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CloudNativeCon
North America 2024

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Kubernetes at Scale: Practical Solutions for Enhanced CNI and Kubelet Performance

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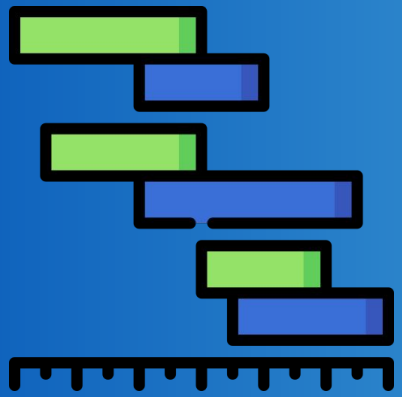
Disclaimer



Timeline

No Clusters Harmed

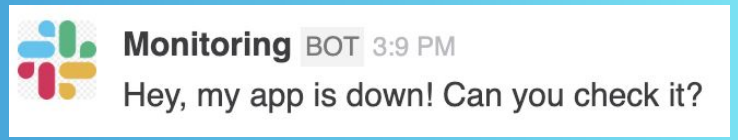
There always something to change

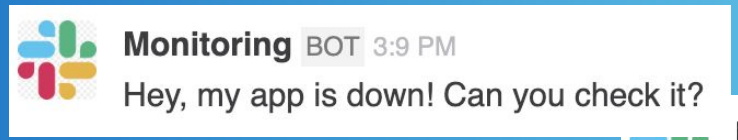
Company Cost optimization

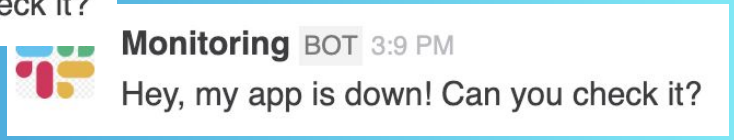
Scale Down

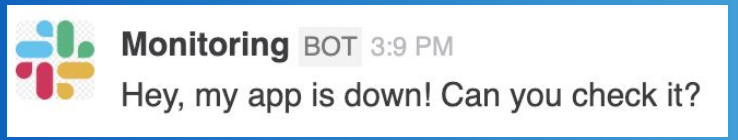
Validate & Deploy

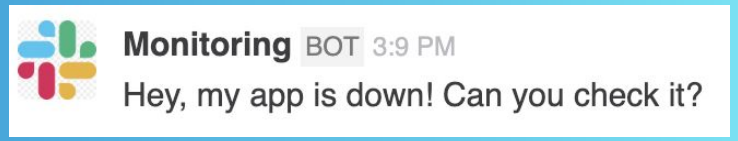
Monday Morning...



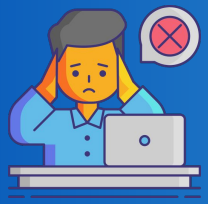








Monday Morning...



```
"msg":"timeout: failed to connect service \":50051\" within 5s"
```

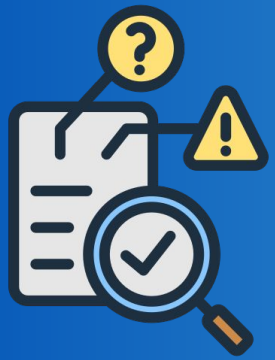
Windows-Solution.sh

“Fixed”

Why?!

Checking...!

Dev != Prod !?



```
network: add cmd: failed to assign an IP address to container
```

Learn and Improve it!

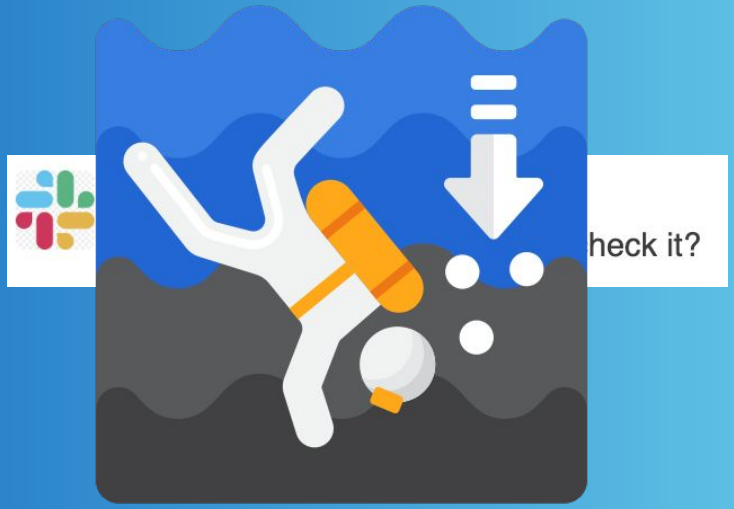
```
(...)
"eventName":    AssignPrivateIpAddresses
"errorCode": "Client.RequestLimitExceeded",
"errorMessage": "Request limit exceeded.",
"userAgent": "amazon-vpc-cni-k8s/ ..."
```

Throttling

Fixed!

Next Monday...

Checking



Windows.sh

First things first

Bootstrapping

Legacy

Custom

Keep Digging

Kubelet

```
ErrImagePull: pull QPS exceeded
```

Keep Digging

ClusterIP

```
Unable to reach API Server (...)
```

Another Monday...

Lessons Learned

1. Default Values are OK, until they are not
2. Don’t assume there is only One Error
3. Be aware of your Surroundings
4. There is always Legacy somewhere
5. You can’t Predict Everything

Useful URLs

- EKS logs collector
- API Throttling Dashboard
- AWS VPC CNI
- EKS Best practices
- Bruno’s LinkedIn
- Henrique’s LinkedIn

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