

## **1. Introduction:**

Welcome to the User Manual for the Enhanced Resource Cost Breakdown in Xgrid Cloud Cost Control!

### **Overview:**

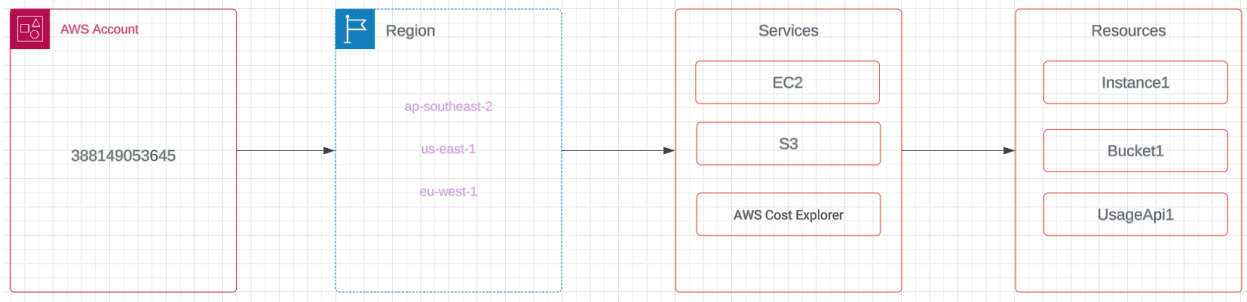
This user manual is your comprehensive guide to the enhanced resource cost breakdown feature within Xgrid Cloud Cost Control. Our team has taken the initiative to enhance the software, providing you with powerful capabilities to gain granular insights into your cloud resource costs. By forking and extending the project, we've developed a resource cost breakdown feature that allows you to delve deeper into your cloud expenditure, enabling informed decision-making and improved cost optimization.

### **Purpose of this Manual:**

The primary purpose of this manual is to introduce you to the enhanced resource cost breakdown feature and guide you through its installation, usage, and customization. We'll equip you with the knowledge and tools needed to effectively harness the power of this feature and make the most of your cloud resources.

### **Key Enhancement-Resource Cost Breakdown:**

In this enhanced version, our focus is on providing you with an intricate breakdown of your resource costs. While the original software offered a high-level service cost breakdown for the top 5 services, our enhancements take it a step further. For associate account, we dynamically retrieve operational regions and meticulously analyze each service that incurs a cost greater than zero. This analysis extends to the individual resources within these services, offering a comprehensive view of costs at the granular resource level.



With real-time resource state tracking, risk mitigation through rollback plans, conditional policy execution, and detailed reporting, our enhancements empower you with unparalleled visibility and control over your cloud expenditures.

Throughout the following sections, we will walk you through the installation process, demonstrate usage scenarios, and explore customization options for the Enhanced Resource Cost Breakdown feature within Xgrid Cloud Cost Control. Whether you're a seasoned cloud professional or new to cloud management, this manual equips you with the insights and strategies to optimize your cloud costs effectively.

Let's embark on the journey of exploring the enhanced capabilities of the Resource Cost Breakdown feature within Xgrid Cloud Cost Control!

## 2. Installation:

Installing the Enhanced Resource Cost Breakdown Feature To integrate the enhanced resource cost breakdown feature into your existing Xgrid Cloud Cost Control environment, you'll follow a straightforward process. Since our enhancements are seamlessly integrated into the existing software architecture, the installation requirements remain consistent with those already in place. Below are the steps to incorporate the enhanced resource cost breakdown feature:

1. Git: Make sure you have Git installed on your system. You can download and install it from <https://git-scm.com/downloads>.
2. All requirements needed to setup xc3 are mentioned in original documents. <https://github.com/XgridInc/xc3>

3. Clone the repo: Clone our GitHub repo in which we have already update our feature to your local machine using the following command: git clone <https://github.com/AakashThapa11/featureTeam6-projectCostBreakdown>
4. Go to the directory featureTeam6-projectCostBreakdown/ and configure the input.sh file and run the below command:

```
cd featureTeam6-projectCostBreakdown/
```

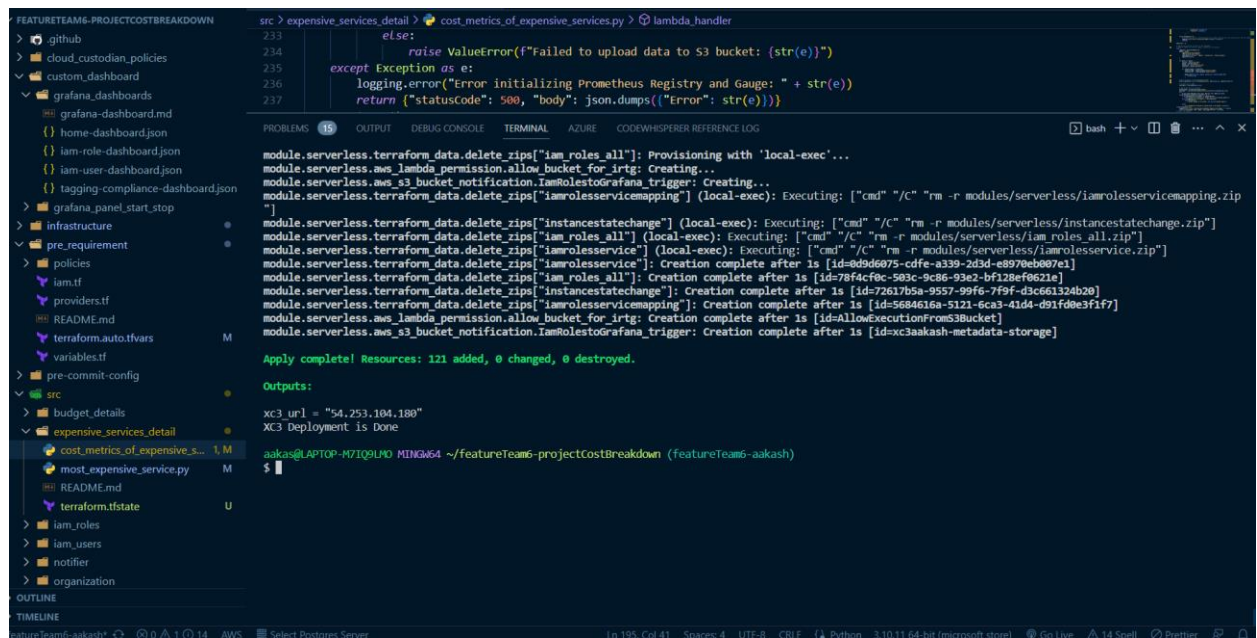
Note : - Configure the input.sh file in directory xc3/

```
namespace="example"
project="example"
region="eu-west-1"
allow_traffic="0.0.0.0/0"
domain="" # [Optional] - If you want to use your own domain then
set this variable.
```

```
account_id="123456789012"
hosted_zone_id="Z053166920YP1STI0EK5X"
owner_email="admin@example.co"
creator_email="admin@example.co"
ses_email_address="admin@example.co"
bucket_name="terraform-state-example"
- Before running the below mentioned command:
```

```
bash init.sh
```

5. On execution of this command, you should be able to see xc3\_url as shown in fig below. Wait for a few minutes before proceeding further for the application to come online. Verify the readiness of the metrics system. Load the Grafana URL in a browser. Now setup is complete.



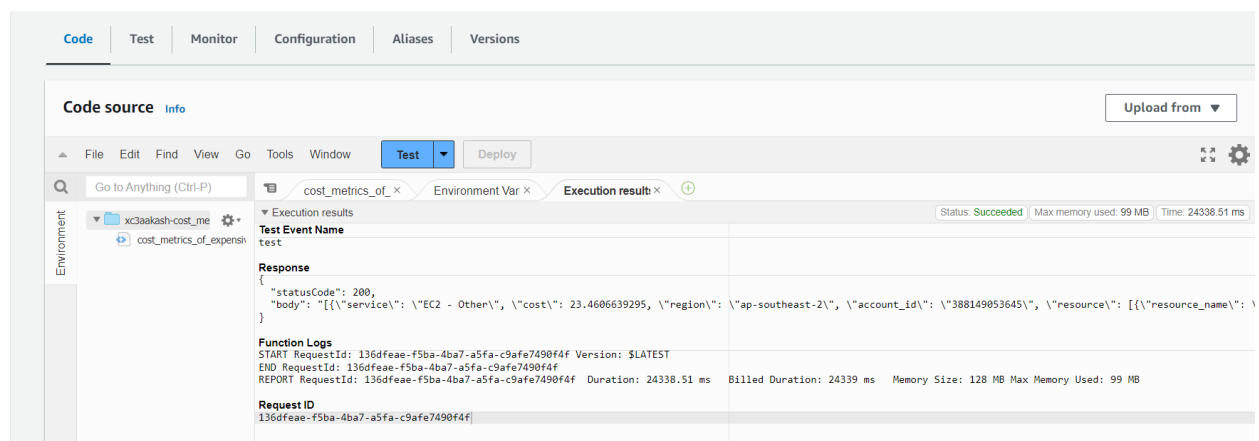
### 3. Getting Started:

Testing Lambda function:

If you want to see immediate data on the dashboards, then you can follow the steps mentioned below.

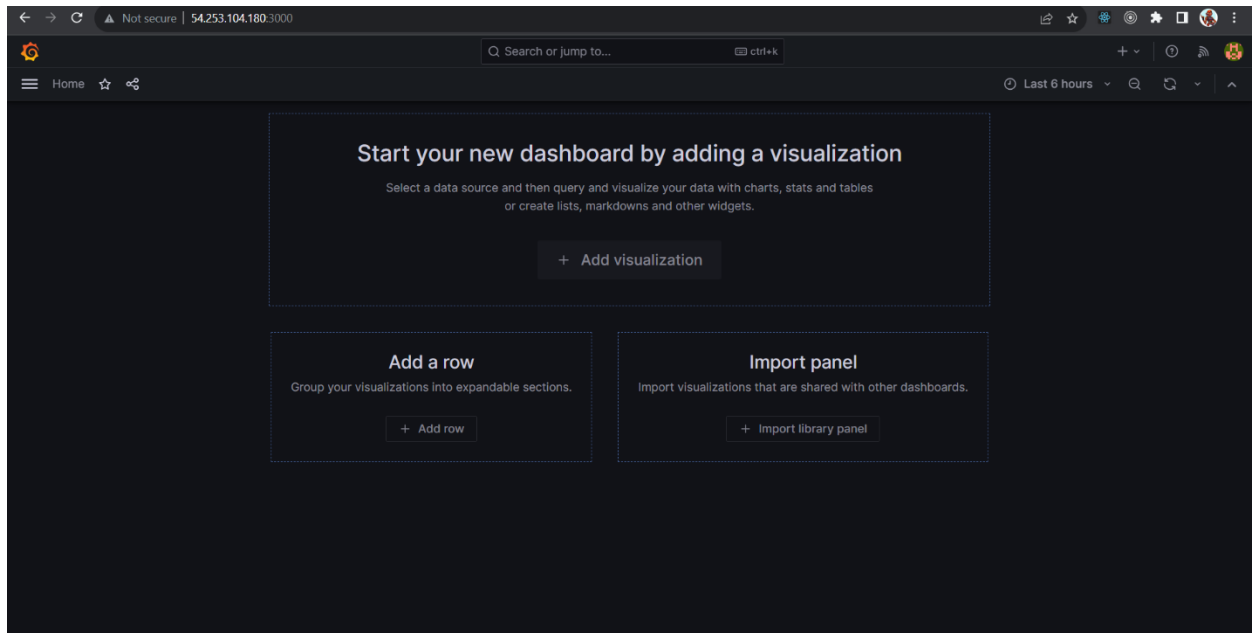
cost\_metrics\_of\_expensive\_services

Function Name: “{namespace}-cost\_metrics\_of\_expensive\_services” Click on “Test” and configure a test with the default test json, give the name to your test and run it.

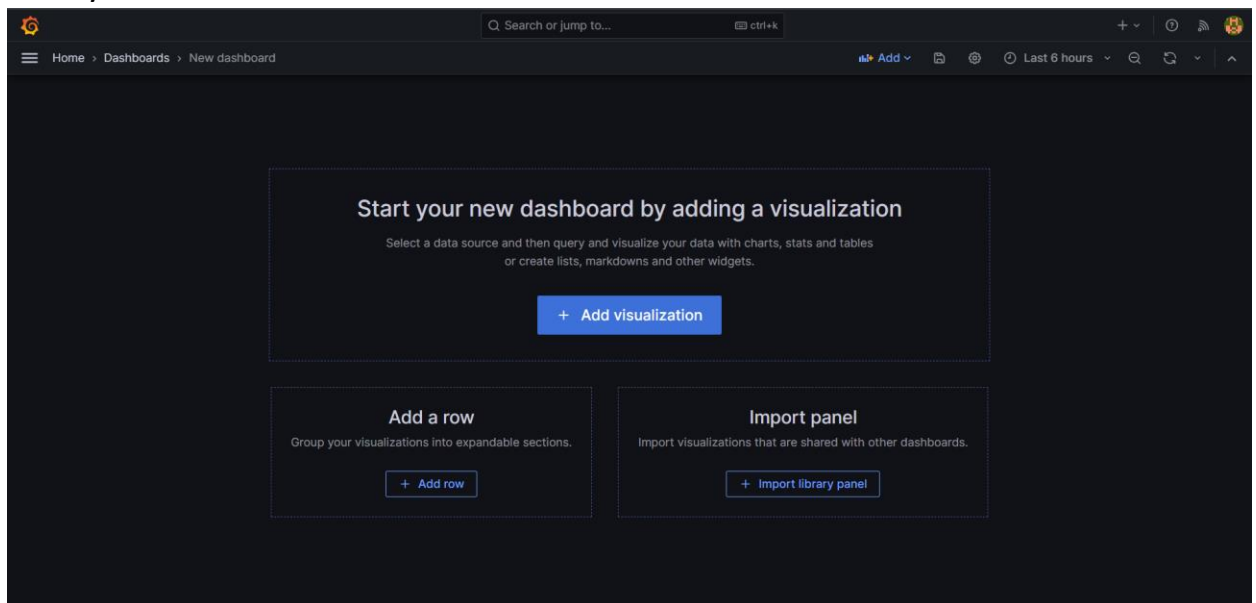


User Interface Overview

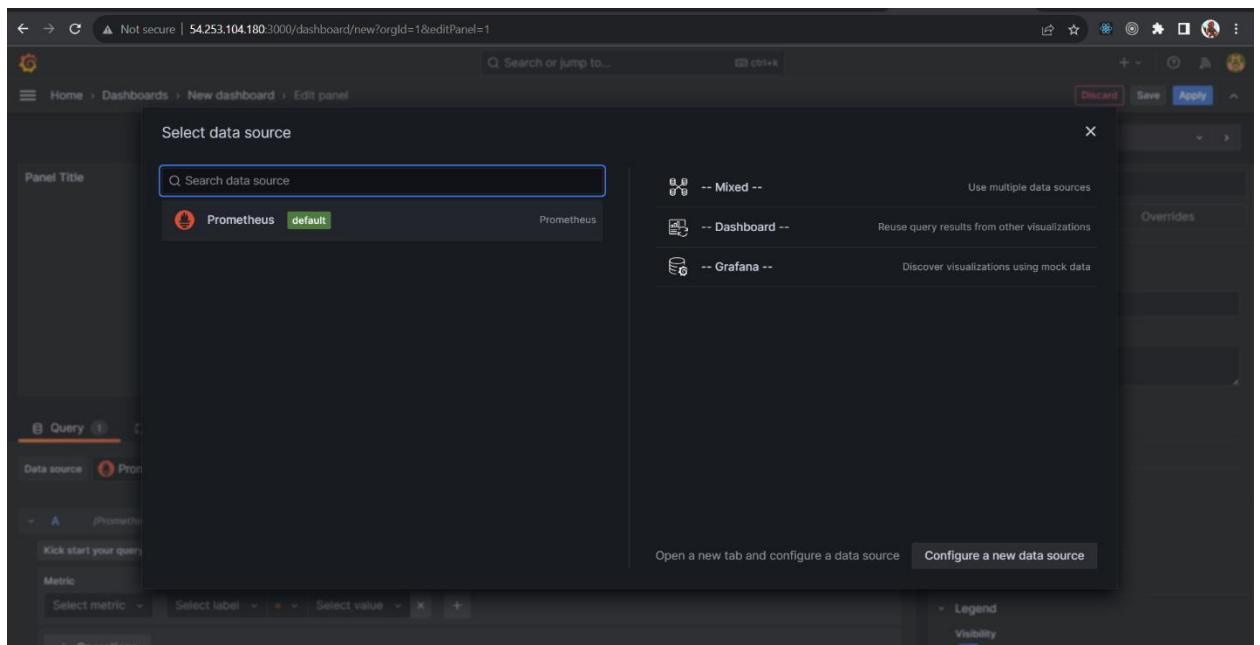
Access the Grafana using the xc3\_url followed by: 3000.



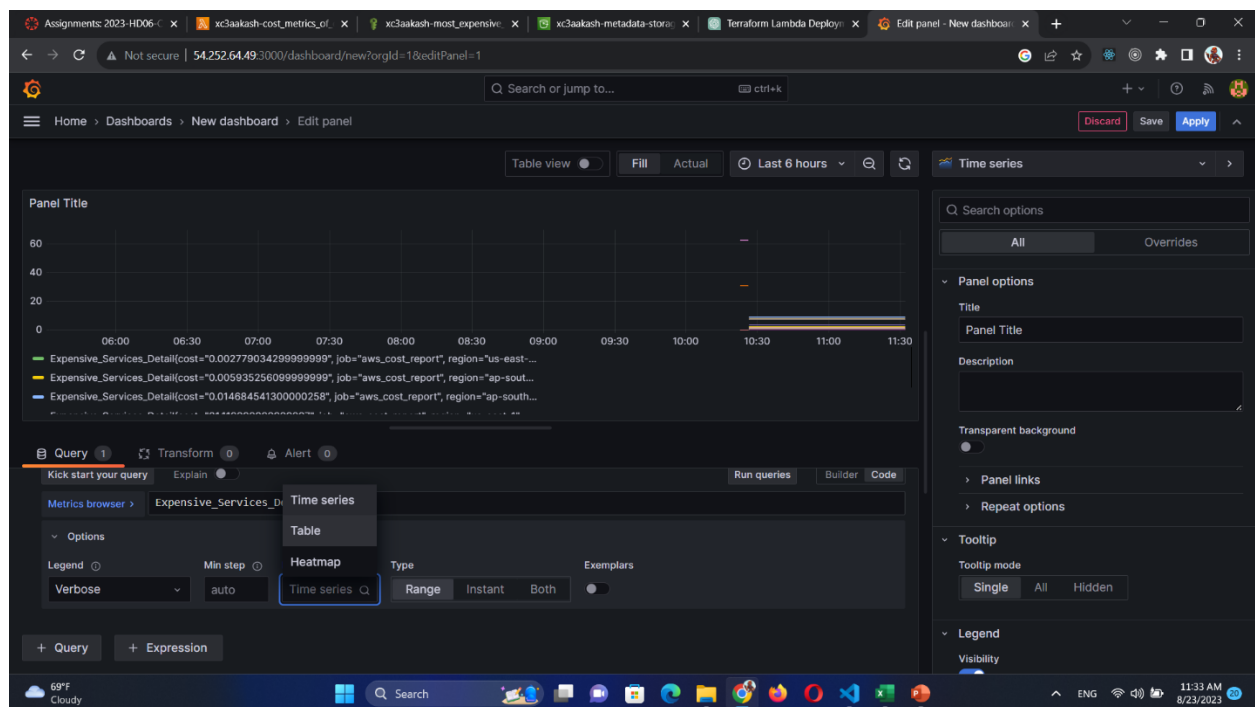
Now you have to create new dashboards.



Click on + Add visualization and select data source.



On metric select “Expensive\_Service\_Detail”. You should be able to see the visualization as shown.



Step 1: Select Panel type as “Table”.

Step 2: To get the service and their cost, you can use this query: sum by(region, service, account\_id)

(Expensive\_Services\_Detail{account\_id="your\_account\_id"})

Step 3: Select the format as Table.

Step 4: Then, Click on Transform.

The screenshot shows the Grafana dashboard interface. At the top, there's a navigation bar with 'Home > Dashboards > New dashboard > Edit panel'. Below this, a search bar and a 'Search or jump to...' field are visible. The main content area displays a table with the following data:

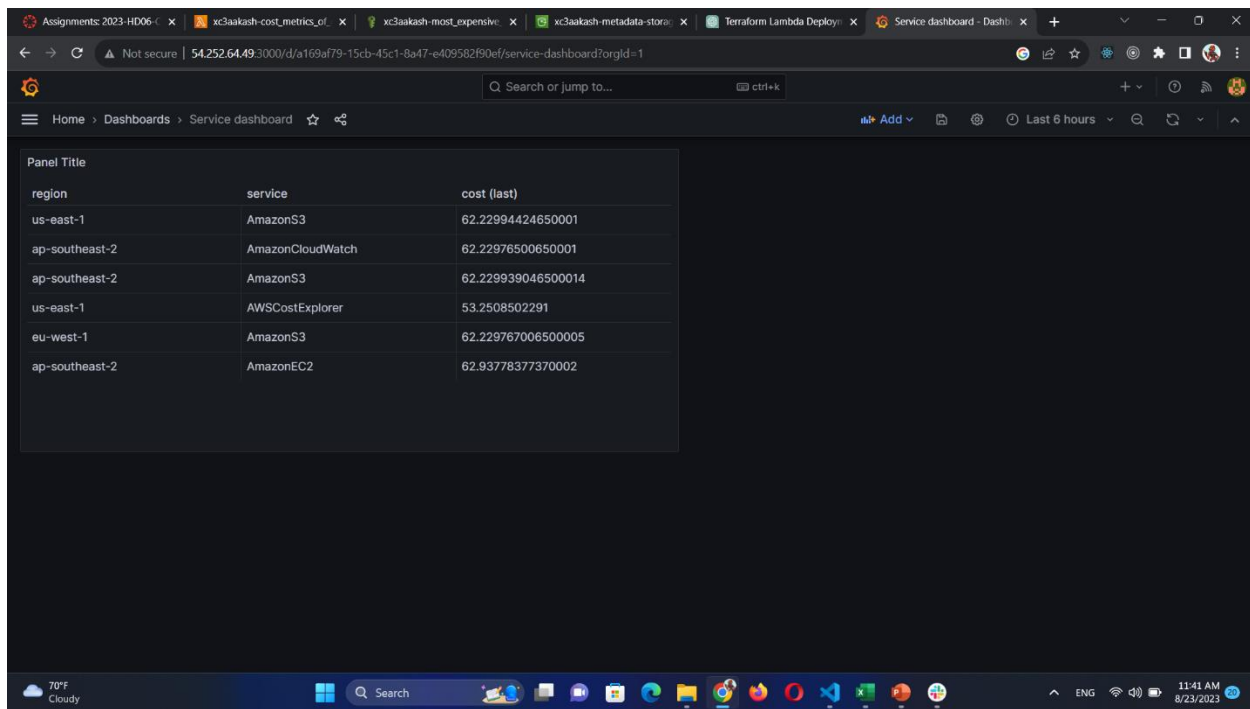
region	service	cost (last)
us-east-1	AmazonS3	62.22994424650001
ap-southeast-2	AmazonCloudWatch	62.22976500650001
ap-southeast-2	AmazonS3	62.229939046500014
us-east-1	AWSCostExplorer	53.2508502291
eu-west-1	AmazonS3	62.229767006500005
ap-southeast-2	AmazonEC2	62.93778377370002

Below the table, there's a 'Query' section with a 'Transform' button. The 'Transform' section shows a list of fields: 'Time' (Ignored), '\_\_\_name\_\_\_' (Ignored), 'cost' (Calculate), 'job' (Ignored), 'region' (Group by), and 'service' (Group by). The 'cost' field is highlighted with a red box. The 'Table' section on the right shows options for 'Show table header' (checked), 'Cell height' (Small, Medium, Large), and 'Enable pagination'.

Step 6: Search for Group By option only.

Step 7: only select Group by on region, service and Value.

With these steps, the table should show all the regions, services and their cost.



Now, to breakdown each individual resources of those services. The code mentioned below can be used with desired region, service name.

