**AWS EKS Kubernetes version 1.22**

(Cluster capacity planning)

[www.solankiempire.site](http://www.solankiempire.site)

**Dev and stage environment**

In dev and stage environment we do some development and testing activity. So, we can’t use expensive and large number of nodes for development and testing activity. Use large and expensive machine for dev and staging environment doesn’t make scene.

For cost-optimization purpose we use this this kind machine: -

**t3.large**

* Node size – 15
* Pod – 30 per node

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Hour** | **day** | **month** |
| Instance cost | $0.17\*15=$2.55 | $3.99\*15=$59.85 | $119.81\*15=$1,797.15 |
| Cost per pod | $0.01\*30=$0.3 | $0.11\*30=$3.3 | $3.24\*30=$97.2 |
| Kubelet cost | $0.01\*15=$0.15 | $0.36\*15=$5.4 | $10.74\*15=$161.1 |
| Unused costs | $0.05 | $1.23 | $36.75 |

**Production environment**

A production environment is where the latest versions of software, products, or updates are pushed live to the intended users. All the critical data and clients related software or products will deploy in production. For E-commerce domain when weekend and big-billion sales are come our pod and nodes need to be automatically scale out, when weekdays are come nodes and pod need to be automatically scale in.

**M5.xlarge**

* Node size – 30
* Weekdays pod – 40
* Weekend pod limit – 80 to 90

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Hour** | **day** | **month** |
| Instance cost | $0.19\*30=$5.7 | $4.61\*30=$138.3 | $138.24\*30=$4,147 |
| Cost per pod | $0.01\*40=$0.4 | $0.13\*40=$5.2 | $3.74\*40=$149 |
| Kubelet cost | $0.02\*30=$0.6 | $0.41\*30=$12.3 | $12.39\*30=$371.7 |
| Unused costs | $0.06 | $1.41 | $42.40 |

**Shared environment**

Shared environment will have logging and monitoring related data. All the 3rd party tool will deploy in shared environment. Shared environment basically uses for logging and monitoring so we don’t need any large and expensive machine.

The service which we using for the shared environment: -

* Prometheus
* Grafana
* ELK (Elasticsearch, Logstash, and Kibana)

**t2.large**

* Node – 5
* Pod – 16 per node