**CloudWatch (Metrics From Multiple Regions & Custom Dashboards)**

## Service Overview

*Amazon CloudWatch monitors your Amazon Web Services (AWS) resources and the applications you run on AWS in real time. With CloudWatch, you gain system-wide visibility into resource utilization, application performance, and operational health.*

## Use cases / Considerations

* *You can set up custom dashboards, that allow you to monitor custom metrics in a useful format. Another benefit is that you can compare some important metrics in one dashboard, which will save your time when you want to get information about your infrastructure.* [*https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/create\_dashboard.html*](https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/create_dashboard.html)
* *You can gather metrics metrics from multiple regions [https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/Cross-Account-Cross-Region.html#enable-cross-account-cross-Region](https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/Cross-Account-Cross-Region.html" \l "enable-cross-account-cross-Region)*

## Cautions

*There are a lot of limitations in the CloudWatch service, but these are the most important:*

* *Alarm actions ( 5 per alarm )*
* *Alarms ( 10/month/customer for free. 5000 per Region, per account )*
* *API requests ( 1,000,000/month/customer for free )*
* *Dashboards ( Up to 500 metrics per dashboard widget. Up to 2500 metrics per dashboard, across all widgets )*
* *Metric data storage ( 15 months )*
* *Period ( Maximum value is one day )*
* *Amazon SNS email notifications ( 1,000/month/customer for free )*

*More detailed information about limitations you can get here:*

[*https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/cloudwatch\_limits.html*](https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/cloudwatch_limits.html)

## Pricing considerations

*When you sign up for AWS, you can get started with CloudWatch Logs for free using the*[*AWS Free Tier*](http://aws.amazon.com/free/)*.*

*Standard rates apply for logs stored by other services using CloudWatch Logs (for example, Amazon VPCflow logs and Lambda logs).*

*For more information, see*[*Amazon CloudWatch Pricing*](https://aws.amazon.com/cloudwatch/pricing/)*.*

## More details

*Link to the video with creating custom dashboard:* [*Click here*](https://youtu.be/I7EFLChc07M?t=198)

**Task: Create Cross-region dashboard with instance metrics**

**Problem to Be Solved**

*We implement high availability solution, based on multi-region deployment. We need the ability to get all performance metrics in one place.*

**Explanation of the Solution**

**Implementation Details**

In the first step you should launch two instances in different regions (you can choose any region). Don’t forget to use only free tier shapes.

Here you can get information how to do it: [https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EC2\_GetStarted.html#ec2-launch-instance](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EC2_GetStarted.html" \l "ec2-launch-instance)

After launching instances and enabling at least one sharing account and at

least one monitoring account you can start creating a cross-region dashboard.

1. Sign in to the monitoring account.
2. Open the CloudWatch console at <https://console.aws.amazon.com/cloudwatch/>.
3. In the navigation pane, choose **Dashboards**.
4. Choose a dashboard, or create a new one.
5. Add new widget with **Line**type and **metrics**data source.
6. Find region selection button to the left of the searching field. Choose region with the first instance.
7. Choose EC2 metrics > Per-instance metrics > find and add **CPUUtilization** metric for your instance.
8. Switch region and repeat previous step.
9. Verify task confirmation by watching your dashboard and find cross-region metrics from two EC2 instances on it.

**Benefits / Outcomes / Pros and Cons / Summary**

*Now you know how to create cross-region dashboard and how to add widgets with metrics on it.*