CloudWatch monitoring

With CloudWatch monitoring enabled, we can have information on how server performance under various conditions. The matrix is calculated on the 5 minute interval by default. There are many types of matrix are available for monitoring. In our case, we will be monitoring most critical components like disk space usage, memory usage, and CPU utilization. All three components are separated in three widgets, so that each can be visualized to get a clear picture.

Storage monitoring

For disk space we will be monitoring following 3 matrices;

- **DiskSpaceUsed**: Shows the amount of disk space used in GB
- **DiskSpaceAvailable**: Shows the amount of free disk space available in GB
- **DiskSpaceUtilization**: Shows the percentage amount of disk space used

We can set up alarm on various conditions on these matrices, so that we will be notified if any of the matrix reaches certain condition. For example, we can create alarm for disk space utilization in a way that when disk space utilization reaches the 90 % threshold, we can set alarms to notify the responsible person by email. Similarly, we can set alerts for other metrics like DiskSpaceUsed and DiskSpaceAvailable, however, setting alarm for a single matrix will be sufficient for us to know the status.

Memory monitoring

For memory usage, we will be monitoring following 3 matrices;

- **MemoryUsed**: Shows the amount of RAM being used in GB
- **MemoryAvailable**: Shows the amount of RAM available in GB
- **MemoryUtilization**: Shows the percentage of RAM being used

Like disk space monitoring, we can set alarms for memory usage as well. For example, we can set a threshold value of 90% for memory utilization and it will alert us in case memory utilization reached beyond the threshold.

CPU monitring

We are monitoring only one matrix for CPU

- **CPUUtilization**: Shows the percentage of CPU being utilized.

Like other two components, we can set alarm for CPU utilization. For example, if CPU utilization reaches 80% value, there is some problem with the server and will notify the responsible person.

There are many other metrics available for monitoring, such as network packets, disk read and write. We can create additional widgets and add a corresponding matrix to visualize the data. Even though they can be used to analyze server performance, they are not much critical matrix.
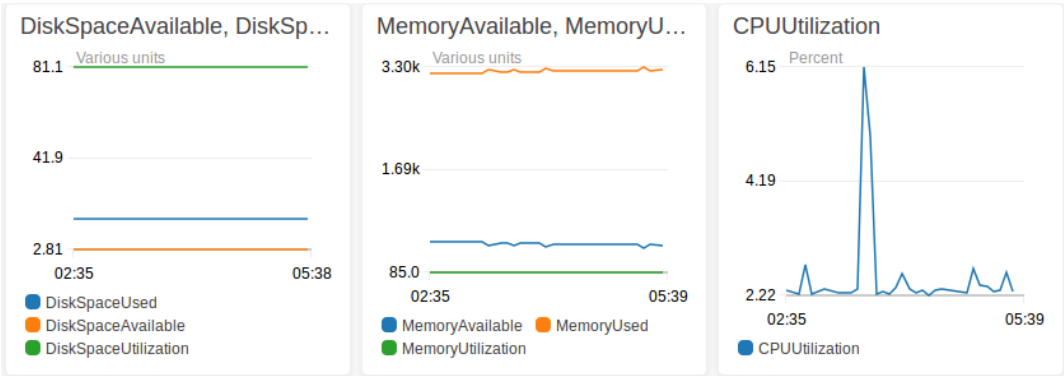
Monitoring Visualization

There are various widgets provided by CloudWatch to visualize the server performance. The major widgets available are as follows;
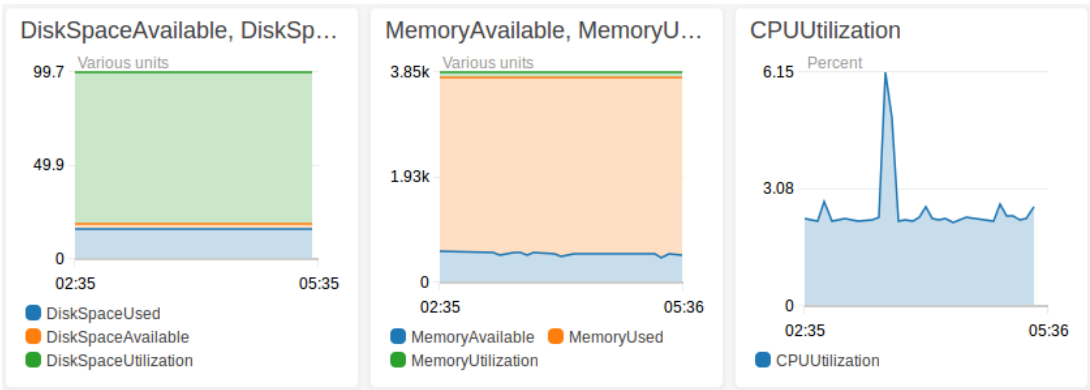
- Line
- Stacked Area
- Number

Below listed are the three types of visualization for the same set of data. All three widgets can be expanded to view the graph on a bigger scale.

Line

Stacked Area

Number