REVISION HISTORY

Version	Date	Change description	Created by	Updated by	Reviewed by
V 1.0	November, 2022	Release 6.0	Hemanth/Yash	Raksha	Chiranjib

AVANSEUS TECHNOLOGIES PVT. LTD.

Monitoring Deployments using Grafana
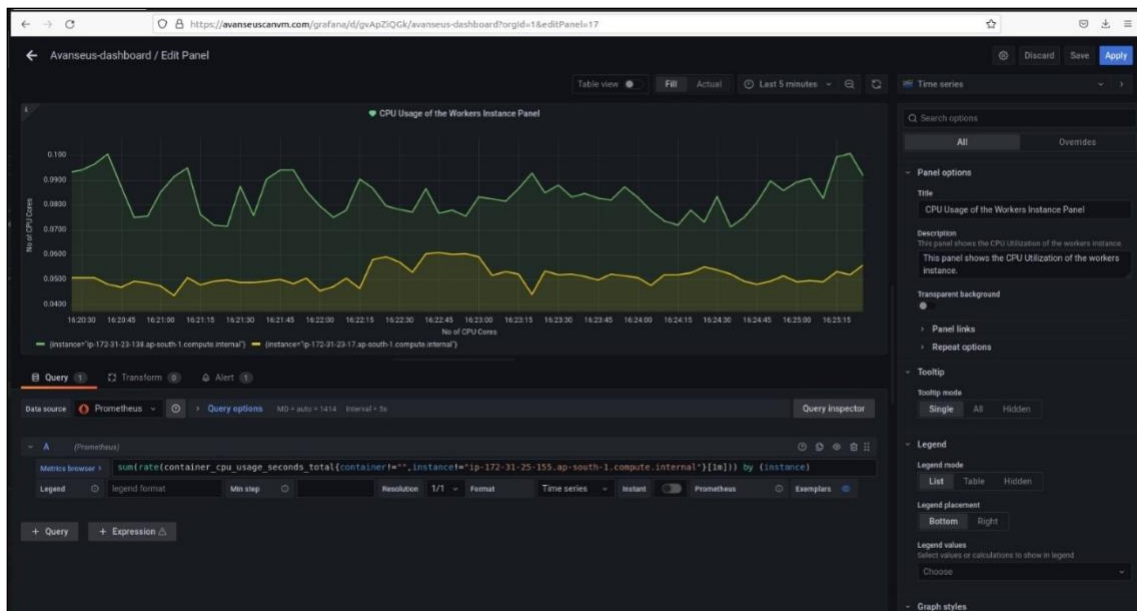
Monitoring CPU Usage at Node Level

1. **CPU Usage of the Master Instance Panel:**

This panel shows the CPU Utilization of a master instance of two CPU cores. The query below provides master instance.

```
sum(rate(container_cpu_usage_seconds_total{container!="",instance="ip-172-31-25-155.ap-south-1.compute.internal"}[1m])) by (instance)
```

2. **CPU Usage of the Workers Instance Panel:**

AVANSEUS TECHNOLOGIES PVT. LTD.

This panel shows the CPU Utilization of two worker instances of the same CPU cores. The query below ignores master instance.

```
sum(rate(container_cpu_usage_seconds_total{container!="",instance!="ip-172-31-25-155.ap-south-1.compute.internal"}[1m])) by (instance)
```

If the workers have different CPU cores, a different panel for each worker can be created.
For example, to get CPU Utilization of particular instance the query is:

```
sum(rate(container_cpu_usage_seconds_total{container!="",instance="$instance_name"}[1m])) by (instance)
```

Monitoring CPU Usage at Pod Level

1. **CPU Usage of All the Pods of Avanseus-workspace Namespace:**
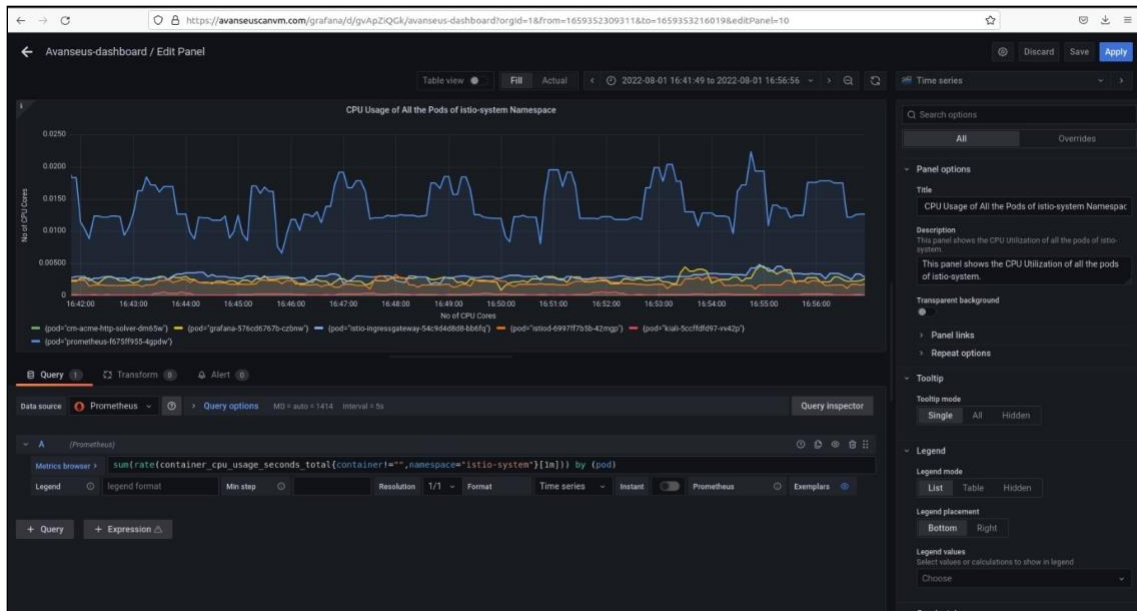
AVANSEUS TECHNOLOGIES PVT. LTD.

This panel shows the CPU Utilization of all the pods of avanseus-workspace namespace. In the query, pod name is given as **avanseus-workspace**:

```
sum(rate(container_cpu_usage_seconds_total{container!="",namespace="avanseus-
workspace"}[1m])) by (pod)
```

Create a new panel for CPU usage of different pod. In the query section, add the metric browser as:

```
sum(rate(container_cpu_usage_seconds_total{container!="",namespace="$Pod_name"}[1m]))    by
(pod)
```
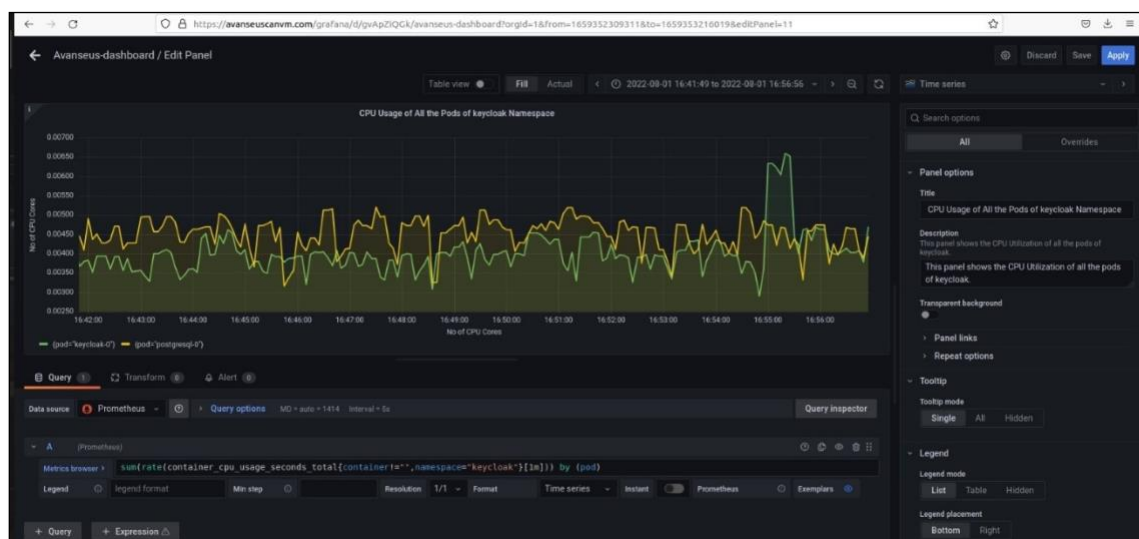
2. **CPU Usage of All the Pods of Istio-system Namespace:**

AVANSEUS TECHNOLOGIES PVT. LTD.

This panel shows the CPU Utilization of all the pods of istio-system namespace. In the query, pod name is given as **istio-system**:

```
sum(rate(container_cpu_usage_seconds_total{container!="",namespace="istio-system"}[1m]))    by
(pod)
```

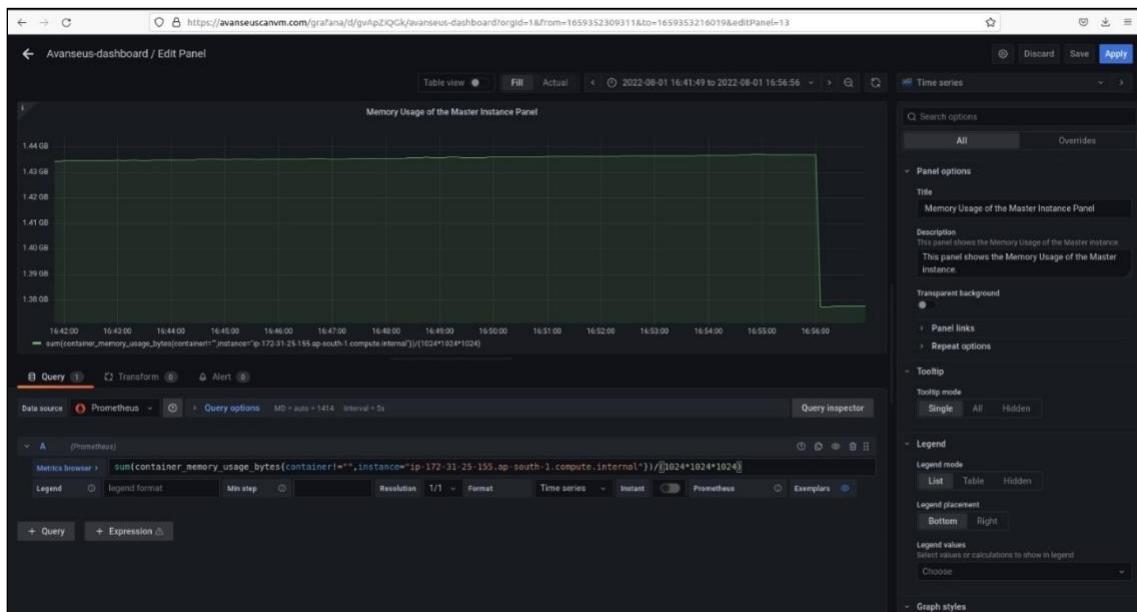### 3. CPU Usage of All the Pods of Keycloak Namespace:

This panel shows the CPU Utilization of all the pods of keycloak namespace. In the query, pod name is given as **keycloak**:

```
sum(rate(container_cpu_usage_seconds_total{container!="",namespace="keycloak"}[1m])) by (pod)
```
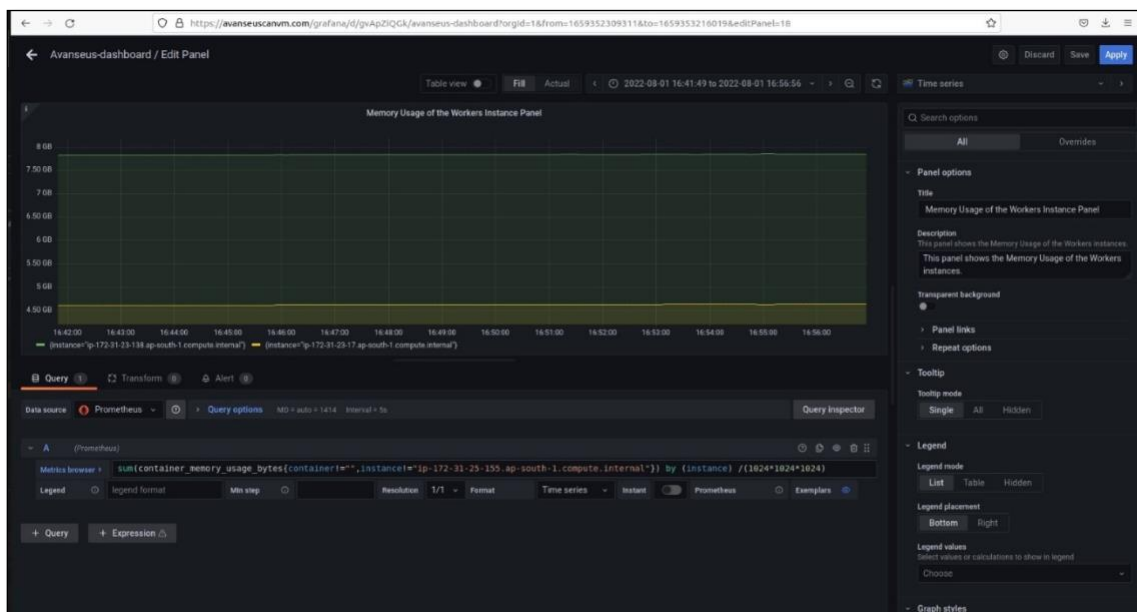
Monitoring Memory Usage at Node Level

1. Memory Usage of the Master Instance Panel:

This panel shows the Memory Utilization of a master instance of 8GB size. In the query, master instance is provided using:

```
sum(container_memory_usage_bytes{container!="",instance="ip-172-31-25-155.ap-south-1.compute.internal"})/(1024*1024*1024)
```

2. Memory Usage of the Workers Instance Panel:

AVANSEUS TECHNOLOGIES PVT. LTD.

This panel shows the Memory Utilization of two worker instances of the same memory size. In the query, master instance is ignored using:

```
sum(container_memory_usage_bytes{container!="",instance!="ip-172-31-25-155.ap-south-
1.compute.internal"}) by (instance) /(1024*1024*1024)
```
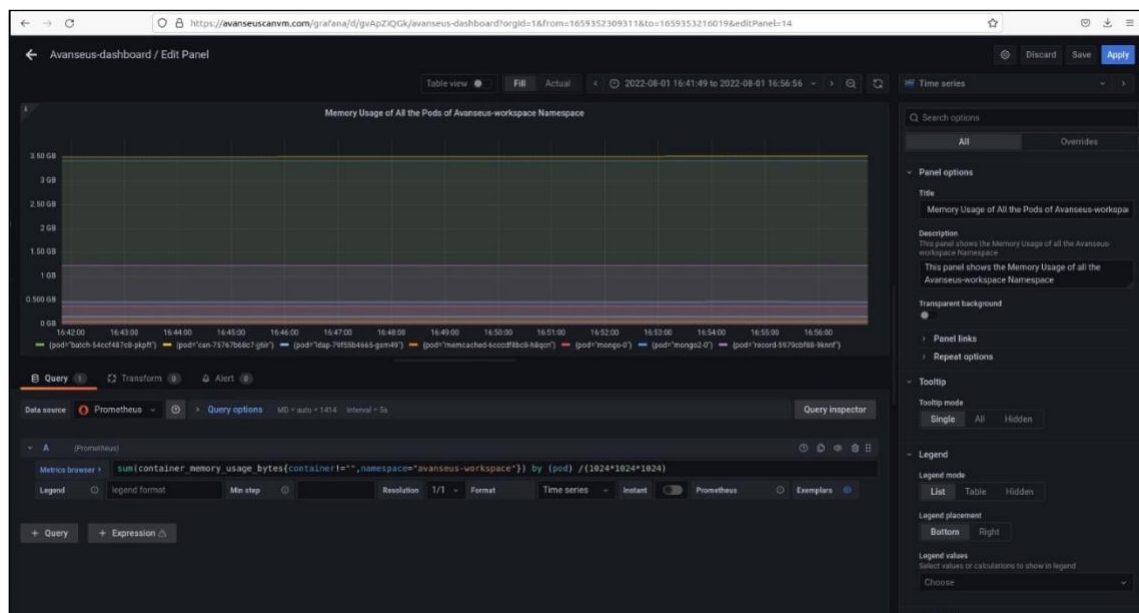
If the workers have different memory sizes, create a different panel for each worker.
For example, to get Memory Utilization of particular instance the query is:

```
sum(container_memory_usage_bytes{container!="",instance!="$instance_name"}) by (instance)
/(1024*1024*1024)
```

Add the Unit as **GB** in standard options on the right side of the panel.

Monitoring Memory Usage at Pod Level

1. **Memory Usage of All the Pods of Avanseus-workspace Namespace:**

This panel shows the Memory Utilization of all the pods of avanseus-workspace namespace. In the query, pod name is given as **avanseus-workspace** using:
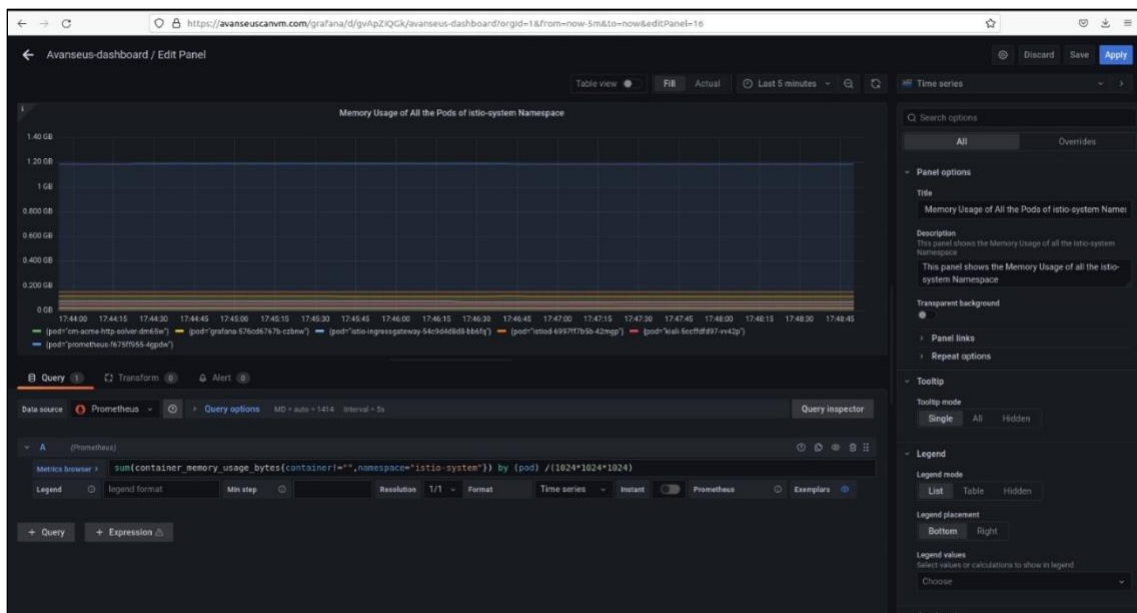
```
sum(container_memory_usage_bytes{container!="",namespace="avanseus-workspace"}) by (pod)
/(1024*1024*1024)
```

For memory usage of different pod, create a new panel and in the query section add the metric browser as:

```
sum(container_memory_usage_bytes{container!="",namespace="Pod_name"}) by (pod)
/(1024*1024*1024)
```

Add the Unit as **GB** in standard options on the right side of the panel.
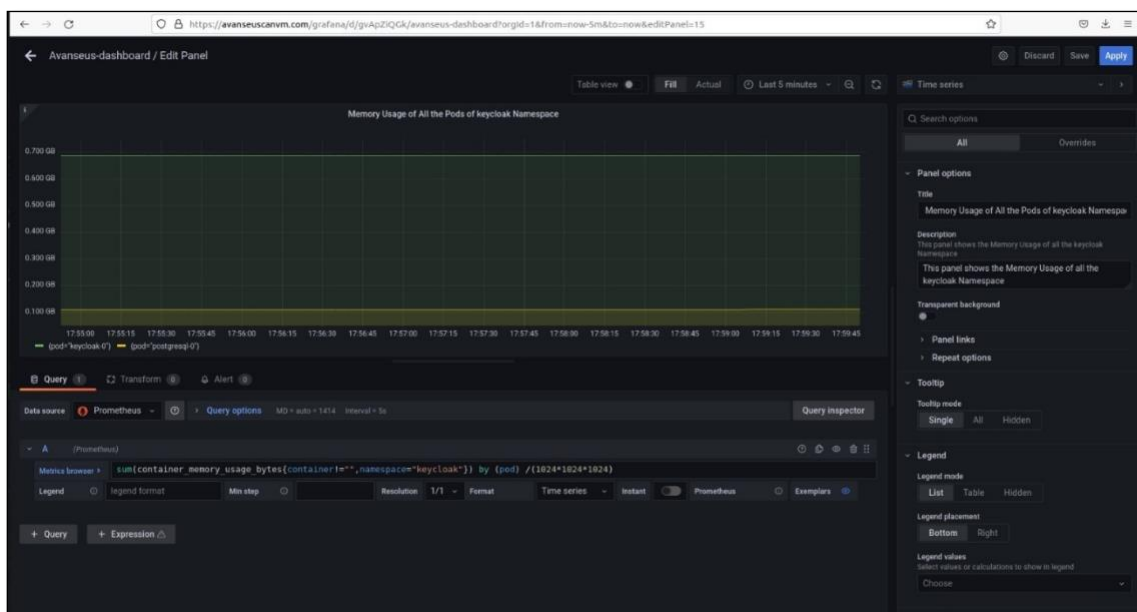
AVANSEUS TECHNOLOGIES PVT. LTD.

2. Memory Usage of All the Pods of Istio-system Namespace:

This panel shows the Memory Utilization of all the pods of istio-system namespace. In the query, namespace is given as **istio-system** using:

```
sum(container_memory_usage_bytes{container!="",namespace="istio-system"}) by (pod)
/(1024*1024*1024)
```

3. Memory Usage of All the Pods of Keycloak Namespace:
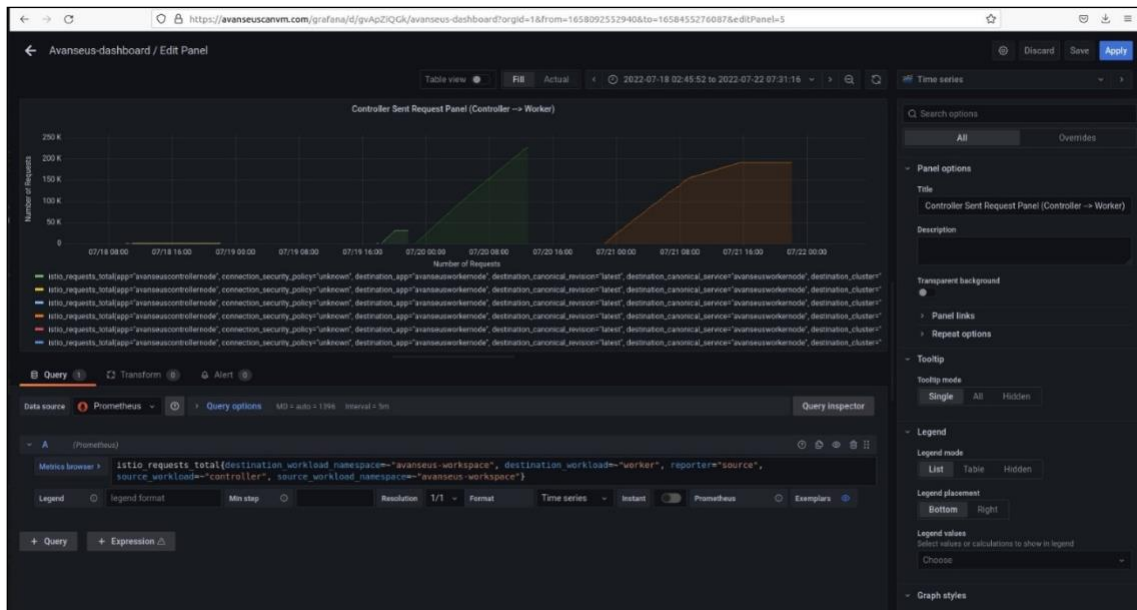

This panel shows the Memory Utilization of all the pods of istio-system namespace. In the query, namespace is given as **keycloak** using:

```
sum(container_memory_usage_bytes{container!="",namespace="keycloak"}) by (pod)
/(1024*1024*1024)
```
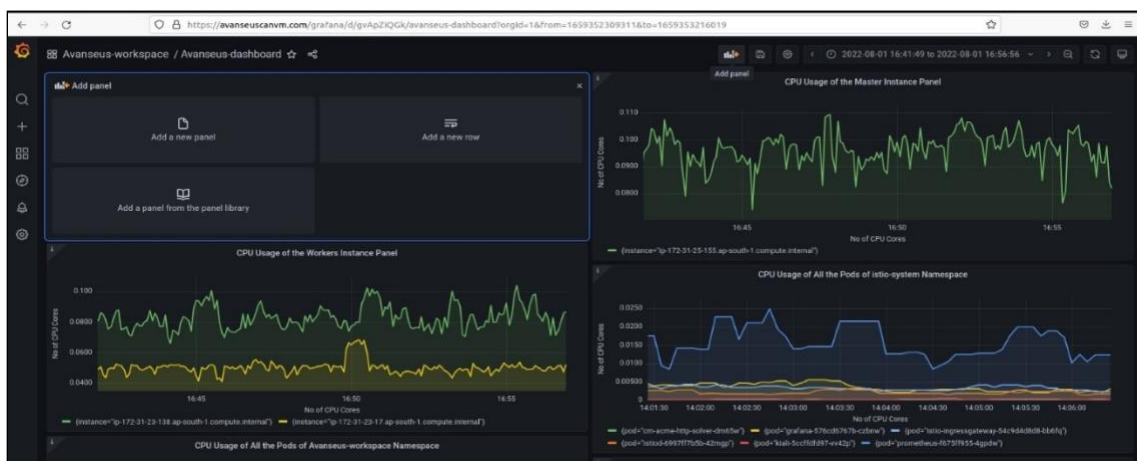
Monitoring the Requests Sent from Controller to Worker

This panel shows the total number of requests sent from the controller to each worker.

Creation of New Panel

Click on Add panel on the right side of the dashboard. Click on Add a new panel. A new panel is created where panel title, description and a query can be added in the Metrics browser as per the requirement.

Summary

After installing Grafana, a custom dashboard named **Avanseus-dashboard** with 11 panels (explained above) is obtained. Create new panels as per user requirement.