

Kickstarting the Kubernetes & Cloud Native Bootcamp!

Week -3



Speaker: Payal Godhani



Topic: Cloud Native Architecture

Title: 3 Weeks Down, 2 More to Go! Cloud Native Momentum in Full Swing!

- We've crossed the Week 3 milestone in our 5-week KCNA Certification Bootcamp, and the energy is higher than ever!
- It was an insightful session filled with real-world applications, best practices, and interactive discussions around modern cloud-native design principles. Huge thanks to Payal for sharing her expertise with the community!

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What We Covered 🔍

The screenshot shows a Zoom meeting in progress. The main window displays a presentation slide titled "Scaling Smarter: The Power of Cloud Native Autoscaling" by Payal Godhani, Principal Engineer at Oracle Cloud. The slide also includes a "Confidential - Oracle Restricted" watermark and a "PowerPoint Slide Show - (Autobreaking (Full Screen))" status bar. The Zoom interface includes a top bar with "CNCG Gandhinagar KCNA Certification Bootcamp - Week 3" and a "Recording" indicator. On the right, a vertical sidebar shows two video thumbnails: Payal Godhani and Neel Shah (you). The bottom toolbar contains icons for Unmute, Stop video, Chat, DMs, Q&A, Participants (14), Share screen, Stop recording, and More. A "Leave" button is visible in the bottom right corner.

WEEK 3 – CLOUD NATIVE ARCHITECTURE

This session was all about understanding the "why" and "how" behind cloud-native design patterns. Participants explored real-world use cases, system designs, and the architectural mindset needed to build resilient, scalable, and cloud-native systems.

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What We Covered 🔍

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How Horizontal Pod Autoscaler (HPA) Works

- HPA scales pods based on CPU, memory, or custom metrics.
- Uses the Kubernetes Metrics Server.
- Example use case: Scaling a web application during high traffic

```
apiVersion: autoscaling/v2
kind: HorizontalPodAutoscaler
metadata:
  name: webapp-hpa
spec:
  scaleTargetRef:
    apiVersion: apps/v1
    kind: Deployment
    name: webapp
  minReplicas: 1
  maxReplicas: 10
  metrics:
  - type: Resource
    resource:
      name: cpu
      targetAverageUtilization: 50
```

Payal Godhani

Unmute Stop video Chat DMs Q&A Participants 20 Share screen Stop recording More Leave

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Introduction to Kubernetes Autoscaling

- Why autoscaling is essential in Kubernetes ?
- Overview of performance, cost optimization, and resilience benefits.
- Types of autoscaling in Kubernetes

Payal Godhani

Neel Shah (you)

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Key Takeaways from the Session

Cloud-Native ≠ Just Containers

- It's a holistic approach involving microservices, DevOps practices, CI/CD pipelines, and resilient architecture.

Design for Failure

- Cloud-native systems are built assuming that components will fail—so redundancy, health checks, and self-healing are critical.

2-Factor App Methodology

- A popular framework for building scalable, maintainable cloud-native applications was discussed in detail.

Service Mesh & API Gateways

- Tools like Istio and Envoy were highlighted for managing service-to-service communication in complex architectures.

Immutable Infrastructure

- Treat infrastructure as code. Deploy, destroy, and redeploy instead of patching live systems.

Stateless vs. Stateful Services

- Emphasis on decoupling state from application logic to enhance scalability and resilience.

Vendor Neutrality & Portability

- Build apps that work anywhere—cloud agnostic design was a key theme for long-term flexibility.

Real-World Use Cases & Q&A

- Payal shared practical examples from Oracle Cloud, helping attendees connect theory to actual deployments.

What's next??

WEEK 4 (APRIL 12, 2025): CLOUD NATIVE OBSERVABILITY

 **DATE: APRIL 12, 2025**

After three value-packed weekends, we're heading into Week 4 of our KCNA Bootcamp – focused on Cloud Native Observability 🔍

This session will help you understand how to monitor, troubleshoot, and gain visibility into complex cloud-native environments using modern observability tools and practices.

WHAT TO EXPECT IN THIS SESSION?

- ◆ Fundamentals of observability: metrics, logs, and traces
- ◆ Tools like Prometheus, Grafana, OpenTelemetry, and more
- ◆ How to monitor Kubernetes clusters and cloud-native applications
- ◆ Real-world strategies for building reliable, observable systems

💡 Perfect for DevOps engineers, SREs, platform engineers, and anyone looking to make their systems more transparent and resilient.

⚡ Don't miss out — we're nearing the finale of this exciting bootcamp journey. Let's make the most of it!

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Amazon moving from serverless
to monolithic architecture
while telling other companies
to evolve from monolith to serverless

