EPYC Cloud Instance Advisor User Guide

Experience the cloud with AMD

AMD
EPYC

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Version History

Version	Release Date	What's New		Upcoming / What's Next
		Major Features	Minor Improvements	
V3.0.0	May, 2025	▪ Google Cloud Platform (GCP): GCP support has been extended to all regions globally. (regional availability should be considered) ▪ AWS CloudWatch Telemetry Connector: Users can now link their AWS CloudWatch account to View all instances and Receive tailored recommendations and cost advice.	▪ Excel Export Enhancements: • Improved font size and note color for better readability. • Current instance details such as Instance Type, Cost, Power, and Carbon emission are now frozen in the export excel file, enabling more accurate comparisons. ▪ General Bug Fixes and Performance Enhancements.	▪ Azure Application Insights Integration: Support for Azure App Insights to enhance telemetry data collection and analysis. ▪ Hyper-V VM's support for recommendations/cost advice. ▪ Automated CUR Ingest: Customers can upload a data file, and the EPYC advisory service will extract the necessary data and create an input file for the cost advisor and instance advisor. ▪ Custom Headroom Recommendations. ▪ Enhanced Interactive Demo Experience. ▪ Refined EIA (EPYC Instance Advisor) Recommendations. Clear differentiation between the recommendations for EIA. • Cost optimized instances. • Performance-optimized instances. ▪ Less power and less carbon producing instances.
V2.0.0	April, 2025	▪ GCP support extended to include the US, UK, Netherlands, India, and Australia. ▪ Microsoft Azure is now supported across all countries and regions. ▪ Support added for 'Spot Instance' pricing model enabling more cost-effective recommendations.	▪ Current instance columns are now frozen in the instance advice table for easier comparison with optimal, best and good options. ▪ GCP Datadog telemetry is included. It allows customers to link their Datadog account with GCP VMs, eliminating the need to export and upload data for instance recommendations. ▪ Azure Datadog telemetry is included. It allows customers to link their Datadog account with Azure VMs, eliminating the need to export and upload data for instance recommendations.	▪ Extended telemetry tool with AWS CloudWatch to further enhance data collection and analysis. ▪ Full global coverage for all countries and regions on Google Cloud Platform.

			▪ Users can request a role change directly within the platform. Admins have the ability to approve or deny these requests. ▪ Access to specific features and operations will adjust automatically based on the user's assigned role. ▪ No instance recommendations are shown if the current instance is already using the latest AMD processor. ▪ Customers are provided with interactive demos during registration, login, and for EIA application for enhanced onboarding experience.	
v1.7.0	Mar, 2025	▪ GCP Support - Users can now add their GCP accounts to retrieve VM details and receive instance advice/recommendations. ▪ GCP Region Availability: Currently, GCP support is available only for US regions.	▪ Azure Pricing Model: Added support for the "reserved" pricing model in Azure Cloud. ▪ Bug Fixes and Performance Improvements: Various bug fixes and optimizations for improved performance.	▪ GCP 'Modernization and Downsizing' Recommendations: Future support for GCP cost optimization with modernization and downsizing recommendations. ▪ Expanded GCP Region Support: GCP recommendation support will extend to four additional countries: UK, Netherlands, India, and Germany. ▪ Global Azure Support: Azure cloud recommendations will be available for all countries.
v1.6.1	Mar, 2025	**Interim Release** Minor Improvements: ▪ Users can now name an instance when adding it to receive instance advice. This will help users identify instances based on the VM's purpose. ▪ Users can now upload a maximum of 20,000 records in a single file to receive instance advice and recommendations. ▪ Instance aggregation has been removed. If a user uploads 10 similar instances, the recommendation will include 10 instances. Enhanced User sessions: ▪ Users can now experience a more seamless interaction with the EPYC advisory application, as the need to log in multiple times within a short period is eliminated. ▪ By utilizing the refresh token technique, users can stay logged in for an extended period without needing to re-enter their login credentials. Note: If users manually clear cookies or site data, they will be required to log in again.		Azure Regional Beta: ▪ Azure recommendation will be available in the US, UK, Denmark, India, and Germany regions by the second week of March.
v1.6.0	Feb, 2025	AWS Telemetry Connector: ▪ Customers are enabled with Datadog telemetry connector to	Delete Error Button: ▪ If users encounter multiple errors after uploading a file, a new	Azure Regional Beta: ▪ Azure recommendation will be available in the US, UK,

		fetch metrics, supporting advisory services. This effort serves as a backup for the need to use the StatsCollector tool offered by advisory services. ▪ This enhancement allows for seamless collection of metrics from Datadog, enabling users to receive tailored instance advice for selected instances.	Delete Error button has been added. Clicking this button will remove all instance rows with errors at once. ▪ This option simplifies the process by eliminating the need to delete each error row individually, making it easier to manage and correct the data.	Denmark, India, and Germany regions by the second week of March.
v1.5.0	Jan, 2025	▪ Users can select their preferred Cloud Service Provider (CSP) between AWS and AZURE and create portfolios within these CSPs. ▪ 'Find and replace' functionality to correct multiple errors at once. Applicable for Region and Instance type. ▪ Simplified switching between saved portfolios for users. ▪ Users can now upload files in addition to manually adding instances with custom metrics. ○ Users have the option to upload their own metrics or self-performance assessment data to receive tailored advice based on the provided information. ▪ Added support for 4th generation Azure VMs.	▪ User can now export summary graphs as PNG files. ▪ User guide PDF now opens in a new tab instead of downloading directly. ▪ Added help sections for recommendation. ▪ Recommendations have been updated from R1,R2,R3 to Optimal, Best, Good.	▪ AWS telemetry connector support.
v1.4.0	Dec, 2024	▪ Azure Support ▪ Customer Support/Feedback: A support button has been added with contact details (hotline number and email) for easy access to customer support.	▪ Updated User Guide: The user guide has been updated with the latest information. ▪ Updated Online Help: Enhanced online help content to support user needs. ▪ Performance Enhancements and Bug Fixes: Various performance improvements and bug fixes to ensure smoother functionality. ▪ Failed Instance Reports: Failed instances will be displayed during data upload	▪ Azure Support
V1.3.0	Nov, 2024	▪ Pricing Format: The pricing and costs are now formatted with a '$' value. ▪ CSV & XLSX Support: A response in both CSV and XLSX formats is provided for skipped instances.	▪ Performance Improvement Option: Added performance improvement option in EIA. ▪ Updated Online Help: Enhanced online help content to support user needs. ▪ Skipped Instances:	▪ Enhanced customer support / feedback features. ▪ Improved error handling and reporting. ▪ Expanded region and instance support. ▪ Ongoing performance optimizations.

		▪ Azure Recommendation: Recommendations are now supported for Azure.	a. Skipped instances are now displayed in the recommendations table. b. Added hyphen for skipped instances in the table and other UI changes. ▪ Export Excel: Included Grand Total in Excel export. ▪ Table Updates: Added vCPU(s) in the recommendation table. ▪ Genoa Update: Support for CO2 and power data for Genoa instance.	▪ More detailed user resources and guides
V1.2.0	Oct, 2024	▪ Initial release with basic setup and usage instructions	▪ Standardized font sizes throughout the guide	

About Cloud Instance Advisor

Cloud Instance Advisor is a powerful recommendation engine designed to analyze historical system statistics and provide suitable instance recommendations.

To get started, download the Stat Collector package by clicking the **"Stat Collector"** button. This package includes executables that gather essential system statistics such as CPU, memory, network, and I/O utilization. For detailed instructions, refer to Readme.txt file in the downloaded package.

Once you've collected the system statistics, upload the generated files to receive tailored instance recommendations. You can upload a single XLSX file containing statistics for multiple systems or use the downloadable template to input the required details manually.

Alternatively, for a more automated solution, you can integrate your **Datadog** account with Cloud Instance Advisor. By providing your **API key**, **Application key** and **Host Tag**, the system will directly fetch instance metrics and telemetry data from Datadog, eliminating the need to run the Stat Collector manually on each instance and simplifying the process of receiving instance recommendations.

Benefits

- **Comprehensive Data Collection**: The EIA gathers essential system metrics, such as CPU, memory, and network performance, providing a holistic view of your cloud environment.
- **Cross-Platform Compatibility**: The stat collector works seamlessly on both Windows and Linux platforms, ensuring accessibility for diverse user environments.
- **Simplified Data Management**: By consolidating metrics into a single XLSX file, the EIA simplifies data handling, making it easy to analyze multiple instances at once.
- **Personalized Recommendations**: The recommendation engine leverages the collected data to deliver tailored suggestions for ideal instances, enhancing system performance based on specific needs.
- **Environmental Impact Reduction**: By identifying the most efficient instances, the EIA helps significantly lower carbon emissions and energy consumption, contributing to more sustainable cloud operations.
- **Enhanced Decision-Making**: With actionable insights and metrics analysis, users can make informed decisions about instance selection, optimizing resource allocation and cost efficiency.

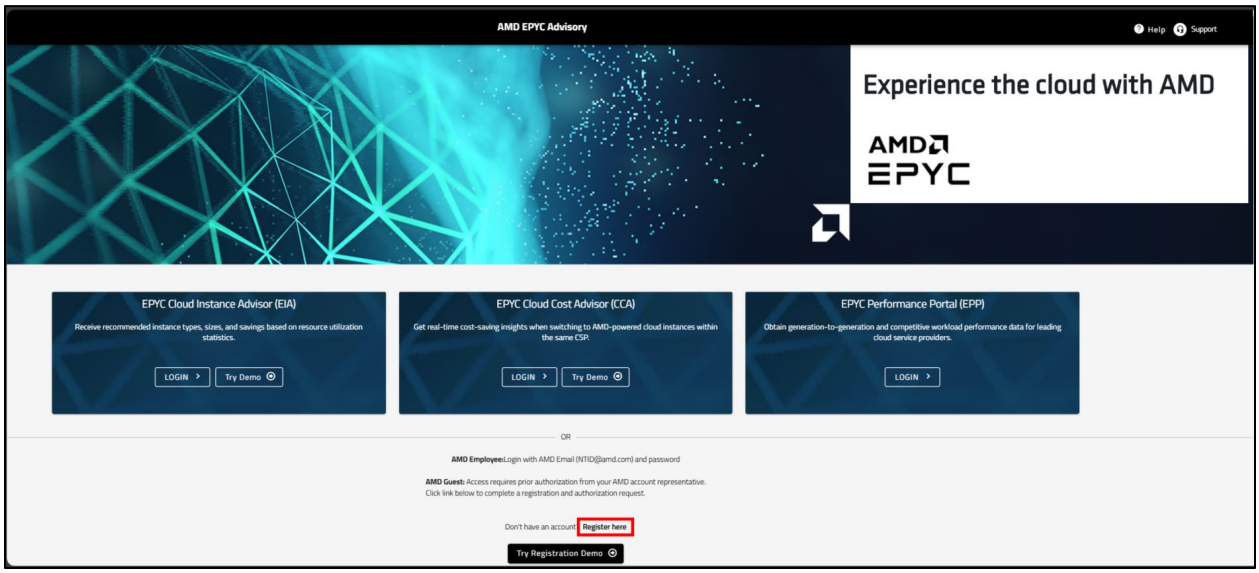
Getting Started

Registration for New Users

Step 1: Visit the Registration Page

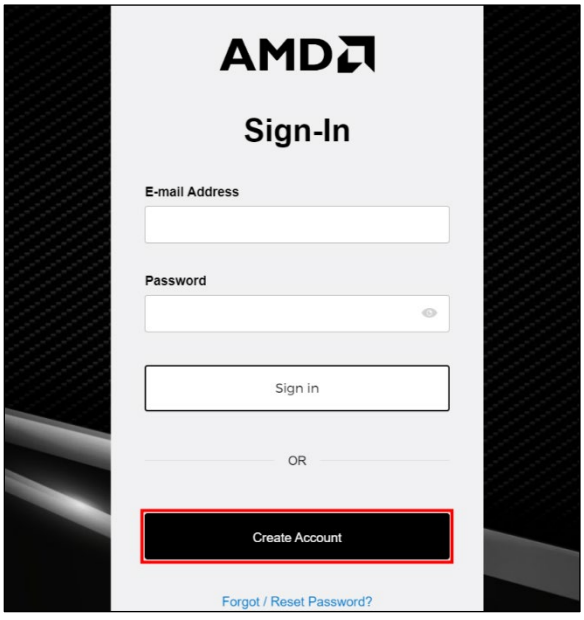
- Go to the AMD EPYC Advisory portal

- Click on “**Register here”**.



Step 2: Create an Account

- On the Sign-In page, click “**Create Account”**.

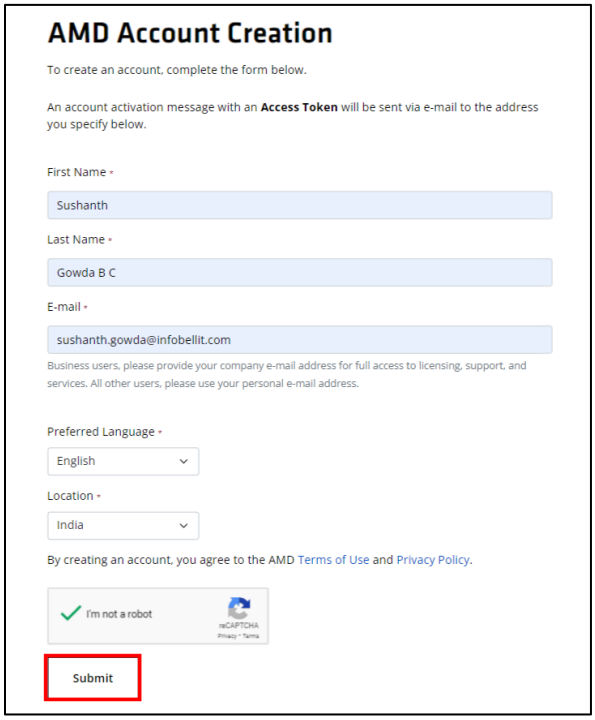


Step 3: Fill in Your Details

- First Name
- Last Name
- E-mail: Business users, please provide your company email address for full access. All other users use your personal email address.

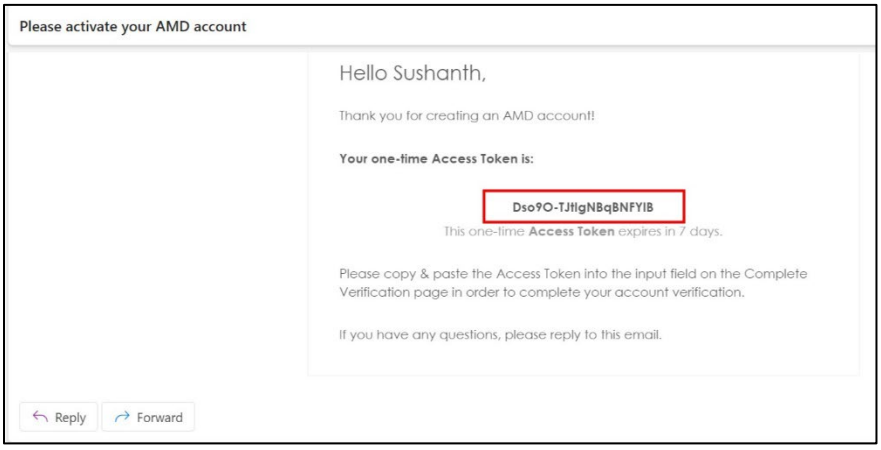
Note: Internal AMD users must use **username@amd.com** for sign in. Please do not use the format firstname.lastname@amd.com as it will not work. AMD users may not create or reset accounts through this system.

- Preferred Language
- Location
- Complete the **CAPTCHA** to prove you are not a robot.
- Review the details and click "**Submit"**.



Step 4: Receive Activation Email

- Check your registered email inbox for a message with an Access Token to activate your account.



Account Activation

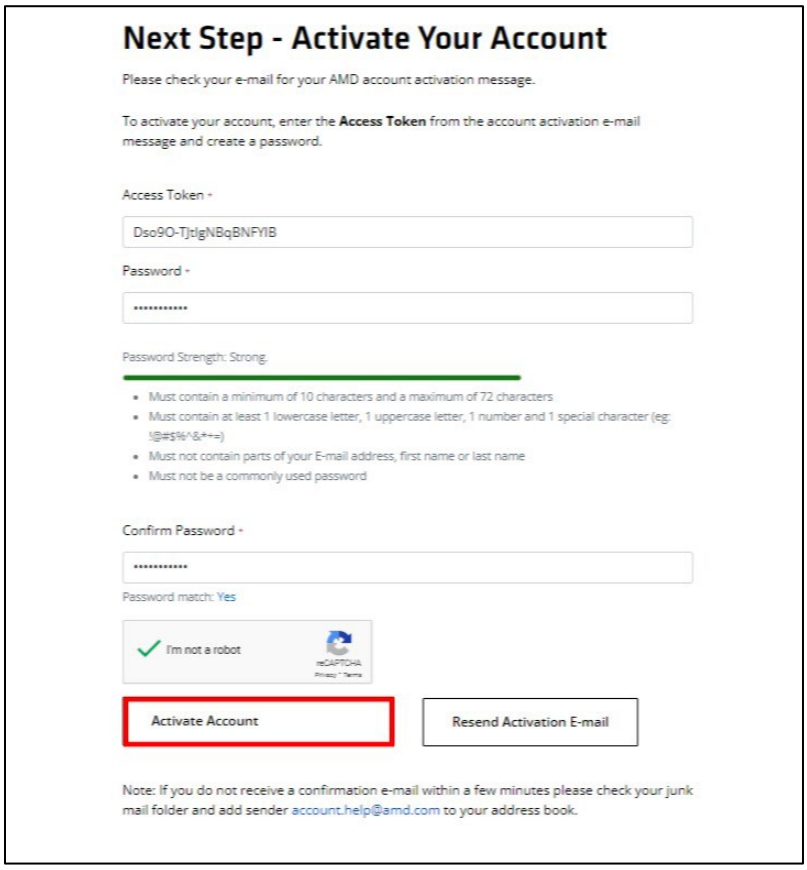
Step 1: Enter Access Token

- Input the access token you received in your email.

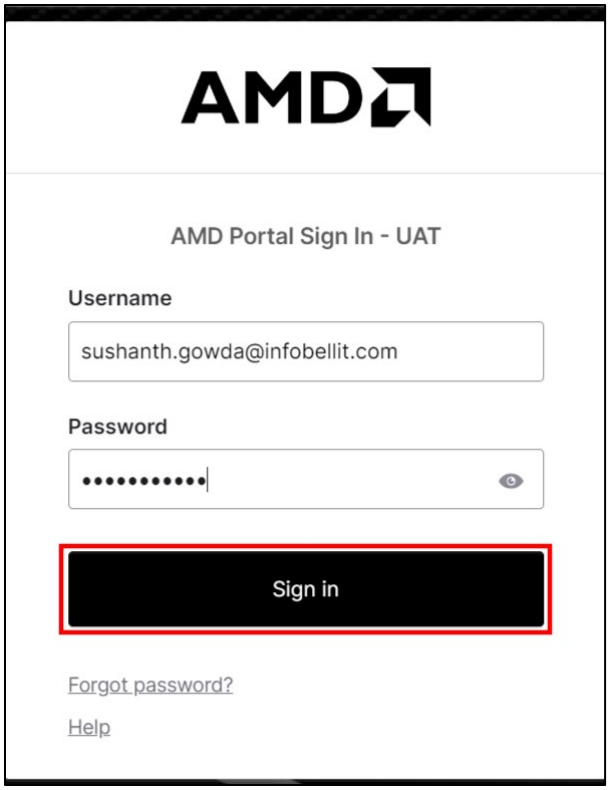
Step 2: Set Your Password

- Provide a strong password.
- Confirm the password.
- Complete the **CAPTCHA** to prove you are not a robot.
- Click **Activate Account**.

Note: If you did not receive an activation email, request the code again by clicking Resend Activation Email.



- Once you click on Activate Account, you will be directed to the sign-in screen.
- Enter your Username and Password, then click **Sign in**.



- You will be redirected to the Secure Application Access Request page.

Secure Application Access Request

Step 1: Fill in Your Details

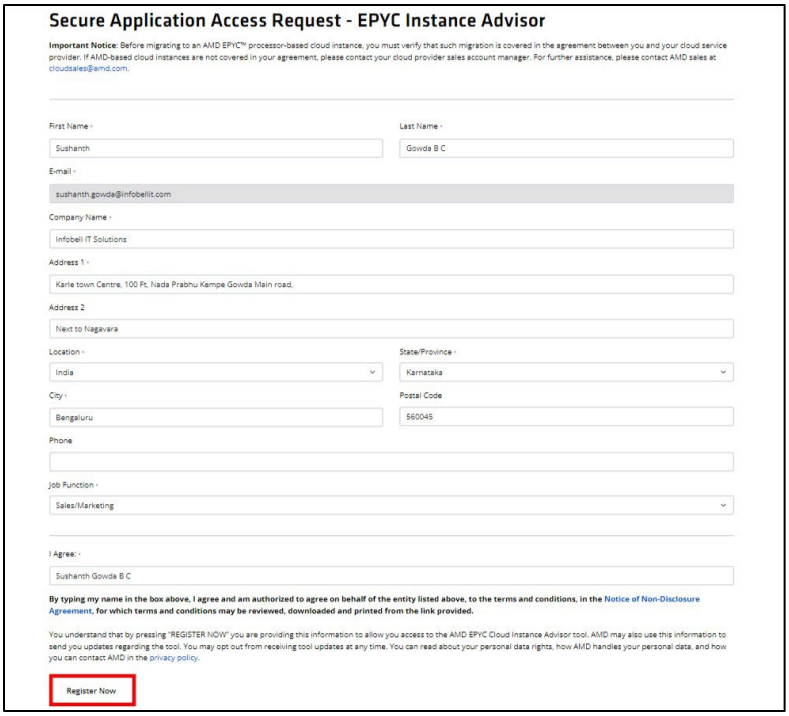
- First Name, Last Name, and Email will be auto populated.
- Company Name
- Address Line 1
- Address Line 2
- Location
- State/Province
- City
- Postal Code
- Phone
- Job Function

Step 2: Agree to Terms

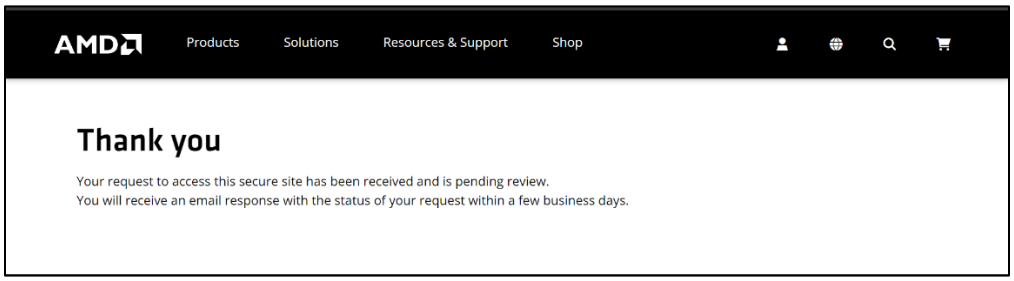
- Input your full name in the **I Agree** field to acknowledge the terms and conditions.

Step 3: Submit Request

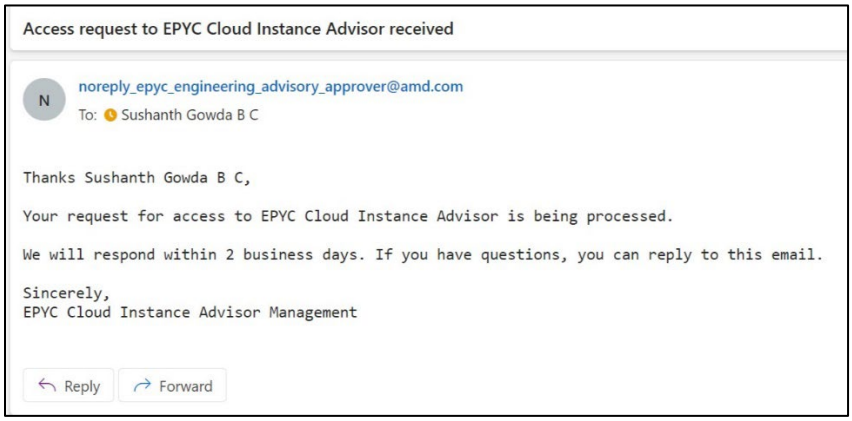
- Review the details and click “**Register Now”**.



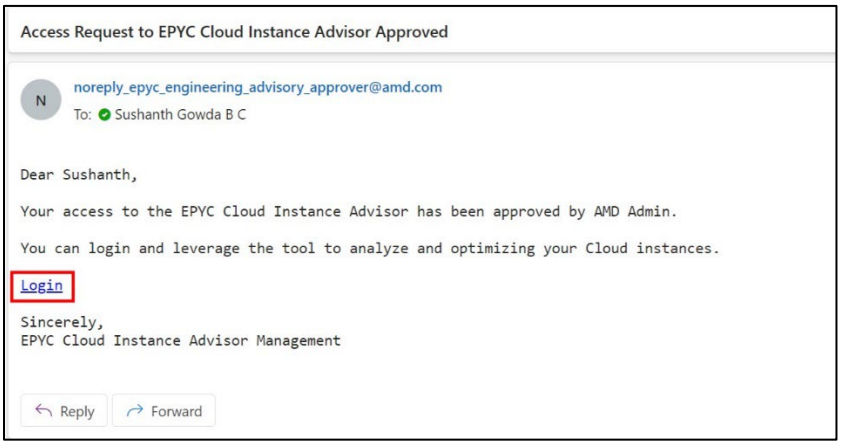
- A Thank you message will appear, confirming that your access request has been received.



- You will receive an email confirming that your access request is being processed.



- Once your request is reviewed and approved by the respective administrator, you will receive another email with a login link.



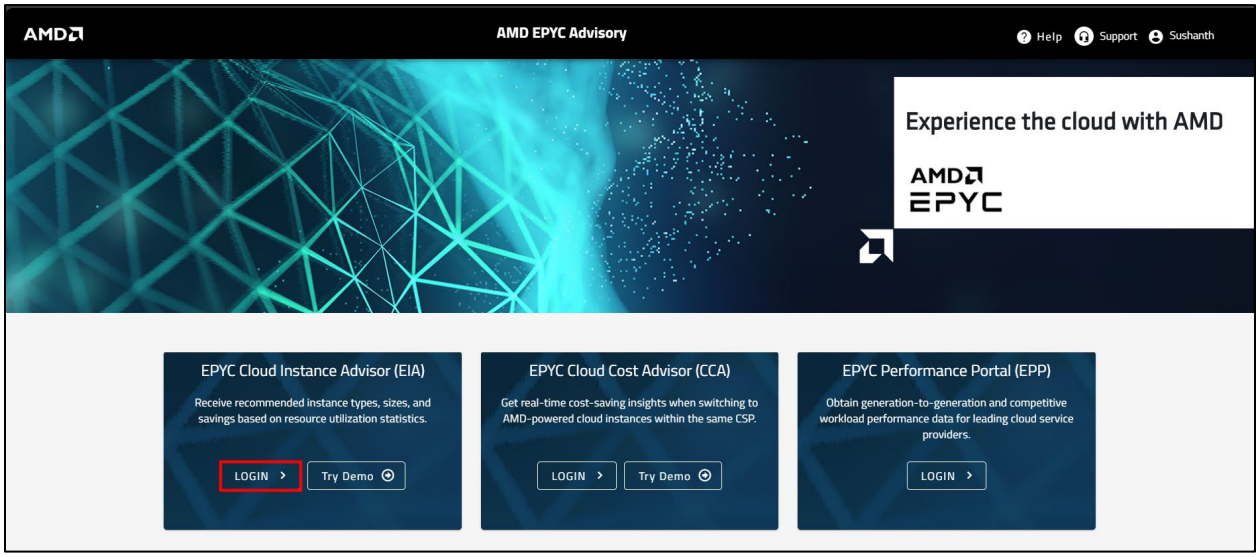
- By clicking the login link, you will be directed to the AMD EPYC Cloud Instance Advisor portal, where you can sign in to the application. You can also log in through the AMD EPYC Advisory Portal.

Login

Login through AMD EPYC Advisory Portal

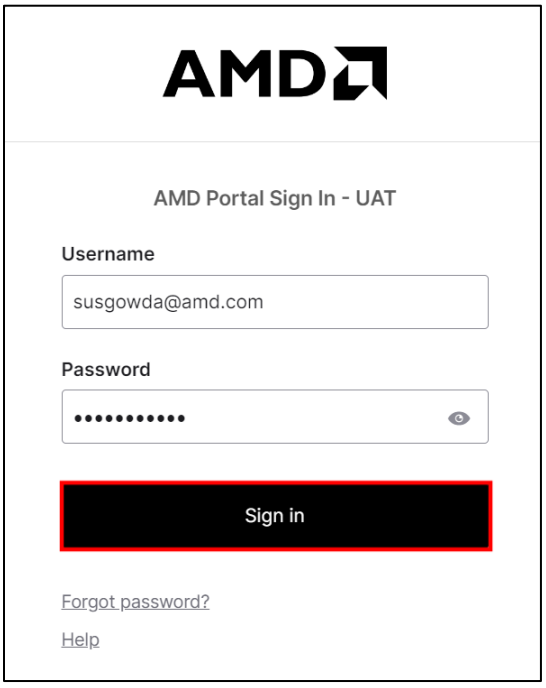
Step 1: Sign In

- Go to AMD EPYC Advisory portal.
- Click on "**Login**" under EPYC Cloud Instance Advisor (EIA) tile.



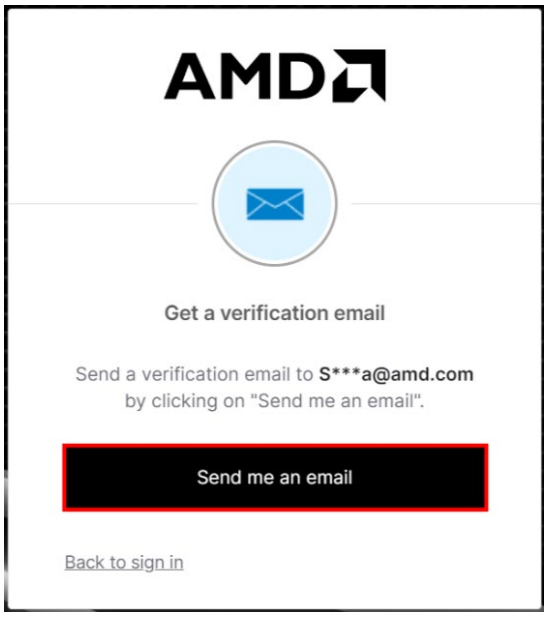
Step 2: Input Credentials

- Enter your email address and password.
- Click **Sign-in**.

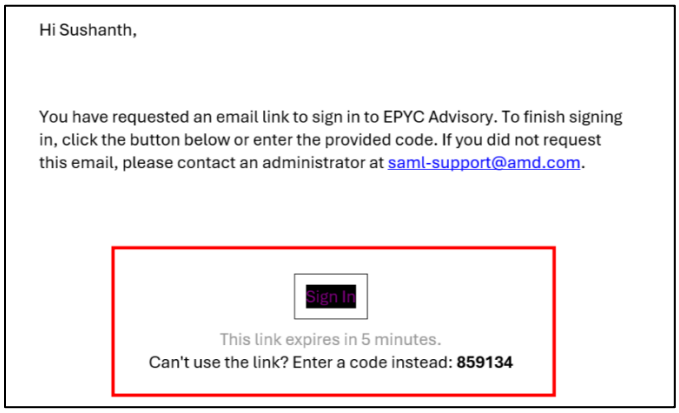


Step 3: Verify Your Email

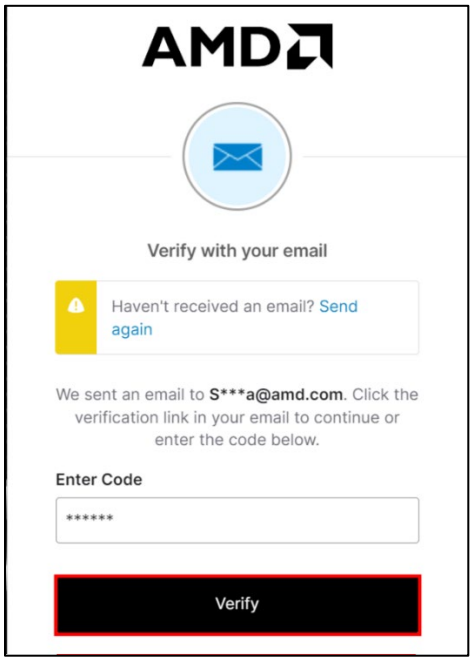
- Click **Send me an email** to receive a verification code.



- Check your email for the one-time verification code.



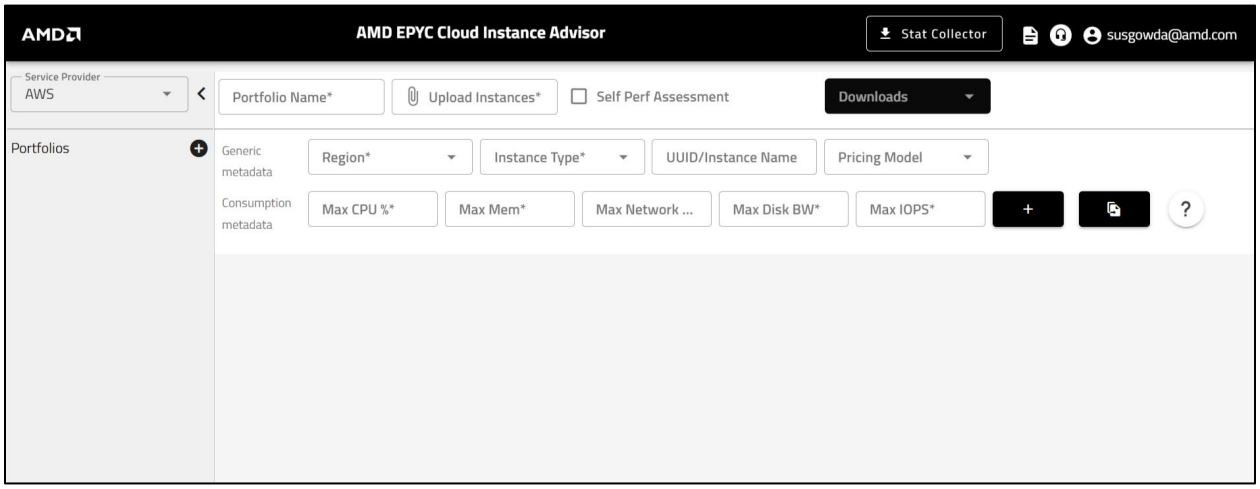
- On the sign-in page, enter the verification code and click "**Verify"**.



- You will be logged in to the AMD EPYC Cloud Instance Advisor home page.

Accessing AMD EPYC Cloud Instance Advisor

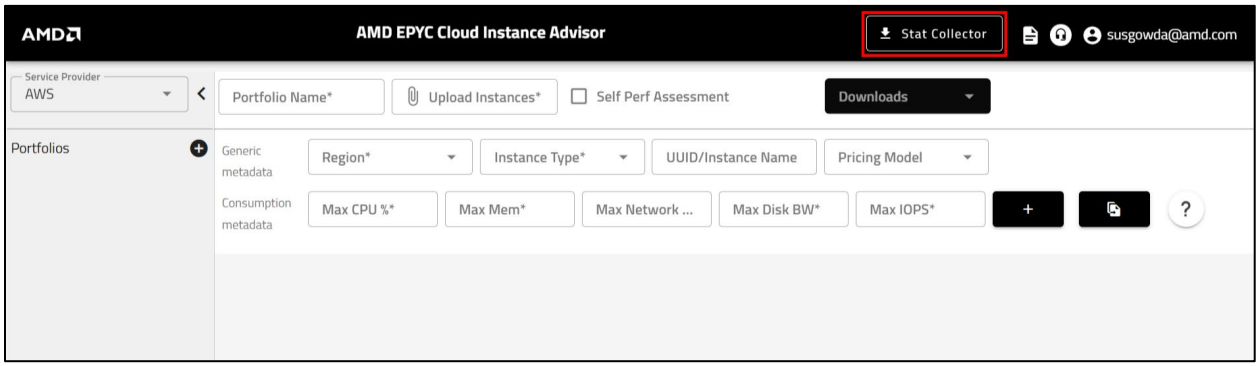
- Upon login, you will be directed to AMD EPYC Cloud Instance Advisor homepage.



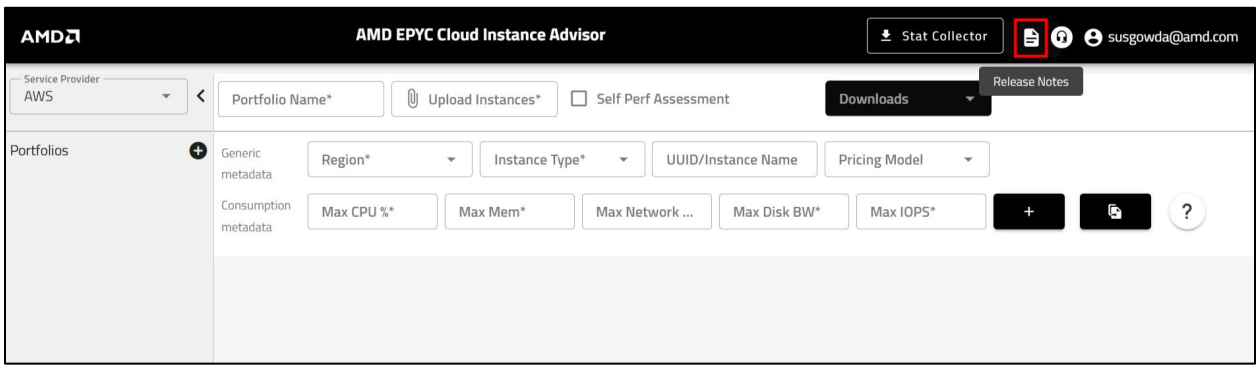
Navigating to Home Page

Upon accessing the tool, you will be directed to the home page. The navigation bar features buttons and options for different functionalities:

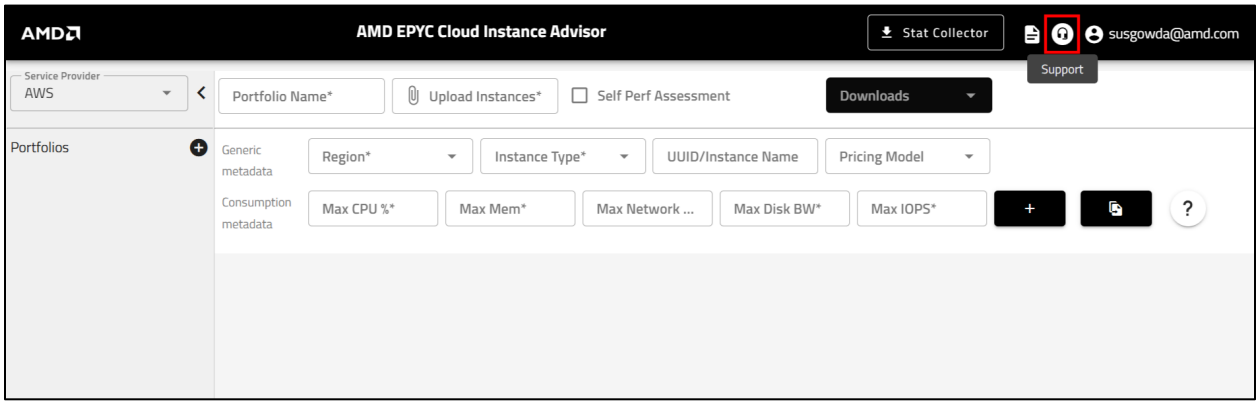
- **Stat Collector Download:** Click to download the Stat Collector package.



- **Release Notes:** Click the “ ” view the release notes. The release notes will automatically pop up on your first login, and each time a new version is released thereafter.



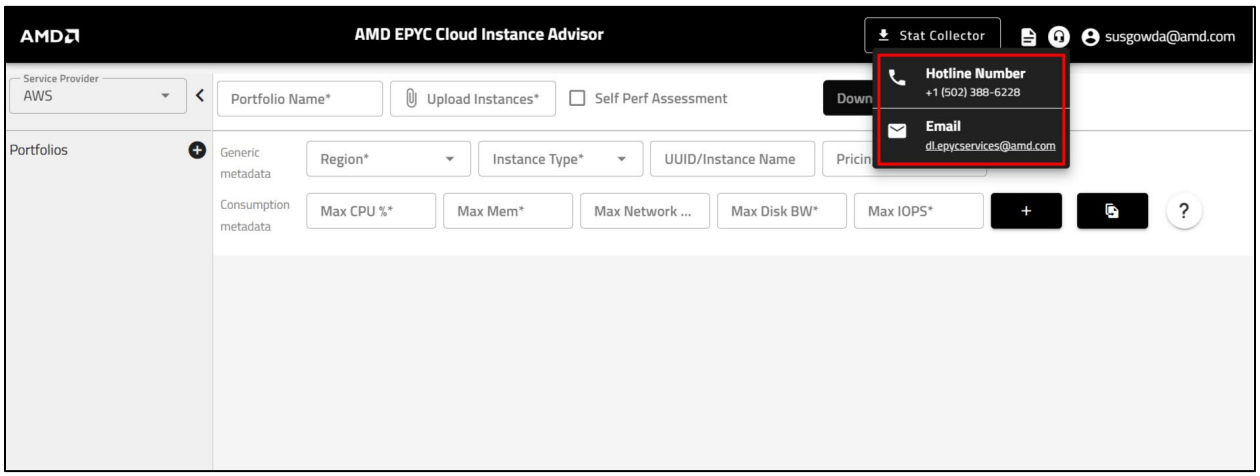
- **Support:** Represented by the "🎧" icon. If you need assistance or have any questions, click on the support icon to reach out for help.



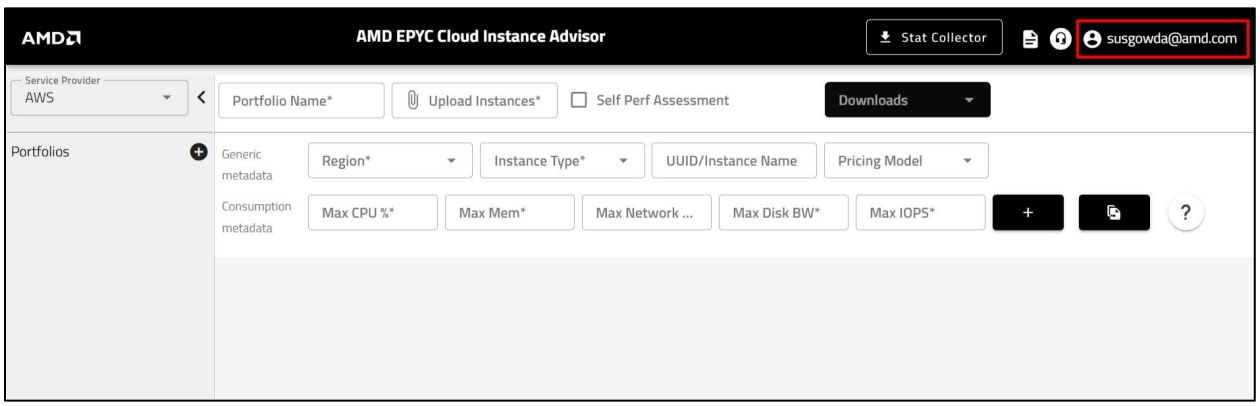
You can connect with us through the hotline number or email us your query:

Hotline number: +1 (502) 388-6228

Email: dl.epycservices@amd.com

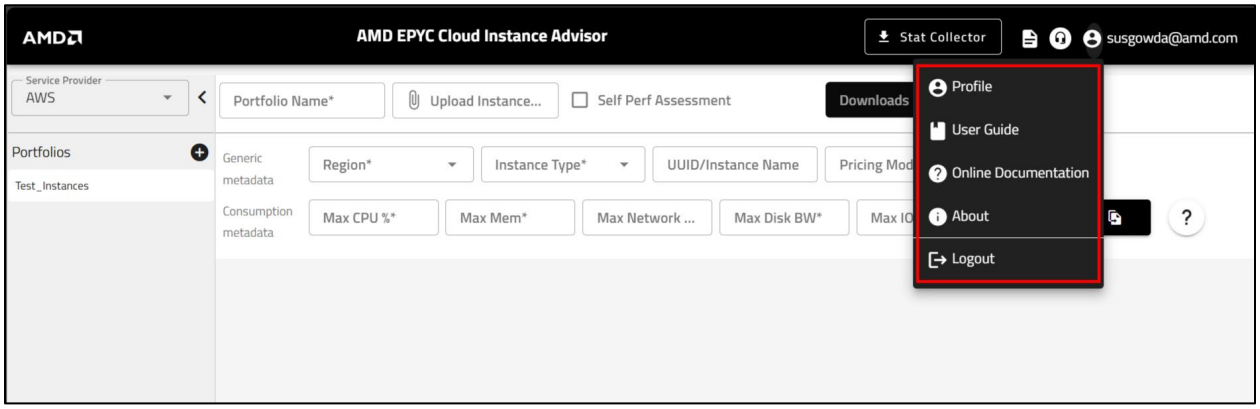


- **Profile:** Displays the email ID of the logged-in user.



It also provides the following options:

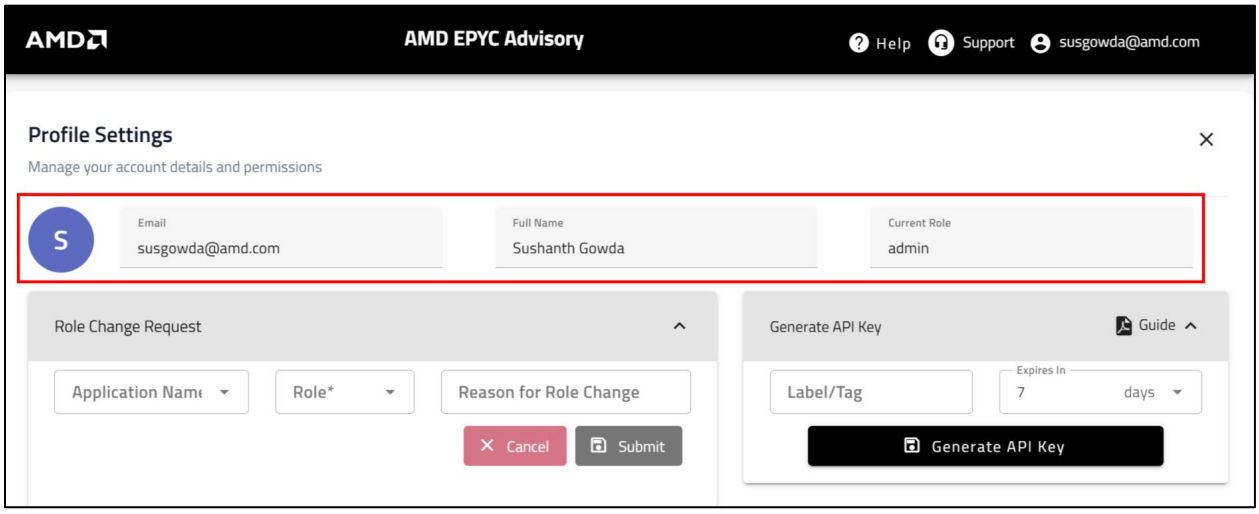
- **Profile:** Click the "👤" icon to navigate to your profile settings, where you can manage account details and permissions.
- **User Guide:** Click the "📄" icon to download the user guide for detailed instructions.
- **Online Documentation:** Represented by the "**?**" icon, offers on-screen instructions and information about the current page.
- **About:** Click the **"ⓘ"** icon to view an overview of the application
- **Logout**: To log out, click the icon and select the "**Logout**" option.



Profile Settings and Role Change Request

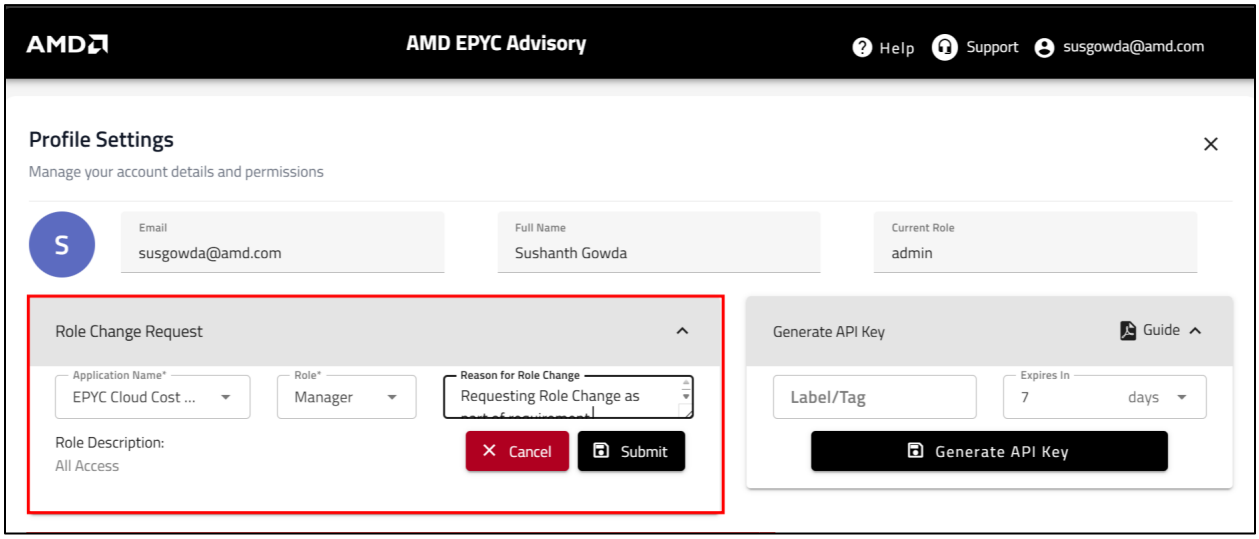
When you click on the Profile option (the "👤" icon), you will be redirected to the Profile Settings page. On this page, you can view the following details:

- **Email**: Your registered email address.
- **Full Name**: Your full name associated with your account.
- **Current Role**: Your current role within the application.

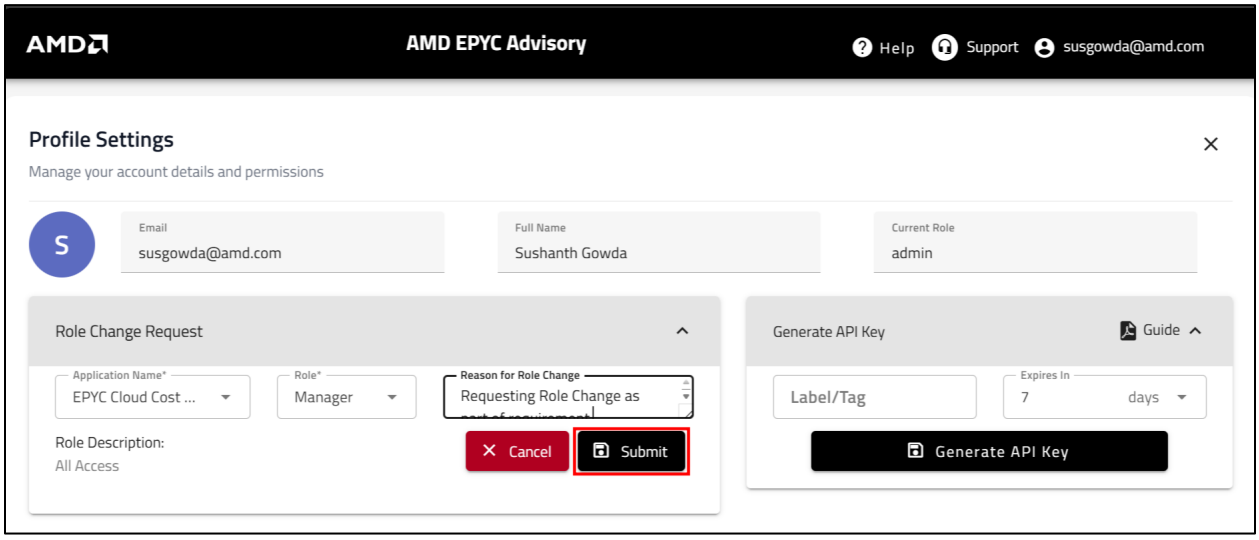


Additionally, if you wish to change your role, you can submit a **Role Change Request** directly from the Profile Settings page.

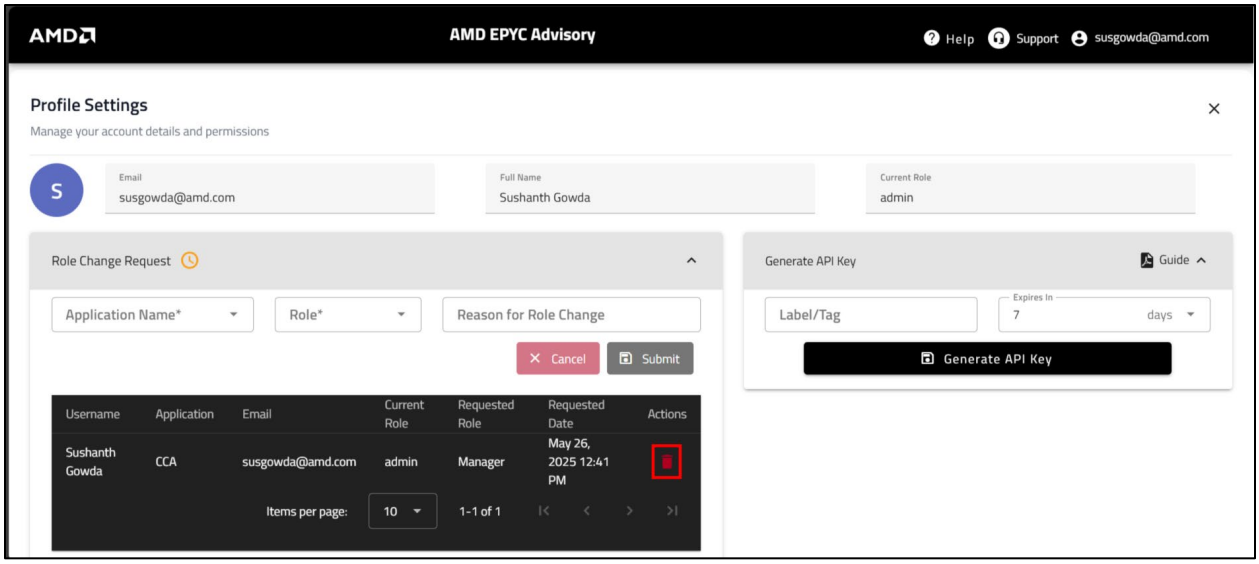
- On the **Profile Settings** page, locate the **Role Change Request** section.
- **Application Name**: Specify the application (either **EIA** or **CCA**) for which you want to change your role.
- **Role**: Choose the role you wish to request. (By default, the current role will be set to "User").
- **Reason for Role Change**: Enter a brief explanation for why you are requesting a role change.



- After reviewing your details, click the **Submit** button. Once submitted, an email notification will be sent to the admin for review and action.



- Your request details will appear in the table. If you wish to cancel the request, click the "**delete (🗑) button** ".



- You will receive a notification once your role change request is either approved or rejected by admin of your organization.

Stat Collector

- The Stat Collector is a powerful executable tool designed for both Windows and Linux platforms. It efficiently fetches performance metrics from one or multiple instances, consolidating this data into a single XLSX file.
- This XLSX file can then be uploaded to the AMD EPYC Cloud Instance Advisor (EIA) user interface, enabling you to receive tailored recommendations based on your system's performance.

Key Components

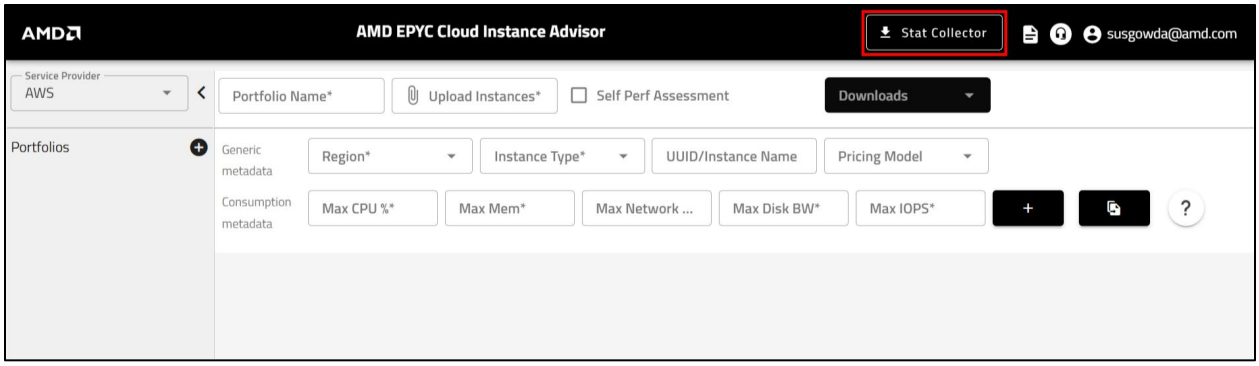
Stat Collector: This component is responsible for collecting statistics in real-time from a single node instance. The collected data is stored in a XLSX file for easy upload and analysis.

Multi Stat Controller: This component is designed for environments with multiple server nodes. It collects stats in real-time from all specified nodes and combines the data into a single output XLSX file.

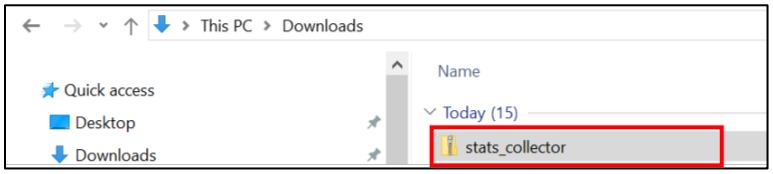
Stat Collector Download

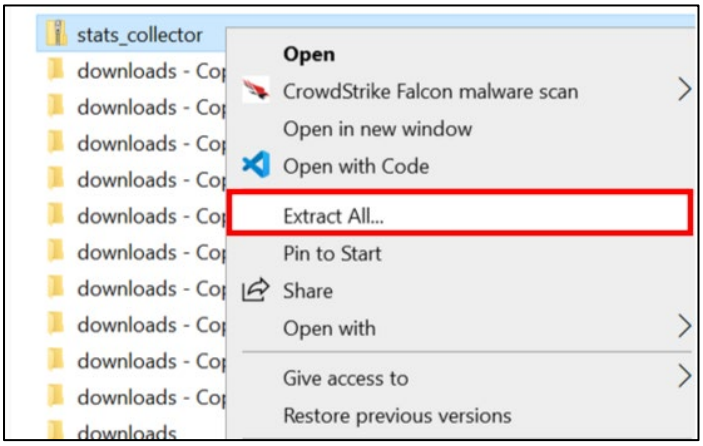
To begin using the Stat Collector, follow these steps to download and prepare the tool for execution:

- Navigate to the EIA portal.
- Click on **'Download Stat Collector'** to download the `stat_collector.zip` file.

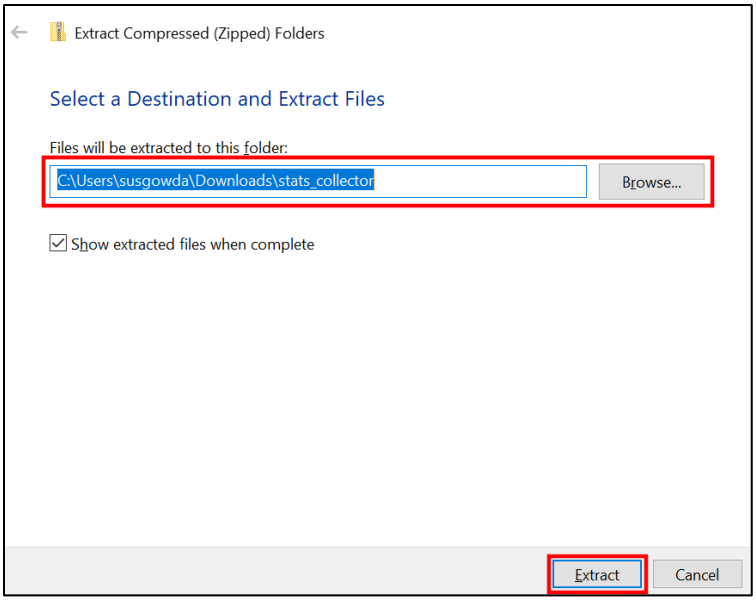


- Once the download is complete, unzip the file to a specific location on your machine where you can easily access it.
  1. Right-click the zipped folder and choose **Extract All**.





  2. Select a folder to unzip to.
  3. If you want to place the unzipped files in a location other than the current folder in which the ZIP folder is stored, click **Browse** and choose the desired folder.
  4. Click **Extract**.



5. This extracts the ZIP file's contents to an unzipped folder in the selected location.

6. The extracted stat_collector folder includes the following:

   i. **multi_stat_collector**: A binary file that works on Linux to execute the stat_collector.

   ii. **multi_stat_collector.exe**: An executable file for Windows to run the stat_collector.

   iii. **README**: A text file containing execution instructions

   iv. **Sample**: A sample input file for the stat_collector when running the executable remotely.

Stat Collector Execution

The stat_collector component allows you to collect statistics in real-time from a single instance. Follow these steps to execute it:

- **Open a Command Prompt or Terminal**: Navigate to the directory where the `stat_collector` executable is located.

```
azureadmin@collect-azure-instance-data:~/stat$ ls
stat_collector.zip
azureadmin@collect-azure-instance-data:~/stat$ unzip stat_collector.zip
Archive:  stat_collector.zip
  inflating: multi_stat_collector
  inflating: multi_stat_collector.exe
  inflating: README.txt
  inflating: sample.csv
azureadmin@collect-azure-instance-data:~/stat$ ls
README.txt  multi_stat_collector  multi_stat_collector.exe  sample.csv  stat_collector.zip
azureadmin@collect-azure-instance-data:~/stat$
```

- **Run the Command**: Execute the command to start collecting stats. The tool will gather performance metrics and store them in a XLSX file.
  a. **For Linux:**
     - Assign permission for execution.

```
azureadmin@collect-azure-instance-data:~/stat$ chmod +x multi_stat_collector
azureadmin@collect-azure-instance-data:~/stat$ ls
README.txt  multi_stat_collector  multi_stat_collector.exe  sample.csv  stat_collector.zip
azureadmin@collect-azure-instance-data:~/stat$
```

     - Execute the command to start collecting stats.

```
azureadmin@collect-azure-instance-data:~/stat$ ./multi_stat_collector -d 30s -i 5 -t run_azure
Collecting data for 30s duration at 5s interval.
CSV file created: run_azure_2e95f9518c9f64c02fce7cbb2ebe142b.csv
```

- **Locate the Output XLSX File**: Once the collection is complete, you will find the generated XLSX file in the specified output location.

multi_stat_collector	10/15/2024 5:19 PM	File	45,229 KB
multi_stat_collector	10/15/2024 5:19 PM	Application	37,314 KB
README	10/15/2024 5:19 PM	Text Document	7 KB
sample	10/15/2024 5:19 PM	Microsoft Excel Com...	1 KB
test_18c82bb6db308378c15d88d3a4b64f52	10/16/2024 10:05 AM	Microsoft Excel Com...	1 KB

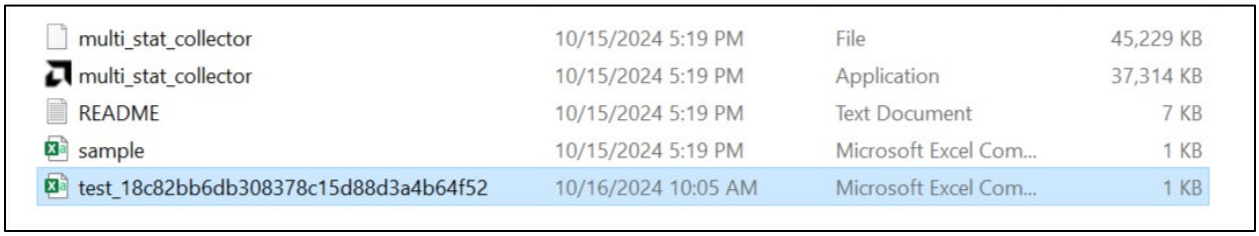
- **Help Command**: For description of parameters, execute the help command:

```
azureadmin@collect-azure-instance-data:~/stat$ ./multi_stat_collector -h
usage: multi_stat_collector [-h] -d DURATION -t TAG -i INTERVAL [-f FILE]

Process command-line arguments for duration, tag, and interval.

optional arguments:
  -h, --help            show this help message and exit
  -d DURATION, --duration DURATION
                        Duration in seconds
  -t TAG, --tag TAG     Tag for identification
  -i INTERVAL, --interval INTERVAL
                        Interval in seconds
  -f FILE, --file FILE  Path to the CSV file containing remote machine details

Example usage: ./multi_stat_collector.exe -d 10m -t my_tag -i 5
azureadmin@collect-azure-instance-data:~/stat$
```

b. For Windows:

```
C:\Users\susgowda\Downloads\stat_collector>multi_stat_collector.exe -d 30s -t test -i 5
Collecting data for 30s duration at 5s interval.
CSV file created: test_18c82bb6db308378c15d88d3a4b64f52.csv
```

- **Locate the Output XLSX File**: Once the collection is complete, you will find the generated XLSX file in the specified output location.



Multi-node Execution

If you need to collect statistics from multiple server nodes, use the multi_stat_controller component. Follow these steps to execute it:

Note: You should have the sample file with the details below to execute multi_stat_controller:

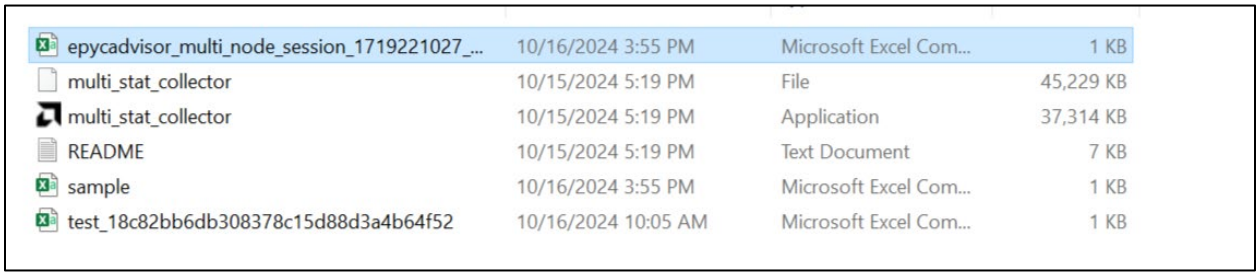
- **OS**: This indicates the type of operating system running on the target machine, such as Linux or Windows
- **IP**: This is the Internet Protocol address of the remote machine to establish a connection and execute stat_collector.
- **Username**: This is the name of the user account used to connect to the remote system. It is required for authenticating the connection.
- **Pem_key**: The PEM (Privacy-Enhanced Mail) key is a private key file used for secure SSH connections, primarily to Linux servers.
- **Password**: This is the password associated with the user account on the remote machine.

A	B	C	D	E
os	ip	username	pem_key	password
linux	xx.xx.xx.xx	admin	/home/connection.pem	
windows	xx.xx.xx.xx	Administrator		8TB**********V

1. **Open a Command Prompt or Terminal**: Navigate to the directory where the `multi_stat_controller` executable is located.
2. **Run the Command**: Execute the command to start collecting stats from all specified nodes. The tool will aggregate the data into a single XLSX file.

```
azureadmin@collect-azure-instance-data:~/stat$ ./multi_stat_collector -d 30s -i 5 -t run_azure -f sample.csv
Total number of hosts listed in the given input file: 2
********************************************************************************
Connected and executing stat_collector on admin@[redacted]
Connected and executing stat_collector.exe on Administrator@[redacted]
Finished execution on admin@[redacted]
Finished execution on Administrator@[redacted]
********************************************************************************
CSV file created: epyc_advisor_run_azure_1728388241.csv
azureadmin@collect-azure-instance-data:~/stat$
```

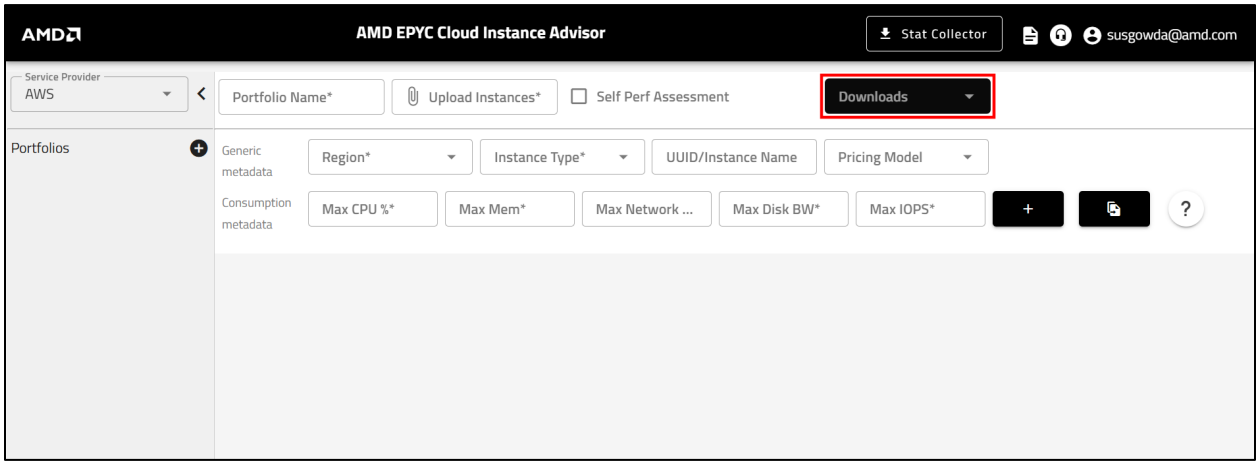
3. **Locate the Combined Output XLSX File**: After the collection process is complete, the resulting XLSX file containing metrics from all nodes will be saved in the designated output location.



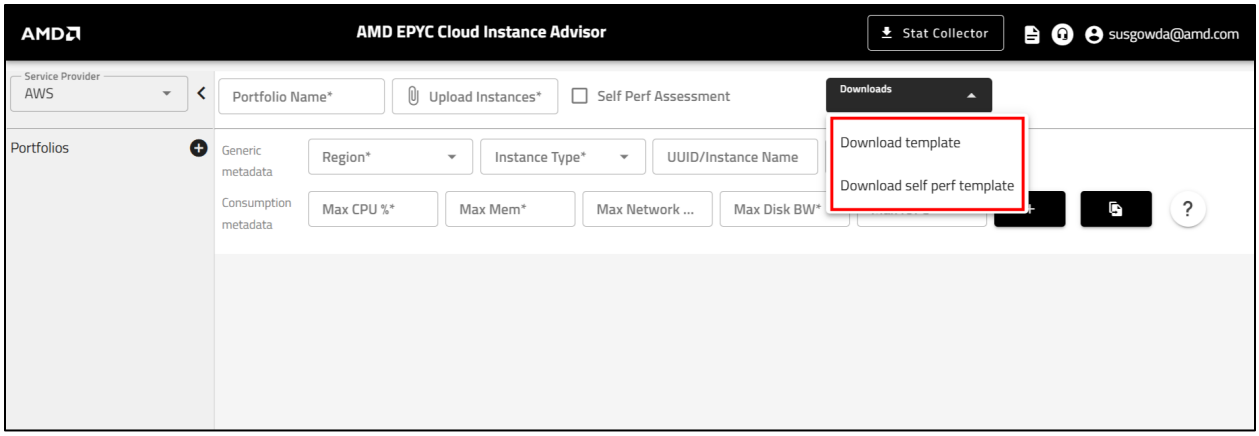
Downloads

This section provides options to download the templates, allowing you to update the details manually for the upload.

- Click on "**Downloads**".



- You will see options to download templates for **Instance Details** and **Self-Perf Assessment.** The Self-Perf Template is optional and can be filled out if applicable.



- In the Instance Details template, fill in the following details:
  - **uuid**: This is a unique identifier for the system, generated based on the system's fully qualified domain name (FQDN).
  - **Cloud (CSP)**: This indicates the cloud service provider (CSP) that hosts the instance.
  - **Instance type**: Refers to the specific hardware configuration of a cloud instance.
  - **Region**: The geographical location of the data center where the instance is hosted
  - **max cpu%**: Represents the maximum CPU utilization percentage recorded during the execution period
  - **max mem used**: Indicates the maximum amount of memory (RAM) used during the execution period, measured in gigabytes (GB).
  - **max network bw**: The maximum network bandwidth utilization recorded, measured in megabits per second (Mbps).
  - **max disk bw used**: The maximum disk bandwidth usage observed during the period, measured in bytes per second.
  - **max iops**: The maximum Input/Output Operations Per Second (IOPS) observed.
  - **Pricing Model**: The pricing model of the current instance (ondemand, reserved, or spot).

    Note: Cloud service providers (CSPs) offer spot instances at discounted rates, but pricing is dynamic and depends on current demand and capacity. Availability is not guaranteed, and instances can be reclaimed by the CSP at any time use only for workloads that can handle interruptions.

	A	B	C	D	E	F	G	H	I	J
1	uuid	cloud_csp	instance type	region	max cpu%	max mem used	max network bw	max disk bw used	max iops	Pricing Model
2										
3										
4										
5										
6										
7										
8										

- In the Self-Perf Assessment template, fill in the following details: (Optional)
  - Instance Type
  - SAPs (Self-Perf Assessment Points)

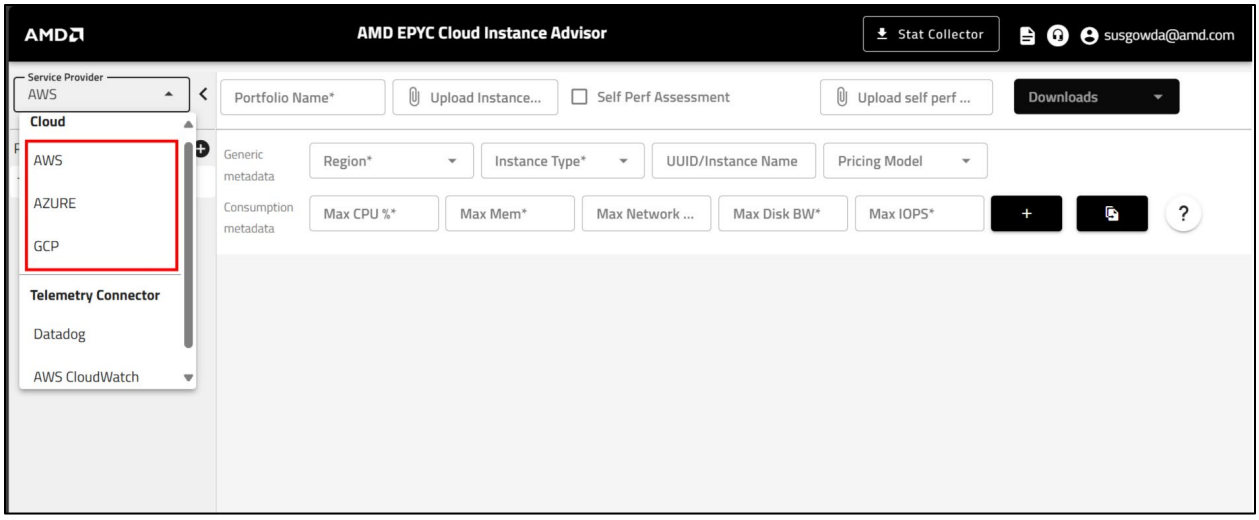
	A	B	C	D	E	F
1	instance type	performance score				
2						
3						
4						
5						
6						
7						
8						
9						
10						

Upload Stats

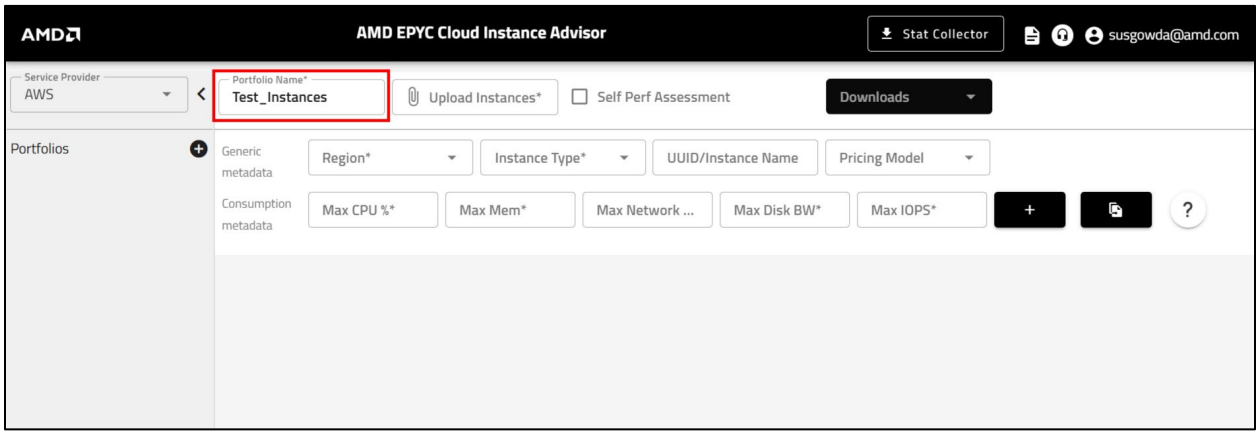
- After executing the Stat Collector, you will have a generated XLSX file containing a comprehensive set of system metrics for one or multiple instances. This file includes critical information such as:
  - Instance type
  - CPU utilization
  - Memory usage
  - Disk IOPS
  - Bandwidth
  - Network performance
- This file serves as the primary input for the AMD EPYC Cloud Instance Advisor (EIA) user interface.
- Additionally, you can browse and upload the updated template file containing the instance details, as well as upload your own metrics or self-performance assessment data.

Steps to Upload the File

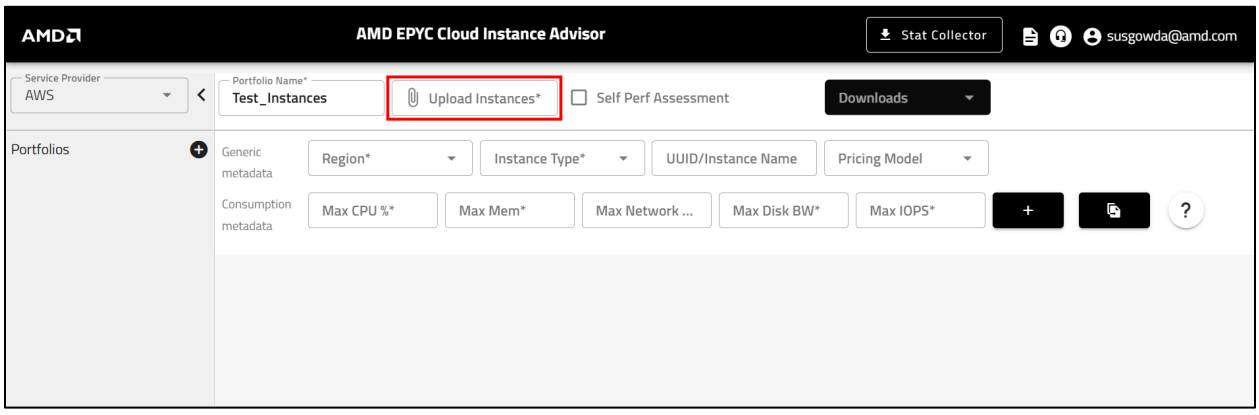
1. Choose the **Cloud Service Provider.**



2. Enter the **Portfolio name.**

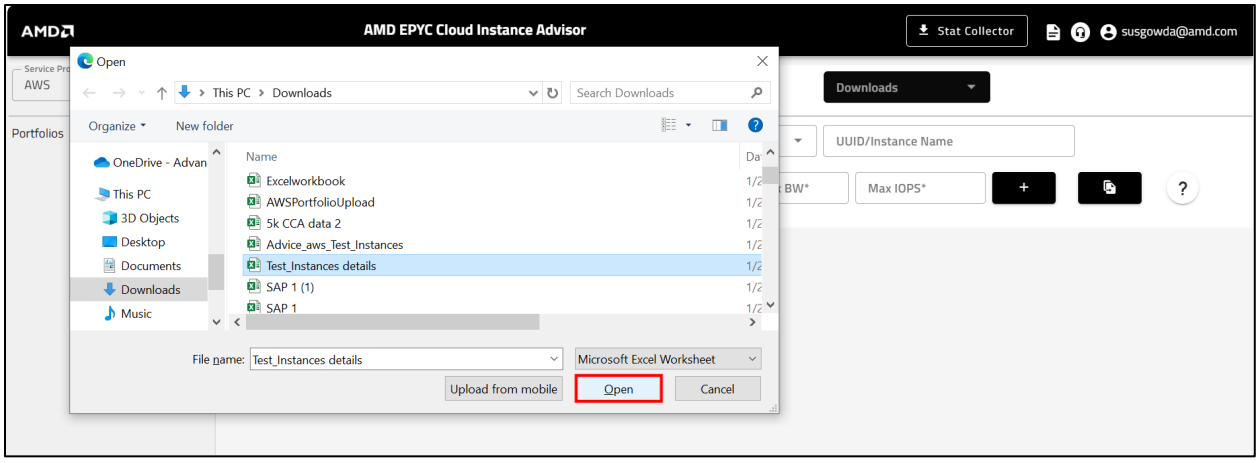


3. Locate the Upload Section and click the **Upload Instances** button.

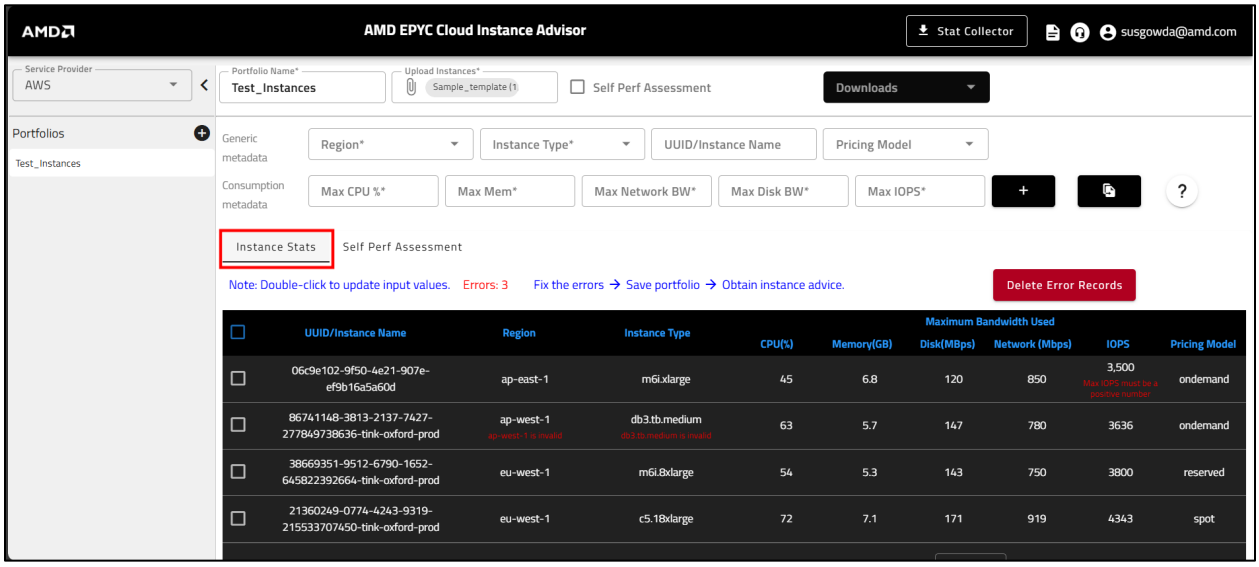


4. Browse and select the file with instance details. Users can upload XLSX format files.
5. Once the file is selected, click **Open** to submit the file for analysis.

   Note: Upload a file with a maximum of 20,000 records.

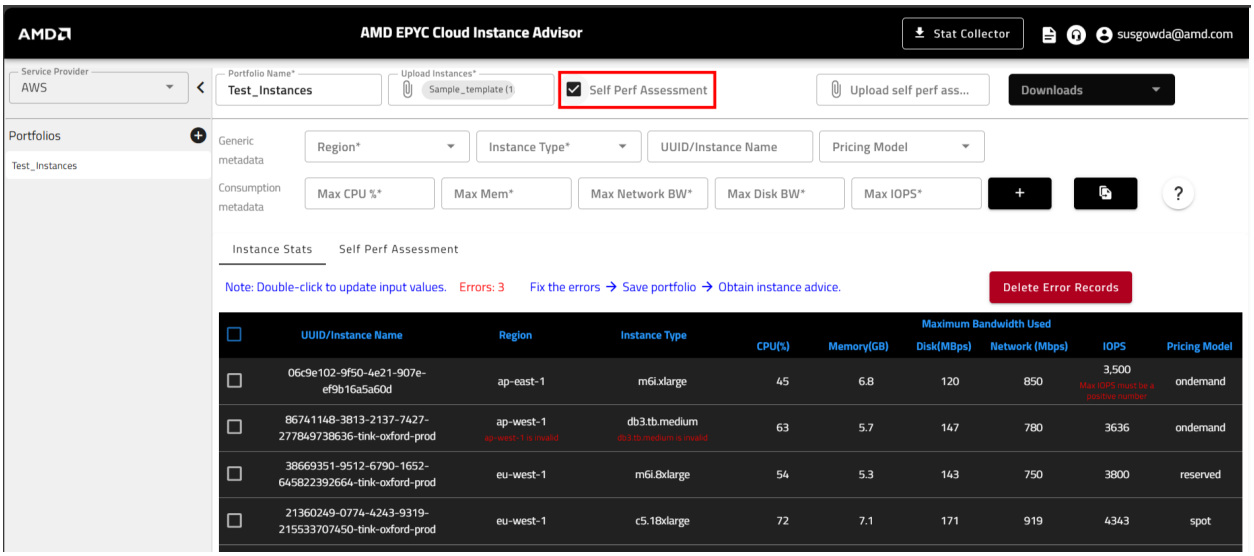


6. After the file is uploaded, the **instance details** will be reflected in the table under the **"Instance Stats"** section.

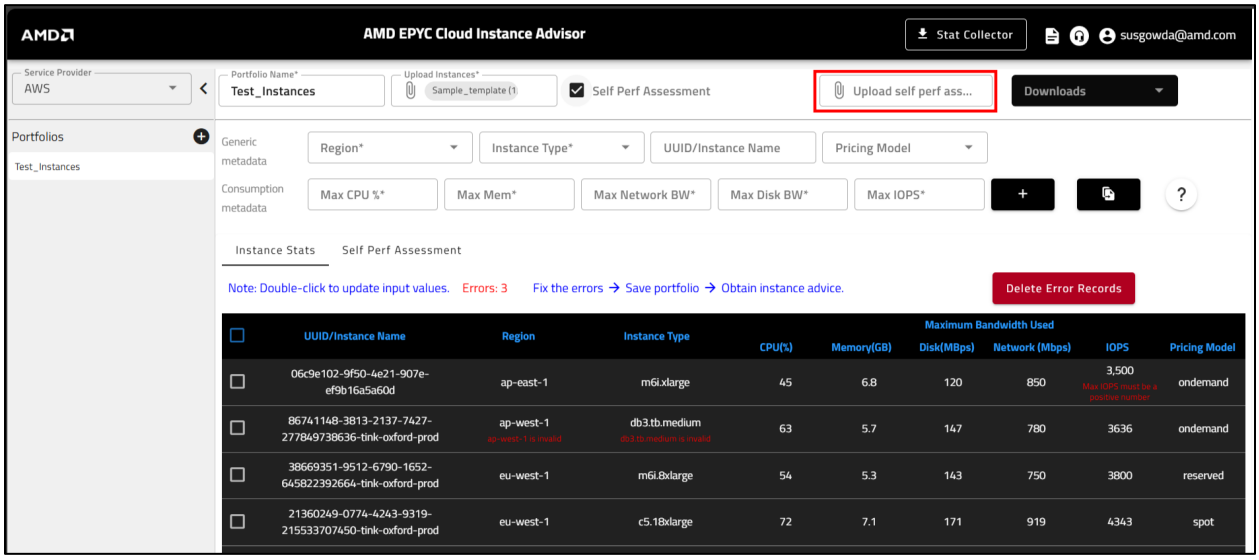


Self-Perf Assessment:

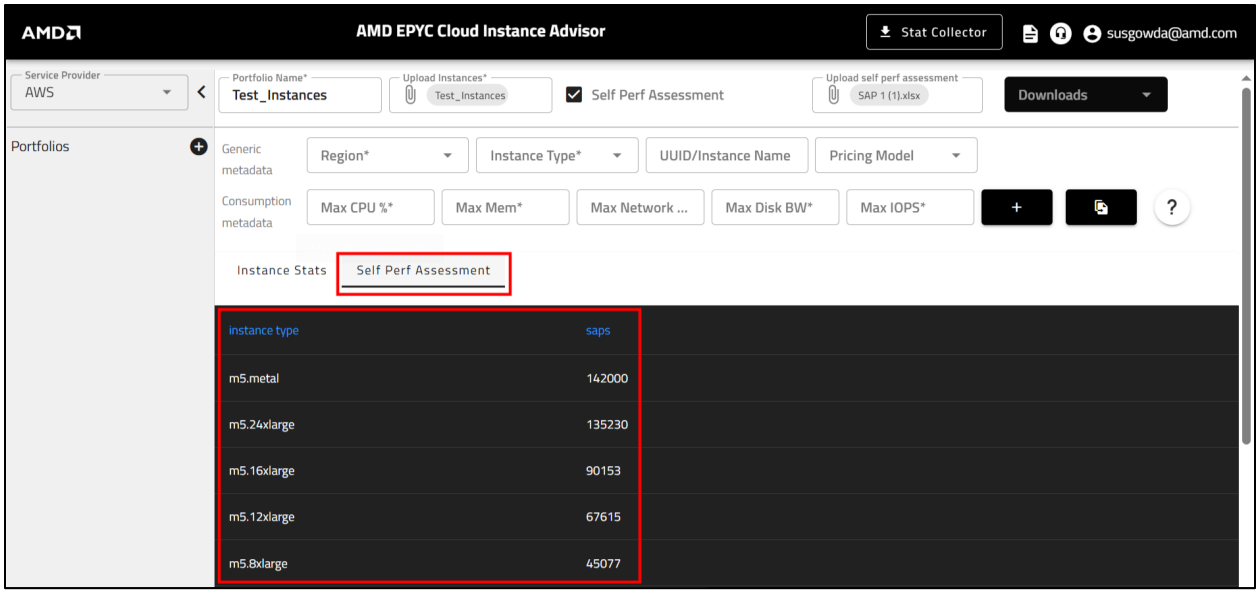
1. Check the box to enable the upload field for the **Self-Perf Assessment** file.



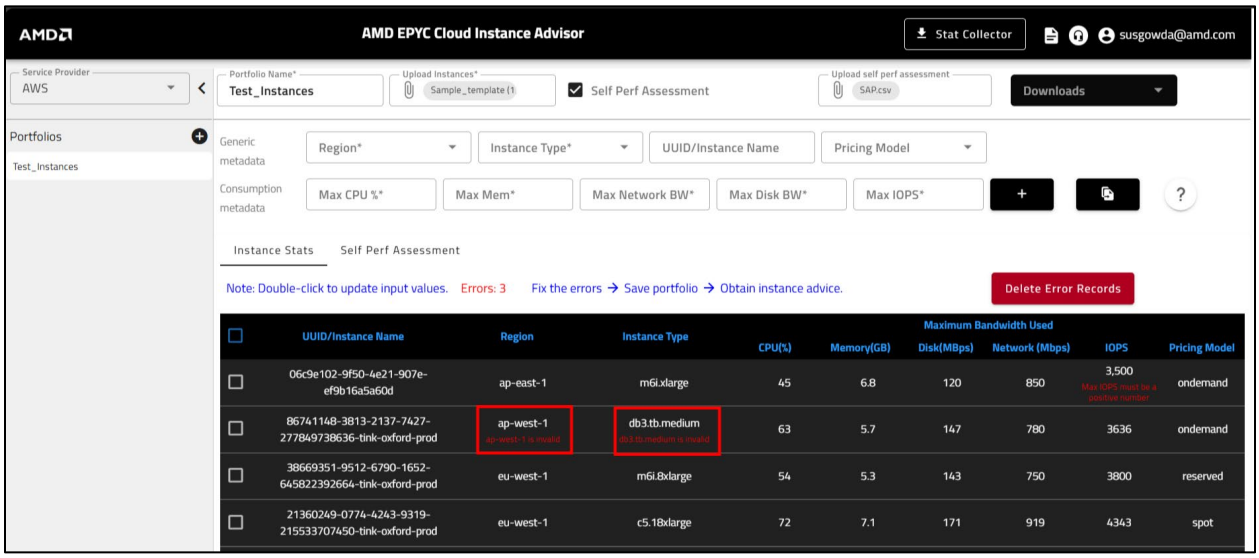
2. Click **Upload Self-Perf Assessment**.



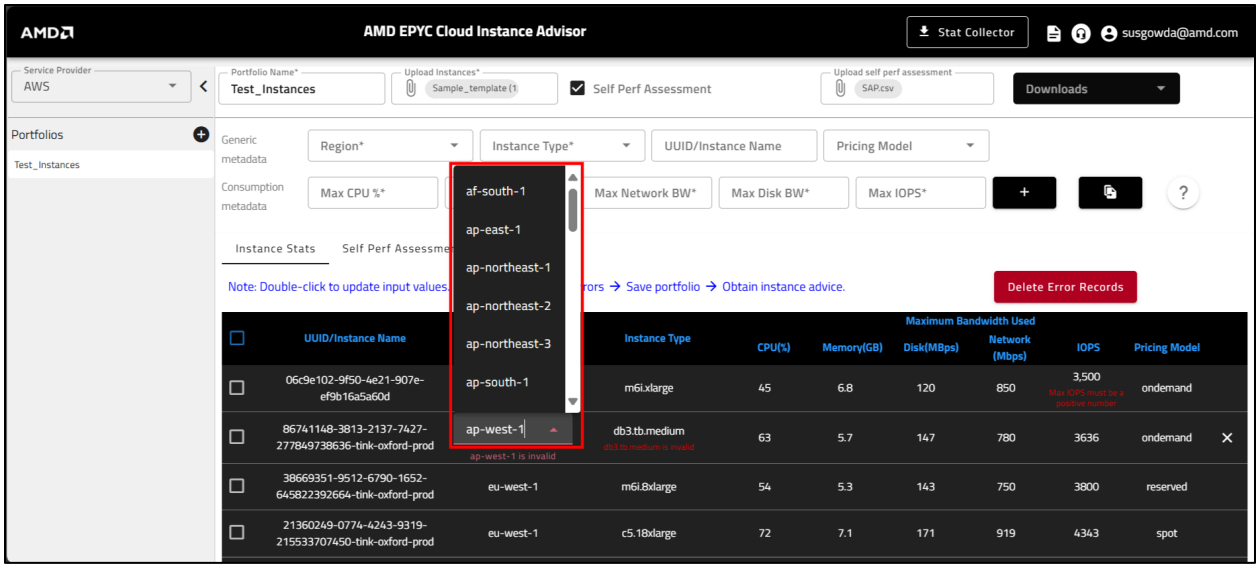
3. Browse and select the file with self-performance assessment data. Users can upload only **XLSX** format files.
4. Once the file is selected, click **Open** to submit the file for analysis.
5. To view the uploaded **Self-Perf Assessment** details, navigate to the **"Self-Perf Assessment"** tab.



6. If any instance upload fails, an error message will appear on the screen with specific comments for the failed instances.



7. You can update the information by **double-clicking** on the field.



Note:

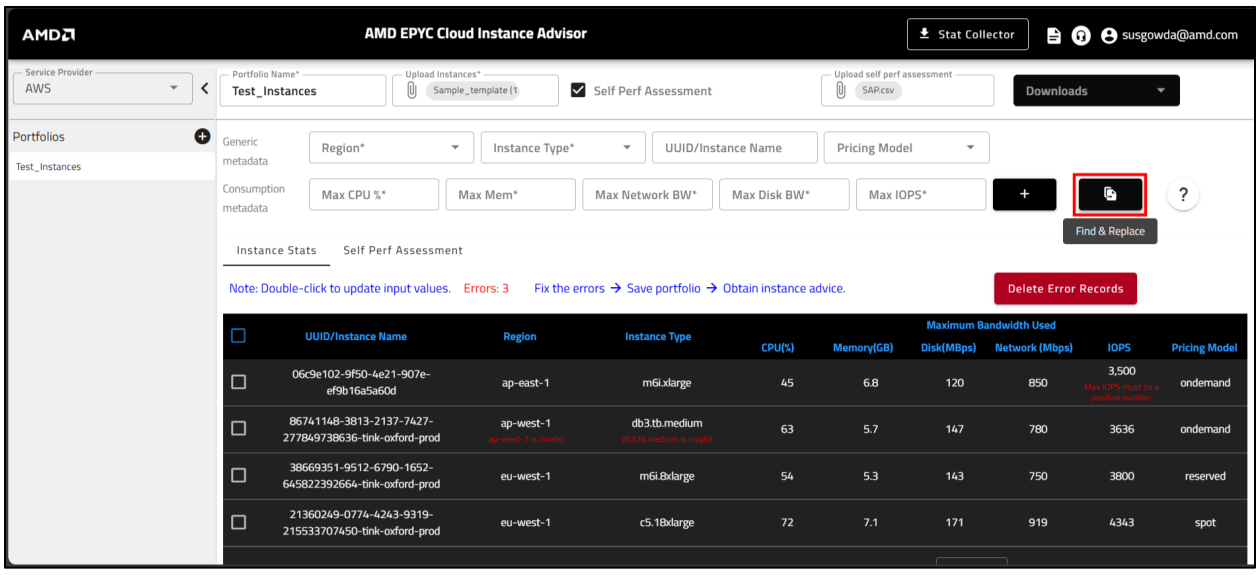
- If the cloud is empty, invalid, or unsupported, it will be converted to the default CSP selected.

8. Once you've made the necessary edits, click anywhere on the table to apply the changes. The table will update with the new information.

Find & Replace:

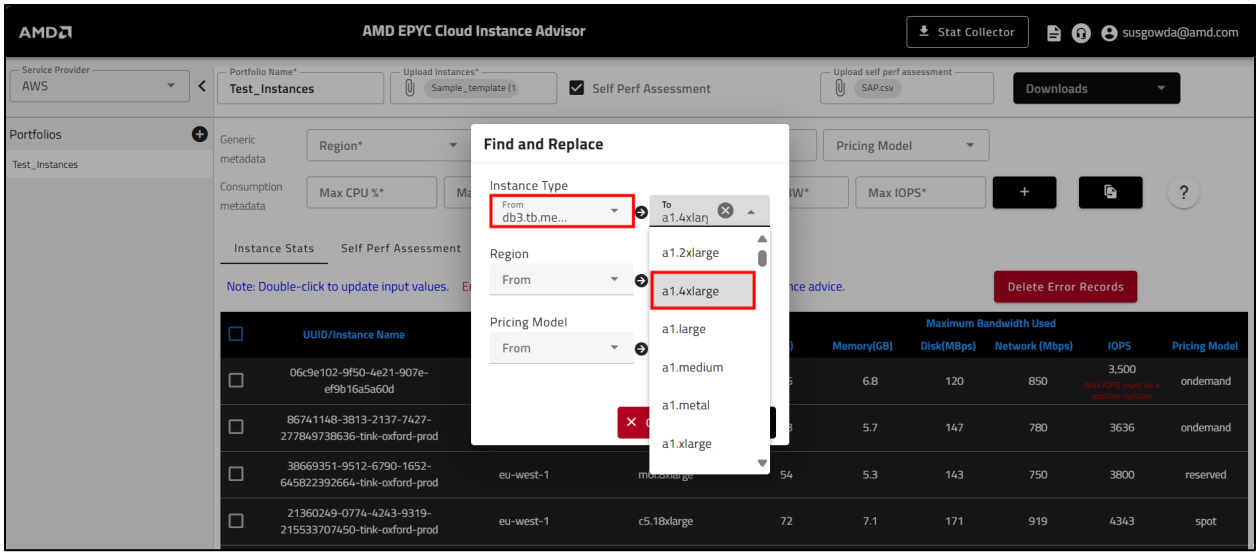
You can also update or modify field values using the Find & Replace option.

1. Click on **Find & Replace**.

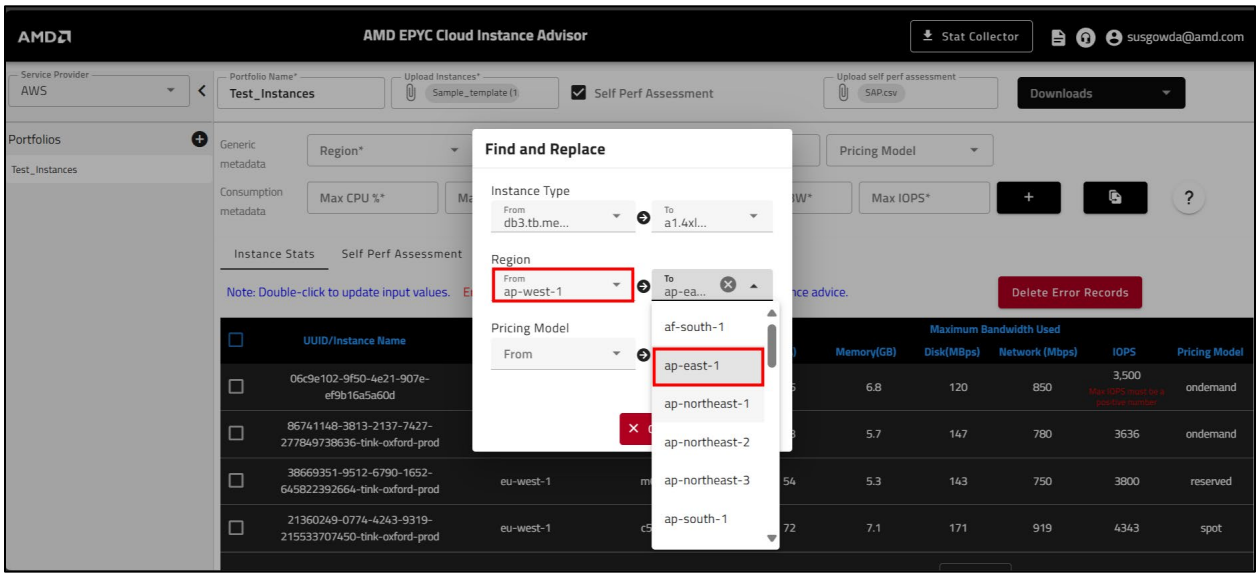


2. Find and replace the values as needed:

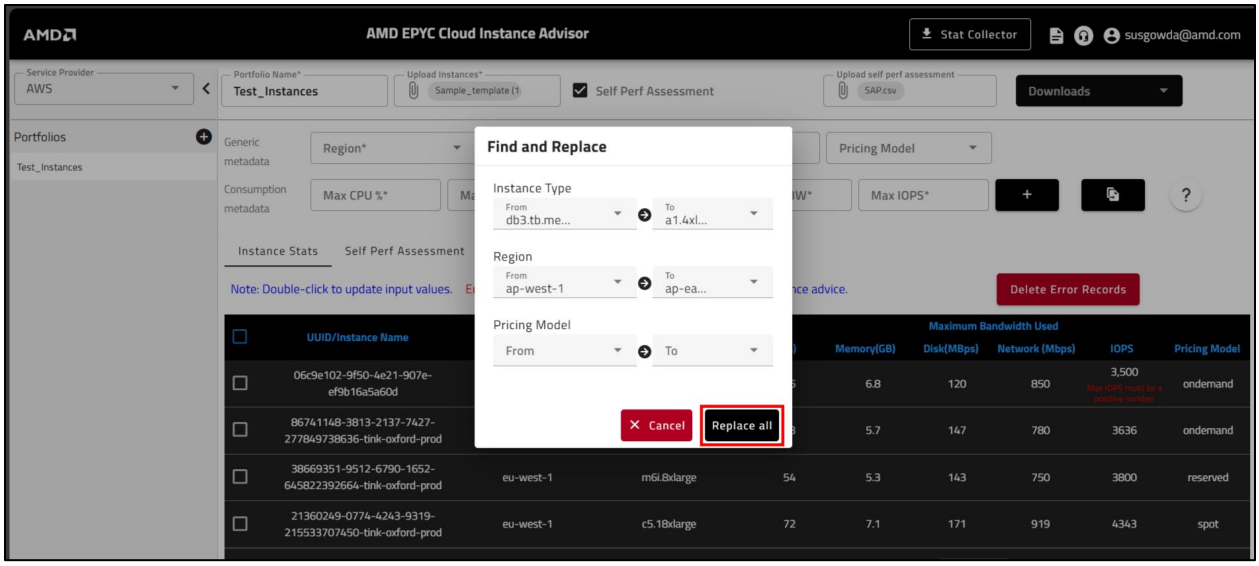
   a) **Instance Type**: From the "**From**" dropdown, select the instance type that you wish to change, then choose the desired instance type from the "**To**" dropdown



b) **Region**: From the "**From**" dropdown, select the region that you wish to change, then choose the desired region from the "**To**" dropdown.



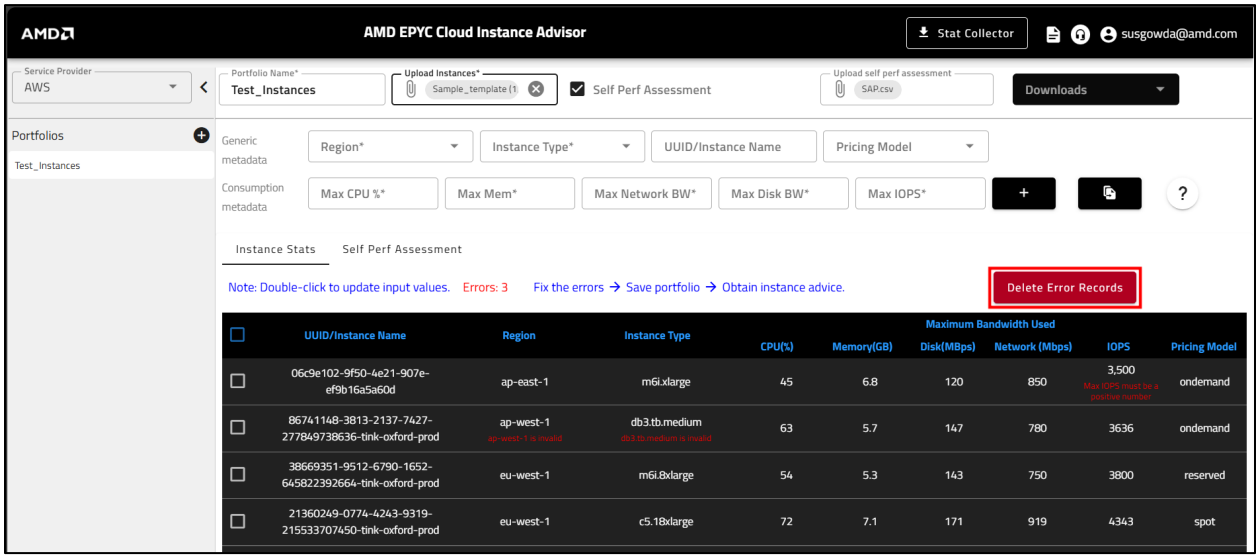
3. Click **Replace All**. This will replace all selected instance types and regions with the chosen values.



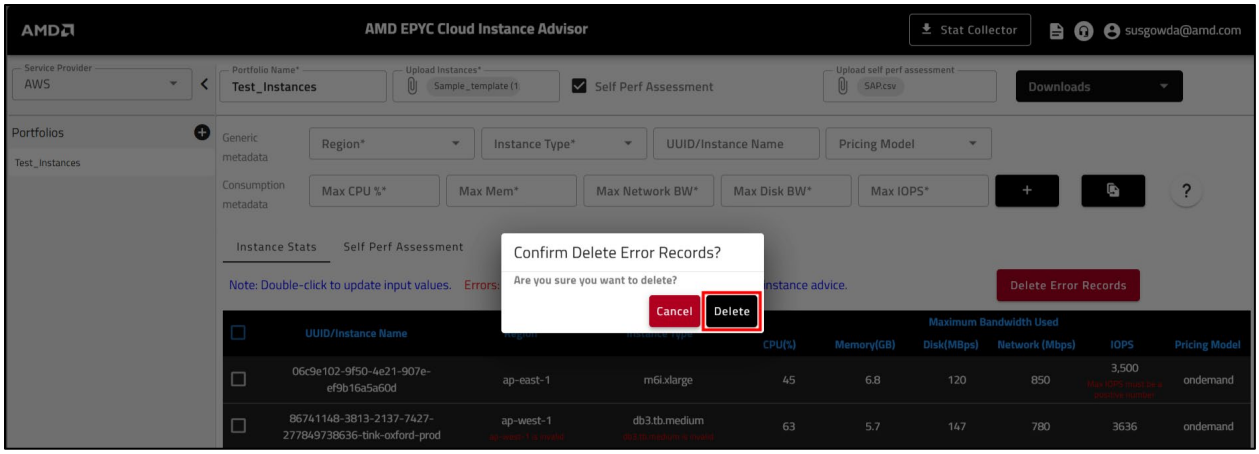
4. If needed, repeat the above step for other Instance Types, Regions, or Pricing Models.
5. Click **Save** to apply changes.

Delete Error Records:

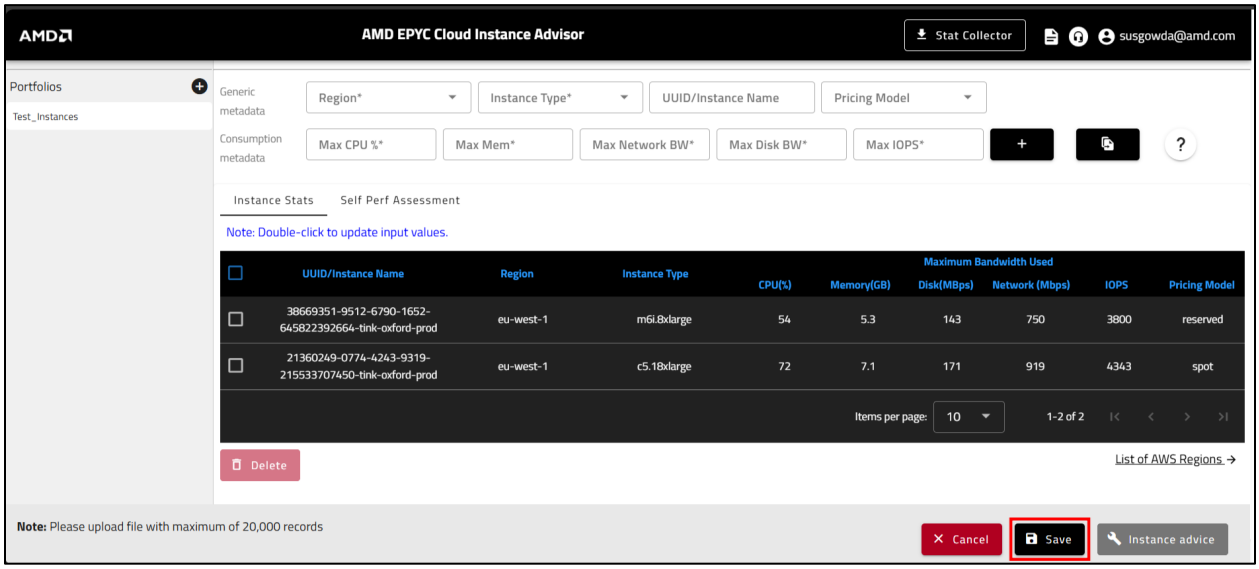
1. To delete all the error records at once, click on the "**Delete Error Records**" button.



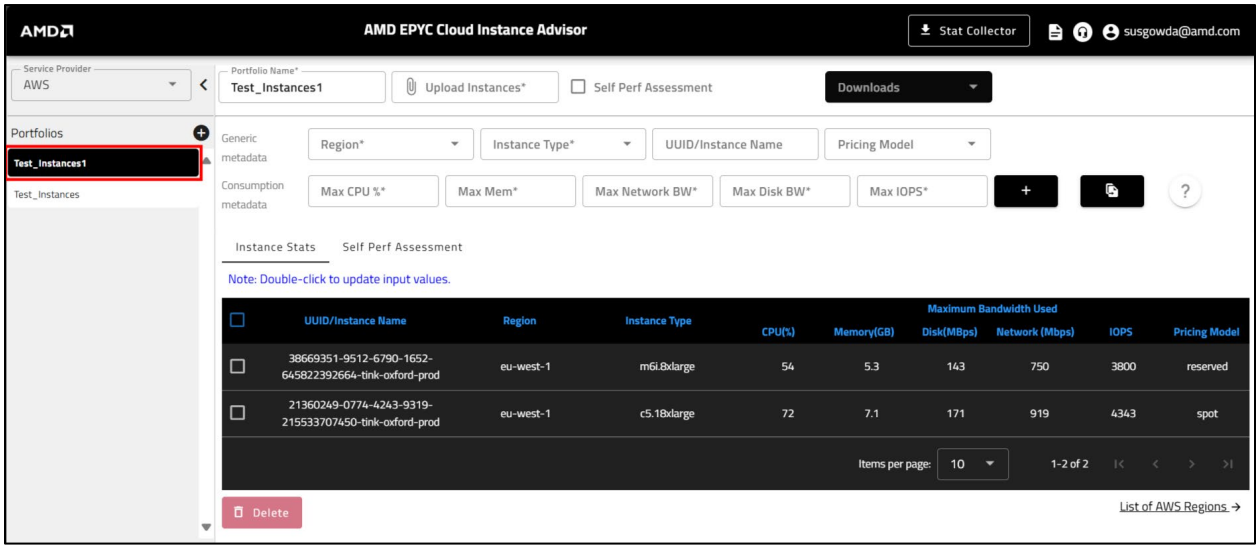
2. A confirmation popup will appear asking you to confirm the deletion.
3. To confirm, click the "**Delete**" button in the popup. This will remove all the error records from your list.



4. Click “**Save**” to apply changes.



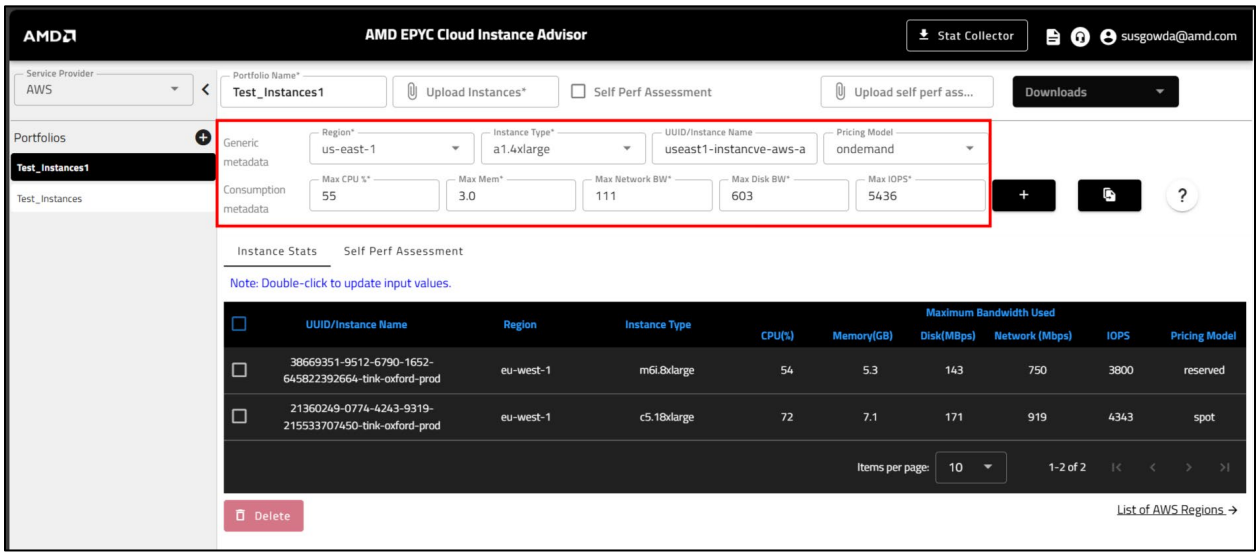
5. After saving, you can view the added portfolio in the portfolios list on the left side of the page.



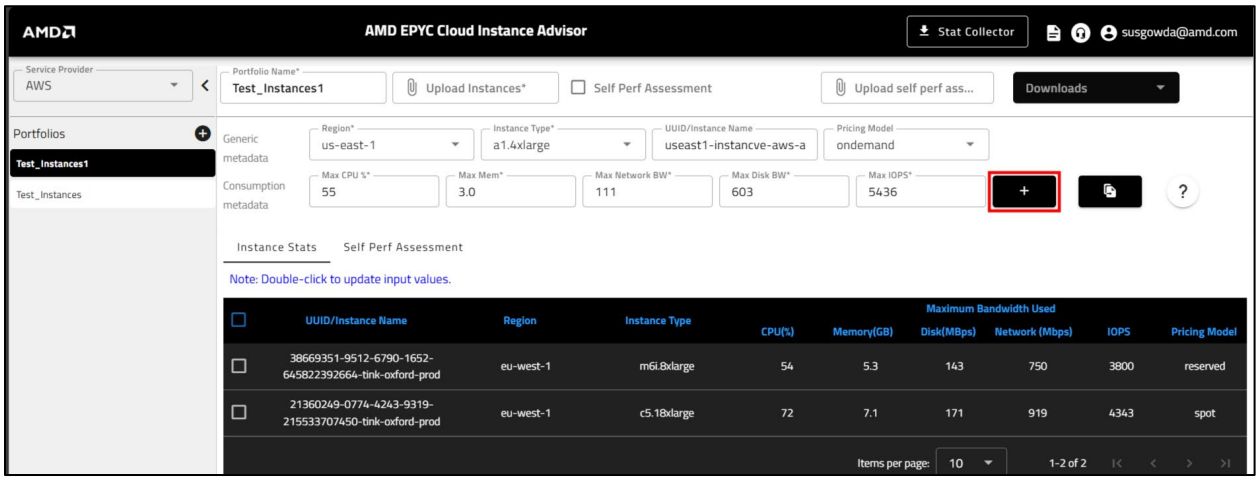
Adding Instances:

1. To add additional instances, select the portfolio and fill in the below details:
    1. **Under Generic Metadata**:
        a) Select the Region
        b) Select the Instance Type
        c) Enter UUID/Instance Name
        d) Pricing Model (ondemand, reserved, or spot)

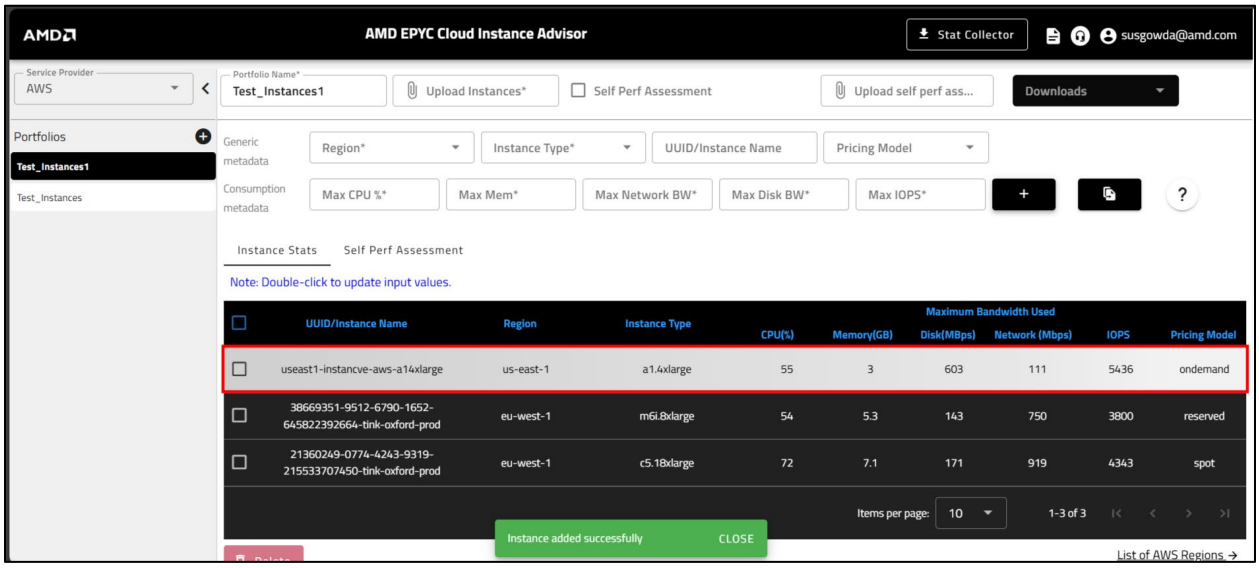
    2. **Under Consumption Metadata**, enter the data/values for:
        a) Max CPU%
        b) Max Memory
        c) Max Network Bandwidth
        d) Max Disk Bandwidth
        e) Max IOPS



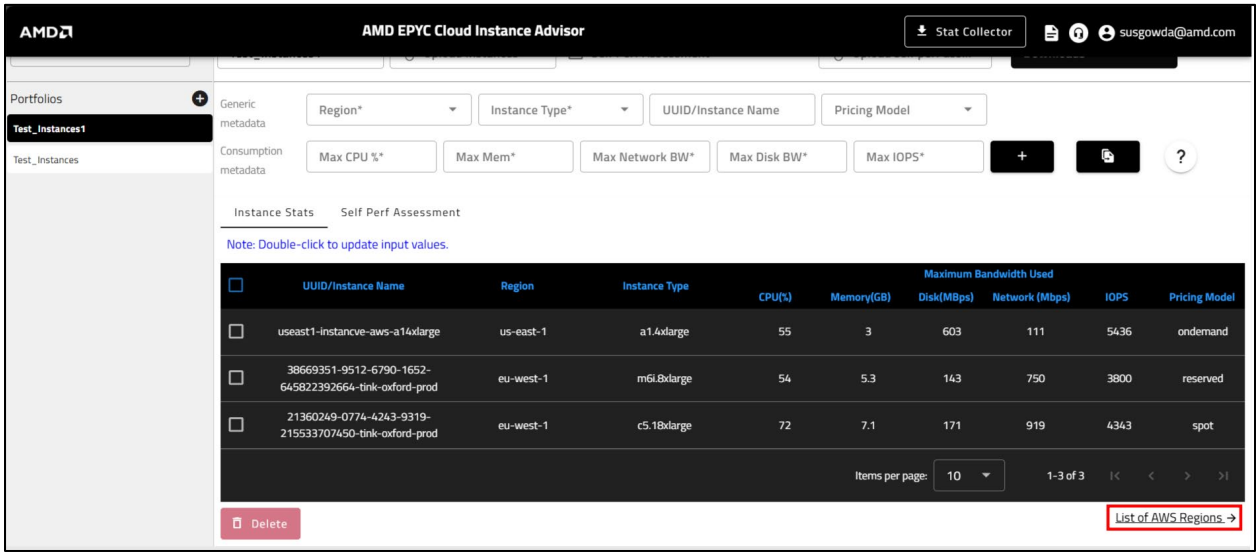
2. Click on the **Add Instance** button (indicated by the **+** symbol).



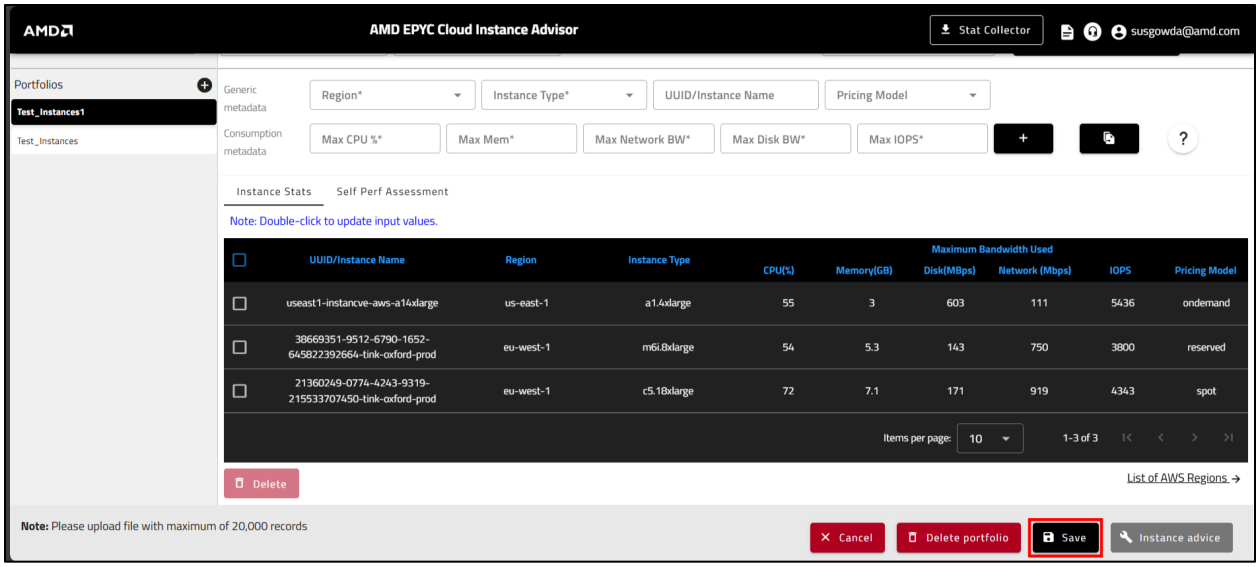
3. The entered instance details will be added to the table.



4. Click on "**List of AWS Regions**" below the instance list table to view the supported AWS regions and instances. Similarly, when you select Azure as your cloud provider, click "**List of Azure Regions**" or "**List of GCP Regions**" to explore the supported Azure or GCP regions and instances.



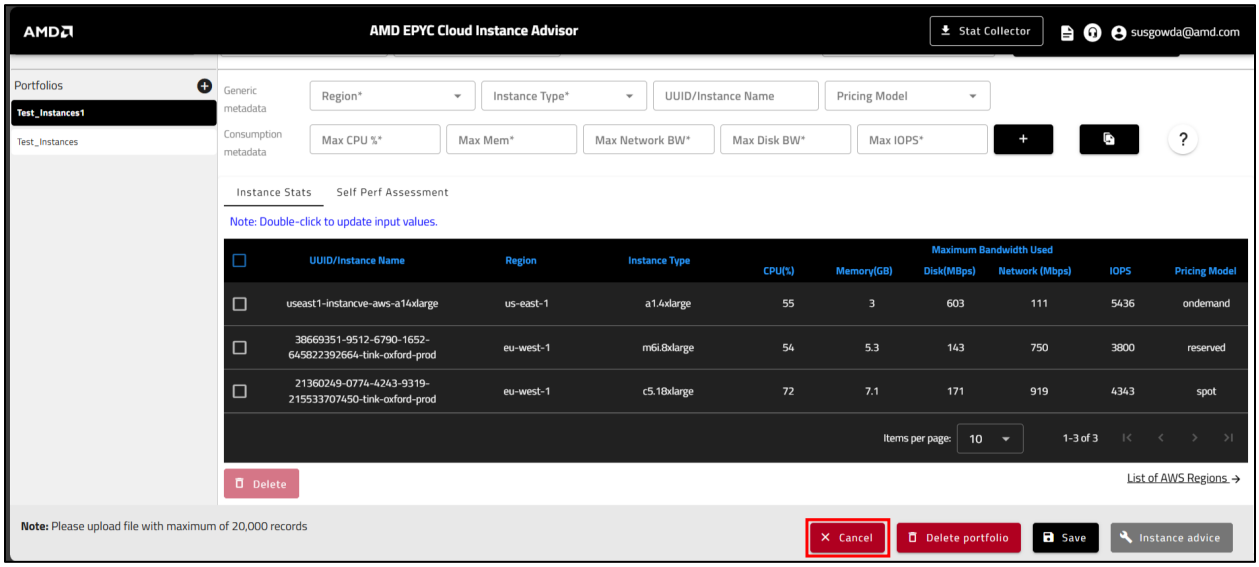
5. Click **Save** to save the updated details to the portfolio.



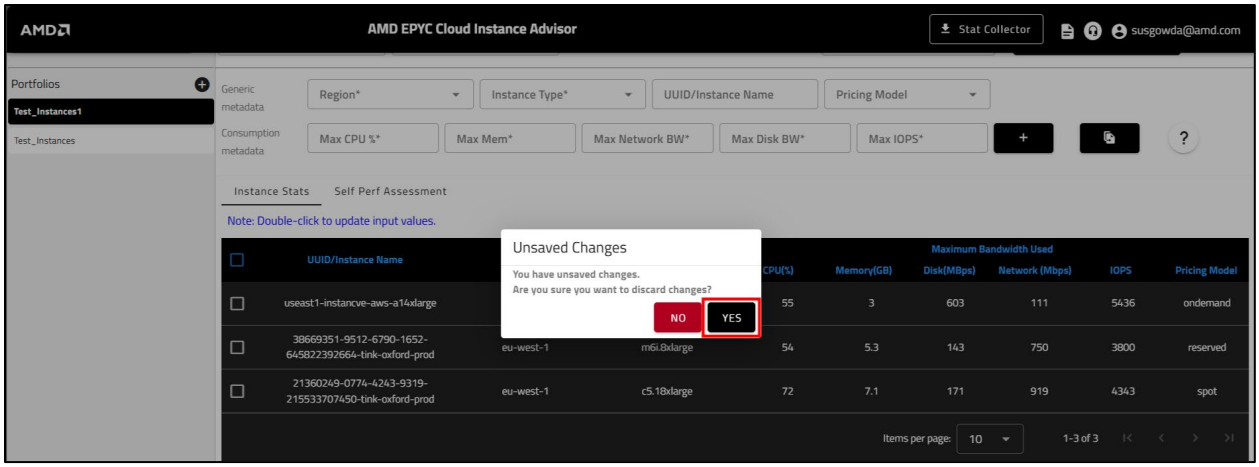
User Actions

Remove Unsaved Instances

- To remove the unsaved instances from the list, click “**Cancel**”.

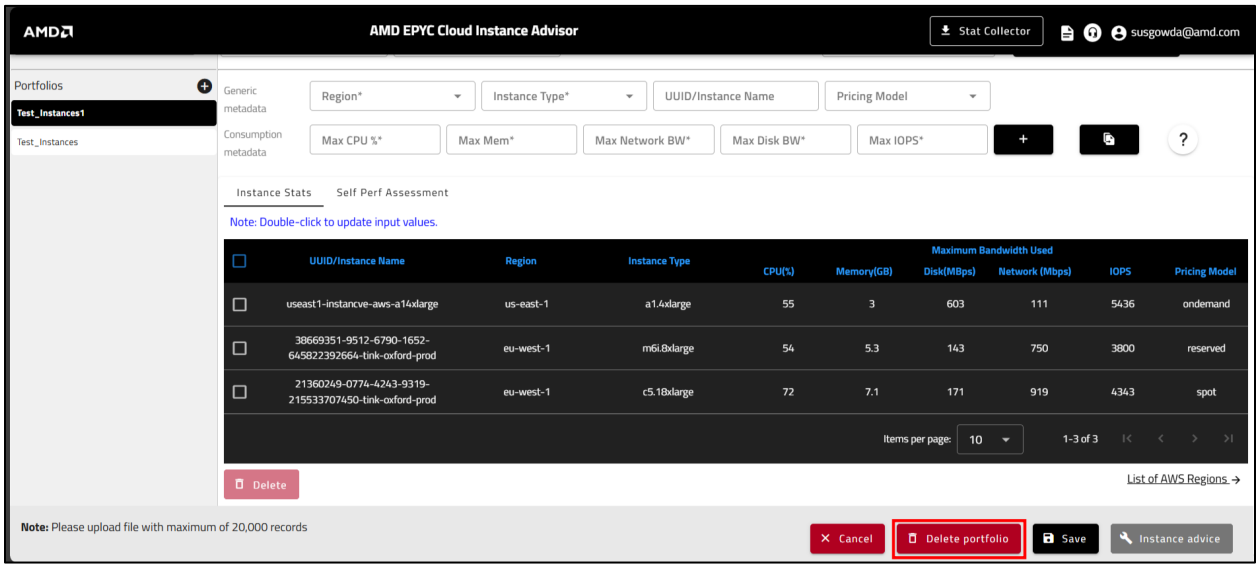


- A confirmation popup will appear. Click "**Yes**" to proceed with the removal.

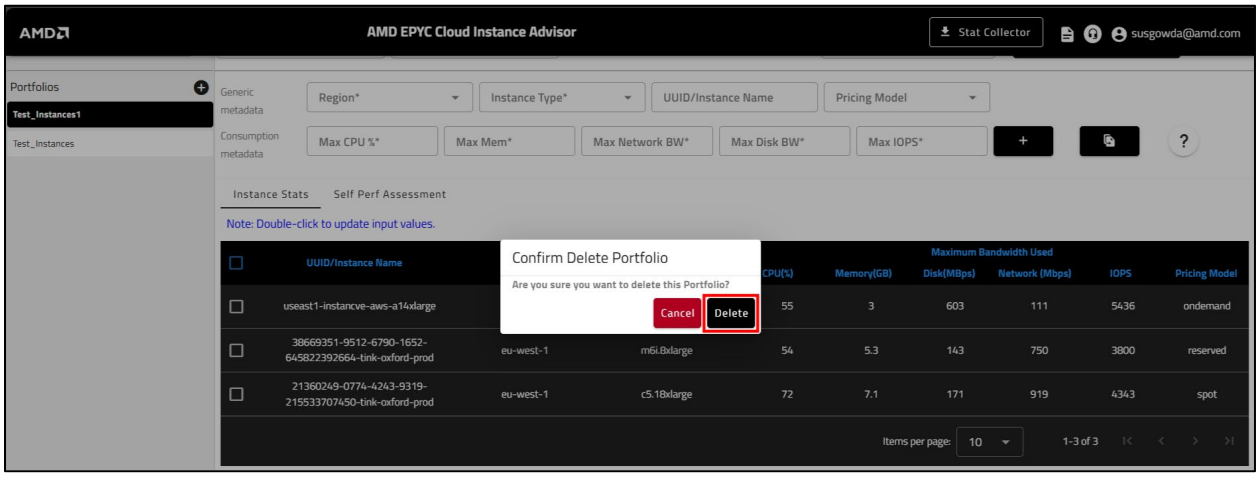


Delete Portfolio

- If you wish to delete the portfolio, select the portfolio and click on “**Delete Portfolio**”.

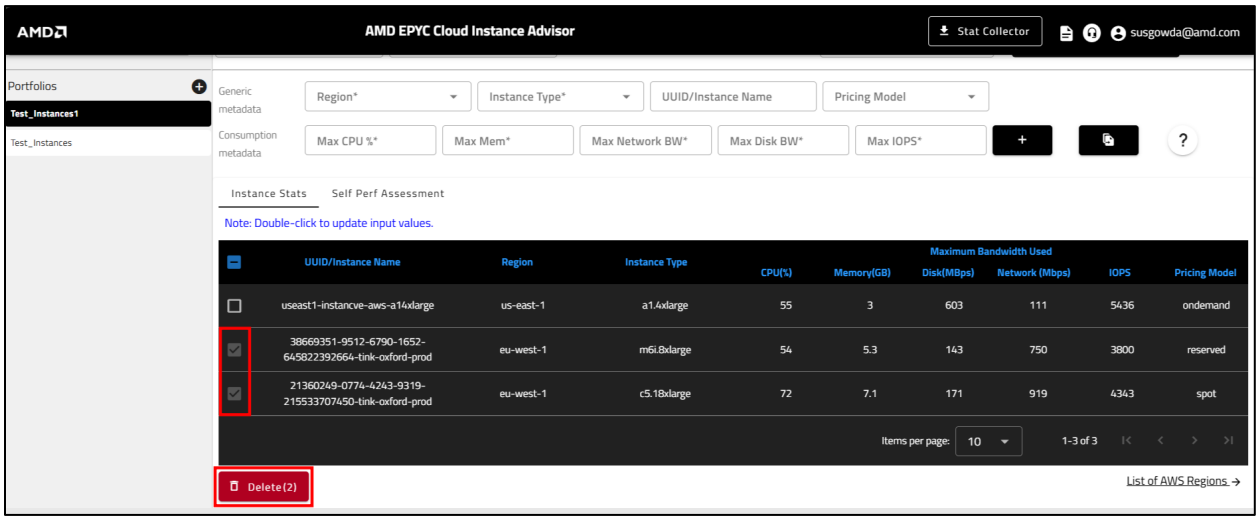


- A confirmation popup will appear. Click "**Delete**" to proceed.

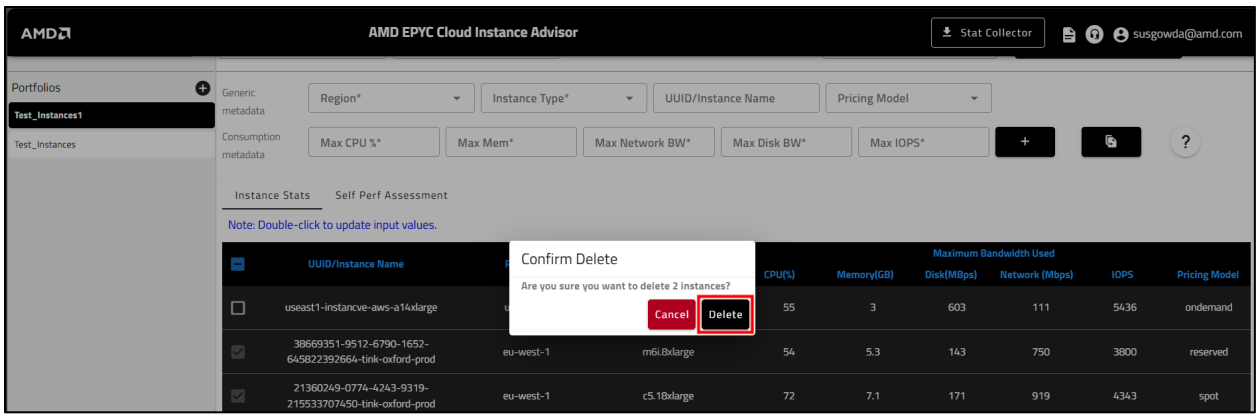


Delete Instances

- Select the instance(s) that you want to remove from the list and click **Delete** at the bottom of the table.

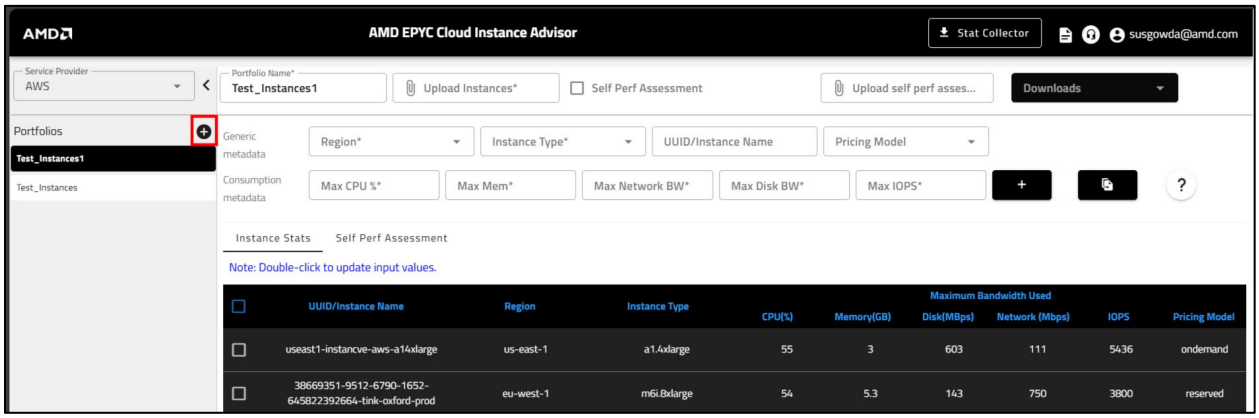


- A confirmation popup will appear. Click "**Delete**" to proceed.



Add Portfolio

- Click the **“+”** in the portfolios section to reset the page and create a new portfolio.



Telemetry Connector

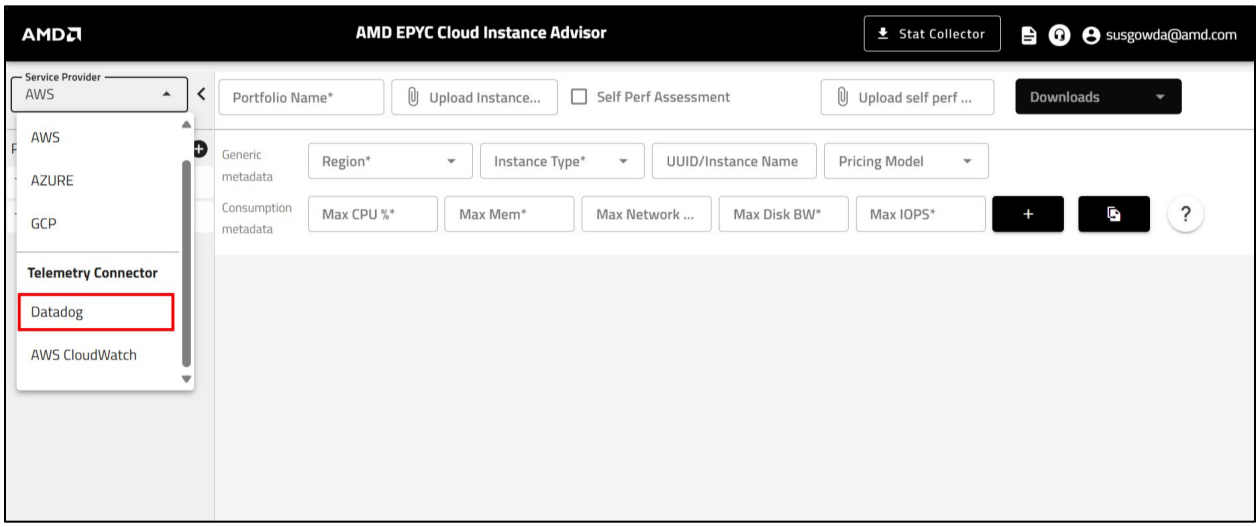
The **Telemetry Connector** option allows you to link your monitoring service - such as **Datadog** or **AWS CloudWatch** - to automatically discover and add instances being monitored through telemetry data.

Add Instances via Datadog

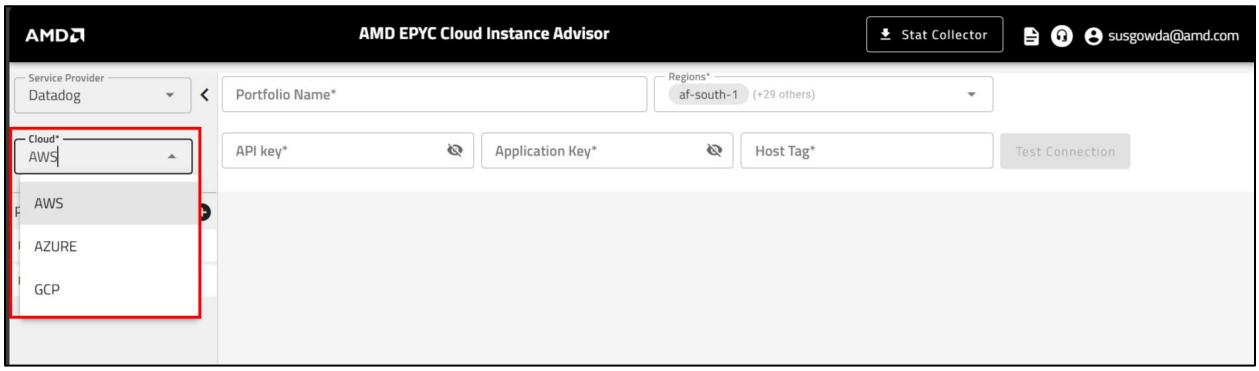
With the Telemetry Connector option, you can link your Datadog account by providing your **API Key**, **Application Key** and **Host**. The platform will authenticate your Datadog account and retrieve the instances that are already being monitored through Datadog's telemetry data .

To add instance via Datadog:

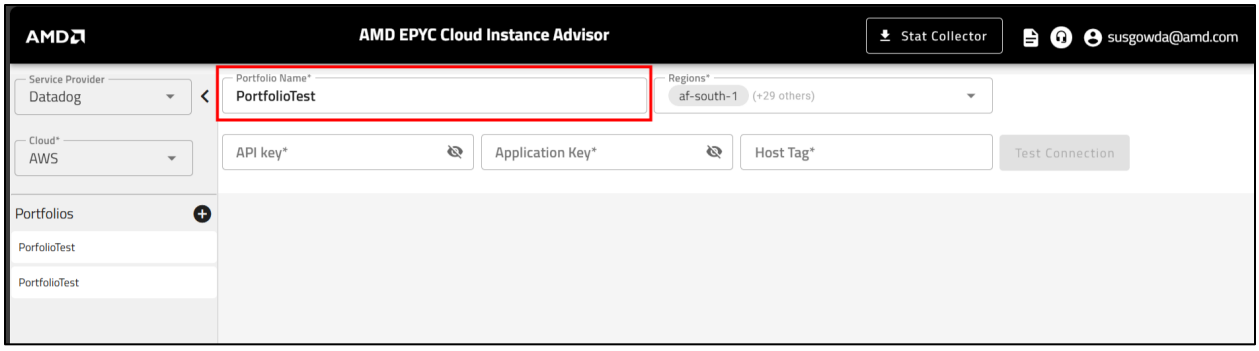
1) From the service provider dropdown, select **Datadog**.



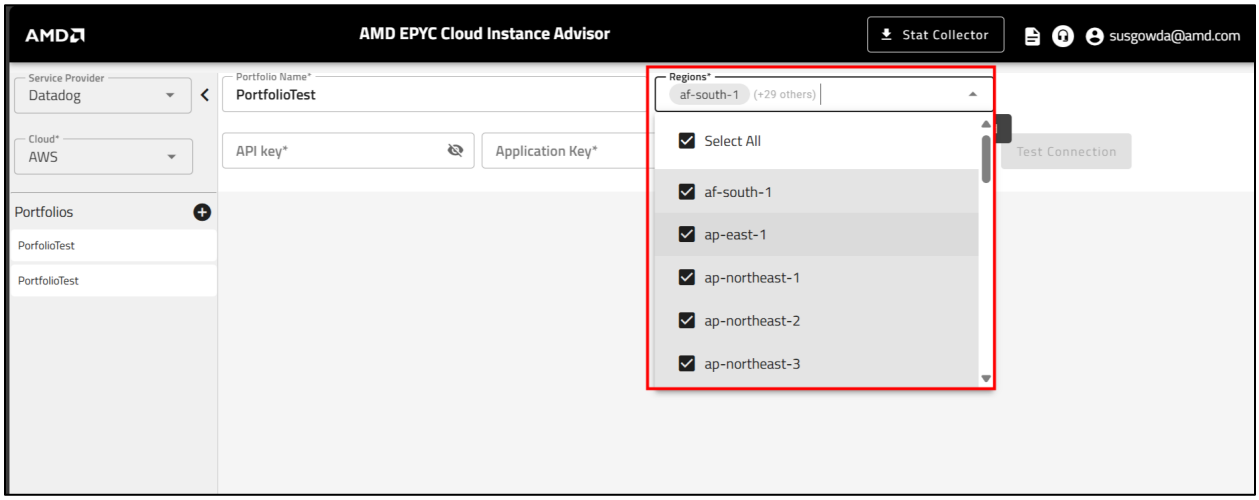
2) Select **Cloud** (AWS, Azure, or GCP).



3) Provide a name for your portfolio.



4) Select the **Region**. By default, all applicable regions will be selected, but you can edit this to choose only the specific regions needed.

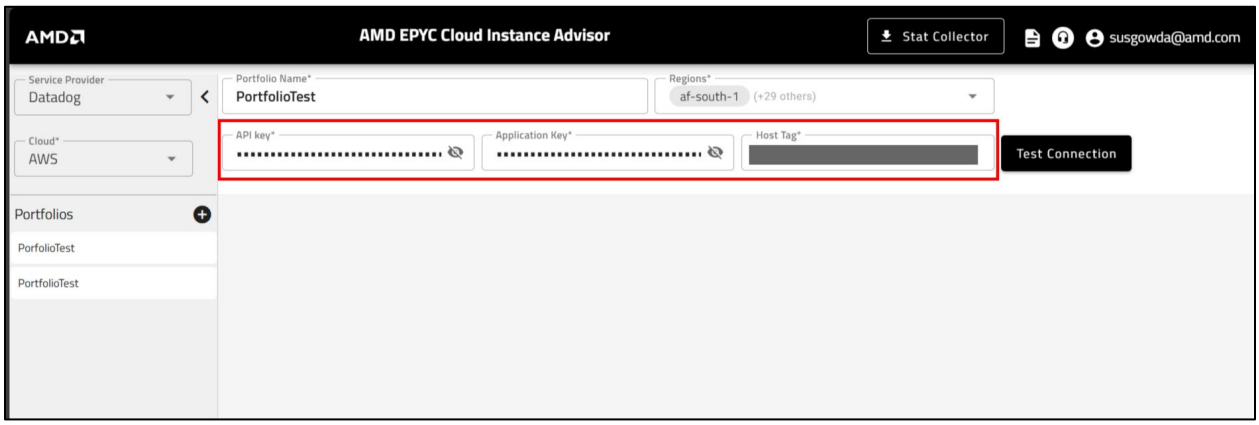


5) Enter the below details

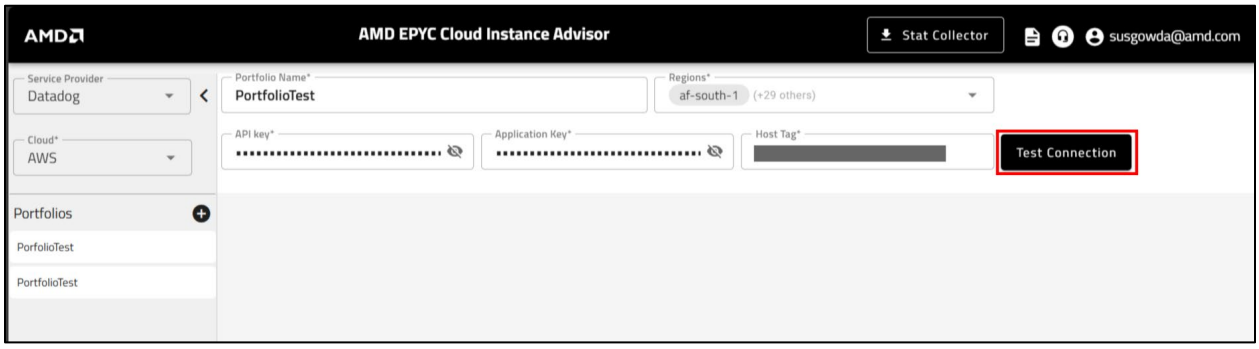
   a) **API Key**: your Datadog API Key to authenticate the connection.

   b) **Application Key**: Provide your Datadog Application Key for secure access to your telemetry data.

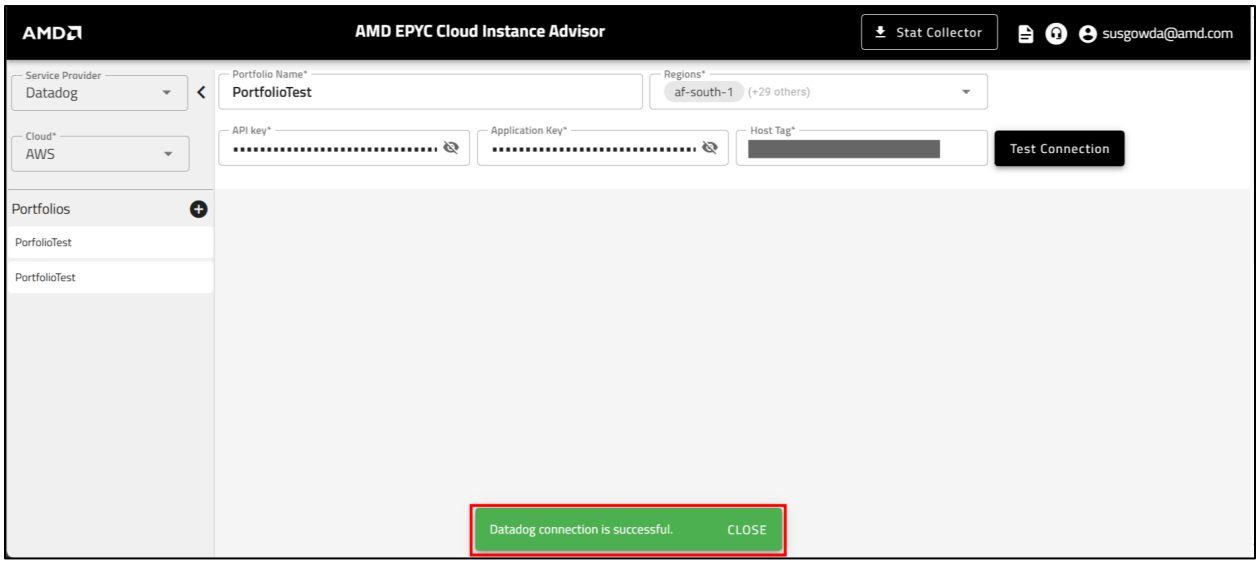
   c) **Host Tag**: Input the Host associated with your Datadog account.



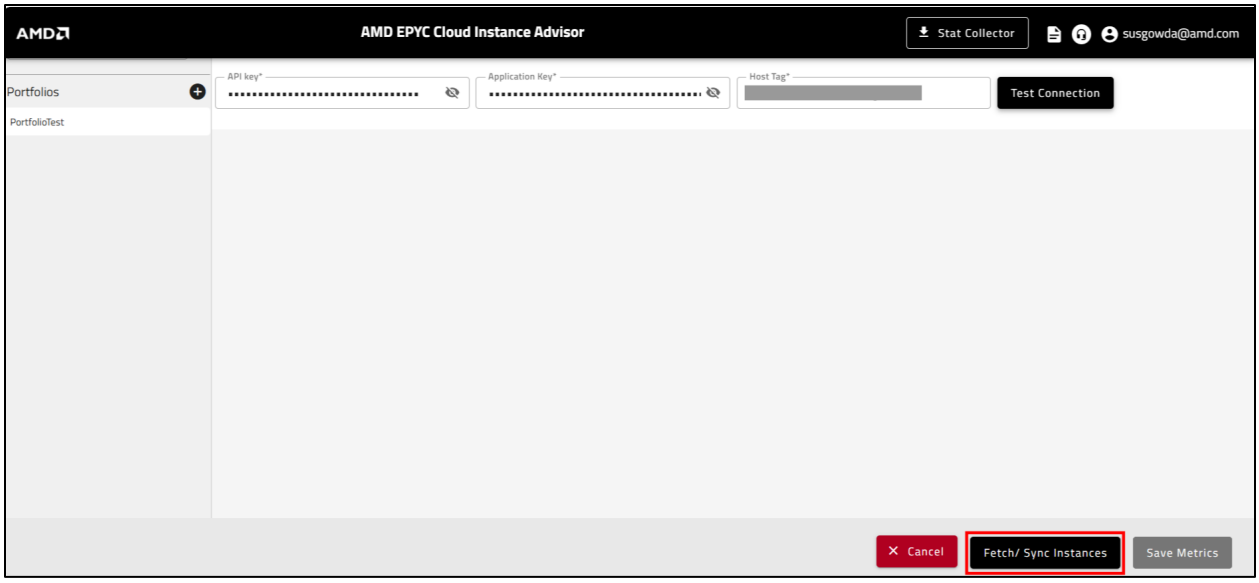
6) Click **Test Connection** to verify the connection.



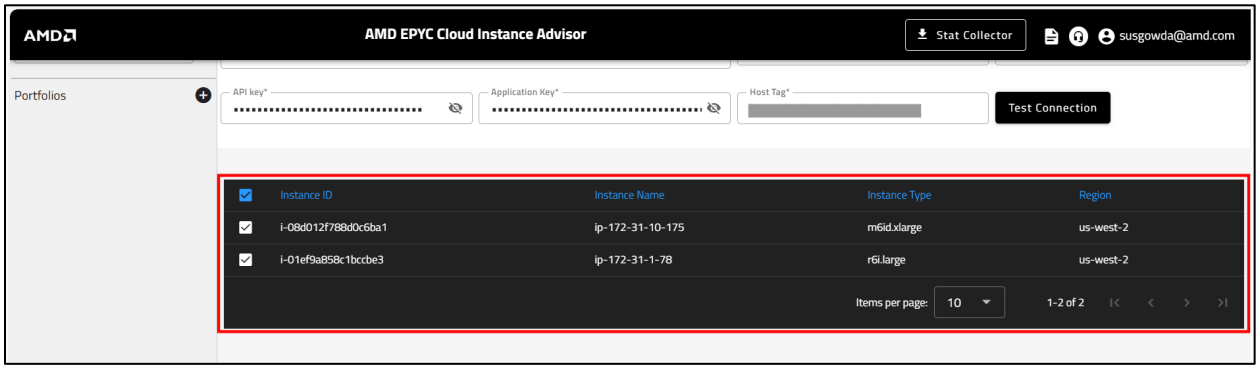
7) Once the connection is successful, a confirmation message "**Datadog connection is successful**" will appear.



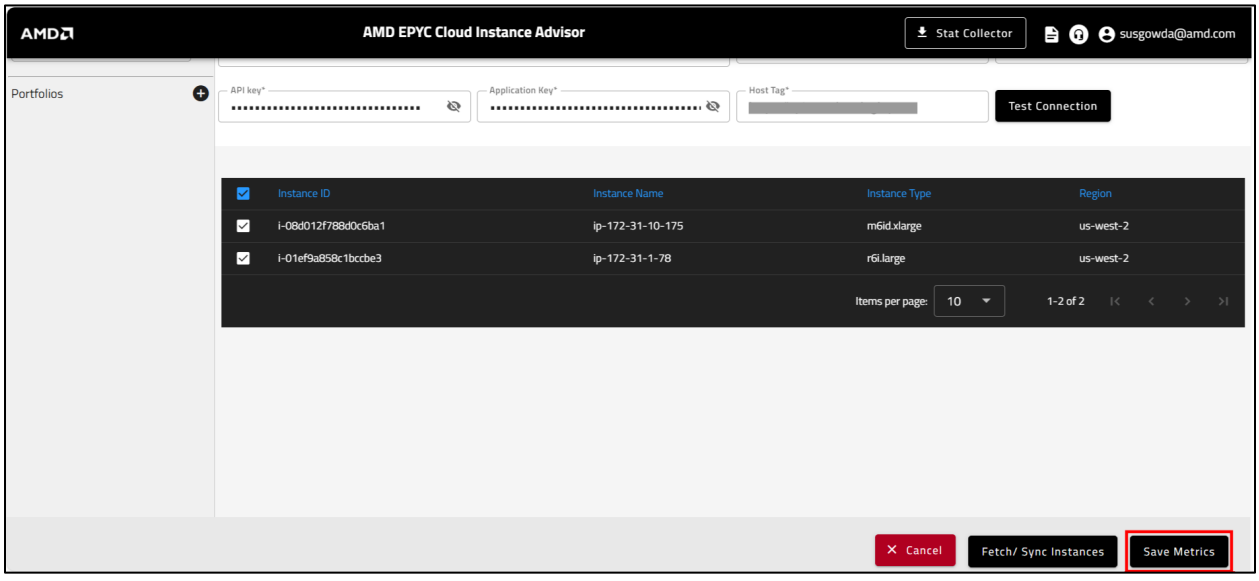
8) Click on **Fetch/Sync Instances** to retrieve all the instances that are linked to your Datadog telemetry account.



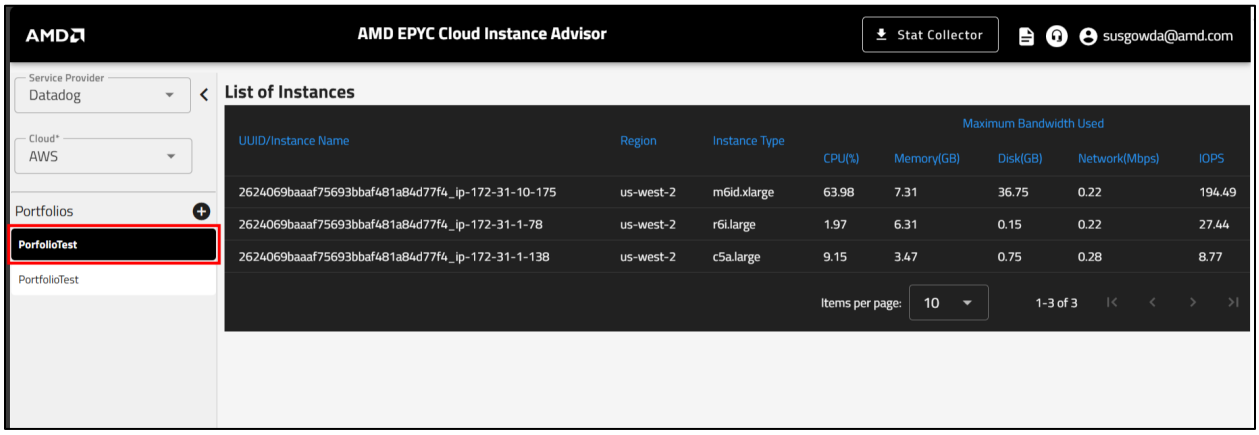
9) The system will retrieve all instances linked to your Datadog telemetry account. You can then choose the instances that are required for Instance Advice.



10) Click **Save Metrics** to save the portfolio with the selected instances for cost analysis.



11) After saving, you can view the added portfolio in the **portfolios** list on the left side of the page.

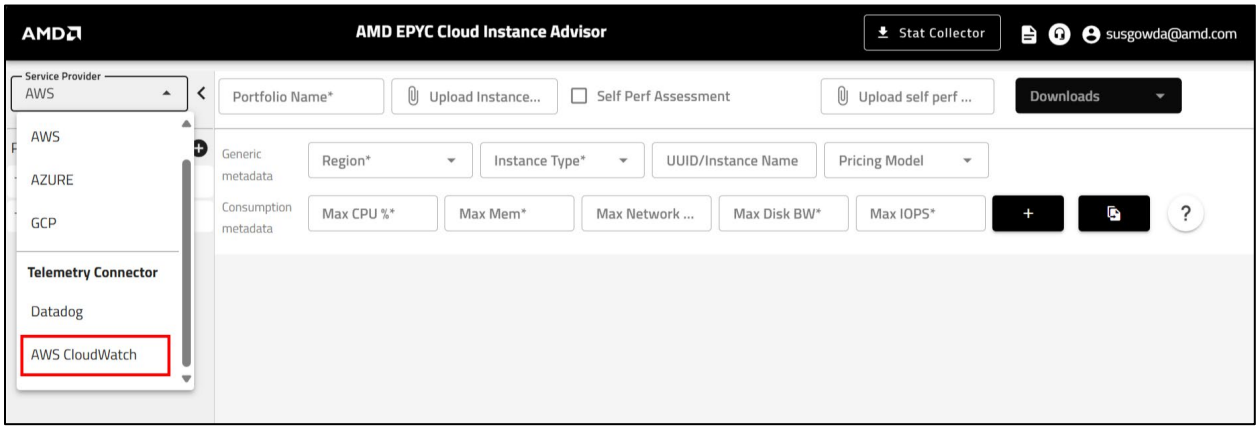


Add Instances via AWS CloudWatch

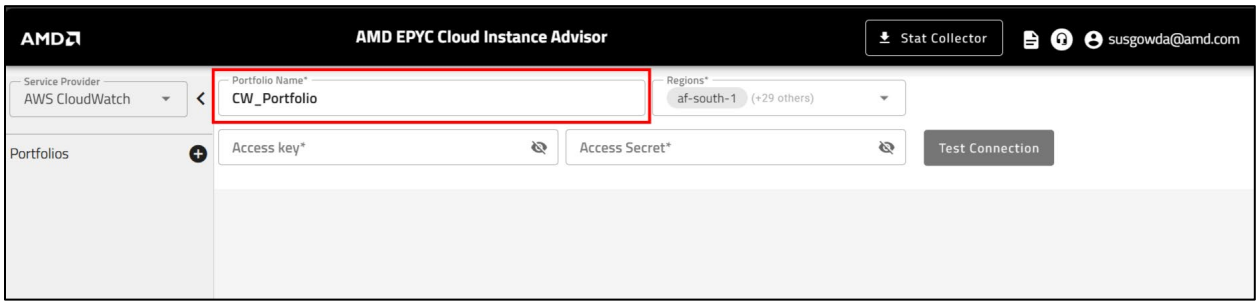
With the Telemetry Connector option, you can link your **AWS CloudWatch** account by providing your **AWS Access Key** and **Access Secret**. The platform will authenticate your AWS credentials and retrieve the instances that are already being monitored through CloudWatch telemetry data.

To add instance via AWS CloudWatch:

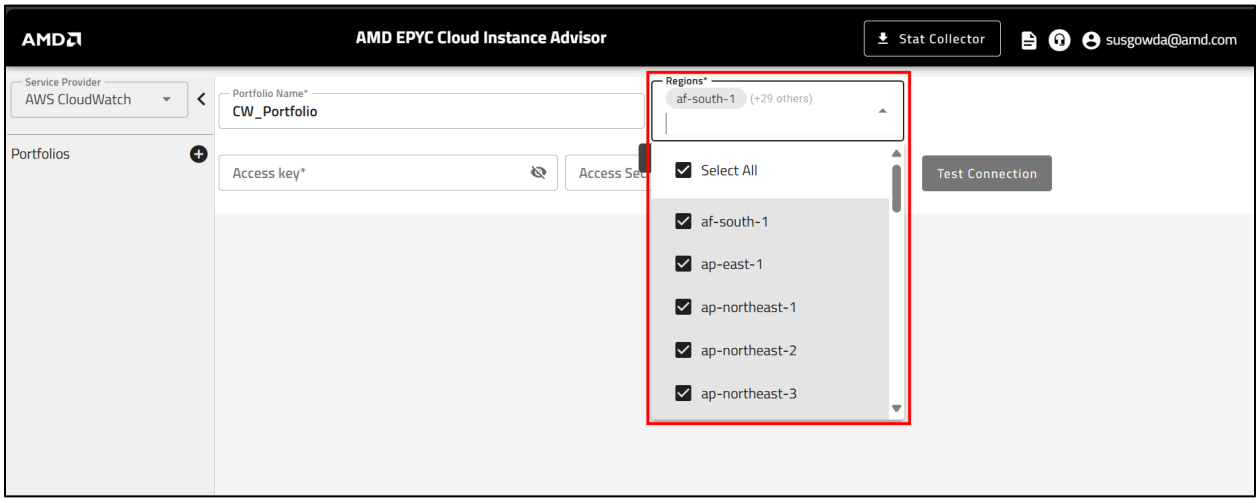
1) From the service provider dropdown, select **AWS CloudWatch.**



2) Provide a name for your portfolio.



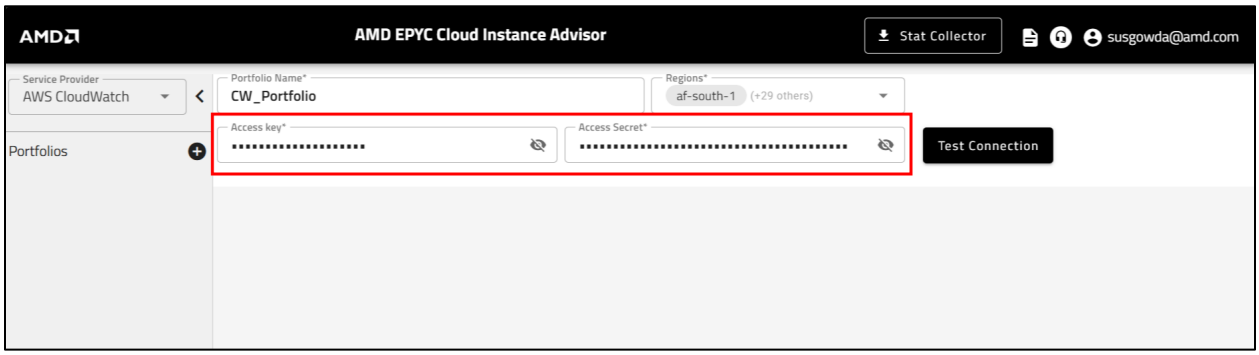
3) Select the **Region**. By default, all applicable regions will be selected, but you can edit this to choose only the specific regions needed



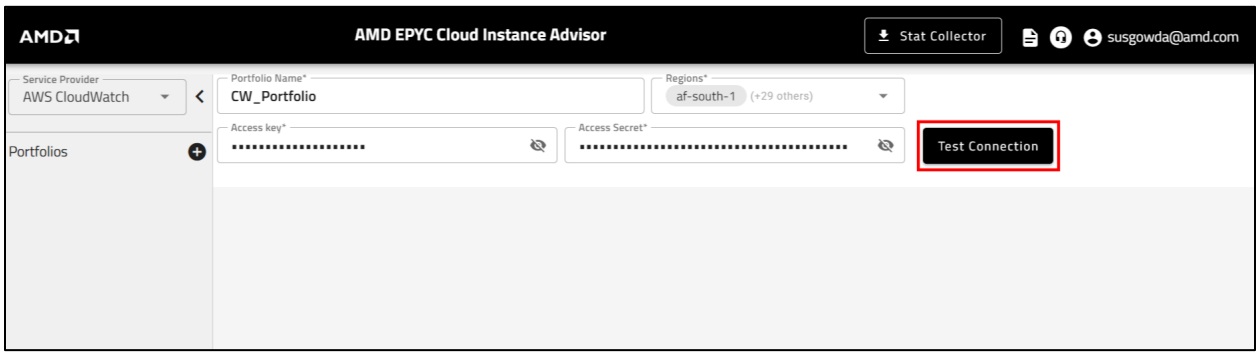
4) Enter the details below:

   a) **Access Key**: your AWS Access Key to authenticate the connection.

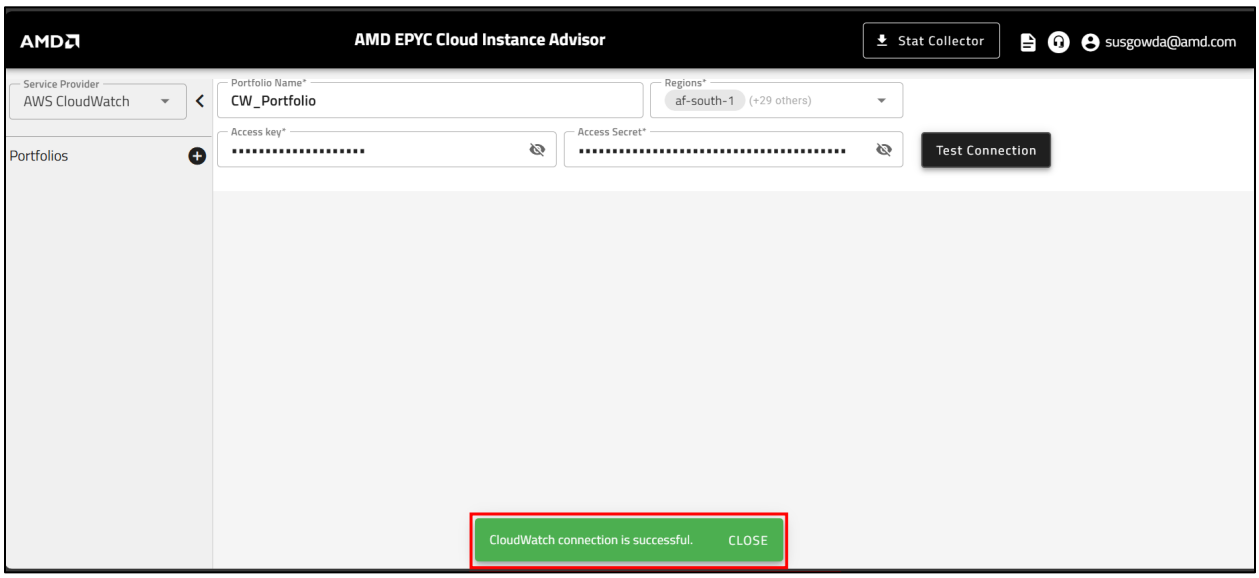
   b) **Access Secret**: Provide your AWS Access Secret for secure access to your telemetry data.



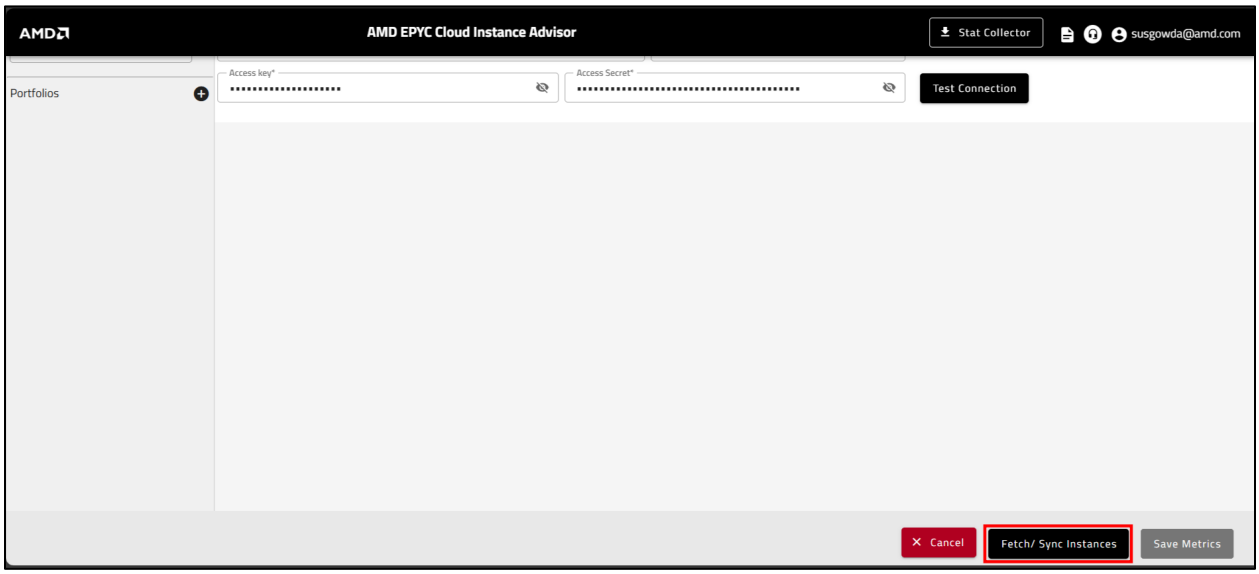
5) Click **Test Connection** to verify the connection.



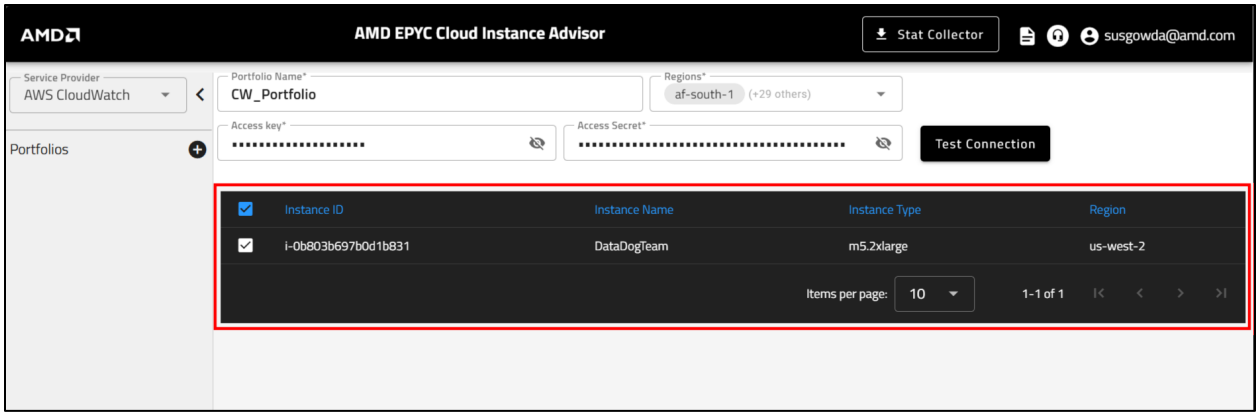
6) Once the connection is successful, a confirmation message “**CloudWatch connection is successful**” will appear.



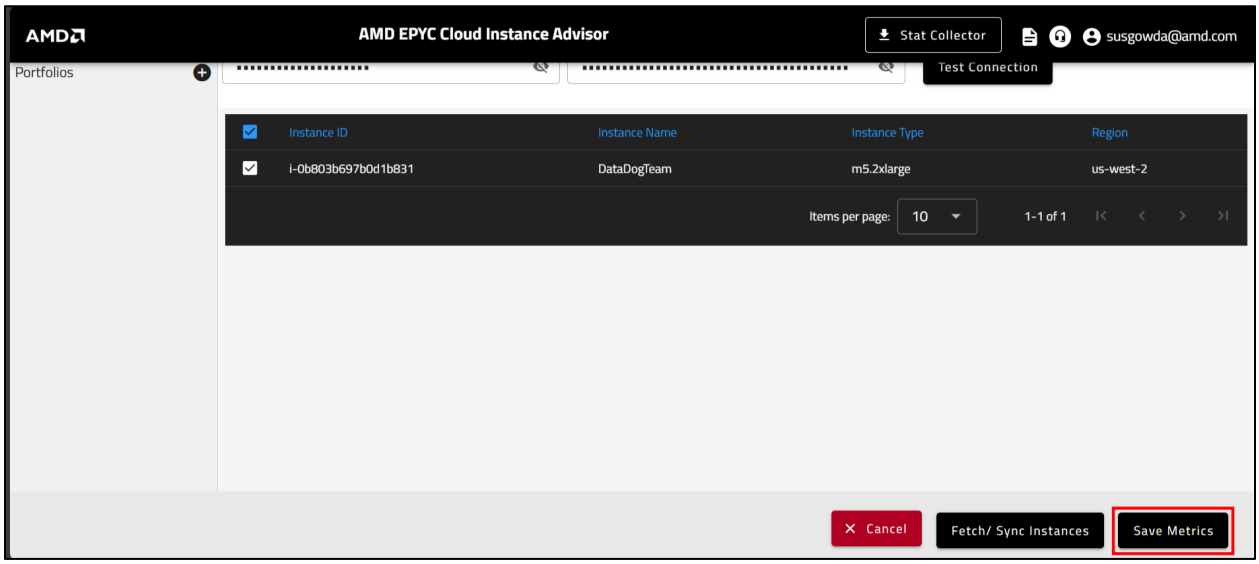
7) Click on **Fetch/Sync Instances** to retrieve all the instances that are linked to your CloudWatch telemetry account.



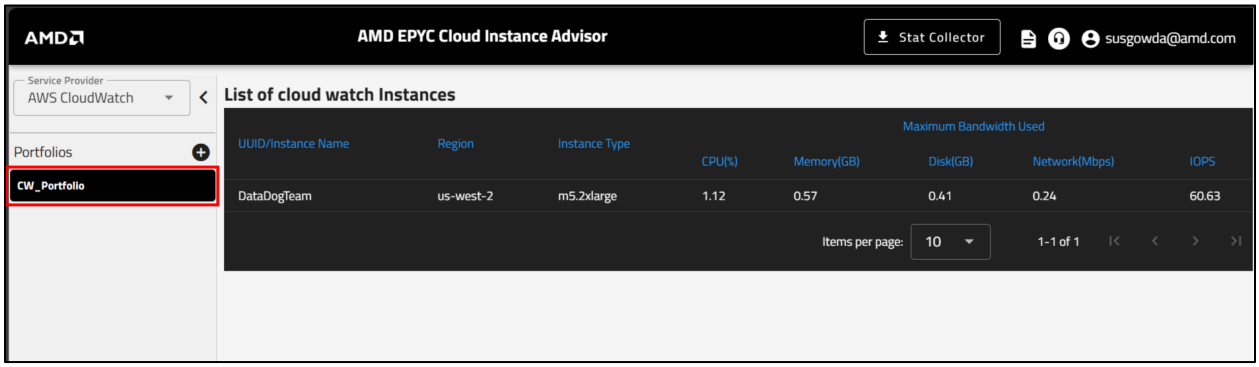
8) The system will retrieve all instances linked to your CloudWatch telemetry account. You can then choose the instances that are required for cost advice.



9) Click **Save Metrics** to save the portfolio with the selected instances for cost analysis.



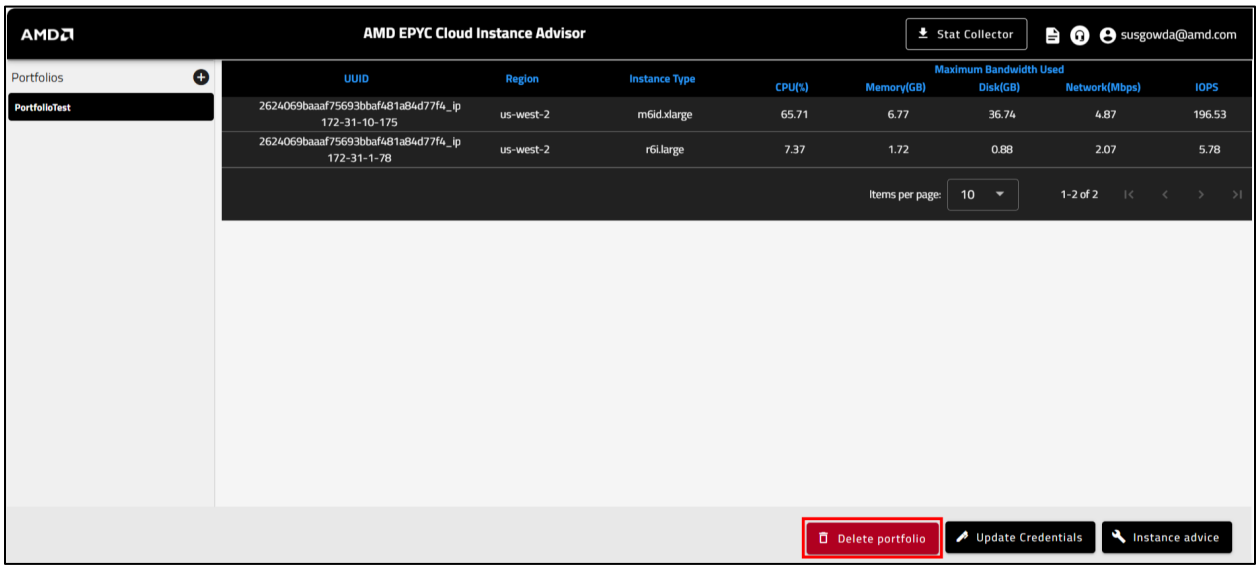
10) After saving, you can view the added portfolio in the portfolios list on the left side of the page



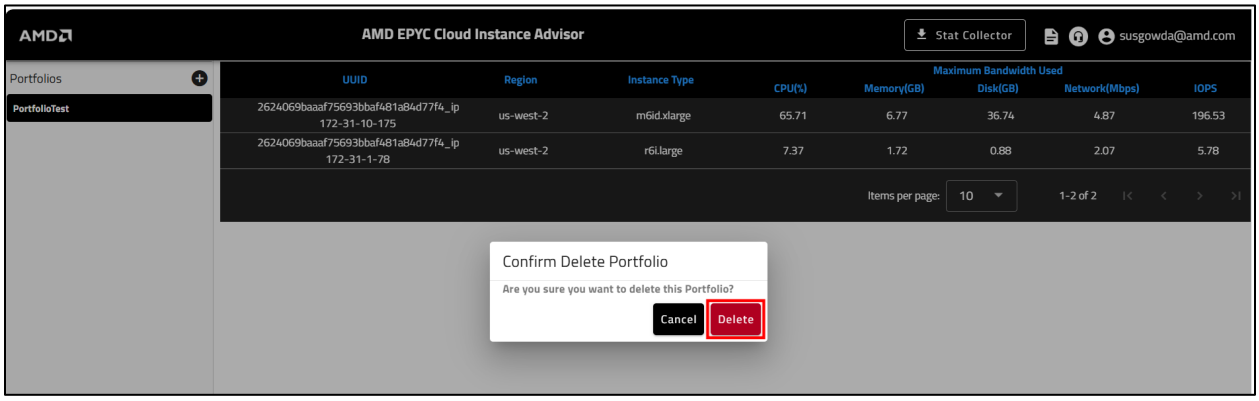
Note: Once the telemetry portfolio is saved, you will no longer be able to update or modify account credentials such as Access Key and Access Secret. These fields will become read-only).

User Actions for Telemetry Connector Portfolios

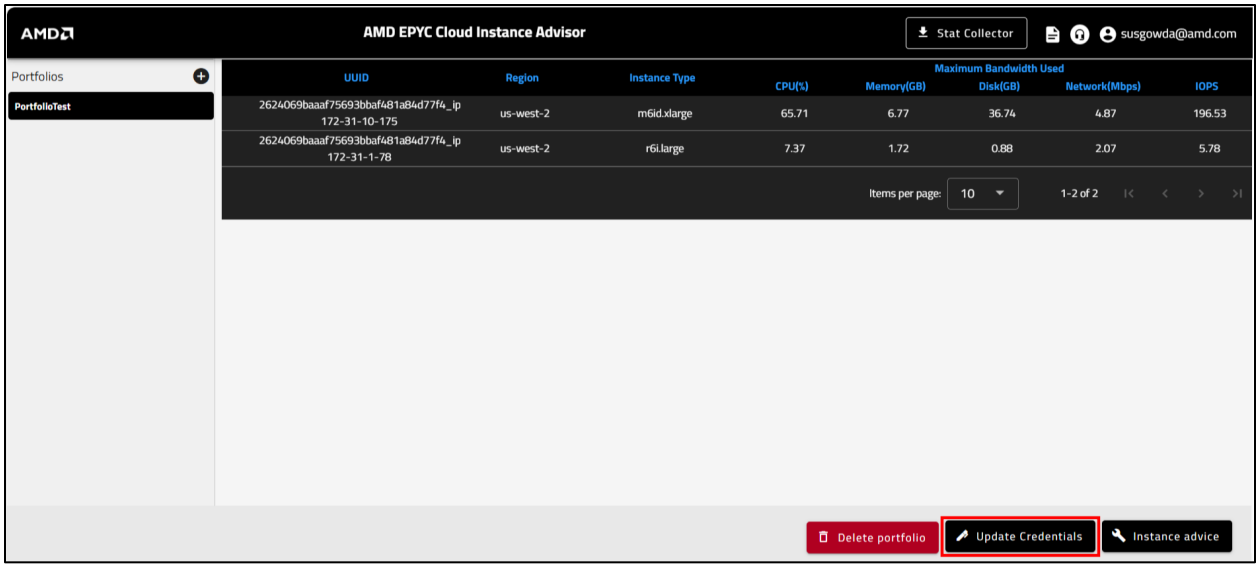
- **Delete Portfolio**:
    - If you wish to delete the portfolio, select the portfolio and click on “**Delete Portfolio**”.



    - A confirmation popup will appear. Click "**Delete**" to proceed.



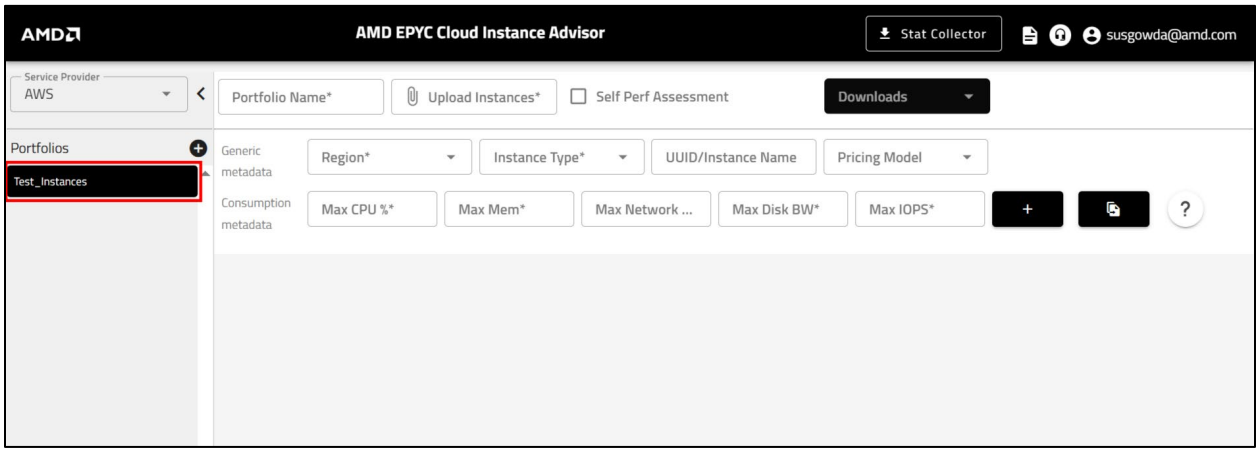
- **Update Credentials**: To update the portfolio credentials, click on “**Update Credentials**”.



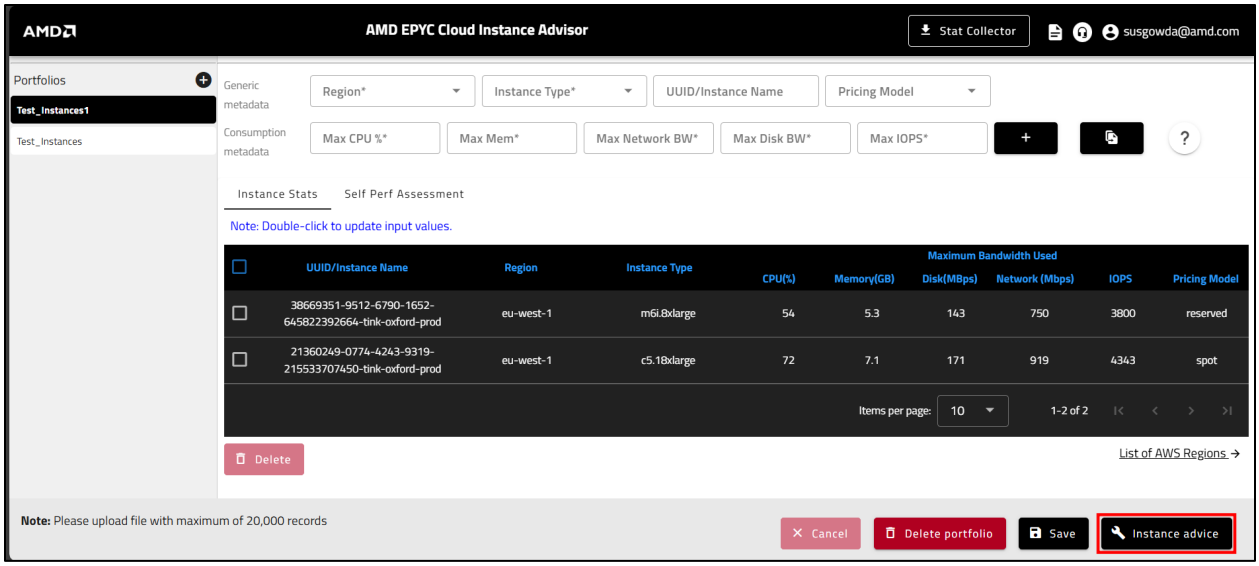
Instance Advice

The KD Tree algorithm uses the collected metrics to determine the optimal instance. It analyzes the data, applies internal logic to generate recommendations that lead to selecting the best instance based on the performance and requirements defined by the metrics.

1. Ensure your portfolio with instance details is saved.
2. Navigate to the **Portfolio** section and click on the desired portfolio account.



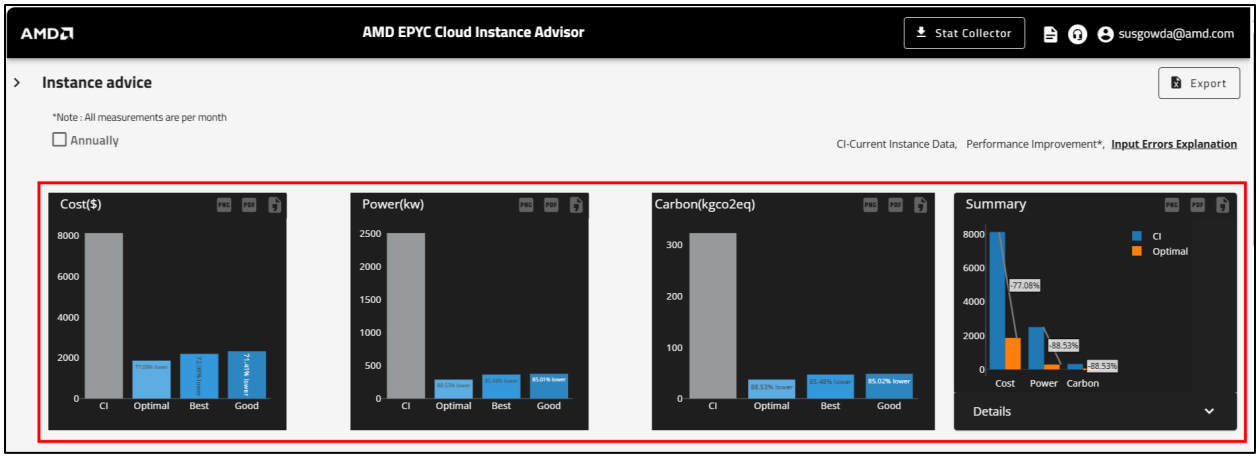
3. Click on **"Instance Advice."**



The **AMD EPYC Cloud Instance Advisor (EIA)** platform analyzes the instance details and provides instance recommendations and insights through a set of graphical representations and a table. These graphs help visualize key metrics, allowing you to compare your current cloud instance with optimized recommendations.

The following graphs are displayed:

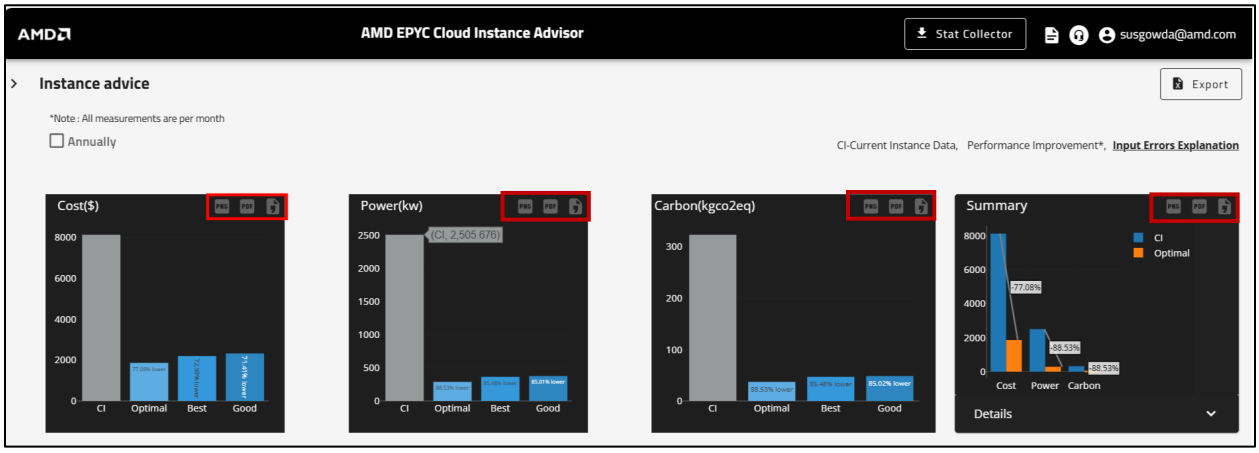
- **Cost ($) Graph:** This bar graph compares the monthly cost of your current instance with the three recommendations (Optimal, Best, Good). It shows how much you could save or spend more if you switch to a recommended instance.
- **Power (kW) Graph:** This graph displays the power consumption of your current instance versus the recommended instances. The goal here is to understand how switching instances impacts power usage.
- **Carbon (kgCO2eq) Graph:** This graph presents the carbon footprint in terms of kilograms of CO2 equivalent for each instance. It compares the environmental impact of your current instance with the suggested options.
- **Summary:** A side-by-side comparison of **Cost**, **Power**, and **Carbon** between the **Current Instance (CI)** and **Optimal Instance**. This graph summarizes the changes in key metrics, allowing you to easily assess whether switching to a recommended instance provides benefits or drawbacks in any of these categories.



The following terms are used across the graphs:

- **Current Instance Data (CI):** Represents the existing cloud instances.
- **Recommended Instances (Optimal, Best, and Good):** These are the optimized instance options recommended by the tool to potentially reduce costs, power consumption, and carbon emissions.

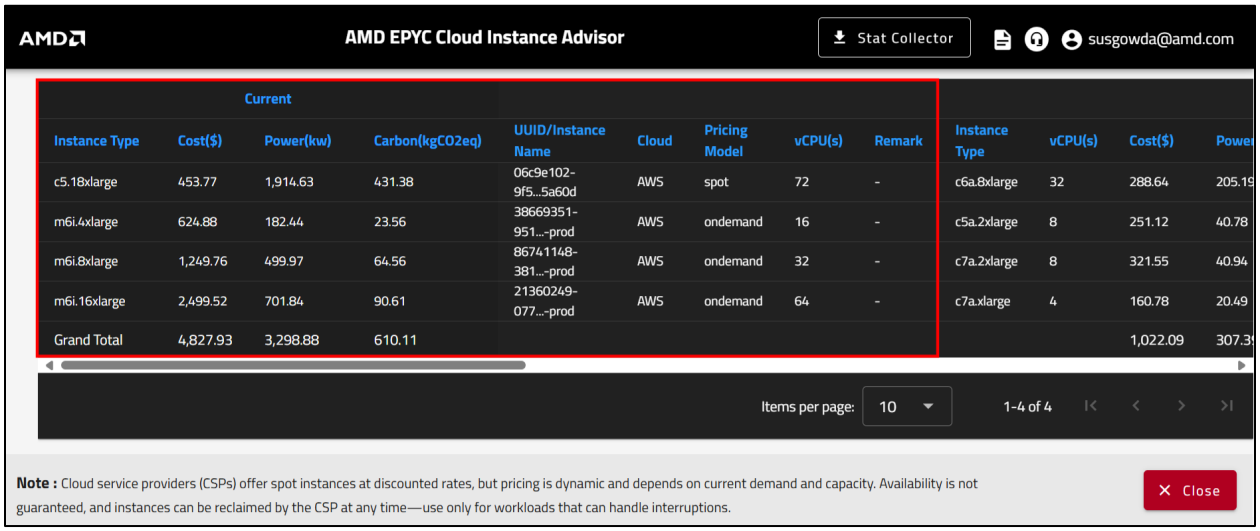
- To download the graph, click the corresponding button located on the graph to export it in **PNG**, **PDF**, or **CSV** format.



- Below the graphical representations, a detailed table is provided. This table contains a breakdown of the metrics for both the **Current Instance** and the optimized **Recommendations**. Here's what each column represents:
  - **Current Instance Details:** This section includes:
    - **Instance Type:** The type or model of the current instance.
    - **Cost ($):** The current monthly cost associated with the instance. Monthly cost is calculated by multiplying the hourly price (in $) with the total number of hours in a month (730 hours).

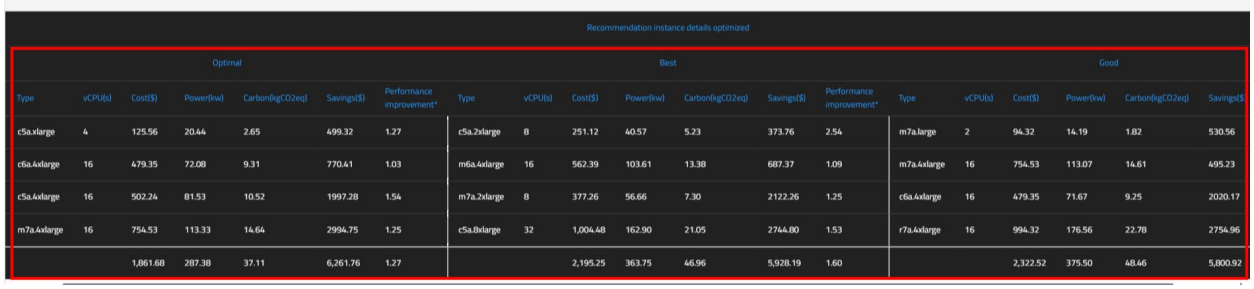
- **Power (kW):** The amount of power consumed by the instance. Power consumption is fetched by Boavizta API, determined based on the CPU utilization/load percentage.
- **Carbon (kgCO2eq):** The carbon emissions generated by the instance. Carbon emission is fetched by Boavizta API, calculated based on CPU utilization/load percentage.
- **UUID / Instance Name:** A unique identifier for each cloud instance being analyzed.
- **Cloud:** The cloud platform hosting the instance.
- **Pricing Model:** The pricing model of current instance (ondemand, reserved, or spot).

  Note: Cloud service providers (CSPs) offer spot instances at discounted rates, but pricing is dynamic and depends on current demand and capacity. Availability is not guaranteed, and instances can be reclaimed by the CSP at any time use only for workloads that can handle interruptions.
- **vCPU(s):** The number of virtual CPUs assigned to each instance.
- **Remark**: Additional comment on the current instance.



- **Recommendation Instance Details Optimized:** This section provides alternative instance types that could optimize cost, power consumption, or carbon footprint:
  - **Optimal, Best and Good:** These columns include:
    - **Instance Type:** The type or model of the recommended instance.
    - **vCPU(s):** The number of virtual CPUs assigned to recommended instance.
    - **Cost ($):** The monthly cost associated with the recommended instance. Monthly cost is calculated by multiplying the hourly price (in $) with the total number of hours in a month (730 hours).

- **Power (kW):** The amount of power consumed by the recommended instance. Power consumption is fetched by Boavizta API, determined based on the CPU utilization/load percentage.
- **Carbon (kgCO2eq):** The carbon emissions generated by the recommended instance. Carbon emission is fetched by Boavizta API, calculated based on CPU utilization/load percentage.
- **Savings ($):** The amount of cost savings achieved by transitioning to the recommended cloud instance, compared to the current instance configurations. This is calculated as the difference between the monthly cost of the current instance and the recommended instance.
- **Performance Improvement:** This is the factor by which the recommended cloud instance outperforms the current instance. Hover over the values to view the exact multiple by which the recommended instance performs better than the current instance.
  It is calculated by dividing the SPECint score of the recommended cloud instance by the SPECint score of the current cloud instance.



Recommendation instance details optimized

Optimal							Best							Good					
Type	vCPU(s)	Cost($)	Power(kw)	Carbon(kgCO2eq)	Savings($)	Performance improvement*	Type	vCPU(s)	Cost($)	Power(kw)	Carbon(kgCO2eq)	Savings($)	Performance improvement*	Type	vCPU(s)	Cost($)	Power(kw)	Carbon(kgCO2eq)	Savings($)
c5a.xlarge	4	125.56	20.44	2.65	499.32	1.27	c5a.2xlarge	8	251.12	40.57	5.23	373.76	2.54	m7a.large	2	94.32	14.19	1.82	530.56
c6a.4xlarge	16	479.35	72.08	9.31	770.41	1.03	m6a.4xlarge	16	562.39	103.61	13.38	687.37	1.09	m7a.4xlarge	16	754.53	113.07	14.61	495.23
c5a.4xlarge	16	502.24	81.53	10.52	1997.28	1.54	m7a.2xlarge	8	377.26	56.66	7.30	2122.26	1.25	c6a.4xlarge	16	479.35	71.67	9.25	2020.17
m7a.4xlarge	16	754.53	113.33	14.64	2994.75	1.25	c5a.8xlarge	32	1,004.48	162.90	21.05	2744.80	1.53	r7a.4xlarge	16	994.32	176.56	22.78	2754.96
		1,861.68	287.38	37.11	6,261.76	1.27			2,195.25	363.75	46.96	5,928.19	1.60			2,322.52	375.50	48.46	5,800.92

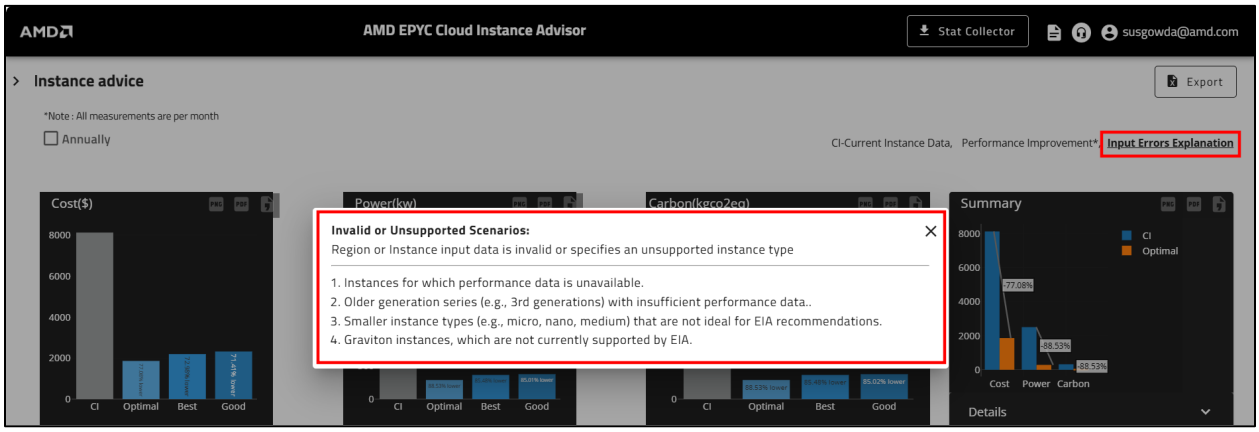
- **Grand Total:** Represents the overall sum of costs, power consumption, and carbon emissions for all instances across all pages. For the Performance Improvement column, it shows the average for all instances across all pages.

Note:

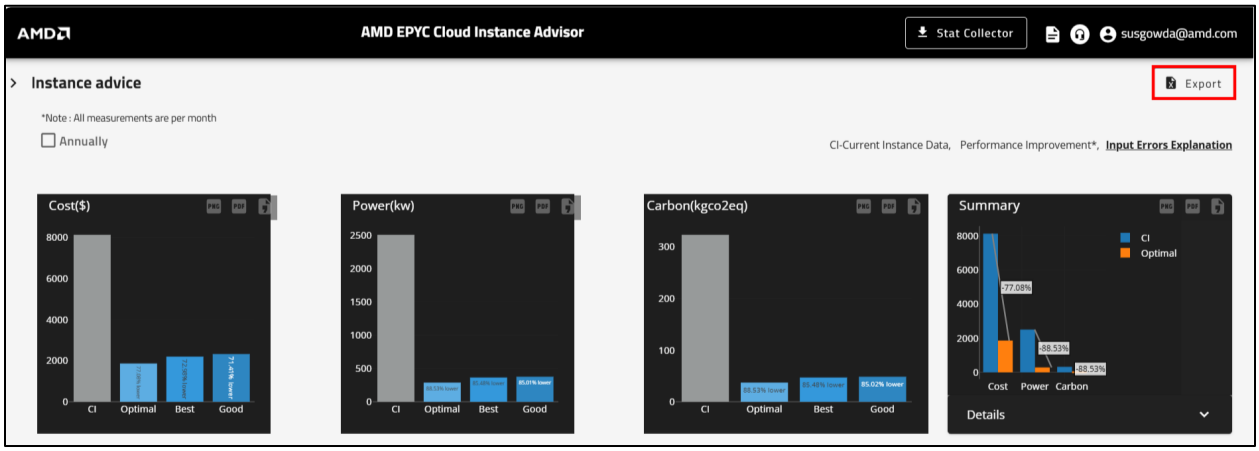
- **Smart Recommendations**: No cost recommendations are shown if the current instance is already using the latest AMD processor.
- **Skipped Instances:** If any of the current instances are invalid or not supported for a recommendation, the recommendation fields will be marked with a **hyphen (-),** indicating them as “**Skipped Instances”**.
- The reason for skipped instances will be displayed under the “**Remarks**” column.

Current									Optimal					
Instance Type	Cost($)	Power(kw)	Carbon(kgCO2eq)	UUID/Instance Name	Cloud	Pricing Model	vCPU(s)	Remark	Instance Type	vCPU(s)	Cost($)	Power(kw)	Carbon(kgCO2eq)	Savings($)
c5.12xlarge	270.17	542.87	120.00	f3765047-299...57cc9	AWS	spot	48	-	c5a.4xlarge	16	287.84	89.56	19.79	-17.67
c5.18xlarge	-	-	-	025a8c87-0a9...381d0	AWS	reserved	-	CCA is Recommended	-	-	-	-	-	-
c5.12xlarge	-	-	-	4f13edf5-836...94a82	AWS	spot	-	CCA is Recommended	-	-	-	-	-	-
a1.medium	-	-	-	a291ca48-b5e...fe3e1	AWS	spot	-	Invalid or Unsupported Instance	-	-	-	-	-	-
c5.18xlarge	-	-	-	f4c4b16b-47e...0166c	AWS	ondemand	-	CCA is Recommended	-	-	-	-	-	-
Grand Total	270.17	542.87	120.00								287.84	89.56	19.79	-17.67

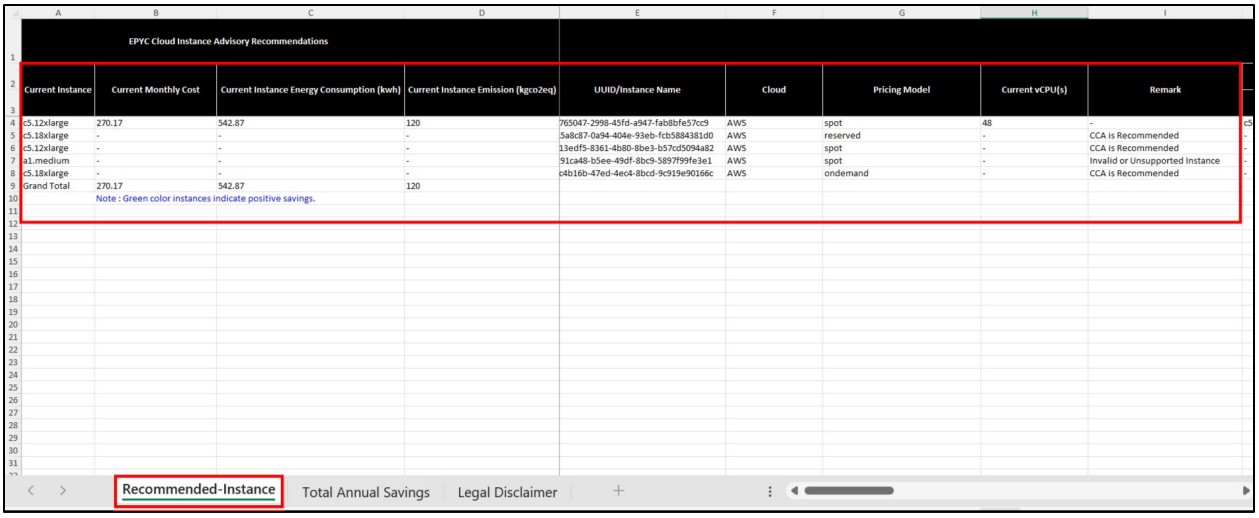
- To learn more about scenarios involving Invalid or Unsupported instances, click on the "**Input Errors Explanation**" tooltip



- Click **Export** to download the data as an Excel file.



- An Excel file will be downloaded. The file includes three sheets: **Recommended Instance, Total Annual Savings** and **Legal Disclaimer**.
- The **Recommended Instance** sheet includes the following details:
  1. UUID/Instance Name, Cloud Service Provider (CSP), Pricing Model.
  2. **Current instance details**: Instance type, Current vCPU, Current Monthly Cost ($), Current Instance Energy Consumption (kwh), and Current Instance Emission (kgco2eq).



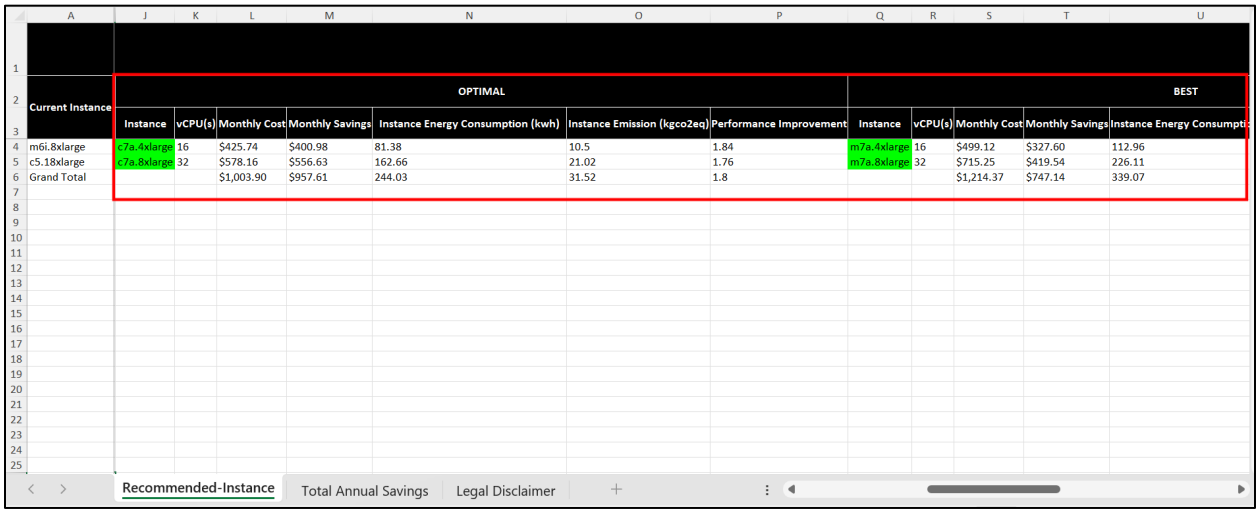
EPYC Cloud Instance Advisory Recommendations

Current Instance	Current Monthly Cost	Current Instance Energy Consumption (kwh)	Current Instance Emission (kgco2eq)	UUID/Instance Name	Cloud	Pricing Model	Current vCPU(s)	Remark
c5.12xlarge	270.17	542.87	120	765047-2998-45fd-a947-fab8bfe57cc9	AWS	spot	48	-
c5.18xlarge	-	-	-	5a8c87-0a94-404e-93eb-fcb5884381d0	AWS	reserved	-	CCA is Recommended
c5.12xlarge	-	-	-	13edf5-8361-4b80-8be3-b57cd5094a82	AWS	spot	-	CCA is Recommended
a1.medium	-	-	-	91ca48-b5ee-49df-8bc9-5897f99fe3e1	AWS	spot	-	Invalid or Unsupported Instance
c5.18xlarge	-	-	-	c4b16b-47ed-4ec4-8bcd-9c919e90166c	AWS	ondemand	-	CCA is Recommended
Grand Total	270.17	542.87	120					

Note : Green color instances indicate positive savings.

Recommended-Instance | Total Annual Savings | Legal Disclaimer

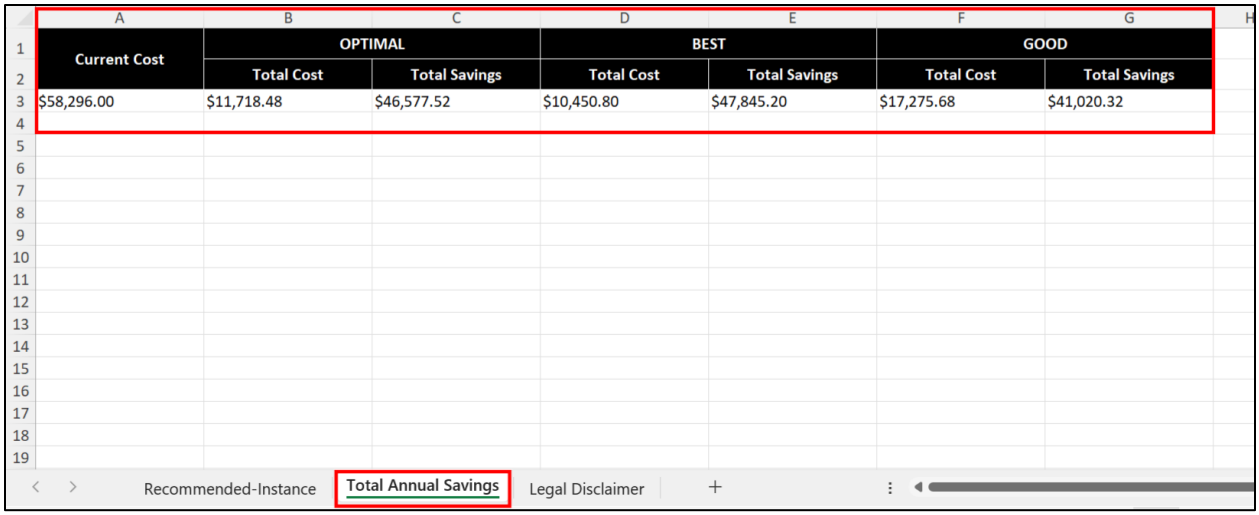
3. **Recommended instance details:** Categorized as Optimal, Best, and Good. Each category includes information such as Instance Type**,** vCPU(s), Monthly Cost ($), Monthly Savings ($), Instance Energy Consumption (kwh), Instance Emission (kgco2eq), Performance Improvement.



Current Instance	OPTIMAL							BEST				
	Instance	vCPU(s)	Monthly Cost	Monthly Savings	Instance Energy Consumption (kwh)	Instance Emission (kgco2eq)	Performance Improvement	Instance	vCPU(s)	Monthly Cost	Monthly Savings	Instance Energy Consumptio
m6i.8xlarge	c7a.4xlarge	16	$425.74	$400.98	81.38	10.5	1.84	m7a.4xlarge	16	$499.12	$327.60	112.96
c5.18xlarge	c7a.8xlarge	32	$578.16	$556.63	162.66	21.02	1.76	m7a.8xlarge	32	$715.25	$419.54	226.11
Grand Total			$1,003.90	$957.61	244.03	31.52	1.8			$1,214.37	$747.14	339.07

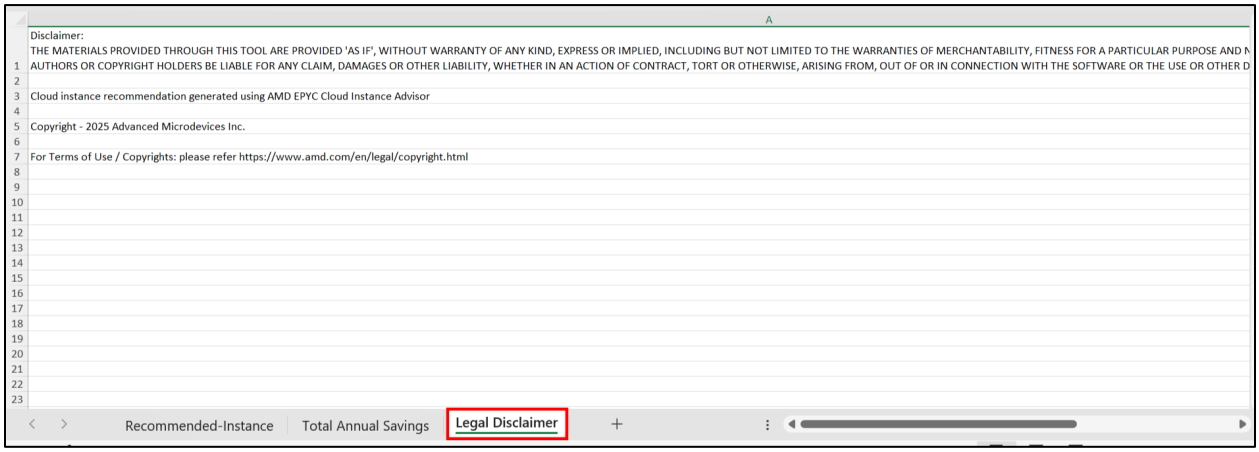
Recommended-Instance | Total Annual Savings | Legal Disclaimer

- The **Total Annual Savings** sheet provides the total cost details, and total savings achieved for each recommended category against total current cost.



Current Cost	OPTIMAL		BEST		GOOD	
	Total Cost	Total Savings	Total Cost	Total Savings	Total Cost	Total Savings
$58,296.00	$11,718.48	$46,577.52	$10,450.80	$47,845.20	$17,275.68	$41,020.32

- The Legal Disclaimer sheet displays the disclaimer statement, copyright and terms of use statements.



Analysis and Recommendations

The Recommendation output from the AMD EPYC Cloud Instance Advisor provides a comprehensive comparison between your current system instance and suggested alternative instances. This comparison focuses on critical factors such as price, energy consumption, and carbon emissions. By analyzing these metrics, the EIA aims to help you make informed decisions that optimize both performance and sustainability.

Sample Output Explanation

The output consists of several columns, each providing essential information for your decision-making process. Here's a breakdown of each column in the recommendation report:

UUID	A unique identifier for the instance or system being analyzed, allowing for tracking and distinction among instances
Cloud	The cloud platform hosting the instance.
Current Instance	The name or type of the current instance being used (e.g., t2.micro, m5.large), identifying existing specifications.
Pricing Model	The pricing model of the current instance (ondemand, reserved, or spot).
vCPU	The number of virtual CPUs assigned to current instance.
Current Monthly Price ($)	The monthly cost is associated with running the current instance, indicating expenditure over a month.
Current Instance Energy Consumption (kwh)	The amount of energy consumed by the current instance, measured in kilowatt-hours (kWh), is used to evaluate its impact on energy usage.
Current Instance Emission (kgco2eq)	The carbon emissions resulting from the current instance's energy consumption, typically expressed in metric tons of CO2, reflect environmental impact.
Recommendation Instance(s)	The suggested alternative instance type (e.g., c5.large, r5.xlarge) based on performance, cost, and environmental factors.
vCPU	The number of virtual CPUs assigned to recommended instance.
Monthly Price ($)	The projected monthly cost for the recommended instance, facilitating direct cost comparison with the current instance.
Instance Energy Consumption (kWh)	The expected energy consumption in kilowatt-hours (kWh) for the recommended instance, indicating its energy efficiency relative to the current instance.
Instance Emission (kgco2eq)	The projected carbon emissions, in metric tons of CO2, for the recommended instance, enabling comparison of environmental impact.
Savings ($)	The amount of cost savings achieved by transitioning to the recommended cloud instance, compared to the current instance configurations.
Perf Improvement	Factor by which the recommended cloud instance outperforms the current instance.

Appendix A: Supported Regions and Instances for AWS, Azure, and GCP

AWS: Supported Regions and Instances - AWS

Azure: Supported Regions and Instances - Azure

GCP: Supported Regions and Instances - GCP

Note: This list may vary over time as cloud providers add or deprecate regions. Please refer to the official documentation of the respective cloud service provider (AWS, Azure, or GCP) for the most up-to-date region list.

Appendix B: Supported CPU Generations and Cloud Classes

I. AWS Cloud Support

Supported CPU Generations:

CPU Generation	AMD Generation	Supported?
7th gen	4th Gen - Genoa (AMD EPYC™ Processor - 9xx4)	Yes
6th gen	3rd Gen - Milan (AMD EPYC™ Processor - 7xx3)	Yes
5th gen	2nd Gen - Rome (AMD EPYC™ Processor 7xx2)	Yes
4th gen and below	-	No

Supported AWS Instance Families:

Instance Families	Supported?
General purpose	Yes
Compute optimized	Yes
Memory optimized	Yes
Accelerated computing	No
HPC optimized	No
Storage optimized	No

Reference:

Amazon EC2 Instances Powered by AMD EPYC™ Processors:
https://www.amd.com/en/products/processors/server/epyc/aws.html

Amazon EC2 Instance Types:
https://aws.amazon.com/ec2/instance-types/

II. Azure Cloud Support

Supported CPU Generations:

CPU Generation	AMD Generation	Supported?
6th gen	4th Gen - Genoa (AMD EPYC™ Processor - 9xx4)	Yes
5th gen	3rd Gen - Milan (AMD EPYC™ Processor - 7xx3)	Yes
4th gen	2nd Gen - Rome (AMD EPYC™ Processor 7xx2)	Yes
3rd gen and below	-	No

Supported Azure VM Series:

VM Series	Supported?
General purpose	Yes
Compute optimized	Yes
Memory optimized	Yes
Accelerated computing	No
FPGA	No
Storage optimized	No
HPC	No
Burst	No

Reference:

Microsoft Azure VMs Powered by AMD EPYC™ Processor:
https://www.amd.com/en/products/processors/server/epyc/microsoft-azure.html

III. Google Cloud (GCP) Support

Supported CPU Generations:

CPU Generation	AMD Generation	Supported?
4th gen	4th Gen - Genoa (AMD EPYC™ Processor - 9xx4)	Yes
3rd gen	3rd Gen - Milan (AMD EPYC™ Processor - 7xx3)	Yes
2nd gen	2nd Gen - Rome (AMD EPYC™ Processor 7xx2)	Yes

Supported GCP Instance Families:

VM Series	Supported?
General purpose	Yes
Compute optimized	Yes
Memory optimized	Yes
Accelerated computing	No
Storage optimized	No
HPC	No

Need Help? Contact Us

If you need assistance or have any questions, please don't hesitate to reach out to our support team through the following contact options:

Hotline Number:

- Call us at: +1-(502)388-6228

Email:

- Email us at: dl.epycservices@amd.com

Business Hours:

- 24/7