

# Certified SRE Practitioner



The GSDC Certified SRE Practitioner certification is a highly regarded credential that validates your proficiency as a practitioner in Site Reliability Engineering (SRE).



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## ABOUT CERTIFICATION

This certification is ideal for professionals who aim to enhance their expertise in managing and optimizing large-scale software systems.

By demonstrating your mastery of SRE principles and best practices, this certification showcases your ability to ensure reliability, scalability, and efficiency within IT operations.

With a strong emphasis on operational excellence, downtime reduction, and user satisfaction, the GSDC Certified SRE Practitioner certification equips you with the skills needed to proactively monitor and troubleshoot complex systems, design resilient architectures, and foster effective collaboration across teams.

Join an esteemed community of SRE practitioners who possess the knowledge and capabilities to maintain critical IT infrastructure seamlessly.

## OBJECTIVES

1. Gain hands-on experience in implementing SRE culture effectively
2. Apply practical techniques to create, monitor, and manage services using service-level objectives
3. Learn strategies to transition existing operations teams to SRE, including methods to overcome operational overload
4. Understand the core principles of SRE and identify common pitfalls to avoid
5. Explore the impact of Site Reliability Engineering on organizations
6. Learn how to assess risks and quantify the consequences of service-level objectives (SLOs)
7. Discover innovative budgeting techniques to foster resilience and minimize risks
8. Develop skills to build and maintain a secure and resilient zero-trust environment
9. Implement total observability across the entire technology stack, including distributed plotting and a development culture focused on observation
10. Understand the responsibilities of an SRE during major incidents based on the Incident Command Framework, including non-managed event scenarios
11. Master the purest implementation of DevOps, also known as SRE.
12. Explore different approaches to deliver SRE implementations effectively.
13. Understand the role of SRE and why reliability is everyone's challenge.
14. SRE Best practices & case studies.

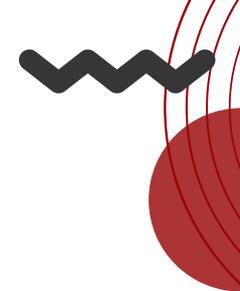
## Our Accreditation:



The Global Skill Development Council (GSDC) is the leading third-party, Vendor neutral, international credentialing and certification organization. The Global Skill Development Council (GSDC) is proud to be ANSI Accredited Member. The American National Standards Institute (ANSI) is a private, non-profit organization that administers and coordinates the U.S. voluntary standards and conformity assessment system.

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# COURSE SYLLABUS

## 1. SRE Principles & Practices

- What is Site Reliability Engineering?
- Resilience and Reliability Planning
- SRE & DevOps: What is the Difference?
- SRE Principles & Practices
- Importance and need for this SRE role
- Recommended Case Study: DevOps failure healed with SRE

## 2. SLI/SLO/SLA & Error Budgets:

- Service Level Objectives (SLO's)
- SLI - Indicators in Practice
- SLO vs SLA
- Guidance on setting SLOs and SLIs
- Control Measures
- Golden Signals
- Error Budgets
- Error Budget Policies
- Recommended Case Study: Considerable Scenarios for SLI/SLO/SLA

## 3.Reducing Toil

- What is Toil?
- Why is Toil Bad?
- Doing Something About Toil
- How to identify a TOIL in our own space
- Technical Debt vs TOIL
- Types/categories of TOIL
- When we cannot consider an activity as a TOIL
- Recommended Case Study: How to Reduce Toils with Automation

## 4.SRE Project Build & Transition Approach

- Why SRE to be involved in Build & Transition
- Design Assessment
- Potential Deliverables & Recommendations
- Production readiness review
- Risk Management - Identification, prioritization, and mitigation

## 5.High Availability and Capacity Planning

- High Availability Concept
- Business Continuity Management
- Considerable DR Scenarios
- High Availability and handling Unpredicted Load

## 6. SRE Tools & Automation:

- Automation Defined (E2E Thinking)
- Automation Focus
- Hierarchy of Automation Types
- Secure Automation

## 7.DevOps CI/CD Toolchain and Pipeline:

- SDLC Model
- Waterfall Model
- Agile
- Lean Development
- DevOps Principles
- DevOps vs SRE

## 8. Chaos Engineering:

- What is Chaos Engineering?
- Chaos Test
- Alternate Chaos Test Tools

## 9. Communication and Collaboration:

- Why proper communication is important
- Effective tools for Communication
- Agile Approach with Lean way

## 10. Testing for Reliability:

- Relationships Between Testing and Mean Time to Repairs
- Types of Software Testing
- Creating a Test and Build Environment
- Testing at Scale
- Encourage Proactive Testing

## 11. Managing Incidents:

- Why Organizations Embrace SRE
- Patterns for SRE Adoption
- Sustainable Incident Response
- Blameless Post-Mortems
- SRE & Scale
- The Anatomy of an Unmanaged Incident
- Elements of Incident Management Process
- Managed Incidents
- Best Practices for Incident Management
- Recommended Case Study: Unmanaged vs Managed Incidents, Industry Use cases and practices followed by Cloud Service Providers to maintain reliability (Use Cases with Practical Mapping with Scenarios)



## 12. Emergency response:

- Process of Troubleshooting
- Effective Troubleshooting
- Common Pitfalls
- Effective handling of RCA with Problem Management
- Making Troubleshooting Easier

## 13. Effective Troubleshooting:

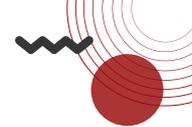
- Why Organizations Embrace SRE
- Patterns for SRE Adoption
- Sustainable Incident Response
- Blameless Post-Mortems
- SRE & Scale
- Practices followed by Cloud Service Providers to maintain reliability

## 14. Anti-Fragility & Learning from Failure:

- Why Learn from Failure
- Benefits of Anti-Fragility
- Shifting the Organizational Balance

## 15. SRE, Other Frameworks, Trends:

- SRE & Other Frameworks
  - SRE Evolution
  - Culture Setting for SRE
  - Continuous Improvement cycle
  - SRE Project Build & Transition Approach
  - SRE After Go-live "Run" Approach
  - SRE Package
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# GSDC Technical Advisory Board :



The GSDC is the leading certification association which brings together innovative organizations and founding thought-leaders as Technical Advisors from over 40 countries to design curriculum on Blockchain, Devops, Six Sigma & Agile Certifications.

## Our Future Information **Target Audience**

- Business Managers
- Change Agents
- DevOps Practitioners
- IT Managers.
- IT Team Leaders
- Anyone starting or leading a move towards increased reliability

## **Pre-requisites**

Knowledge of business domains and DevOps will be beneficial.

You must be GSDC SRE Foundation Certified.

If you are looking for a beginner level only then you can go for [GSDC SRE Foundation Certification](#).

**Find out more online at**  
**[www.gsdccouncil.org](http://www.gsdccouncil.org)**

