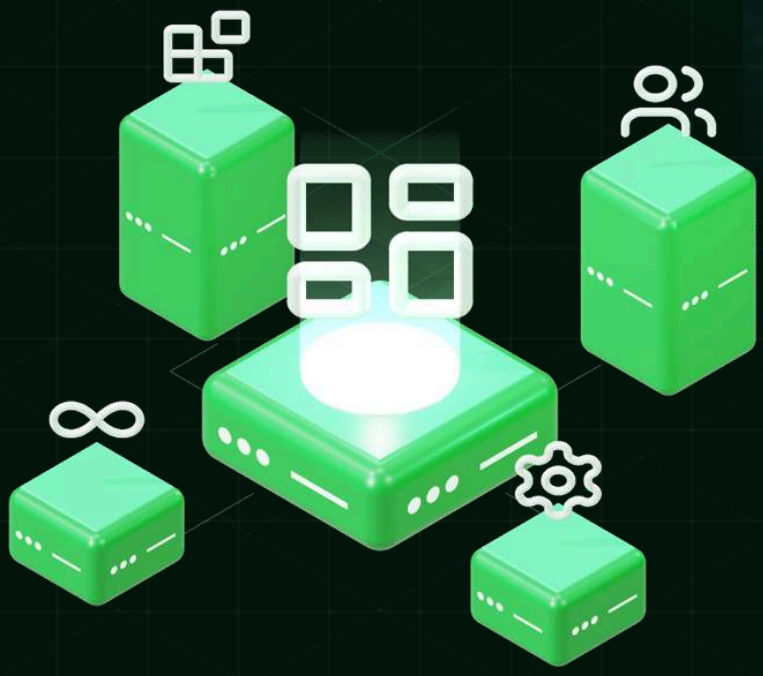
✦ DEVOPS & PLATFORM ENGINEERING · ADVANCED

# Platform Engineering with Backstage

Golden paths for developers.



64
HOURS

8
MODULES

SAM-PLATENG
CERTIFICATION

✦ INSIDE THIS BROCHURE

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AT A GLANCE

| | |
|---|---|
| Level | Advanced |
| Duration | 64 Hours |
| Modules | 8 |
| Certificate | SAM-PLATENG |

✦ PROGRAM OVERVIEW

# Golden paths for developers.



Build an internal developer platform and portal with Backstage.

As cloud-native stacks grow more complex, developers lose time navigating tools, tickets and tribal knowledge. Platform engineering addresses this by building internal developer platforms that offer self-service golden paths. This advanced program teaches you to design a platform as a product, set up and extend a Backstage developer portal, build software templates, integrate Kubernetes and CI/CD, and measure developer experience.

| LEVEL | DURATION | CERTIFICATION | DELIVERY |
|---|---|---|---|
| Advanced | 64 Hours | SAM-PLATENG | Instructor-led · Live virtual · Blended |



✦ WHAT YOU'LL PRACTISE

1. Design an internal developer platform
2. Set up a Backstage portal
3. Create templates and golden paths
4. Measure developer experience

✦ WHO IT'S FOR

# Built for people ready to grow.

01

### Developers & sysadmins

DevOps, Linux and Git foundations

02

### DevOps engineers

Docker, Kubernetes, Terraform, CI/CD

03

### Platform teams

GitOps, Helm, Backstage, observability

04

### Reliability leads

SRE practices and DevSecOps

PREREQUISITES

| | |
|---|---|
| Hands-on Kubernetes and CI/CD experience | 01 |
| Working knowledge of Git and GitHub | 02 |
| Basic JavaScript or TypeScript familiarity | 03 |

ROLES YOU CAN TARGET

- Platform Engineer ↗
- Developer Experience Engineer ↗
- Senior DevOps Engineer ↗
- Internal Tools Engineer ↗
- Site Reliability Engineer ↗

✦ LEARNING OUTCOMES

# What you'll be able to do.

01 Design an internal developer platform using product thinking

02 Deploy and configure a production-ready Backstage portal

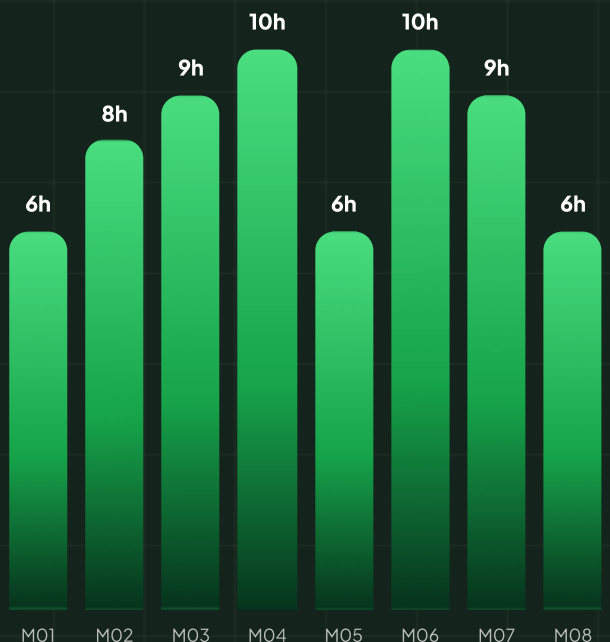
03 Model services, APIs and teams in the software catalog

04 Build software templates that scaffold golden-path services

05 Integrate Kubernetes, CI/CD and documentation into the portal

06 Measure developer experience using DORA and SPACE frameworks

HOURS PER MODULE



✦ PROGRAM RUNWAY

# Your journey, module by module.

8
MODULES · 64 HRS

| | | |
|---|---|---|
| 01 | **Platform Engineering Foundations**<br>What platform engineering solves, Internal developer platform components, Platform as a product | 6 hrs |
| 02 | **Backstage Architecture and Setup**<br>Backstage core concepts, Frontend and backend architecture, Creating an app with create-app | 8 hrs |
| 03 | **Software Catalog**<br>catalog-info.yaml descriptors, Entity kinds and relations, Components, APIs, Systems and Domains | 9 hrs |
| 04 | **Software Templates and Golden Paths**<br>Scaffolder template syntax, Parameters and form inputs, Built-in and custom actions | 10 hrs |
| 05 | **TechDocs and Search**<br>Docs-as-code with MkDocs, TechDocs build strategies, Publishing docs to storage | 6 hrs |
| 06 | **Plugins and Integrations**<br>Kubernetes plugin, GitHub Actions plugin, Argo CD and monitoring plugins | 10 hrs |
| 07 | **Platform Infrastructure and Self-Service**<br>Kubernetes as platform substrate, Infrastructure provisioning with Terraform and Crossplane, GitOps delivery with Argo CD | 9 hrs |
| 08 | **Measuring and Evolving the Platform**<br>DORA metrics, SPACE framework, Developer surveys and feedback | 6 hrs |
| ★ | **Capstone · Internal Developer Platform MVP**<br>Assessment, capstone review and certification | |

✦ DETAILED CURRICULUM

# The syllabus.

Modules 01–03

MODULE 01

## Platform Engineering Foundations

6 hours

**Hands-on lab**
Map developer pain points and draft a platform capability roadmap.

TOPICS COVERED

- What platform engineering solves
- Internal developer platform components
- Platform as a product
- Team Topologies and platform teams
- Golden paths and paved roads
- CNCF platform maturity model

MODULE 02

## Backstage Architecture and Setup

8 hours

**Hands-on lab**
Create a Backstage app with GitHub sign-in and PostgreSQL storage.

TOPICS COVERED

- Backstage core concepts
- Frontend and backend architecture
- Creating an app with create-app
- app-config.yaml configuration
- PostgreSQL and deployment options
- GitHub authentication

GitHub PostgreSQL

MODULE 03

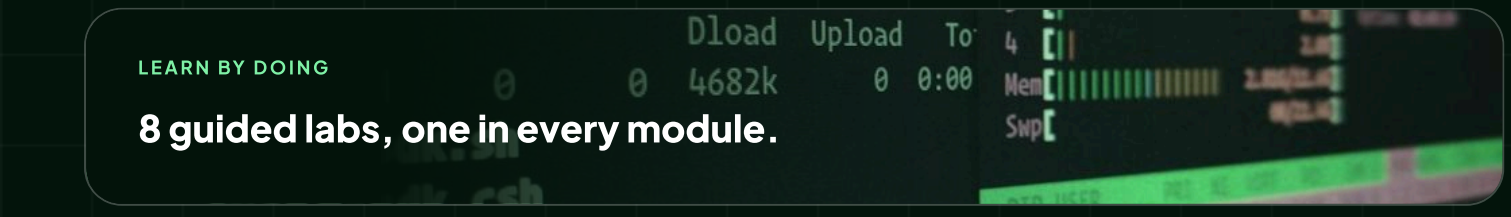
## Software Catalog

9 hours

**Hands-on lab**
Model services, APIs and teams with ownership and dependency relations.

TOPICS COVERED

- catalog-info.yaml descriptors
- Entity kinds and relations
- Components, APIs, Systems and Domains
- Users, groups and ownership
- Entity discovery and processors
- Catalog hygiene practices




LEARN BY DOING

**8 guided labs, one in every module.**

✦ DETAILED CURRICULUM

# Syllabus, continued.

Modules 04–06

MODULE 04

## Software Templates and Golden Paths

10 hours

**Hands-on lab**
Build a template that scaffolds a service with CI and catalog registration.

TOPICS COVERED

- Scaffolder template syntax
- Parameters and form inputs
- Built-in and custom actions
- Publishing repositories to GitHub
- Registering generated components
- Template versioning

GitHub

MODULE 05

## TechDocs and Search

6 hours

**Hands-on lab**
Publish service documentation through TechDocs and make it searchable.

TOPICS COVERED

- Docs-as-code with MkDocs
- TechDocs build strategies
- Publishing docs to storage
- Backstage search configuration
- Documentation standards

MODULE 06

## Plugins and Integrations

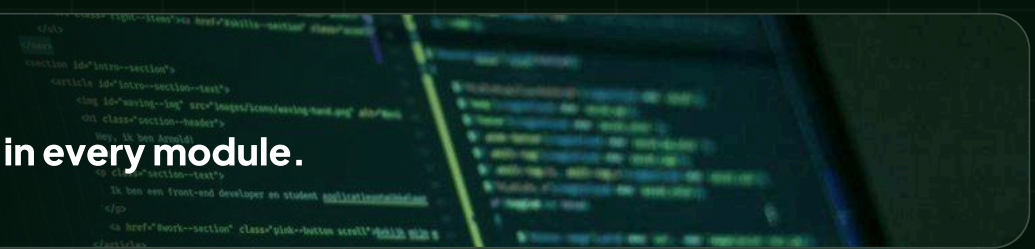
10 hours

**Hands-on lab**
Develop a custom plugin and integrate Kubernetes and CI status views.

TOPICS COVERED

- Kubernetes plugin
- GitHub Actions plugin
- Argo CD and monitoring plugins
- Backstage new backend system
- Writing a custom frontend plugin
- Permissions framework

GitHub · Kubernetes · Argo



LEARN BY DOING

## 8 guided labs, one in every module.

✦ DETAILED CURRICULUM

# Syllabus, continued.

Modules 07–08

MODULE 07

## Platform Infrastructure and Self-Service

9 hours

**Hands-on lab**
Add a template that provisions a namespace and database via Crossplane.

TOPICS COVERED

- Kubernetes as platform substrate
- Infrastructure provisioning with Terraform and Crossplane
- GitOps delivery with Argo CD
- Environment self-service
- Guardrails and policy

Kubernetes · Terraform · Argo

MODULE 08

## Measuring and Evolving the Platform

6 hours

**Hands-on lab**
Define platform success metrics and build a service maturity scorecard.

TOPICS COVERED

- DORA metrics
- SPACE framework
- Developer surveys and feedback
- Platform adoption strategy
- Scorecards and tech insights

CAPSTONE

## Internal Developer Platform MVP



✦ YOUR STACK

# Tools you'll build with.

Real platforms and frameworks — the same stack modern teams ship with, practised in cloud-hosted labs.

**Kubernetes**
Container orchestration

**GitHub**
Code hosting & Actions CI

**Docker**
Containers & images

**Helm**
Kubernetes packaging

**Terraform**
Infrastructure as code

**Argo**
GitOps delivery

**PostgreSQL**
Relational database



LAB ACCESS

## 24×7 cloud labs for the length of the program

✦ HANDS-ON WORK

# Projects that prove you can do it.

01

### Service Catalog Rollout

Model a sample organisation's services, APIs, systems and teams in Backstage with clear ownership and documented dependencies.

02

### Golden Path Template

Create a software template that scaffolds a containerised service with CI pipeline, Helm chart, TechDocs and catalog registration.

03

### Custom Portal Plugin

Build and integrate a Backstage plugin that surfaces deployment, ownership or quality information for each catalog component.

CAPSTONE PROJECT

## Internal Developer Platform MVP

Design and build a minimum viable internal developer platform: Backstage portal with catalog, TechDocs and plugins, golden-path templates provisioning repositories, CI/CD and Kubernetes environments through GitOps, plus a metrics plan for adoption and developer experience.

Real-world scenario · Mentor review · Portfolio ready



CERTIFICATION

# SAM-PLATENG

Awarded on successful completion of the program assessments.

- MCQ assessments
- Practical lab evaluation
- Project & capstone review
- Final presentation



✦ HOW YOU LEARN

## The SAM Learning Framework™

PHASE 01

S

### Scenario

Real-world attack and use-case scenarios open every module.

PHASE 02

A

### Apply

Hands-on lab work, CTF challenges and live projects.

PHASE 03

M

### Master

Assessment, peer review and certification prep.

PHASE 04

M

### Mentor

Post-program career guidance and support.

DELIVERY MODELS

- Instructor-Led (ILT)
- Virtual Instructor-Led
- Self-Paced Online
- E-Learning Licensing
- Blended Learning
- Corporate Onsite
- Bootcamp Intensive
- Hackathon / CTF
- Mentorship

✦ LEARNING PATH · DEVOPS & PLATFORM ENGINEERING

# Where this program fits.

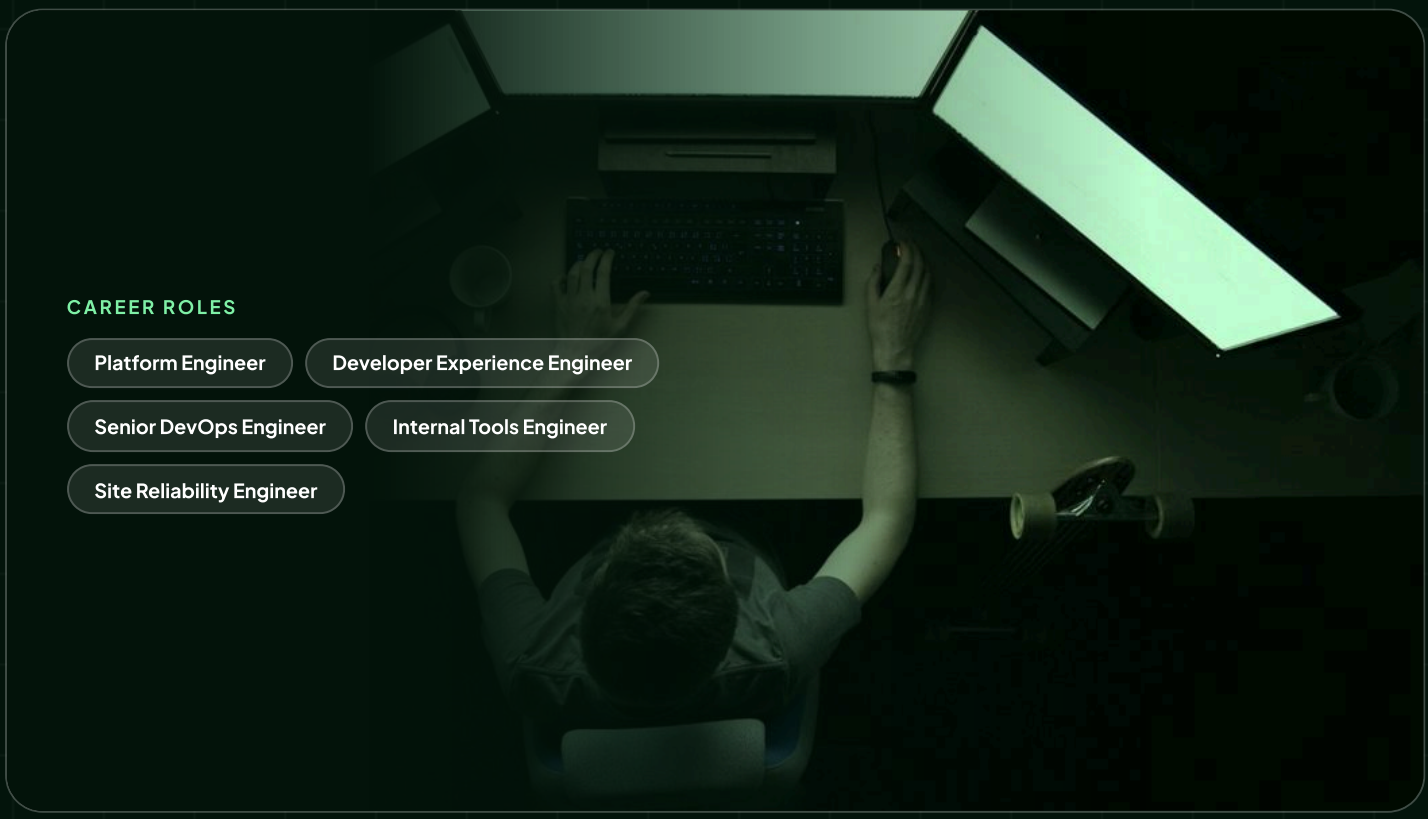
| Beginner | Intermediate | Advanced | Expert |
|---|---|---|---|
| 3 programs | 6 programs | You are here | 1 programs |

## BEFORE THIS

| | |
|---|---|
| Docker Mastery | 48 Hours |
| Kubernetes — From Zero to Hero | 80 Hours |
| Terraform & Infrastructure as Code | 56 Hours |
| Jenkins CI/CD Pipelines | 48 Hours |

## UP NEXT

| | |
|---|---|
| SRE — Site Reliability Engineering | 80 Hours |



## CAREER ROLES

- Platform Engineer
- Developer Experience Engineer
- Senior DevOps Engineer
- Internal Tools Engineer
- Site Reliability Engineer

✦ FAQS

# Questions, answered.

## Q01

### Do I need prior experience to join?

This is an advanced program for engineers with hands-on Kubernetes and CI/CD experience. Basic JavaScript or TypeScript familiarity helps with plugin development, but you do not need to be a frontend developer to complete the program.

## Q02

### How is the program delivered and scheduled?

Sessions are instructor-led and run as live virtual classes or in a blended format. Batch timings, including weekday and weekend options, are confirmed at enrolment, and session recordings and notes support revision between classes.

## Q03

### What certification will I receive?

Learners who complete the required labs, projects and final assessments receive the Samcommunity Academy SAM-PLATENG certificate. It records the skills you have demonstrated during the program and is awarded only after assessments are passed.

## Q04

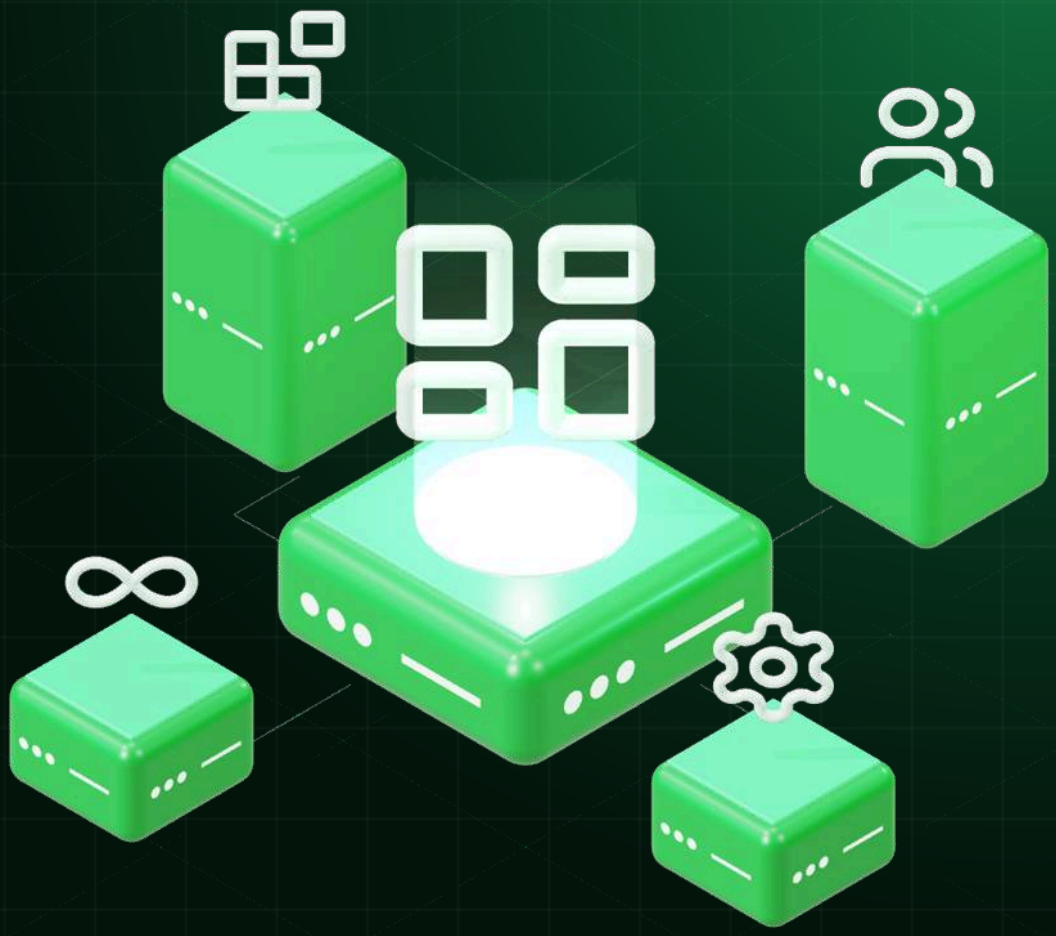
### Will I get access to labs and tools?

Yes. You work with a lab Backstage instance, GitHub organisation, Kubernetes cluster, Argo CD and Crossplane. Backstage and these tools are open source, so you can run your own portal locally to continue experimenting.

## Q05

### Does the program include career support?

You receive guidance on building a portfolio from your projects, resume and profile review, and mock interviews focused on platform engineering, developer experience and senior DevOps roles. Career support helps you prepare, but jobs, interviews and salaries are not guaranteed.



✦ LET'S TALK

# Start Platform Engineering with Backstage with Samcommunity.


INDIVIDUALS

**academy@samcommunity.in**

Batches, enrolment & career guidance

CORPORATE & INSTITUTIONS

**corporate@samcommunity.in**

Team batches & custom programs


Xylyn Samcommunity Private Limited · DPIIT-recognized startup · Surat, Gujarat, India