



Google Cloud Gaming Workshop Tutorial for Beginners

쉽게 알아보는
Google Kubernetes Engine



Google Cloud Platform

★ Agenda

1

Container & Kubernetes

2

Google Kubernetes Engine

3

DEMO





1

Container & Kubernetes

2

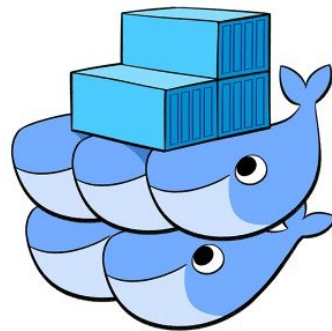
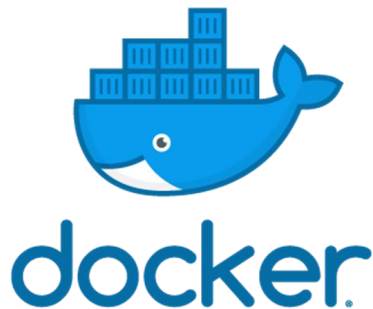
Google Kubernetes Engine

3

DEMO

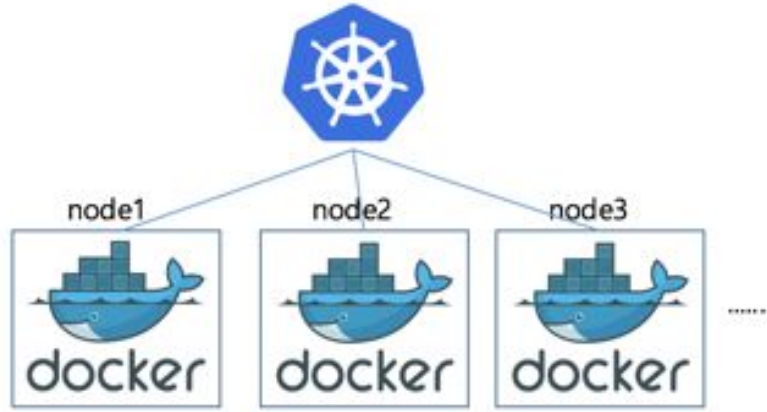


What is a Container?



lightweight OS-level virtualization Method (**Not!!!** Virtual Machine)
Package Software into **Standardized Unit**
Speed, Portable(**Easy to move**), Efficiency(**Less OS overhead**)

Kubernetes



- Container platform that manages container
- Workload level abstraction
- Portable, Extensive, Open-source platform

Consideration

참고 : [Getting Started with Containers and Google Kubernetes Engine \(Cloud Next '18\)](#)

K8s has to work (Cluster Operator)

- Bootstrapping Master and Worker Nodes
 - Configuration and Managing etcd
 - Configuring Network Routes/Overlay
 - TLS between Master and Worker Nodes
 - Encrypting etcd
 - Upgrading Cluster
 - Configuring Highly Available Masters
 - Node Lifecycle Management
- & More.....

So we can deploy thing. (Application Developer)





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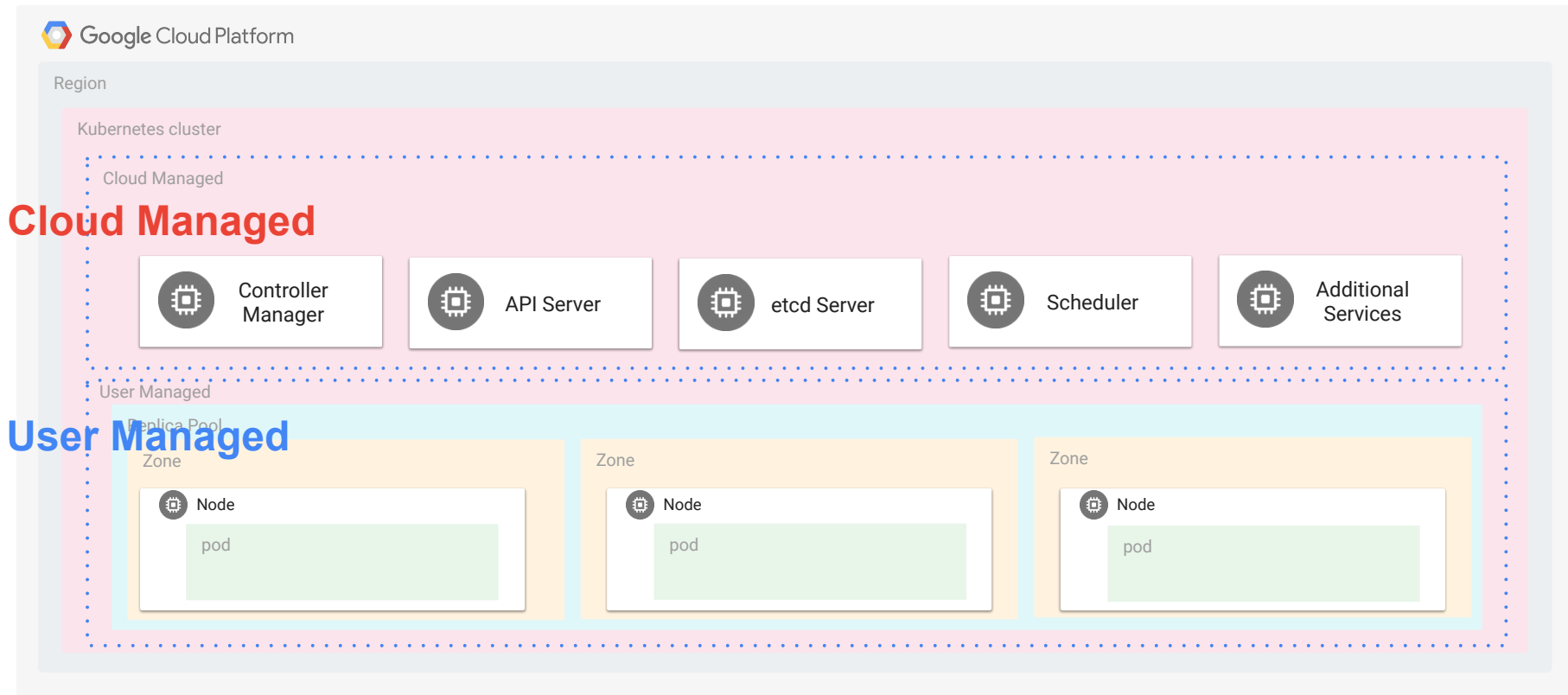
Google Kubernetes Engine

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DEMO



Google Kubernetes Engine



Master Node, **Fully Managed by Google**

Services Compared (Provider)

참고 : <https://logz.io/blog/kubernetes-as-a-service-gke-aks-eks/>

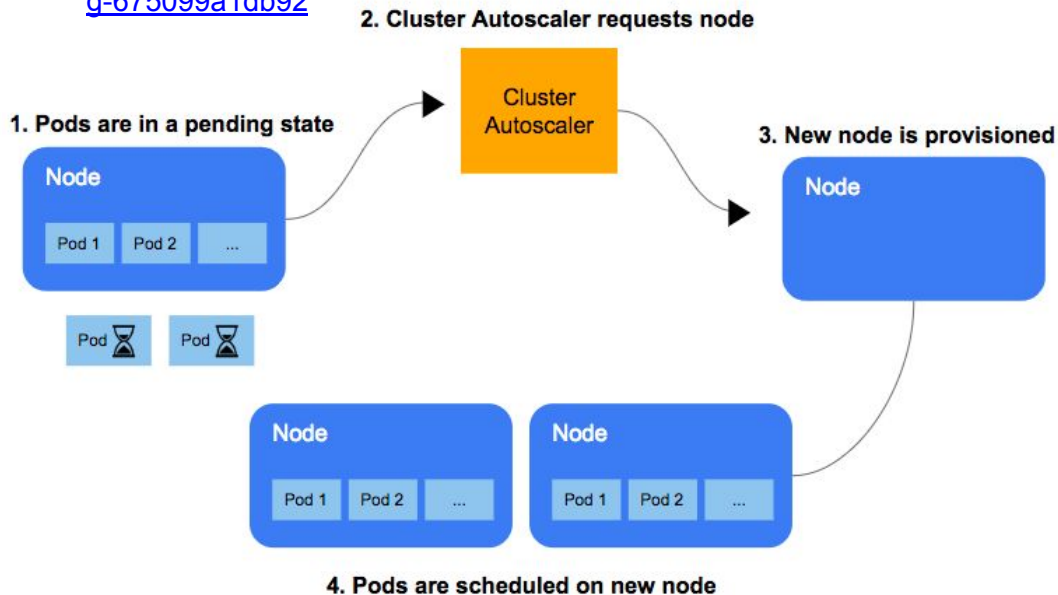
	Google Kubernetes Engine	Azure Kubernetes Service	Elastic Kubernetes Service
Google Kubernetes Engine(GKE) – GCP, Azure Kubernetes Service(AKS) – Azure, Elastic Kubernetes Service(EKS) - AWS			
Automatic Update	Auto	On-Demand	On-Demand
Resource Monitoring	Stackdriver	Azure Monitor for containers	Preview
Auto-Scaling Nodes	Yes	Preview	Yes (auto-scaling)
Node Groups (Node Pools)	Yes	No	Yes
High Availability Clusters	Yes	In Development	Yes
Price (Master node)	Free	Free	0.2 USD (per hour)

Automated Operations

- Cluster Autoscaling
- Node Auto Repair
- Node Auto Upgrade

참고 :

<https://medium.com/kubecost/understanding-kubernetes-cluster-autoscaling-675099a1db92>



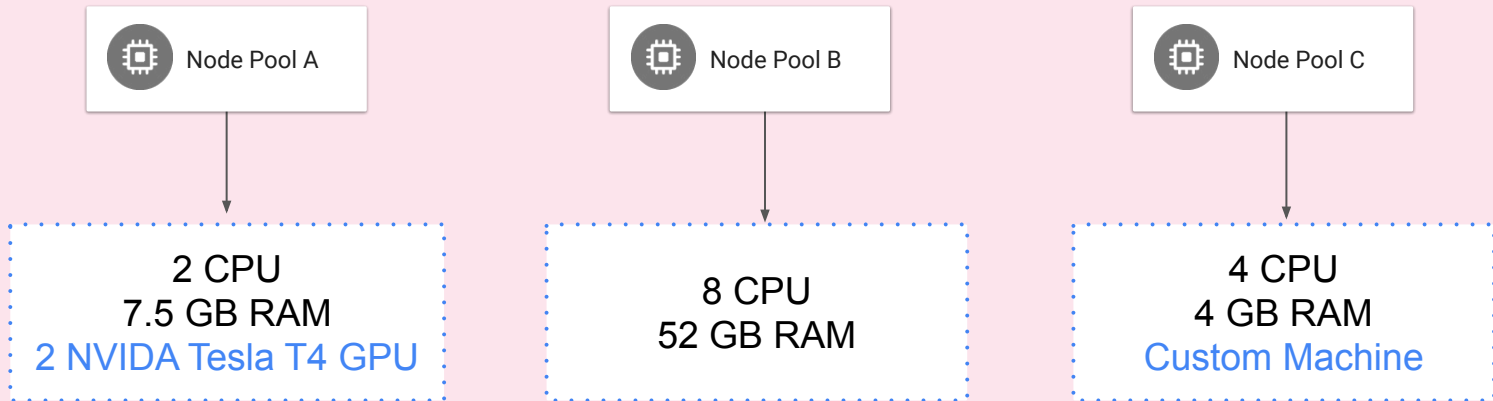
Multiple Node Pools



Google Cloud Platform

Region

Kubernetes cluster



GKE Monitoring – StackDriver

The screenshot displays the Google Cloud Platform (GCP) Stackdriver monitoring interface for a GKE cluster named "openarena-cluster". The interface is divided into several sections:

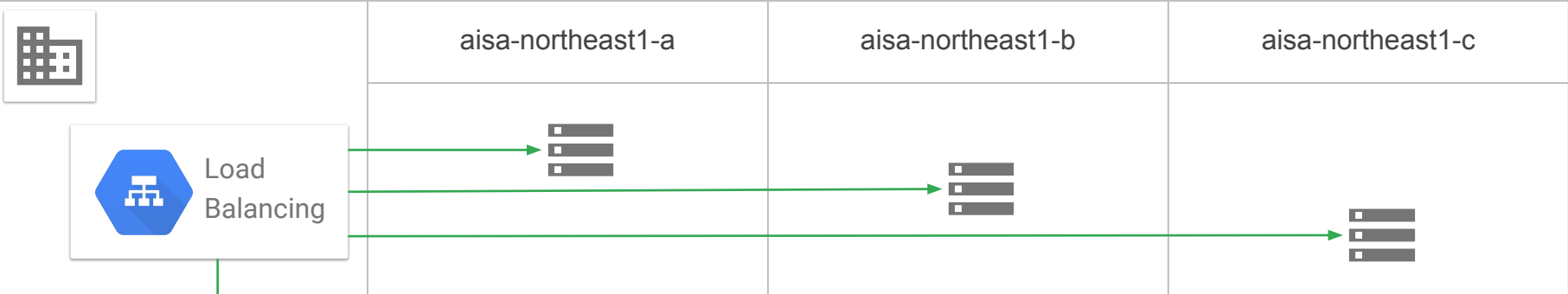
- Incidents:** A dropdown menu showing "Incidents" with a filter icon.
- Events:** A section titled "Events" with a "FILTER" button. Below it, a message states "No events matching this criteria".
- GKE Cluster Details:** A table showing cluster information:

Name	Created	Master Version	Node Version
openarena-cluster	Aug 25, 4:01 pm	1.20.1-gke.100	1.20.1-gke.100
- Pods:** A section titled "Pods" with a "HEALTH" filter and a "NAME" column. It shows a pod named "cd-spinnaker-halyar".
- Log Viewer:** A section titled "Log Viewer" showing logs for the "cd-spinnaker-halyar" pod. The logs include messages like "Item: 0 weapon_grenadelauncher", "say: rayhli: hello yoon", "rayhli^7: hello yoon", "Item: 0 weapon_rocketlauncher", "Kill: 0 0 7: rayhli killed rayhli by MOD_ROCKET_SPLASH", "PlayerScore: 0 0: rayhli now has 0 points", "broadcast: print 'rayhli^7 disconnected'", "Kill: 1022 0 20: <world> killed rayhli by MOD_SUICIDE", "PlayerScore: 0 0: rayhli now has 0 points", "Playerstore: Stored player with guid: 86020B6ABEE2E5F6755146ADD84195C7 in 0", and "ClientDisconnect: 0".

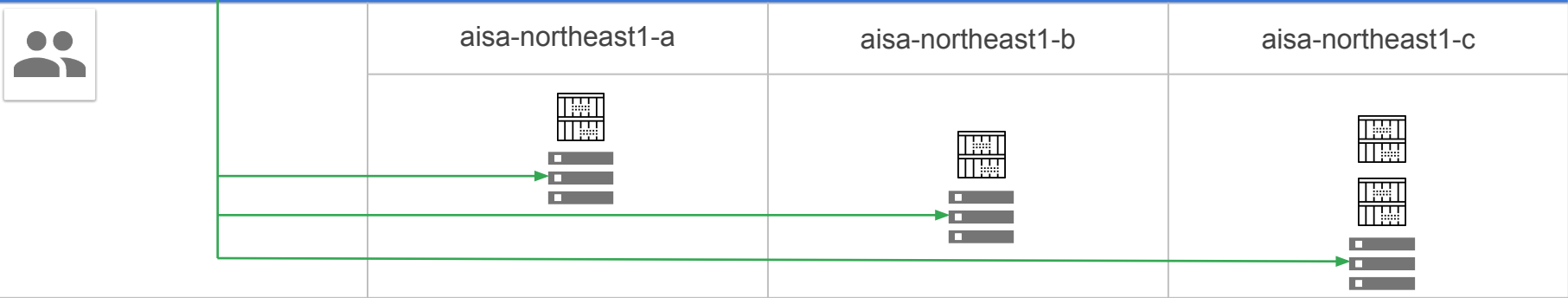
The interface also includes a sidebar with navigation options like "Monitoring Overview", "Resources", "Alerting", "Uptime Checks", "Groups", "Dashboards", "Debug", "Trace", "Logging", "Error Reporting", and "Profiler". The top bar shows the "Google Cloud Platform" logo and the "gke-test" project name.

GKE High Availability Clusters

Google project



Customer project





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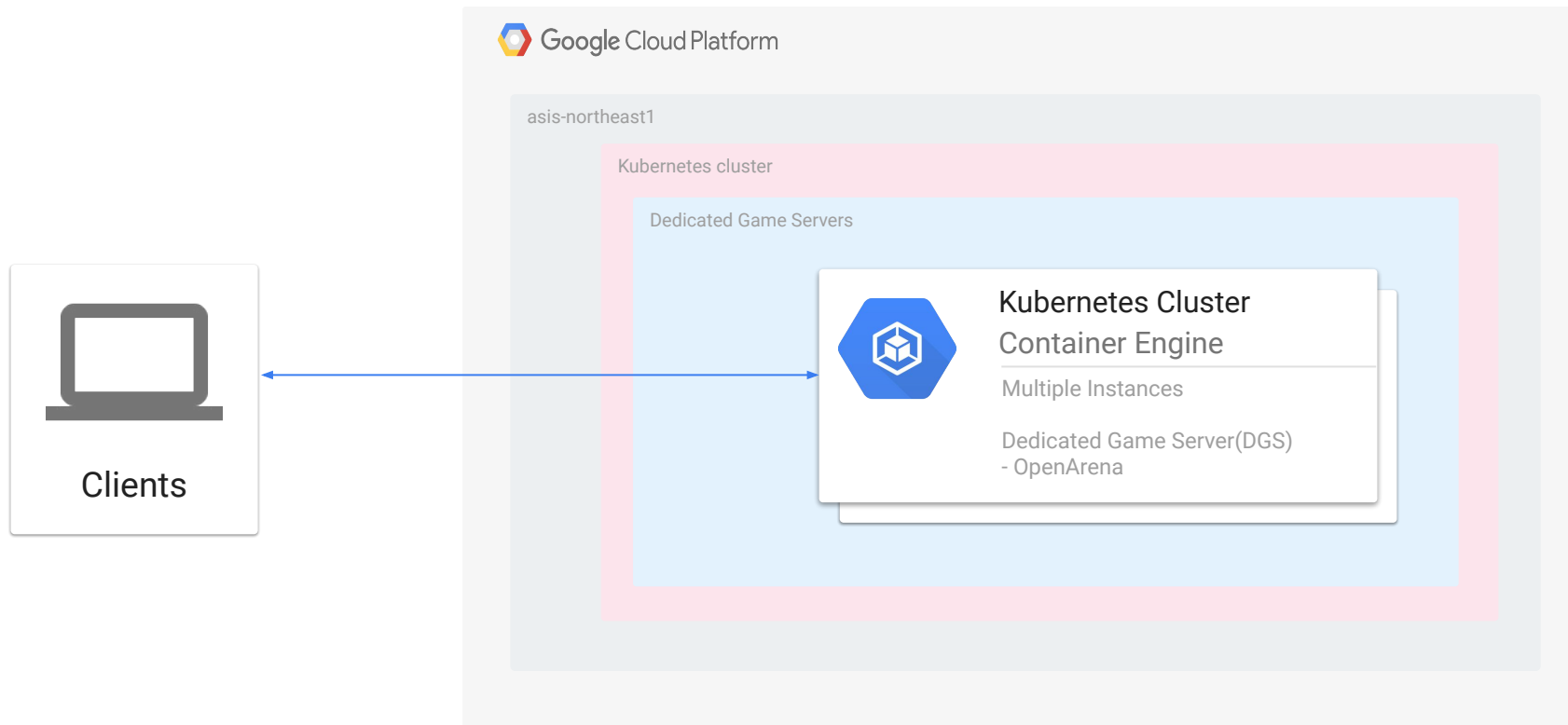
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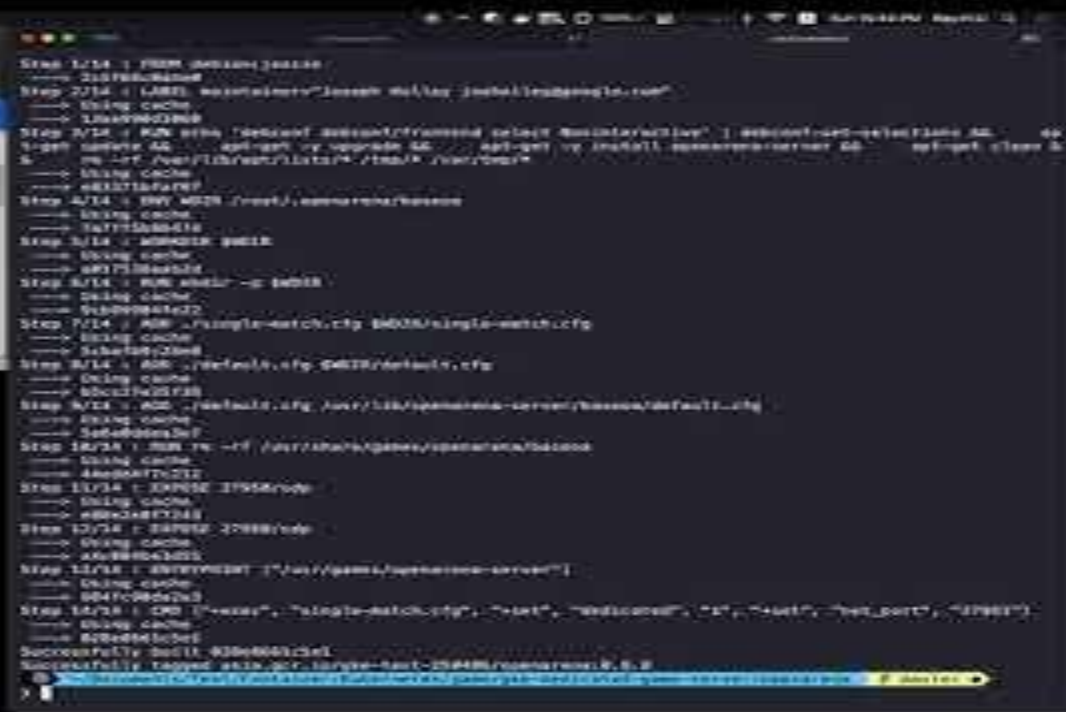


Dedicated Game Server - Demo1

Architecture: Gaming > OpenArena Dedicated Game Server

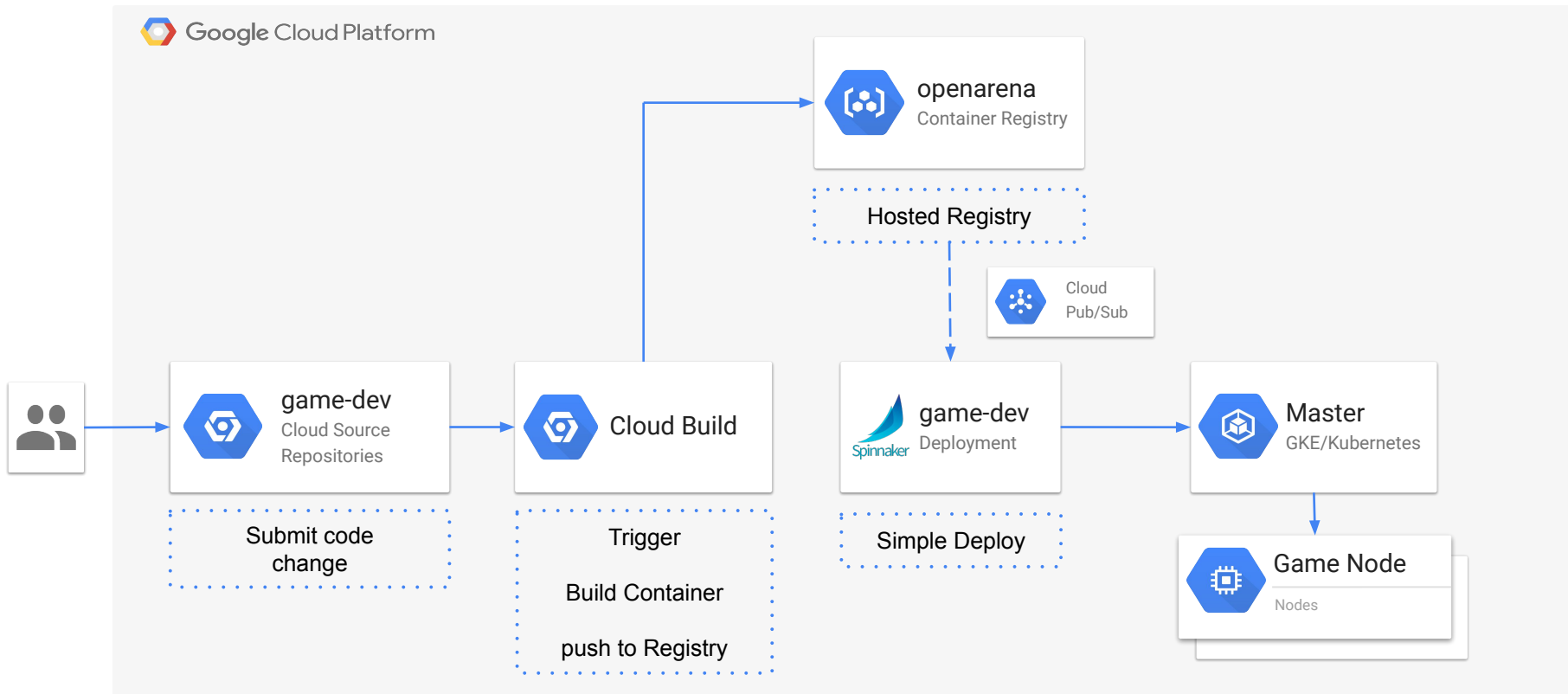


Dedicated Game Server - Demo1 (Result)

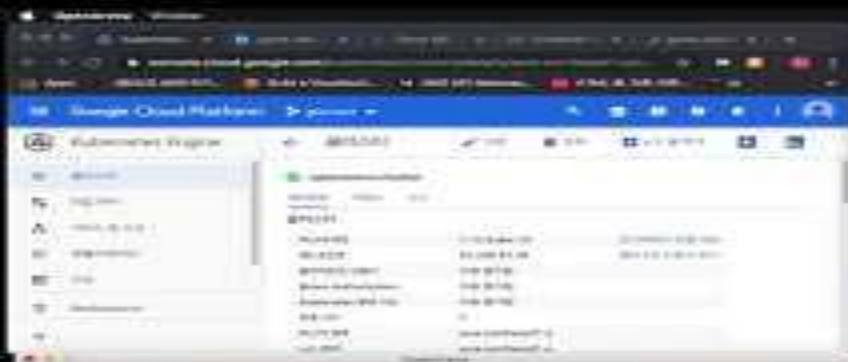


GKE CI/CD

Architecture: Gaming > OpenArena Dedicated Game Server CI/CD



GKE CI/CD – Demo 2 (Result)



LOADING AGGRESSOR
CONNECTING TO 34 88 22 237 2780

LOADING... RAYHLE

TEST SERVER
PURE SERVER

AGGRESSIVE TENDENCIES
FREE FOR ALL
FRAGLIMIT 20

[illegible]

Summary

- **Container** : Application Abstraction Method
- **Kubernetes** : Container Orchestration
- **Google Kubernetes Engine**
 - Master Node, Fully Managed by Google
 - Automated Operations
 - Multiple Node Pools
 - High Availability Clusters



Thank you.

