Cloud Ready Hackathon

Category: Cloud Platforms | **Vendor:** Various

Duration: 40.00 hours (5 days) **32.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

The Cloud Ready Hackathon prepares the engineers of all flavours for cloud-native development and deployment. It's focus is to give attendees a hands-on experience of working with Linux, Git, Docker, Kubernetes, popular DevOps tools such as GitHub Actions, Jenkins and Terraform. Attendees will work in teams completing a set of gated challenges that will take them on a journey to becoming the stars of today’s modern, cloud-native application world.

About This Course

Challenges

The challenges are connected – each of them builds on top of the previous one. The attendees will be given a repo containing the source code of the demo application consisting of several microservices developed using node.js. This
application will be used throughout the Bootcamp, and each challenge will present a piece of the puzzle towards the story of continuous delivery into the Kubernetes environment. Challenges are briefly described below:

Challenge 1: Hello Linux

- A lap around Linux basics (most common bash commands, grep, vi/vim, writing scripts)

Challenge 2: To get or Git the code

- Introduction to Git concept of source control. Tasks include cloning repos, committing, pushing, branching, etc.

Challenge 3: Test, test, test… and then code

- Implement Unit tests for the existing code with Jest.
- Introducing Test-Driven Development. Implement new functionalities in a test-driven manner (first test, then code).
- Create a code-coverage report using SonarQube.

Challenge 4: Pack it and send it to the dock

- Introduction to containers with Docker.
- Creating Dockerfile, building images and pushing to Docker registry.

Challenge 5: Let the orchestration begin!

- Introduction to Kubernetes.
- Creating the first cluster using Google Kubernetes Engine. Deploying first container images to Kubernetes cluster.

Challenge 6: Let’s automate the packaging

- Introduction to CI/CD tools. Creating the continuous integration pipeline with unit testing, branch protection, code-quality gates, and creating and pushing container images.
- The attendee teams will be able to choose between Jenkins and GitHub Actions – whichever works for them

Challenge 7: Putting it all together

- Creating deployment pipeline for Continuous Delivery using Jenkins or GitHub Actions. Zero-downtime deployment using Helm.

Challenge 8: Coding the infrastructure

- Introduction to Terraform. Creating the infrastructure-as-code scripts for deploying the K8s and other services on GCP or Azure.

Challenge 9: What’s up with my application?

- Implementing monitoring solution leveraging Prometheus and Graphana. Deploying a “dirty” application and monitoring the status of the cluster.
- Implementing resource limitations for containers.
- Implementing alerting.

Challenge 10: Now, let’s mesh it up!

- Introduction of Istio as service mesh platform for Kubernetes. Implementing advanced microservices scenarios (advanced routing, retries with exponential backoff, circuit breaker, health checks, mutual TLS, ...).
- Canary deployment

Learning Outcomes

Upon successful completion of this course, participants will be able to:

Learning Outcomes

This Hackathon encompasses the modern software development toolbox – from source control, across testing tools to continuous integration and deployment. Each engineer working with software needs to have experience with these to be successful in the modern, cloud-native world.Every attendee will build the following technical skills:

- Fluency with the basic set of bash commands necessary to work in a Linux/Unix based environment
- Experience with Git commands to be able to successfully participate in development teams, both from the command line and chosen IDE
- Familiarity with software testing process, both the writing and executing tests
- Experience with Docker (creating and running custom images, pushing images to private docker repository)
- Experience with Kubernetes (running a cluster, deploying, running, and upgrading a microservice app)
- Working knowledge of chosen CI/CD automation tool (either Jenkins or GitHub actions)

Attendees will also explore the concepts of test-driven development, infrastructure as code, microservice architecture and service mesh.

Cloud Ready Hackathon builds on the concept of learning-by-doing in a highly interactive environment. Solving the real world problem without being told directly what to do will enable attendees to apply acquired skills immediately
on their job

Detailed Course Outline

Challenge 1: Hello Linux — Linux basics, bash commands, grep, vi/vim, scripting

Challenge 2: To get or Git the code — Git source control: cloning, committing, pushing, branching

Challenge 3: Test, test, test… and then code — Unit tests with Jest, TDD, code coverage with SonarQube

Challenge 4: Pack it and send it to the dock — Docker: Dockerfile, building images, pushing to registry

Challenge 5: Let the orchestration begin! — Kubernetes: creating clusters with GKE, deploying container images

Challenge 6: Let's automate the packaging — CI/CD with Jenkins or GitHub Actions: unit testing, branch protection, code-quality gates

Challenge 7: Putting it all together — Deployment pipeline for CD, zero-downtime deployment with Helm

Challenge 8: Coding the infrastructure — Terraform: IaC scripts for K8s and other services on GCP or Azure

Challenge 9: What's up with my application? — Monitoring with Prometheus and Grafana, alerting

Challenge 10: Now, let's mesh it up! — Istio service mesh, advanced routing, circuit breaker, mutual TLS, canary deployment

Skills You Will Learn:

Learning Outcomes

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Frequently Asked Questions

Q: What delivery options are available for Cloud Ready Hackathon?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 5-day Cloud Ready Hackathon course provides up to 32.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Cloud Ready Hackathon training?

The training takes place over 5 day(s), with each day lasting approximately 40.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Cloud Ready Hackathon?

Yes, we provide corporate training, dedicated training, and closed classes for Cloud Ready Hackathon. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Cloud Ready Hackathon, Hackathon, CLRHK

Q: Why choose Nexus Human for Cloud Ready Hackathon?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Cloud Ready Hackathon training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

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