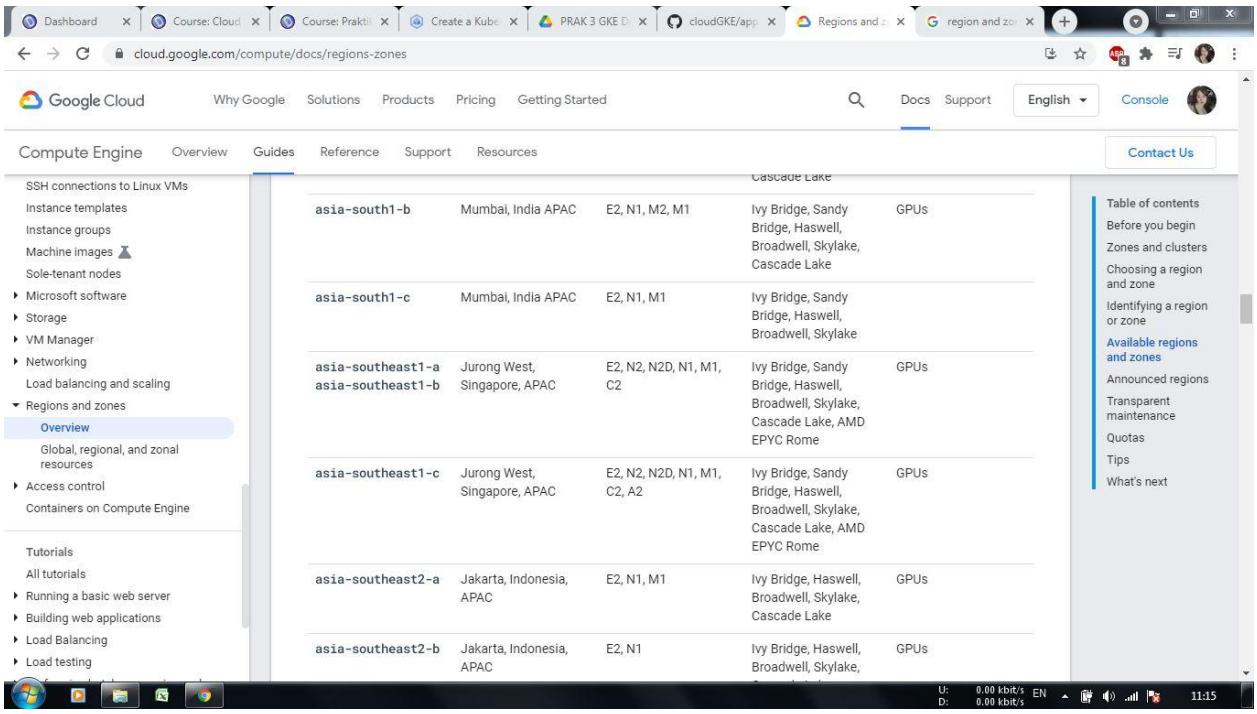
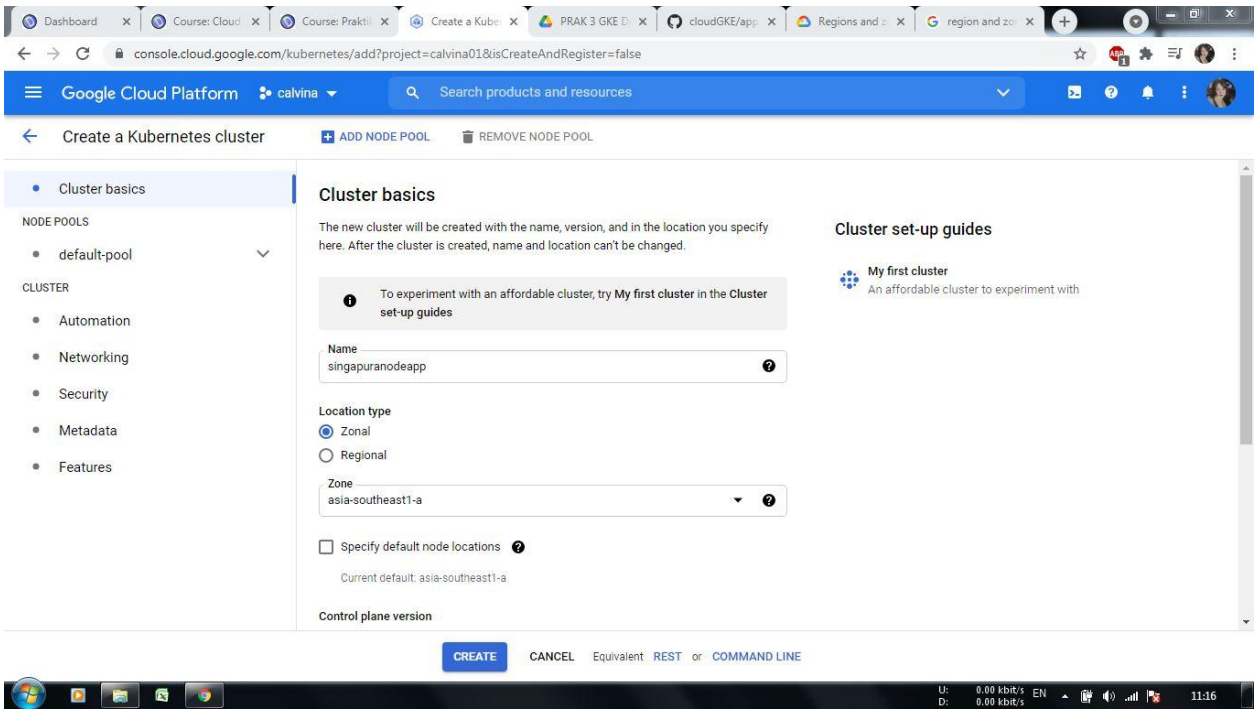
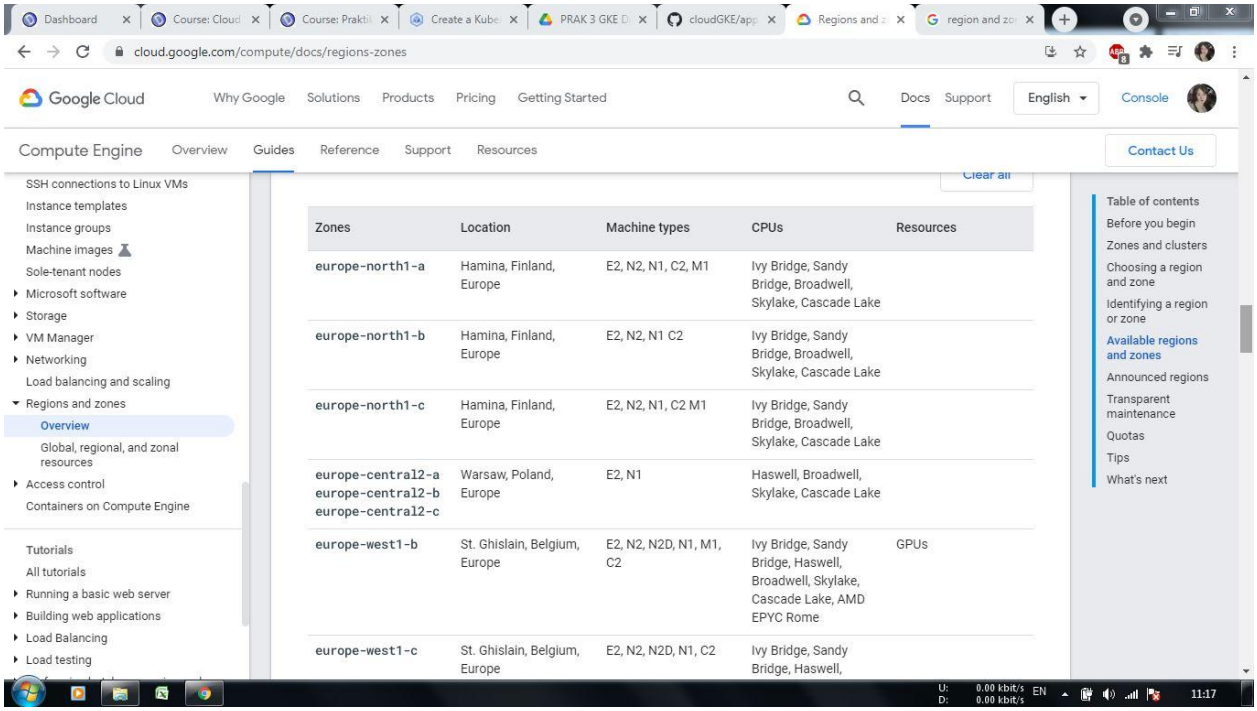
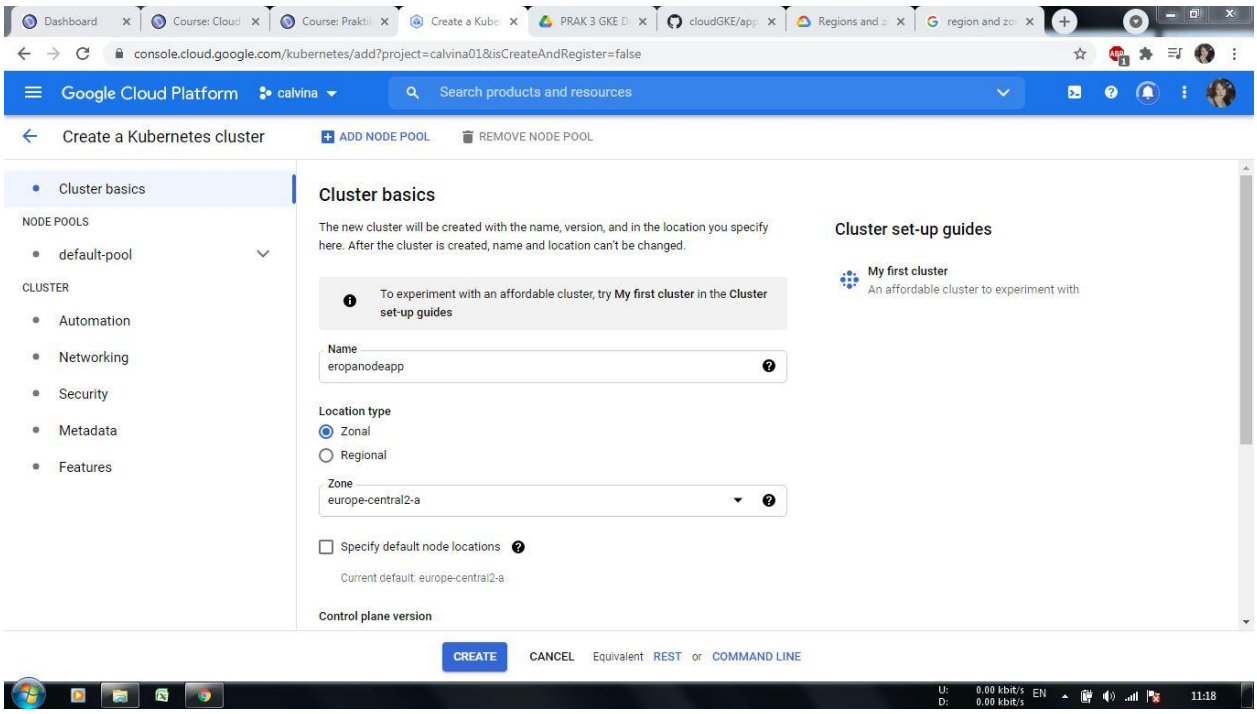
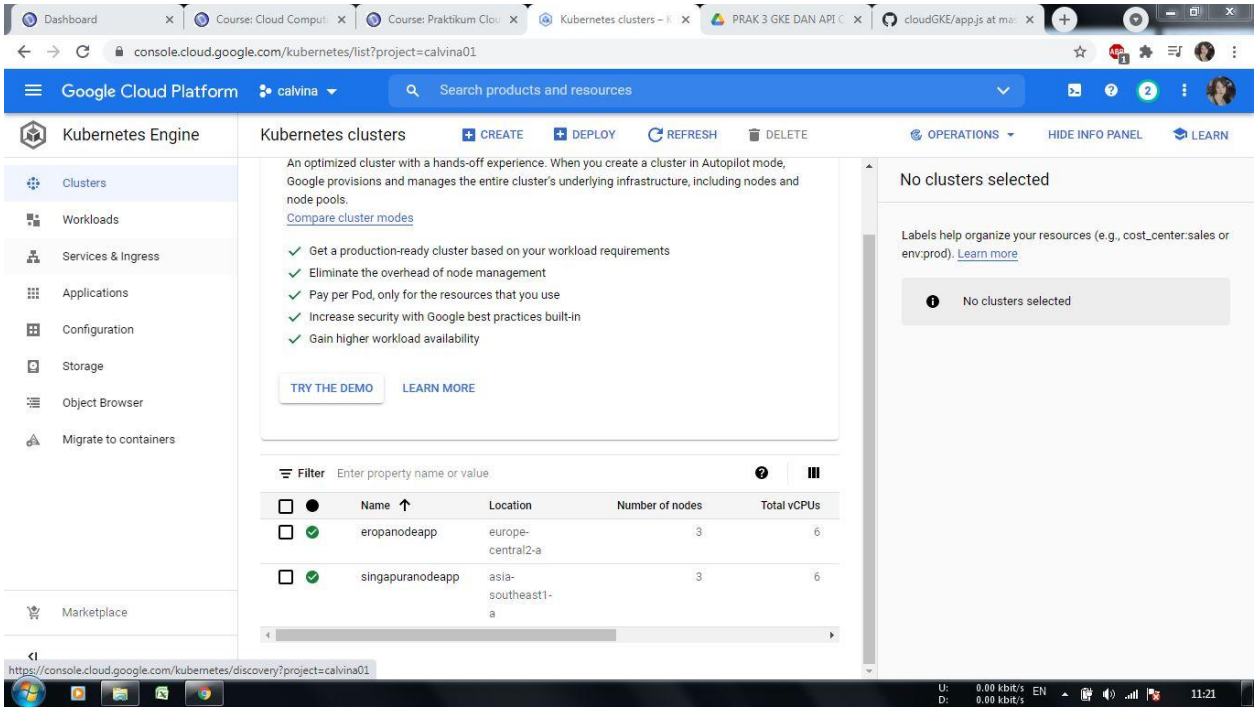
HADIAH PRAK CLOUD COMPTUTING PERTEMUAN KE-4

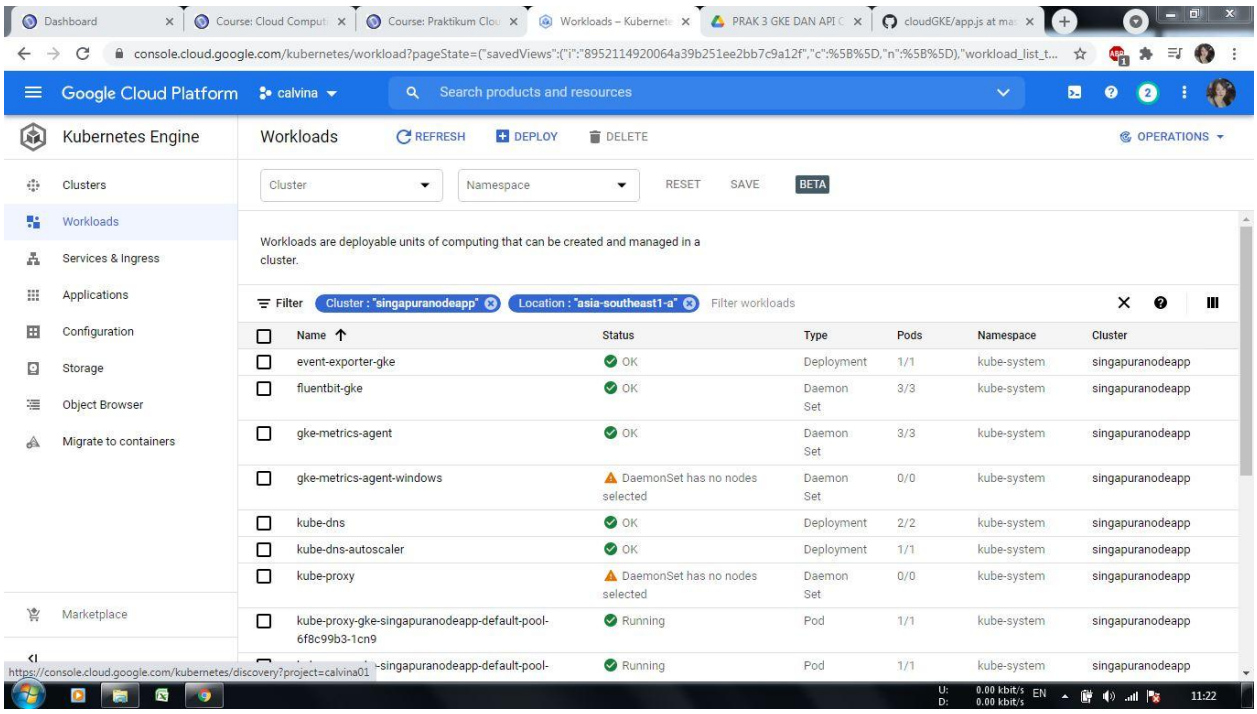


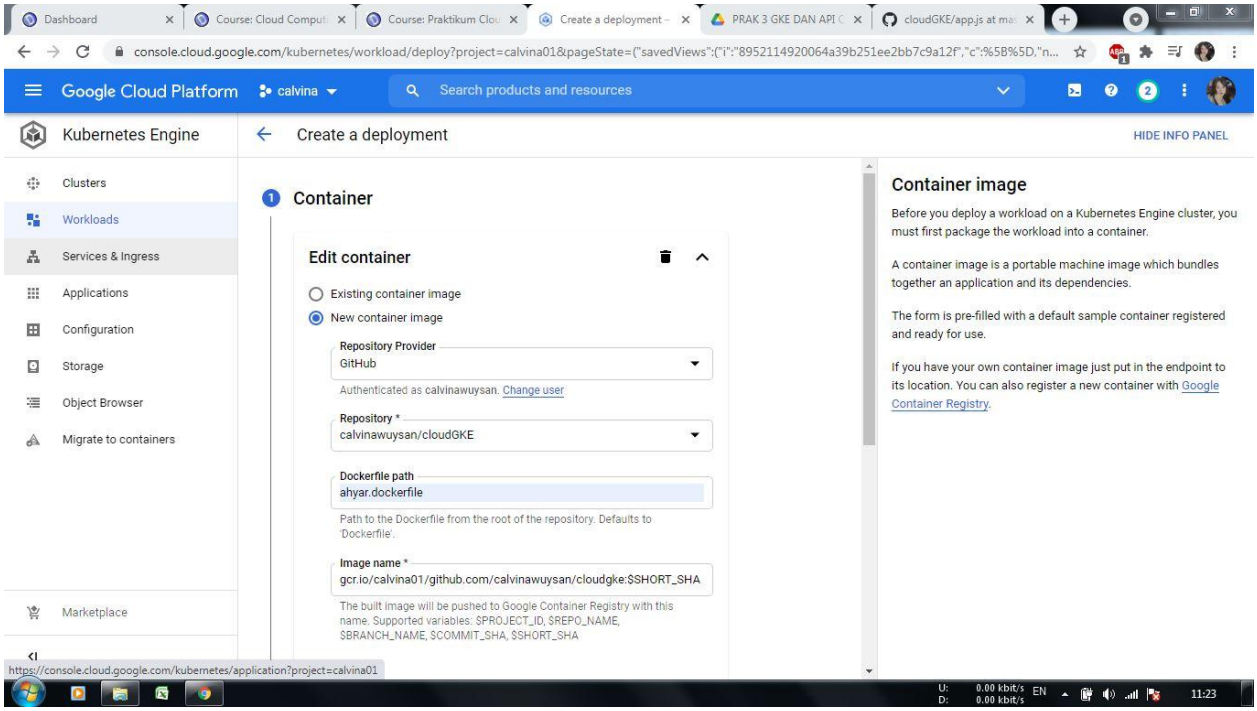


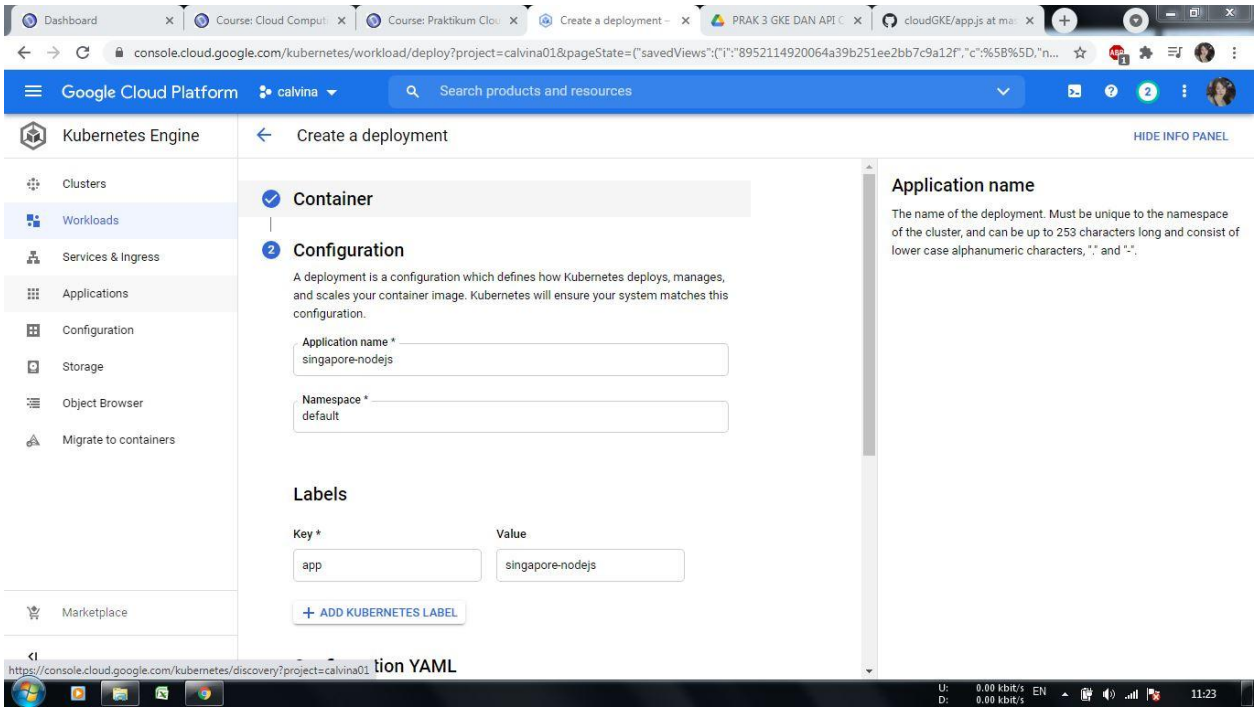

cloud.google.com/compute/docs/regions-zones
Google Cloud
Why Google
Solutions
Products
Pricing
Getting Started
Docs
Support
English
Console
Compute Engine
Overview
Guides
Reference
Support
Resources
Contact Us
SSH connections to Linux VMs
Instance templates
Instance groups
Machine images
Sole-tenant nodes
Microsoft software
Storage
VM Manager
Networking
Load balancing and scaling
Regions and zones
Overview
Global, regional, and zonal resources
Access control
Containers on Compute Engine
Tutorials
All tutorials
Running a basic web server
Building web applications
Load Balancing
Load testing
Clear all
Zones
Location
Machine types
CPUs
Resources
europe-north1-a
Hamina, Finland, Europe
E2, N2, N1, C2, M1
Ivy Bridge, Sandy Bridge, Broadwell, Skylake, Cascade Lake
europe-north1-b
Hamina, Finland, Europe
E2, N2, N1 C2
Ivy Bridge, Sandy Bridge, Broadwell, Skylake, Cascade Lake
europe-north1-c
Hamina, Finland, Europe
E2, N2, N1, C2 M1
Ivy Bridge, Sandy Bridge, Broadwell, Skylake, Cascade Lake
europe-central2-a
europe-central2-b
europe-central2-c
Warsaw, Poland, Europe
E2, N1
Haswell, Broadwell, Skylake, Cascade Lake
europe-west1-b
St. Ghislain, Belgium, Europe
E2, N2, N2D, N1, M1, C2
Ivy Bridge, Sandy Bridge, Haswell, Broadwell, Skylake, Cascade Lake, AMD EPYC Rome
GPUs
europe-west1-c
St. Ghislain, Belgium, Europe
E2, N2, N2D, N1, C2
Ivy Bridge, Sandy Bridge, Haswell,
Table of contents
Before you begin
Zones and clusters
Choosing a region and zone
Identifying a region or zone
Available regions and zones
Announced regions
Transparent maintenance
Quotas
Tips
What's next
11:17

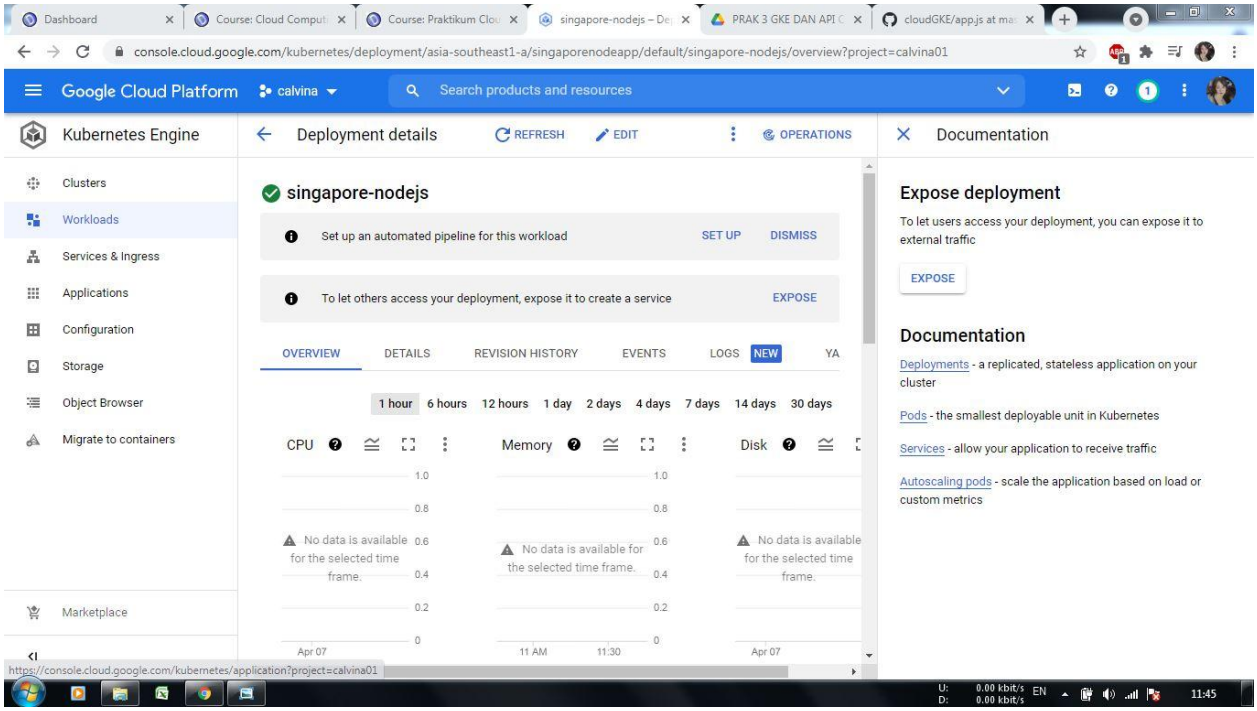

console.cloud.google.com/kubernetes/add?project=calvina01&isCreateAndRegister=false
Google Cloud Platform
calvina
Search products and resources
Create a Kubernetes cluster
ADD NODE POOL
REMOVE NODE POOL
Cluster basics
NODE POOLS
default-pool
CLUSTER
Automation
Networking
Security
Metadata
Features
Cluster basics
The new cluster will be created with the name, version, and in the location you specify here. After the cluster is created, name and location can't be changed.
To experiment with an affordable cluster, try My first cluster in the Cluster set-up guides
Name
eropanodeapp
Location type
Zonal
Regional
Zone
europe-central2-a
Specify default node locations
Current default: europe-central2-a
Control plane version
Cluster set-up guides
My first cluster
An affordable cluster to experiment with
CREATE
CANCEL
Equivalent REST or COMMAND LINE
11:18

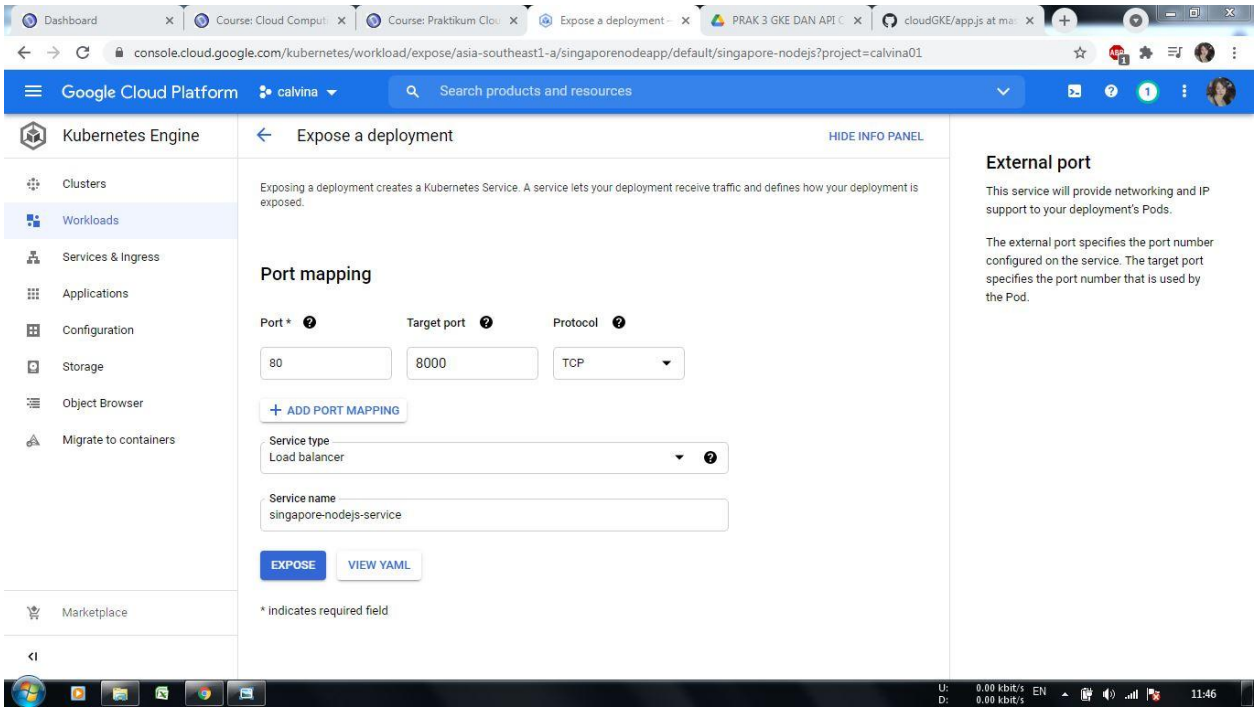

Dashboard
Course: Cloud Comput
Course: Praktikum Clou
Kubernetes clusters – K
PRAK 3 GKE DAN API C
cloudGKE/app.js at mas
console.cloud.google.com/kubernetes/list?project=calvina01
Google Cloud Platform
calvina
Search products and resources
Kubernetes Engine
Kubernetes clusters
CREATE
DEPLOY
REFRESH
DELETE
OPERATIONS
HIDE INFO PANEL
LEARN
Clusters
Workloads
Services & Ingress
Applications
Configuration
Storage
Object Browser
Migrate to containers
Marketplace
An optimized cluster with a hands-off experience. When you create a cluster in Autopilot mode, Google provisions and manages the entire cluster's underlying infrastructure, including nodes and node pools.
Compare cluster modes
Get a production-ready cluster based on your workload requirements
Eliminate the overhead of node management
Pay per Pod, only for the resources that you use
Increase security with Google best practices built-in
Gain higher workload availability
TRY THE DEMO
LEARN MORE
No clusters selected
Labels help organize your resources (e.g., cost_center:sales or env:prod). Learn more
No clusters selected
Filter
Enter property name or value
Name
Location
Number of nodes
Total vCPUs
eropanodeapp
europe-central2-a
3
6
singapuranodeapp
asia-southeast1-a
3
6
https://console.cloud.google.com/kubernetes/discovery?project=calvina01
11:21

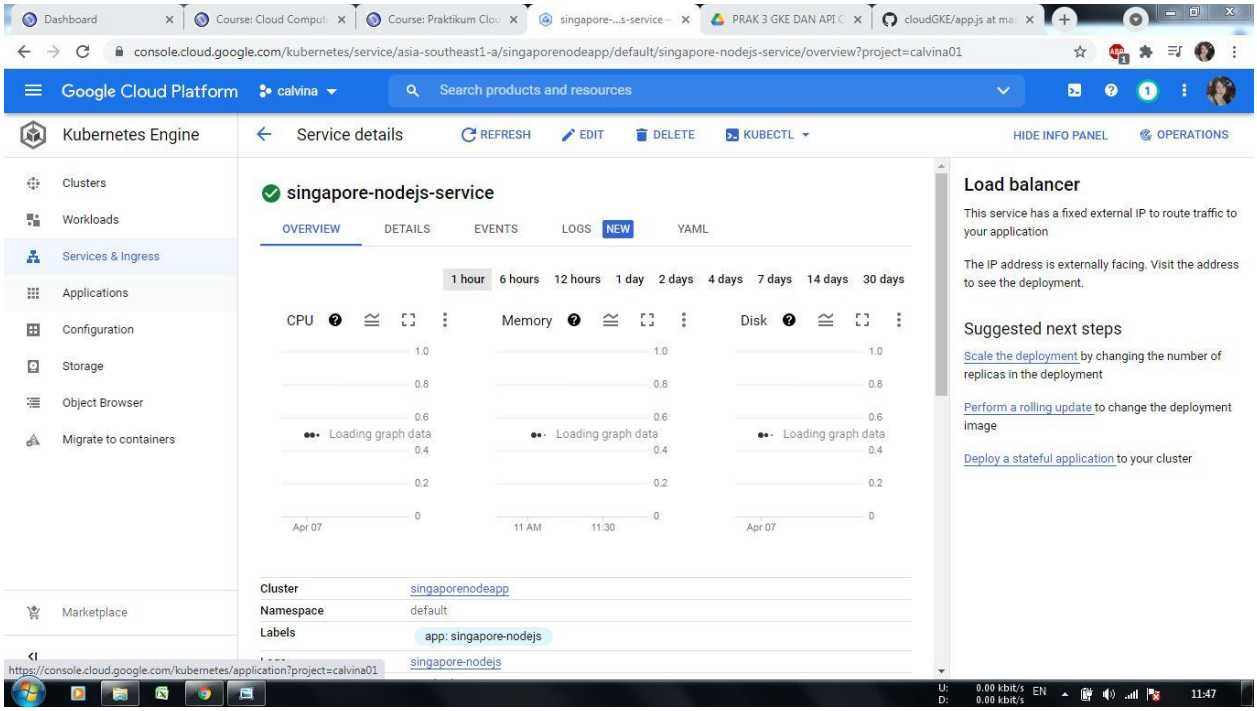

Dashboard
Course: Cloud Comput
Course: Praktikum Clou
Workloads – Kubernete
PRAK 3 GKE DAN API C
cloudGKE/app.js at mas
console.cloud.google.com/kubernetes/workload?pageState=...
Google Cloud Platform
calvina
Search products and resources
Kubernetes Engine
Workloads
REFRESH
DEPLOY
DELETE
OPERATIONS
Clusters
Workloads
Services & Ingress
Applications
Configuration
Storage
Object Browser
Migrate to containers
Marketplace
Cluster
Namespace
RESET
SAVE
BETA
Workloads are deployable units of computing that can be created and managed in a cluster.
Filter
Cluster : "singapuranodeapp"
Location : "asia-southeast1-a"
Filter workloads
Name
Status
Type
Pods
Namespace
Cluster
event-exporter-gke
OK
Deployment
1/1
kube-system
singapuranodeapp
fluentbit-gke
OK
Daemon Set
3/3
kube-system
singapuranodeapp
gke-metrics-agent
OK
Daemon Set
3/3
kube-system
singapuranodeapp
gke-metrics-agent-windows
DaemonSet has no nodes selected
Daemon Set
0/0
kube-system
singapuranodeapp
kube-dns
OK
Deployment
2/2
kube-system
singapuranodeapp
kube-dns-autoscaler
OK
Deployment
1/1
kube-system
singapuranodeapp
kube-proxy
DaemonSet has no nodes selected
Daemon Set
0/0
kube-system
singapuranodeapp
kube-proxy-gke-singapuranodeapp-default-pool-6f8c99b3-1cn9
Running
Pod
1/1
kube-system
singapuranodeapp
-singapuranodeapp-default-pool-
Running
Pod
1/1
kube-system
singapuranodeapp
https://console.cloud.google.com/kubernetes/discovery?project=calvina01
11:22

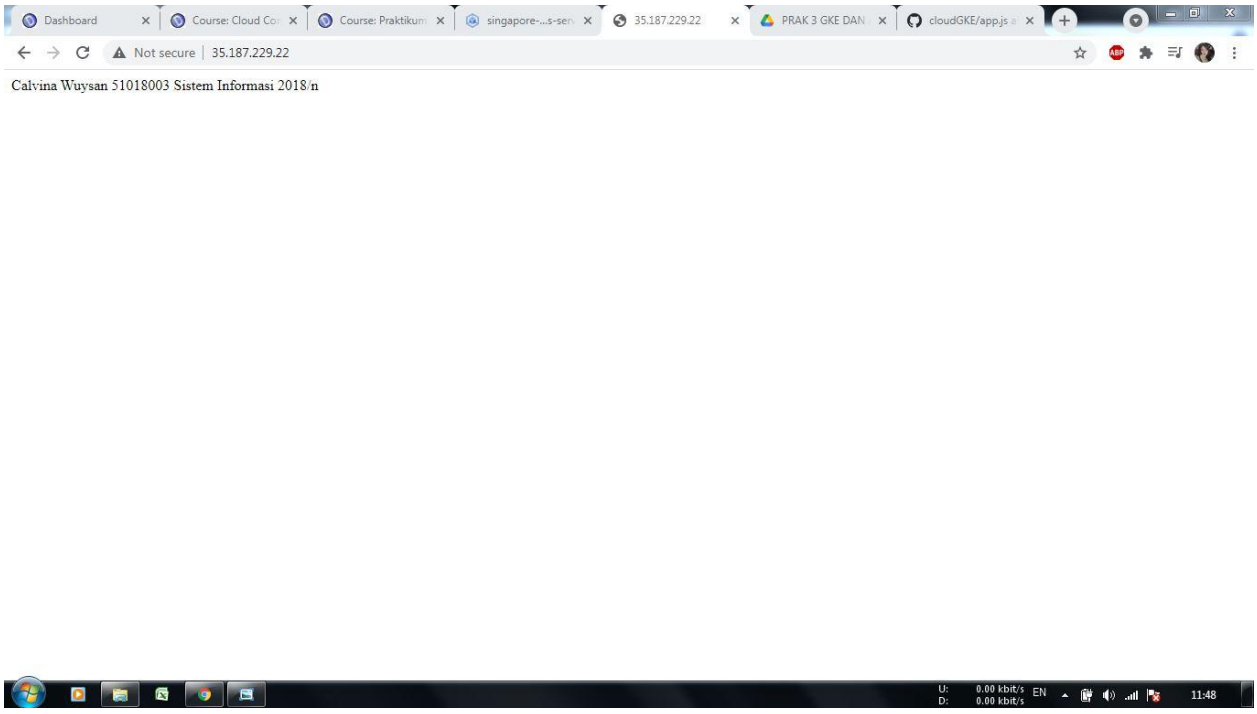

Dashboard
Course: Cloud Comput
Course: Praktikum Clou
Create a deployment -
PRAK 3 GKE DAN API C
cloudGKE/app.js at ma
console.cloud.google.com/kubernetes/workload/deploy?project=calvina01&pageState={"savedViews":{"i":"8952114920064a39b251ee2bb7c9a12f","c":%5B%5D,"n...
Google Cloud Platform
calvina
Search products and resources
Kubernetes Engine
Create a deployment
HIDE INFO PANEL
Clusters
Workloads
Services & Ingress
Applications
Configuration
Storage
Object Browser
Migrate to containers
Marketplace
1 Container
Edit container
Existing container image
New container image
Repository Provider
GitHub
Authenticated as calvinawuysan. Change user
Repository *
calvinawuysan/cloudGKE
Dockerfile path
ahyar.dockerfile
Path to the Dockerfile from the root of the repository. Defaults to 'Dockerfile'.
Image name *
gcr.io/calvina01/github.com/calvinawuysan/cloudgke:$SHORT_SHA
The built image will be pushed to Google Container Registry with this name. Supported variables: $PROJECT_ID, $REPO_NAME, $BRANCH_NAME, $COMMIT_SHA, $SHORT_SHA
Container image
Before you deploy a workload on a Kubernetes Engine cluster, you must first package the workload into a container.
A container image is a portable machine image which bundles together an application and its dependencies.
The form is pre-filled with a default sample container registered and ready for use.
If you have your own container image just put in the endpoint to its location. You can also register a new container with Google Container Registry.
https://console.cloud.google.com/kubernetes/application?project=calvina01
11:23

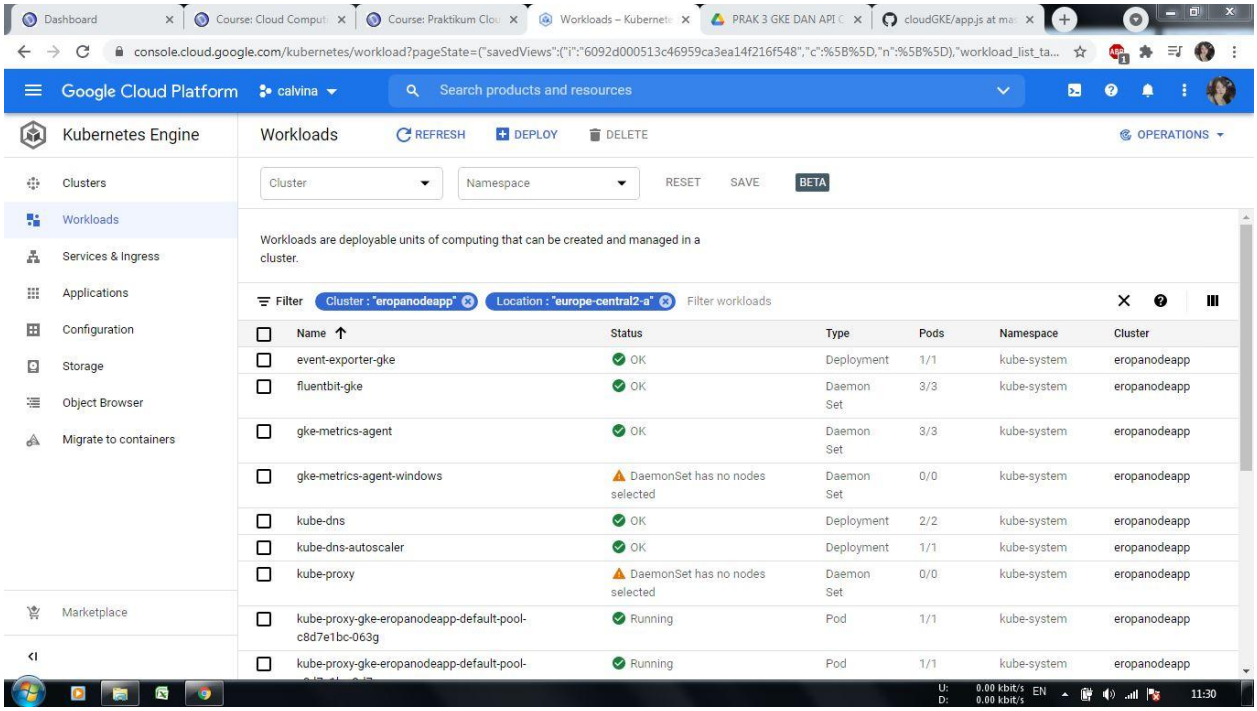

Dashboard
Course: Cloud Comput
Course: Praktikum Clou
Create a deployment -
PRAK 3 GKE DAN API C
cloudGKE/app.js at ma
console.cloud.google.com/kubernetes/workload/deploy?project=calvina01&pageState={"savedViews":{"i":"8952114920064a39b251ee2bb7c9a12f","c":%5B%5D,"n...
Google Cloud Platform
calvina
Search products and resources
Kubernetes Engine
Create a deployment
HIDE INFO PANEL
Clusters
Workloads
Services & Ingress
Applications
Configuration
Storage
Object Browser
Migrate to containers
Marketplace
Container
2 Configuration
A deployment is a configuration which defines how Kubernetes deploys, manages, and scales your container image. Kubernetes will ensure your system matches this configuration.
Application name *
singapore-nodejs
Namespace *
default
Labels
Key *
Value
app
singapore-nodejs
+ ADD KUBERNETES LABEL
tion YAML
Application name
The name of the deployment. Must be unique to the namespace of the cluster, and can be up to 253 characters long and consist of lower case alphanumeric characters, "." and "-".
https://console.cloud.google.com/kubernetes/discovery?project=calvina01
11:23

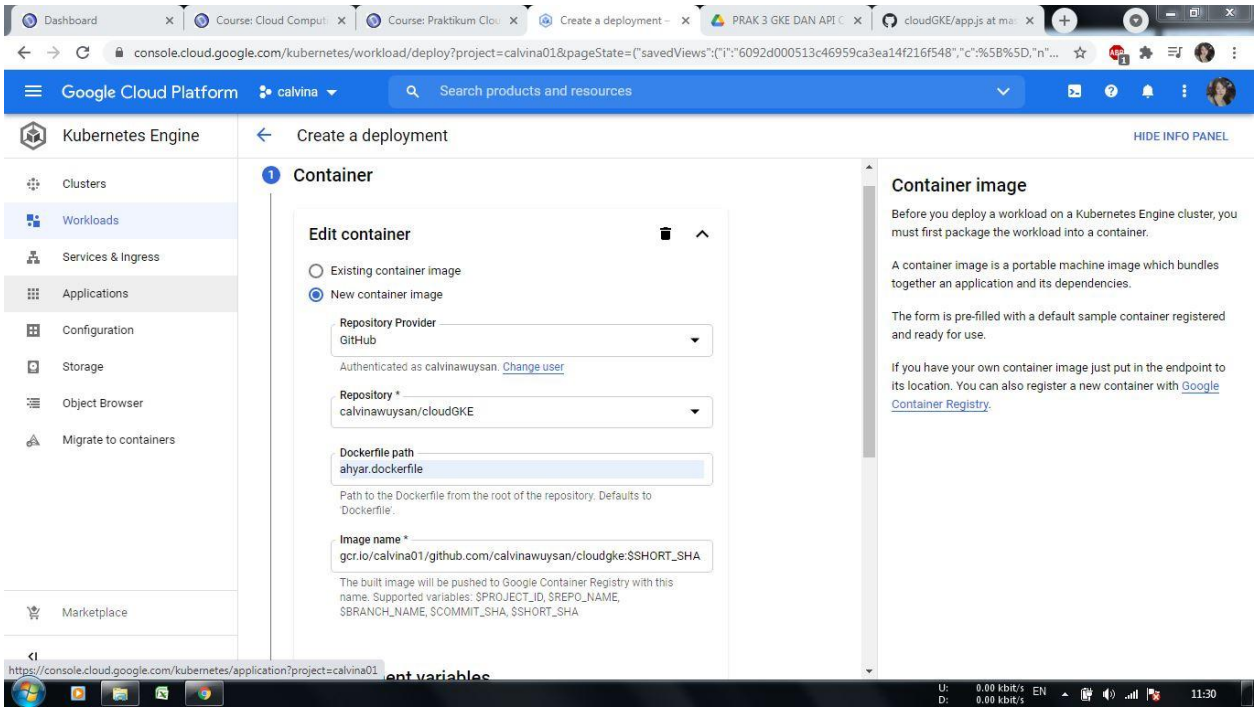

Dashboard
Course: Cloud Comput
Course: Praktikum Clou
singapore-nodejs – De
PRAK 3 GKE DAN API C
cloudGKE/app.js at mas
console.cloud.google.com/kubernetes/deployment/asia-southeast1-a/singaporenodeapp/default/singapore-nodejs/overview?project=calvina01
Google Cloud Platform
calvina
Search products and resources
Kubernetes Engine
Deployment details
REFRESH
EDIT
OPERATIONS
Documentation
Clusters
Workloads
Services & Ingress
Applications
Configuration
Storage
Object Browser
Migrate to containers
Marketplace
singapore-nodejs
Set up an automated pipeline for this workload
SET UP
DISMISS
To let others access your deployment, expose it to create a service
EXPOSE
OVERVIEW
DETAILS
REVISION HISTORY
EVENTS
LOGS
NEW
YA
1 hour
6 hours
12 hours
1 day
2 days
4 days
7 days
14 days
30 days
CPU
Memory
Disk
No data is available for the selected time frame.
Apr 07
11 AM
11:30
Expose deployment
To let users access your deployment, you can expose it to external traffic
EXPOSE
Documentation
Deployments - a replicated, stateless application on your cluster
Pods - the smallest deployable unit in Kubernetes
Services - allow your application to receive traffic
Autoscaling pods - scale the application based on load or custom metrics
https://console.cloud.google.com/kubernetes/application?project=calvina01
11:45

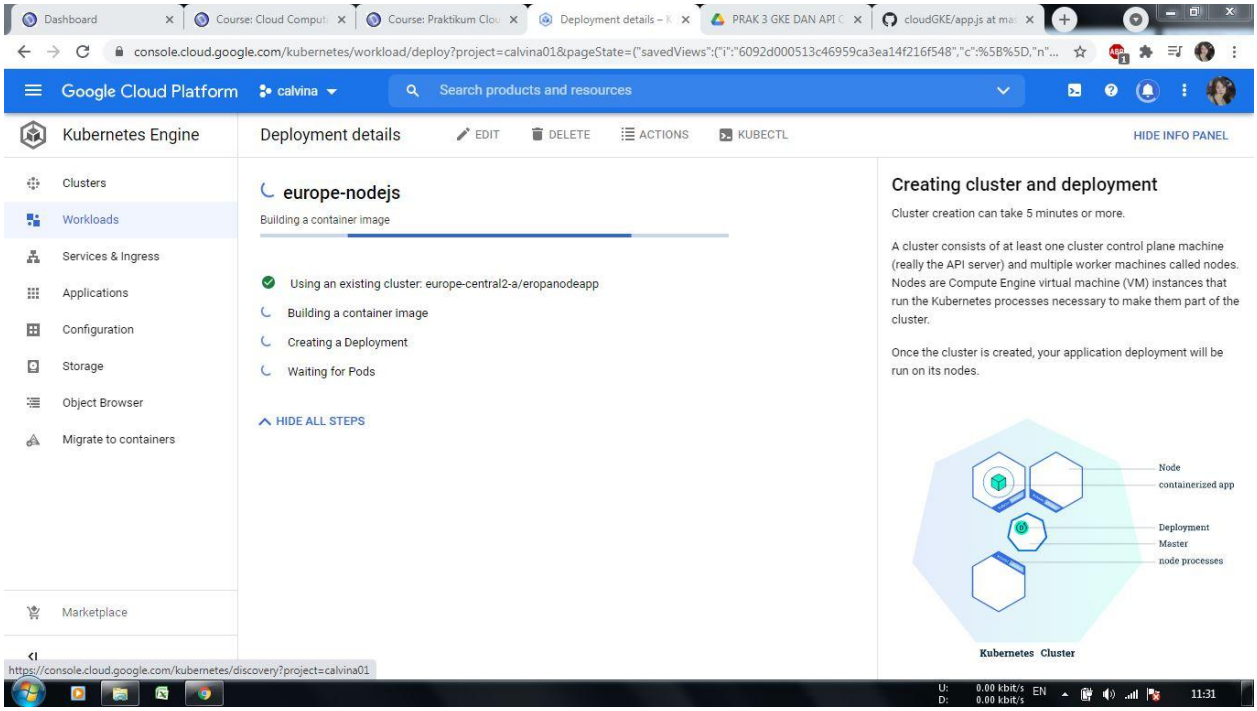

Dashboard
Course: Cloud Comput
Course: Praktikum Clou
Expose a deployment
PRAK 3 GKE DAN API C
cloudGKE/app.js at mas
console.cloud.google.com/kubernetes/workload/expose/asia-southeast1-a/singaporenodeapp/default/singapore-nodejs?project=calvina01
Google Cloud Platform
calvina
Search products and resources
Kubernetes Engine
Expose a deployment
HIDE INFO PANEL
Clusters
Workloads
Services & Ingress
Applications
Configuration
Storage
Object Browser
Migrate to containers
Marketplace
Exposing a deployment creates a Kubernetes Service. A service lets your deployment receive traffic and defines how your deployment is exposed.
Port mapping
Port *
Target port
Protocol
80
8000
TCP
ADD PORT MAPPING
Service type
Load balancer
Service name
singapore-nodejs-service
EXPOSE
VIEW YAML
* indicates required field
External port
This service will provide networking and IP support to your deployment's Pods.
The external port specifies the port number configured on the service. The target port specifies the port number that is used by the Pod.
11:46

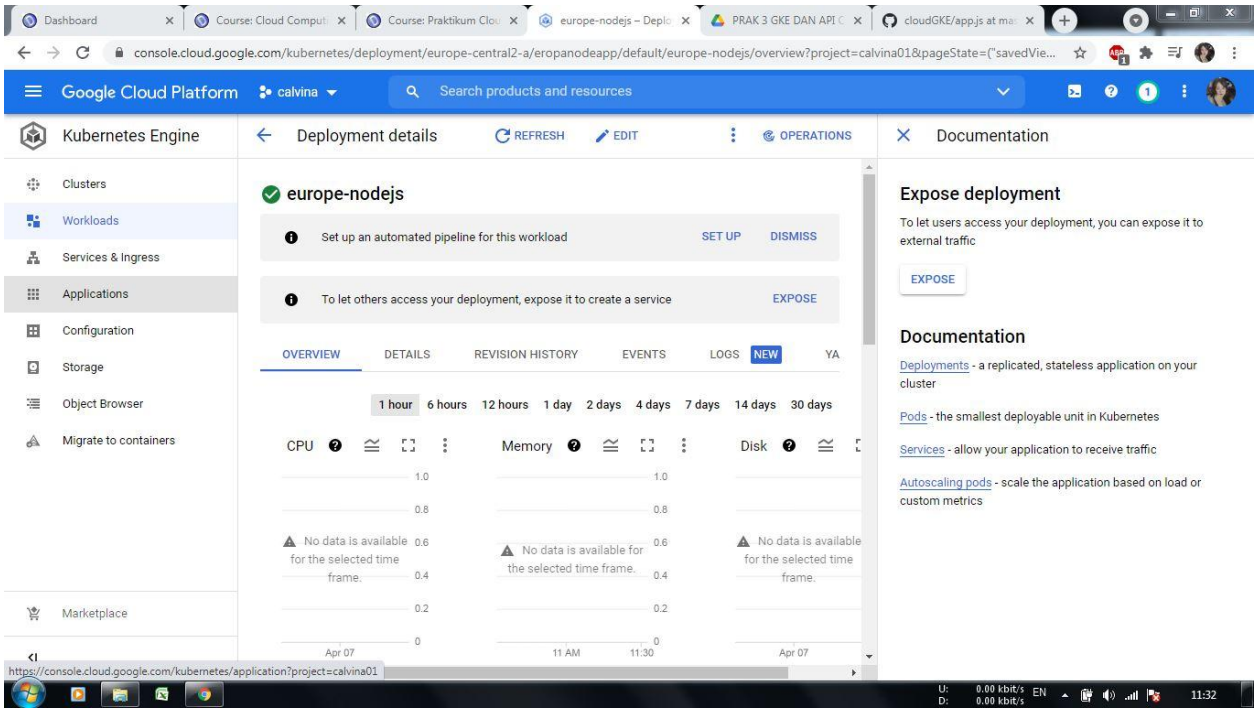

Dashboard
Course: Cloud Comput
Course: Praktikum Clou
singapore-...s-service
PRAK 3 GKE DAN API C
cloudGKE/app.js at ma
console.cloud.google.com/kubernetes/service/asia-southeast1-a/singaporenodeapp/default/singapore-nodejs-service/overview?project=calvina01
Google Cloud Platform
calvina
Search products and resources
Kubernetes Engine
Service details
REFRESH
EDIT
DELETE
KUBECTL
HIDE INFO PANEL
OPERATIONS
Clusters
Workloads
Services & Ingress
Applications
Configuration
Storage
Object Browser
Migrate to containers
Marketplace
singapore-nodejs-service
OVERVIEW
DETAILS
EVENTS
LOGS
NEW
YAML
1 hour
6 hours
12 hours
1 day
2 days
4 days
7 days
14 days
30 days
CPU
Memory
Disk
Loading graph data
1.0
0.8
0.6
0.4
0.2
0
Apr 07
11 AM
11:30
Cluster
singaporenodeapp
Namespace
default
Labels
app: singapore-nodejs
singapore-nodejs
Load balancer
This service has a fixed external IP to route traffic to your application
The IP address is externally facing. Visit the address to see the deployment.
Suggested next steps
Scale the deployment by changing the number of replicas in the deployment
Perform a rolling update to change the deployment image
Deploy a stateful application to your cluster
https://console.cloud.google.com/kubernetes/application?project=calvina01
11:47

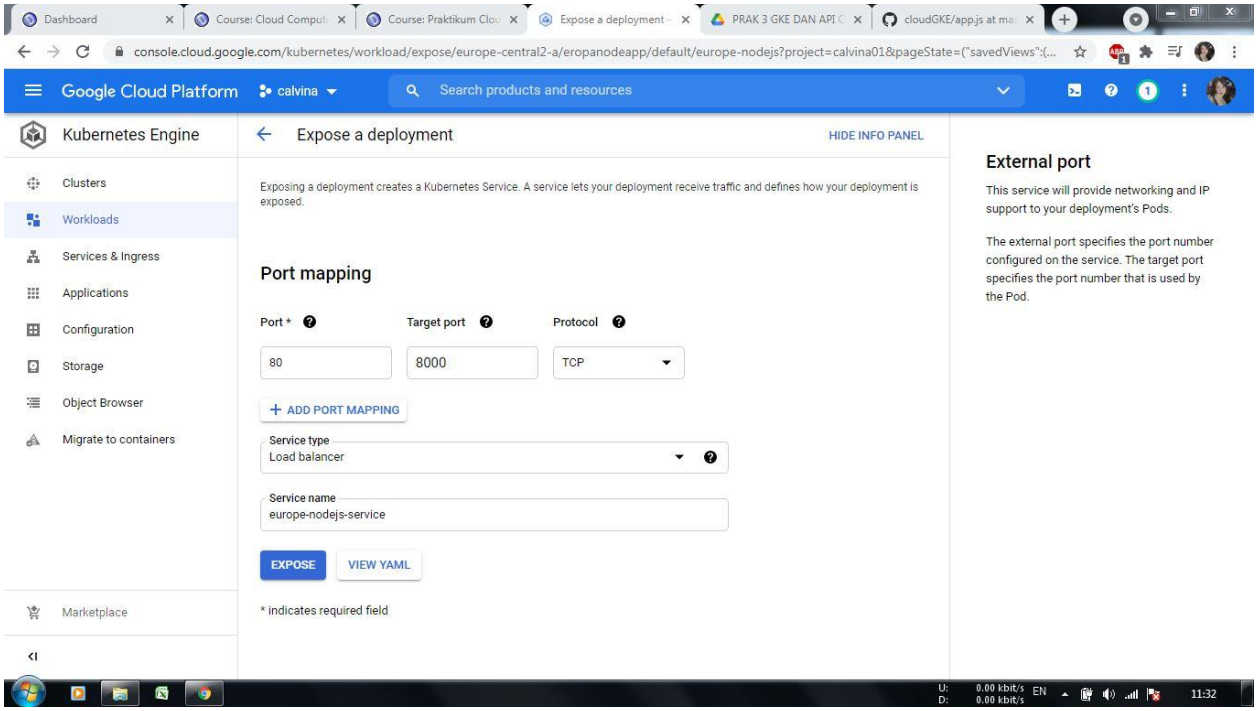

Dashboard
Course: Cloud Co
Course: Praktikum
singapore-...s-ser
35.187.229.22
PRAK 3 GKE DAN
cloudGKE/app.js
Not secure | 35.187.229.22
Calvina Wuysan 51018003 Sistem Informasi 2018/n
11:48

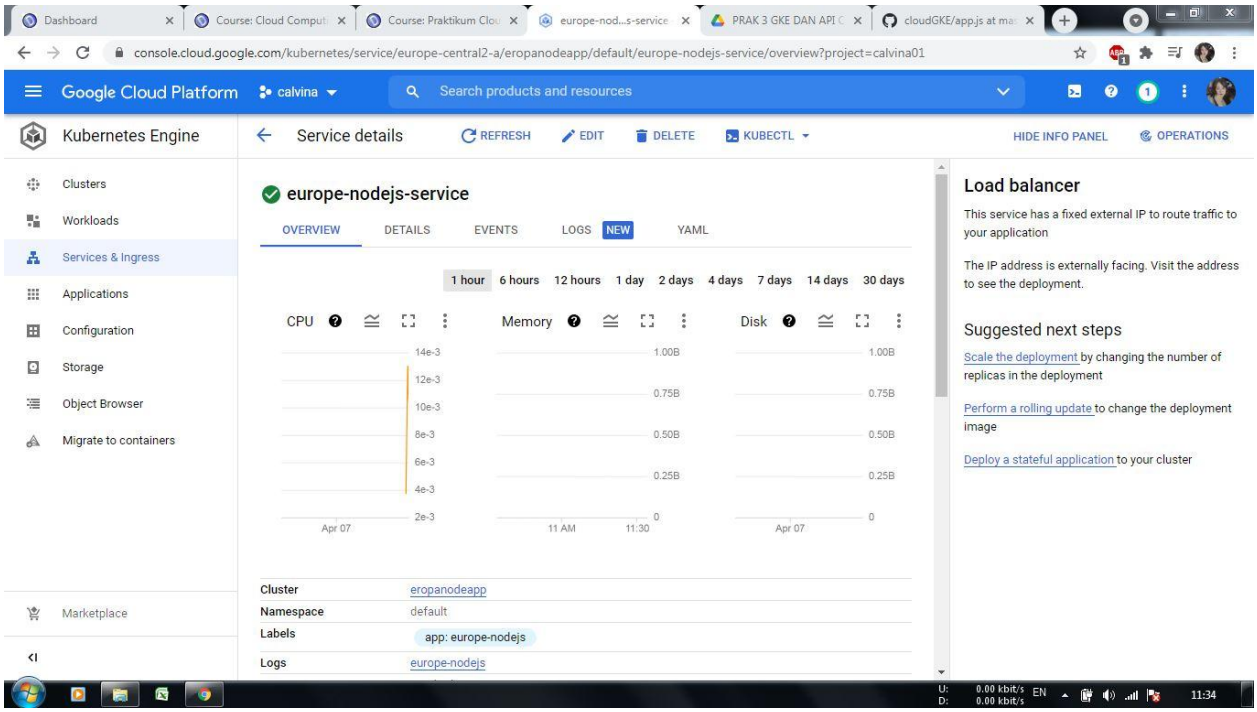

Dashboard
Course: Cloud Comput
Course: Praktikum Clou
Workloads – Kubernete
PRAK 3 GKE DAN API C
cloudGKE/app.js at mas
console.cloud.google.com/kubernetes/workload?pageState={"savedViews":{"i":"6092d000513c46959ca3ea14f216f548","c":%5B%5D,"n":%5B%5D},"workload_list_ta...
Google Cloud Platform
calvina
Search products and resources
Kubernetes Engine
Workloads
REFRESH
DEPLOY
DELETE
OPERATIONS
Clusters
Workloads
Services & Ingress
Applications
Configuration
Storage
Object Browser
Migrate to containers
Marketplace
Cluster
Namespace
RESET
SAVE
BETA
Workloads are deployable units of computing that can be created and managed in a cluster.
Filter
Cluster : "eropanodeapp"
Location : "europe-central2-a"
Filter workloads
Name
Status
Type
Pods
Namespace
Cluster
event-exporter-gke
OK
Deployment
1/1
kube-system
eropanodeapp
fluentbit-gke
OK
Daemon Set
3/3
kube-system
eropanodeapp
gke-metrics-agent
OK
Daemon Set
3/3
kube-system
eropanodeapp
gke-metrics-agent-windows
DaemonSet has no nodes selected
Daemon Set
0/0
kube-system
eropanodeapp
kube-dns
OK
Deployment
2/2
kube-system
eropanodeapp
kube-dns-autoscaler
OK
Deployment
1/1
kube-system
eropanodeapp
kube-proxy
DaemonSet has no nodes selected
Daemon Set
0/0
kube-system
eropanodeapp
kube-proxy-gke-eropanodeapp-default-pool-c8d7e1bc-063g
Running
Pod
1/1
kube-system
eropanodeapp
kube-proxy-gke-eropanodeapp-default-pool-
Running
Pod
1/1
kube-system
eropanodeapp
11:30

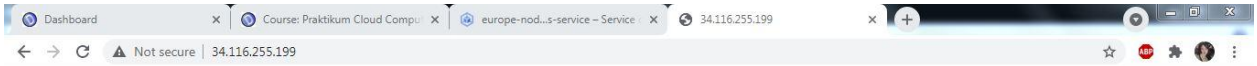

Dashboard
Course: Cloud Comput
Course: Praktikum Clou
Create a deployment -
PRAK 3 GKE DAN API C
cloudGKE/app.js at mas
console.cloud.google.com/kubernetes/workload/deploy?project=calvina01&pageState={"savedViews":{"i":"6092d000513c46959ca3ea14f216f548","c":%5B%5D,"n"...
Google Cloud Platform
calvina
Search products and resources
Kubernetes Engine
Create a deployment
HIDE INFO PANEL
Clusters
Workloads
Services & Ingress
Applications
Configuration
Storage
Object Browser
Migrate to containers
Marketplace
1 Container
Edit container
Existing container image
New container image
Repository Provider
GitHub
Authenticated as calvinawuysan. Change user
Repository *
calvinawuysan/cloudGKE
Dockerfile path
ahyar.dockerfile
Path to the Dockerfile from the root of the repository. Defaults to 'Dockerfile'.
Image name *
gcr.io/calvina01/github.com/calvinawuysan/cloudgke:$SHORT_SHA
The built image will be pushed to Google Container Registry with this name. Supported variables: $PROJECT_ID, $REPO_NAME, $BRANCH_NAME, $COMMIT_SHA, $SHORT_SHA
Container image
Before you deploy a workload on a Kubernetes Engine cluster, you must first package the workload into a container.
A container image is a portable machine image which bundles together an application and its dependencies.
The form is pre-filled with a default sample container registered and ready for use.
If you have your own container image just put in the endpoint to its location. You can also register a new container with Google Container Registry.
https://console.cloud.google.com/kubernetes/application?project=calvina01
11:30


Dashboard
Course: Cloud Comput
Course: Praktikum Clou
Deployment details – K
PRAK 3 GKE DAN API C
cloudGKE/app.js at mas
console.cloud.google.com/kubernetes/workload/deploy?project=calvina01&pageState={"savedViews":{"i":"6092d000513c46959ca3ea14f216f548","c":%5B%5D,"n"...
Google Cloud Platform
calvina
Search products and resources
Kubernetes Engine
Deployment details
EDIT
DELETE
ACTIONS
KUBECTL
HIDE INFO PANEL
Clusters
Workloads
Services & Ingress
Applications
Configuration
Storage
Object Browser
Migrate to containers
Marketplace
europe-nodejs
Building a container image
Using an existing cluster: europe-central2-a/eropanodeapp
Building a container image
Creating a Deployment
Waiting for Pods
HIDE ALL STEPS
Creating cluster and deployment
Cluster creation can take 5 minutes or more.
A cluster consists of at least one cluster control plane machine (really the API server) and multiple worker machines called nodes. Nodes are Compute Engine virtual machine (VM) instances that run the Kubernetes processes necessary to make them part of the cluster.
Once the cluster is created, your application deployment will be run on its nodes.
Node
containerized app
Deployment
Master
node processes
Kubernetes Cluster
https://console.cloud.google.com/kubernetes/discovery?project=calvina01
U:
D:
0.00 kbit/s
0.00 kbit/s
EN
11:31


Dashboard
Course: Cloud Comput
Course: Praktikum Clou
europe-nodejs – Deplo
PRAK 3 GKE DAN API C
cloudGKE/app.js at mas
console.cloud.google.com/kubernetes/deployment/europe-central2-a/eropanodeapp/default/europe-nodejs/overview?project=calvina01&pageState={"savedVie...
Google Cloud Platform
calvina
Search products and resources
Kubernetes Engine
Deployment details
REFRESH
EDIT
OPERATIONS
Documentation
Clusters
Workloads
Services & Ingress
Applications
Configuration
Storage
Object Browser
Migrate to containers
Marketplace
europe-nodejs
Set up an automated pipeline for this workload
SET UP
DISMISS
To let others access your deployment, expose it to create a service
EXPOSE
OVERVIEW
DETAILS
REVISION HISTORY
EVENTS
LOGS
NEW
YA
1 hour
6 hours
12 hours
1 day
2 days
4 days
7 days
14 days
30 days
CPU
Memory
Disk
No data is available for the selected time frame.
Apr 07
11 AM
11:30
Expose deployment
To let users access your deployment, you can expose it to external traffic
EXPOSE
Documentation
Deployments - a replicated, stateless application on your cluster
Pods - the smallest deployable unit in Kubernetes
Services - allow your application to receive traffic
Autoscaling pods - scale the application based on load or custom metrics
https://console.cloud.google.com/kubernetes/application?project=calvina01
U:
D:
0.00 kbit/s
0.00 kbit/s
EN
11:32


Dashboard
Course: Cloud Comput
Course: Praktikum Clou
Expose a deployment -
PRAK 3 GKE DAN API C
cloudGKE/app.js at mas
console.cloud.google.com/kubernetes/workload/expose/europe-central2-a/eropanodeapp/default/europe-nodejs?project=calvina01&pageState=("savedViews":(...
Google Cloud Platform
calvina
Search products and resources
Kubernetes Engine
Expose a deployment
HIDE INFO PANEL
Clusters
Workloads
Services & Ingress
Applications
Configuration
Storage
Object Browser
Migrate to containers
Marketplace
Exposing a deployment creates a Kubernetes Service. A service lets your deployment receive traffic and defines how your deployment is exposed.
Port mapping
Port *
Target port
Protocol
80
8000
TCP
ADD PORT MAPPING
Service type
Load balancer
Service name
europe-nodejs-service
EXPOSE
VIEW YAML
* indicates required field
External port
This service will provide networking and IP support to your deployment's Pods.
The external port specifies the port number configured on the service. The target port specifies the port number that is used by the Pod.
11:32


Dashboard
Course: Cloud Comput
Course: Praktikum Clou
europe-nod...s-service
PRAK 3 GKE DAN API C
cloudGKE/app.js at mas
console.cloud.google.com/kubernetes/service/europe-central2-a/eropanodeapp/default/europe-nodejs-service/overview?project=calvina01
Google Cloud Platform
calvina
Search products and resources
Kubernetes Engine
Service details
REFRESH
EDIT
DELETE
KUBECTL
HIDE INFO PANEL
OPERATIONS
Clusters
Workloads
Services & Ingress
Applications
Configuration
Storage
Object Browser
Migrate to containers
Marketplace
europe-nodejs-service
OVERVIEW
DETAILS
EVENTS
LOGS
NEW
YAML
1 hour
6 hours
12 hours
1 day
2 days
4 days
7 days
14 days
30 days
CPU
Memory
Disk
14e-3
12e-3
10e-3
8e-3
6e-3
4e-3
2e-3
Apr 07
1.00B
0.75B
0.50B
0.25B
0
11 AM
11:30
Apr 07
Cluster
eropanodeapp
Namespace
default
Labels
app: europe-nodejs
Logs
europe-nodejs
Load balancer
This service has a fixed external IP to route traffic to your application
The IP address is externally facing. Visit the address to see the deployment.
Suggested next steps
Scale the deployment by changing the number of replicas in the deployment
Perform a rolling update to change the deployment image
Deploy a stateful application to your cluster
11:34



Calvina Wuysan 51018003 Sistem Informasi 2018/n