of modern applications
  - Observability
  - Monitoring and telemetry
- **Module 5: Using platform engineering and AIOps**
  - Taking a platform-centric view
  - Using AIOps to improve resiliency and how DataOps can help
  - Implementing and measuring AIOps
- **Module 6: SRE and incident response management**
  - SRE key responsibilities towards incident response
  - Incident response patterns
  - AI/ML for better incident management
- **Module 7: Chaos Engineering**
  - Modern systems are chaotic
  - Chaos Engineering
  - Chaos Engineering for security
- **Module 8: SRE is a form of DevOps**
  - Key principles of SRE
  - Metrics for success
  - Transforming to SRE practices
- **Post-class assignments/exercises**
  - Non-abstract, large-scale design (after Day 1)
  - Engineering instrumentation: instrumenting Gremlin (after Day 2)

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THE LANGUAGE OF COLLABORATION

ESG Commitment

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