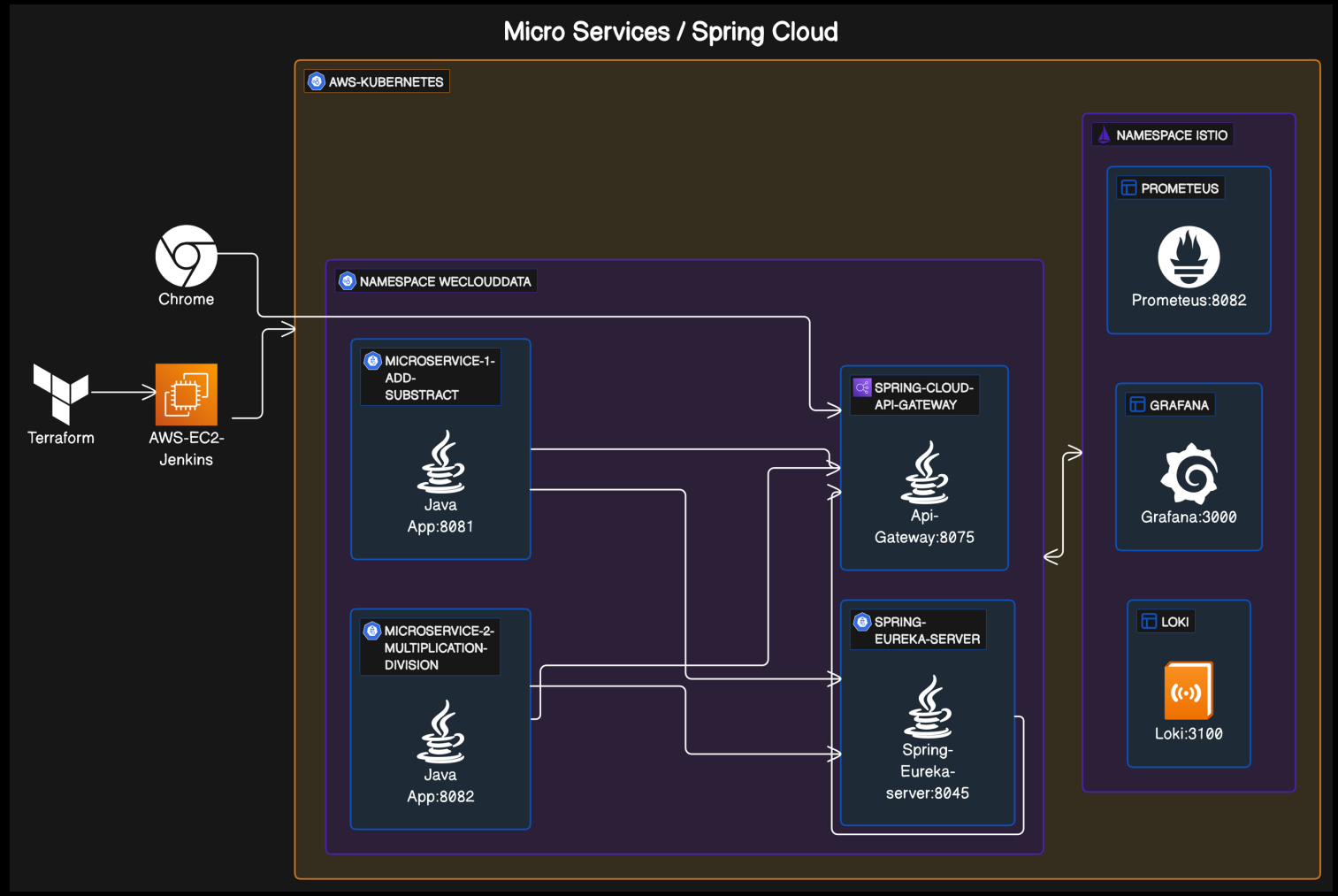
SPRING BOOT CLOUD NETFLIX ON KUBERNETES ARCHITECTURE

SPRING CLOUD
NETFLIX

INTRODUCTION

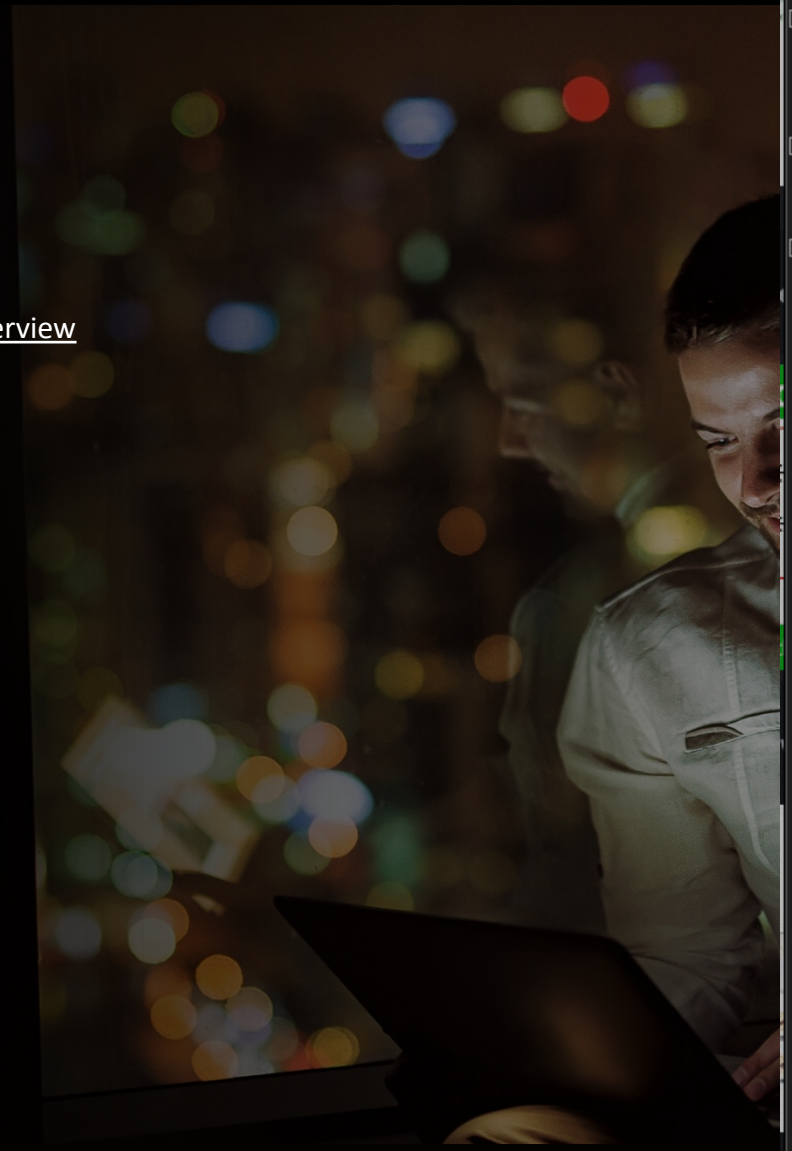
the architecture of a microservices-based system utilizing Spring Boot Cloud Netflix components, deployed on Kubernetes (K8S). The system is designed for high availability, scalability, and robust service discovery and monitoring.



SPRING CLOUD NETFLIX

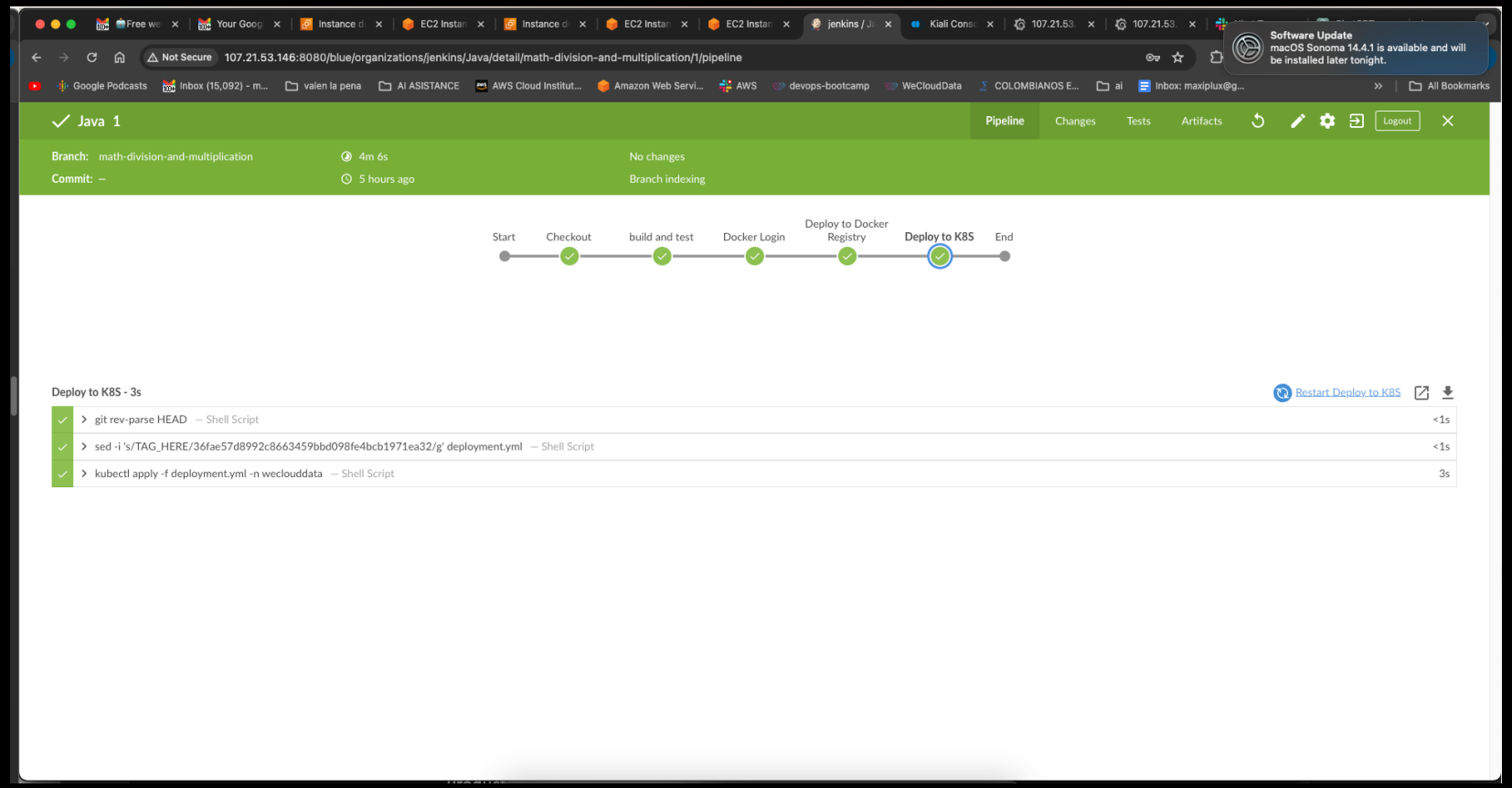
Architecture Overview

- Infrastructure Setup
  - https://github.com/maxiplux/Final-Capstone-Project-weclouddata/blob/main/README.md#architecture-overview
- Kubernetes (K8S)
- Microservices
- API Gateway
- Service Discovery
- Monitoring and Observability



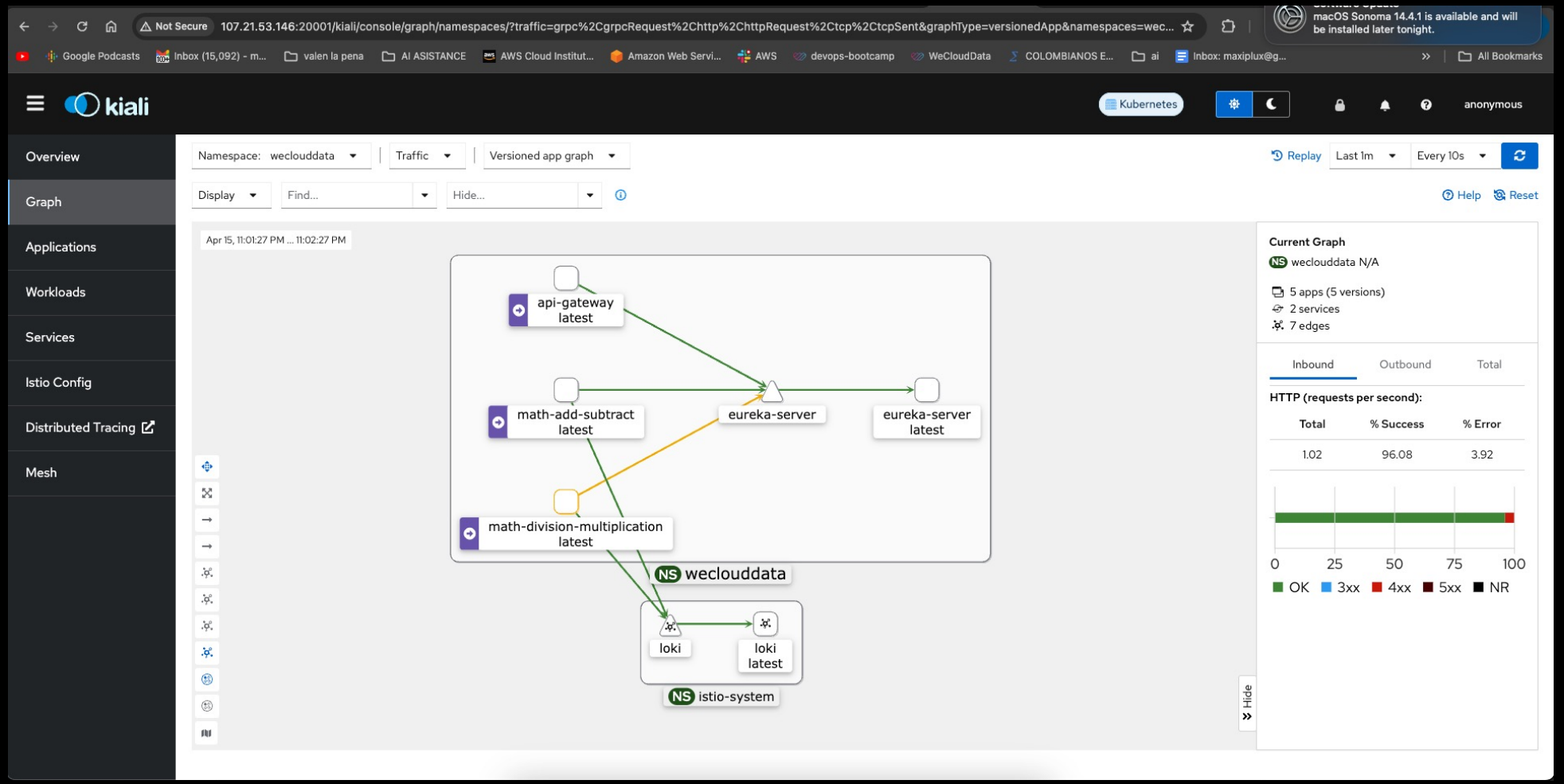
```
brew reinstall tree
Final-Capstone-Project-weclouddata git:(main) tree
.
├── LICENSE
├── README.md
├── api-gateway
│   ├── deployment.yml
│   └── service.yaml
├── aws-eks-cluster
│   ├── cluster.yaml
│   ├── delete-cluster.sh
│   ├── eks-installer.sh
│   └── install-cluster.sh
├── aws-eks-permissions
│   └── main.tf
├── aws-jenkins-machine
│   ├── README
│   ├── docker-compose.yml
│   └── terraform
│       ├── check_status.sh
│       └── main.tf
├── aws-spring-netflix.png
├── deployer.sh
├── docker-compose.yml
├── graphana-dashboard
│   └── spring-boot-dashboard.json
├── loki-dns.yml
├── math-add-subtract
│   ├── deployment.yml
│   └── service.yaml
├── math-division-multiplication
│   ├── deployment.yml
│   └── service.yaml
├── monitoring
│   ├── grafana.yaml
│   ├── jaeger.yaml
│   ├── kiali.yaml
│   ├── loki.yaml
│   └── prometheus.yaml
├── monitoring.sh
├── namespace.yml
├── services-discovery-eureka
│   ├── deployment.yml
│   └── service.yaml
├── tester.py
└── undeployer.sh
```

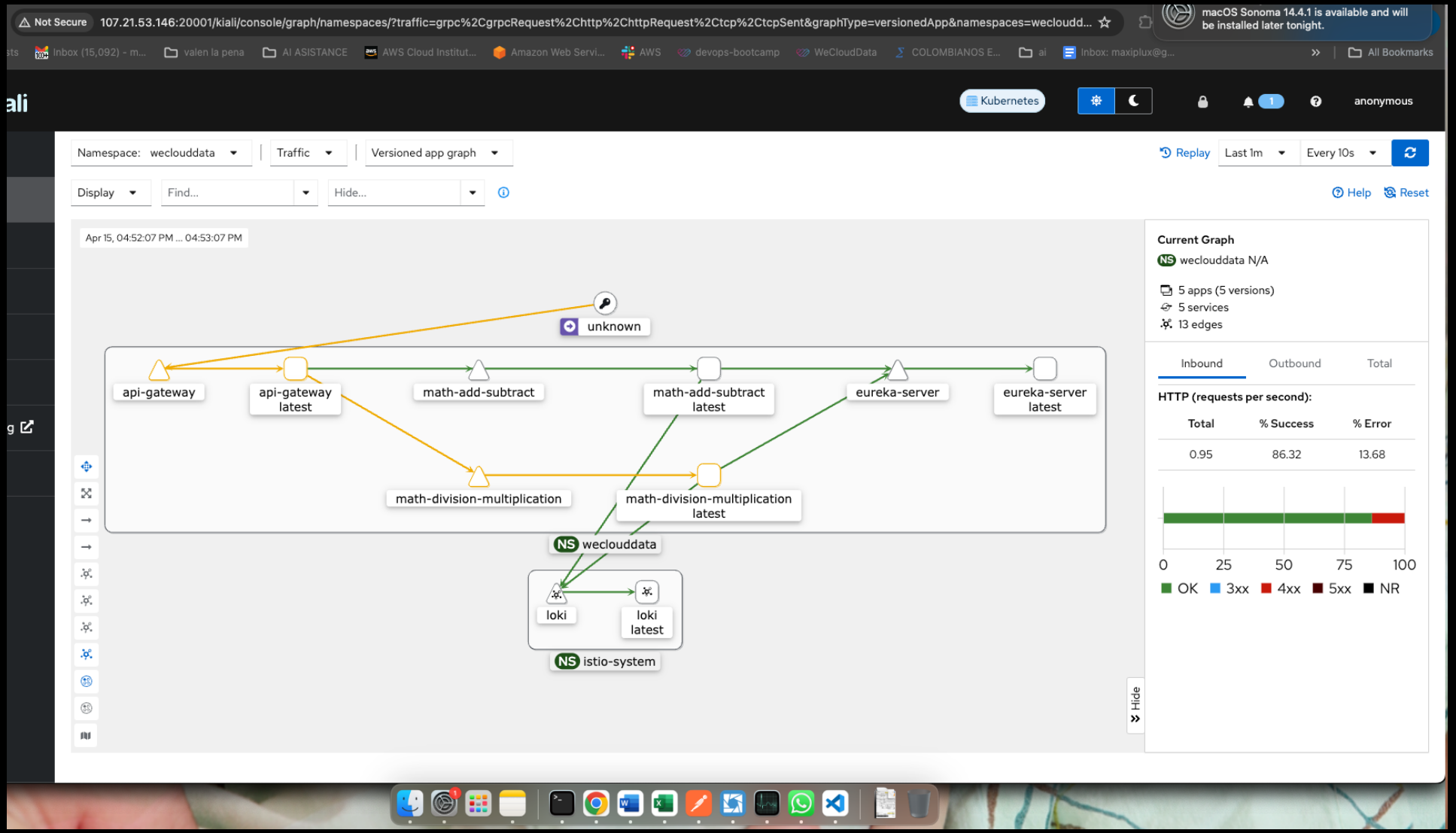
Components in action



Next

Components in action




Not Secure
107.21.53.146:20001/kiali/console/graph/namespaces/?traffic=grpc%2CgrpcRequest%2Chttp%2ChttpRequest%2Ctcp%2CtcpSent&graphType=versionedApp&namespaces=weclouddd...
macOS Sonoma 14.4.1 is available and will be installed later tonight.
Kubernetes
anonymous
Namespace: weclouddata
Traffic
Versioned app graph
Replay
Last 1m
Every 10s
Display
Find...
Hide...
Help
Reset
Apr 15, 04:52:07 PM ... 04:53:07 PM
unknown
api-gateway
api-gateway latest
math-add-subtract
math-add-subtract latest
eureka-server
eureka-server latest
math-division-multiplication
math-division-multiplication latest
NS weclouddata
loki
loki latest
NS istio-system
Current Graph
NS weclouddata N/A
5 apps (5 versions)
5 services
13 edges
Inbound
Outbound
Total
HTTP (requests per second):
Total
% Success
% Error
0.95
86.32
13.68
0
25
50
75
100
OK
3xx
4xx
5xx
NR
Hide

CONCLUSION

This architecture is designed to be resilient and flexible, enabling quick scaling and easy maintenance of the microservices. Monitoring tools ensure the health of the system is continuously observed, allowing for proactive management of the system's operations.

Next

REFERENCES

- TEMPLATE
  - https://ppthemes.com/netflix-powerpoint-template/?fbclid=IwAR0DMqpBahQ-QUaXr6FQMUp1_fes0LmuOmrASC1w7aF94JHbv-KixOmKOYU_aem_Af1mG7rdTPdvijodH0rBf4jGsLNVR7jKJ5lvIn9OgT50ADfMgF3RCPbw3Gq9hx8AHc8&amp
- MICROSERVICES CODE
  - https://github.com/maxiplux/k8s-istio-math
- ISTIO
  - https://istio.io/latest/
- SPRING CLOUD
  - https://spring.io/projects/spring-cloud

THANKS