



EPYC Cloud Instance Advisor User Guide



Experience the cloud with AMD



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Version History

Version	Release Date	What's New		Upcoming / What's Next
		Major Features	Minor Improvements	
V3.1.0	June, 2025	<ul style="list-style-type: none"> ▪ Azure App Insights Integration: <ul style="list-style-type: none"> • Introduced support for Azure Application Insights as a telemetry connector. ▪ Headroom-based recommendations: <ul style="list-style-type: none"> • Added cost advice / recommendation support via headroom. ▪ Expanded Telemetry support: UAVG & U95 metric support • All the telemetry support is extended to include UAVG and U95 metrics 	<ul style="list-style-type: none"> ▪ Enhanced Admin Visibility: <ul style="list-style-type: none"> • Administrator can now view all portfolios across their organization. ▪ Interactive Demo Enhancements: <ul style="list-style-type: none"> • Faster loading times. • Added audio and visual guidance to improve user onboarding. • New controls to mute or skip instructions. ▪ General Bug Fixes and Performance Improvements 	<ul style="list-style-type: none"> ▪ AWS Legacy Recommendations Support <ul style="list-style-type: none"> • Upcoming support for instance recommendations on AWS v2 and v3 instance types ▪ Telemetry Expansion: <ul style="list-style-type: none"> • Planned support for GCP Open Telemetry integration. ▪ Prometheus-based telemetry support
V3.0.0	May, 2025	<ul style="list-style-type: none"> ▪ 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. 	<ul style="list-style-type: none"> ▪ Excel Export Enhancements: <ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> ▪ 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: <p>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.</p> ▪ Custom Headroom Recommendations. ▪ Enhanced Interactive Demo Experience. ▪ Refined EIA (EPYC Instance Advisor) Recommendations. Clear differentiation between the recommendations for EIA. <ul style="list-style-type: none"> • Cost optimized instances. • Performance-optimized instances. ▪ Less power and less carbon producing instances.

V2.0.0	April, 2025	<ul style="list-style-type: none"> ▪ 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. 	<ul style="list-style-type: none"> ▪ 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. ▪ 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. 	<ul style="list-style-type: none"> ▪ 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.
v1.7.0	Mar, 2025	<ul style="list-style-type: none"> ▪ 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. 	<ul style="list-style-type: none"> ▪ 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. 	<ul style="list-style-type: none"> ▪ 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	<p style="text-align: center;">Interim Release</p> <p>Minor Improvements:</p>		Azure Regional Beta:

		<ul style="list-style-type: none"> ▪ 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. <p>Enhanced User sessions:</p> <ul style="list-style-type: none"> ▪ 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. <p>Note: If users manually clear cookies or site data, they will be required to log in again.</p>	<ul style="list-style-type: none"> ▪ 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	<p>AWS Telemetry Connector:</p> <ul style="list-style-type: none"> ▪ Customers are enabled with Datadog telemetry connector to 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. 	<p>Delete Error Button:</p> <ul style="list-style-type: none"> ▪ If users encounter multiple errors after uploading a file, a new 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. 	<p>Azure Regional Beta:</p> <ul style="list-style-type: none"> ▪ Azure recommendation will be available in the US, UK, Denmark, India, and Germany regions by the second week of March.
v1.5.0	Jan, 2025	<ul style="list-style-type: none"> ▪ 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. <ul style="list-style-type: none"> ○ 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. 	<ul style="list-style-type: none"> ▪ 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. 	<ul style="list-style-type: none"> ▪ AWS telemetry connector support.
v1.4.0	Dec, 2024	<ul style="list-style-type: none"> ▪ Azure Support ▪ Customer Support/Feedback: A support button has been added with contact details (hotline) 	<ul style="list-style-type: none"> ▪ Updated User Guide: The user guide has been updated with the latest information. 	<ul style="list-style-type: none"> ▪ Azure Support

		<p>number and email) for easy access to customer support.</p>	<ul style="list-style-type: none"> ▪ 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 	
V1.3.0	Nov, 2024	<ul style="list-style-type: none"> ▪ 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. ▪ Azure Recommendation: Recommendations are now supported for Azure. 	<ul style="list-style-type: none"> ▪ Performance Improvement Option: Added performance improvement option in EIA. ▪ Updated Online Help: Enhanced online help content to support user needs. ▪ Skipped Instances: <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> ▪ Enhanced customer support / feedback features. ▪ Improved error handling and reporting. ▪ Expanded region and instance support. ▪ Ongoing performance optimizations. ▪ More detailed user resources and guides
V1.2.0	Oct, 2024	<ul style="list-style-type: none"> ▪ Initial release with basic setup and usage instructions 	<ul style="list-style-type: none"> ▪ 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.

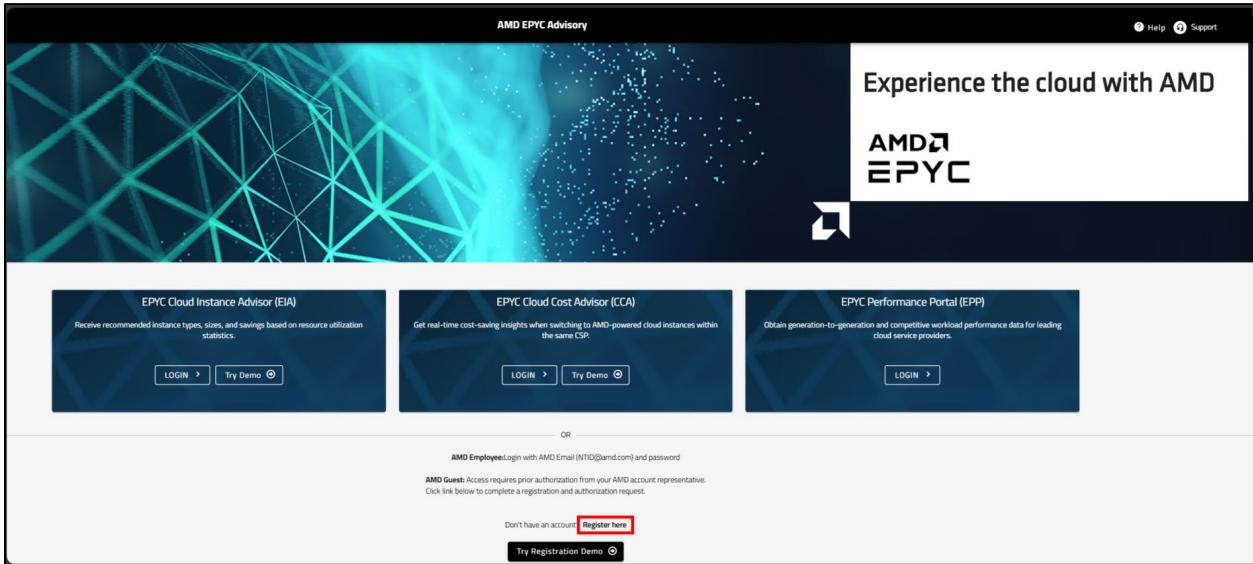
Getting Started

Registration for New Users

Step 1: Visit the Registration Page

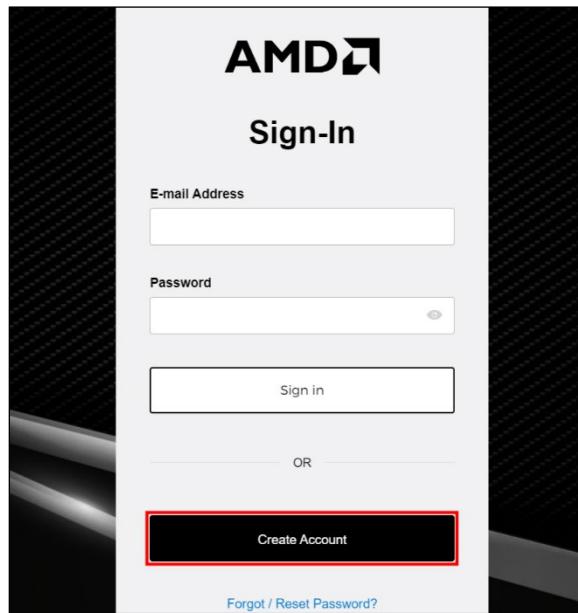
- Go to the AMD EPYC Advisory portal

- 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**”.

AMD Account Creation

To create an account, complete the form below.

An account activation message with an **Access Token** will be sent via e-mail to the address you specify below.

First Name *

Last Name *

E-mail *

Business users, please provide your company e-mail address for full access to licensing, support, and services. All other users, please use your personal e-mail address.

Preferred Language *

Location *

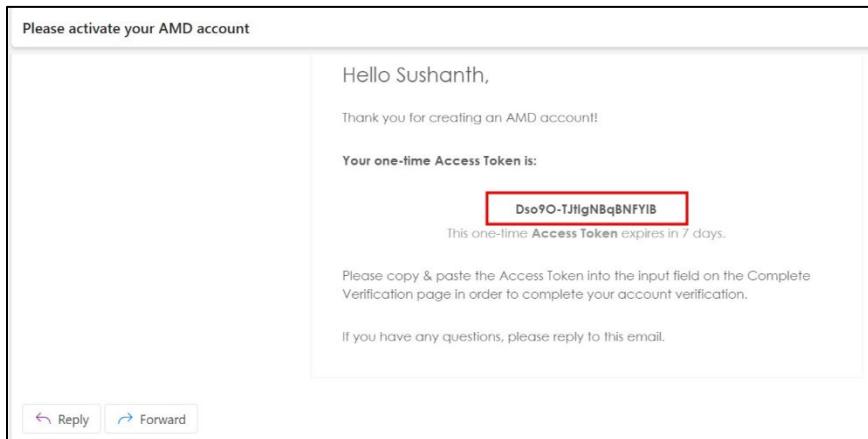
By creating an account, you agree to the AMD [Terms of Use](#) and [Privacy Policy](#).

I'm not a robot reCAPTCHA Privacy + Terms

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.

Next Step - Activate Your Account

Please check your e-mail for your AMD account activation message.

To activate your account, enter the **Access Token** from the account activation e-mail message and create a password.

Access Token +
Dso9O-TjlgNBqBNFYIB

Password +

Password Strength: Strong

- Must contain a minimum of 10 characters and a maximum of 72 characters
- Must contain at least 1 lowercase letter, 1 uppercase letter, 1 number and 1 special character (eg. !@#\$%^&+=-)
- Must not contain parts of your E-mail address, first name or last name
- Must not be a commonly used password

Confirm Password +

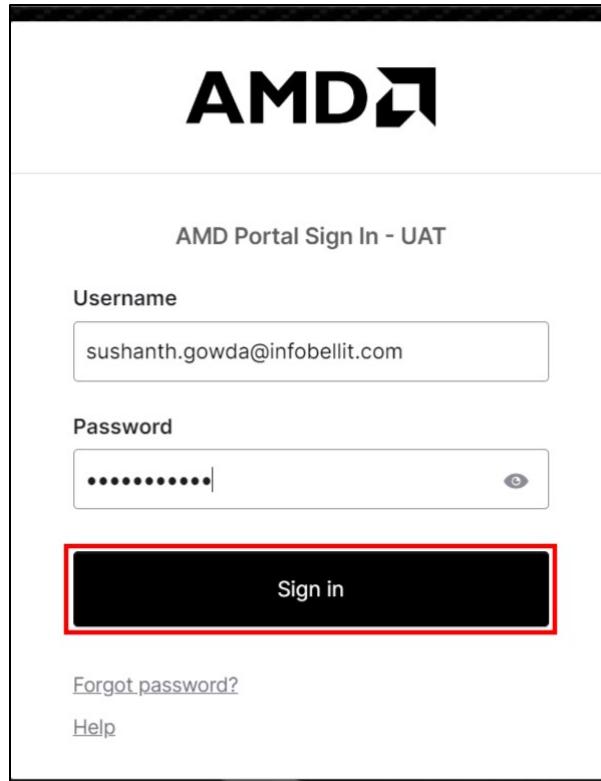
Password match: Yes

I'm not a robot reCAPTCHA
Privacy + Terms

Activate Account **Resend Activation E-mail**

Note: If you do not receive a confirmation e-mail within a few minutes please check your junk mail folder and add sender account.help@amd.com to your address book.

- 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**".

Secure Application Access Request - EPYC Instance Advisor

Important Notice: Before migrating to an AMD EPYC™ processor-based cloud instance, you must verify that such migration is covered in the agreement between you and your cloud service provider. If AMD-based cloud instances are not covered in your agreement, please contact your cloud provider sales account manager. For further assistance, please contact AMD sales at cloudsales@amd.com.

First Name : Last Name :

E-mail :

Company Name :

Address 1 :

Address 2 :

Location : State/Province :

City : Postal Code :

Phone :

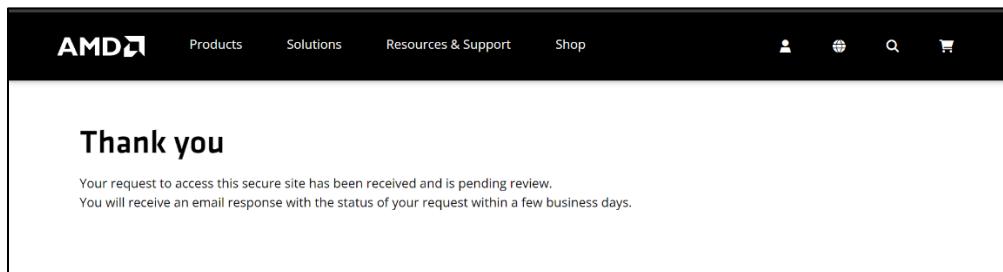
Job Function :

I Agree :

By typing my name in the box above, I agree and am authorized to agree on behalf of the entity listed above, to the terms and conditions, in the Notice of Non-Disclosure Agreement, for which terms and conditions may be reviewed, downloaded and printed from the link provided.

You understand that by pressing "REGISTER NOW" you are providing this information to allow you access to the AMD EPYC Cloud Instance Advisor tool. AMD may also use this information to send you updates regarding the tool. You may opt out from receiving tool updates at any time. You can read about your personal data rights, how AMD handles your personal data, and how you can contact AMD in the privacy policy.

- 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.



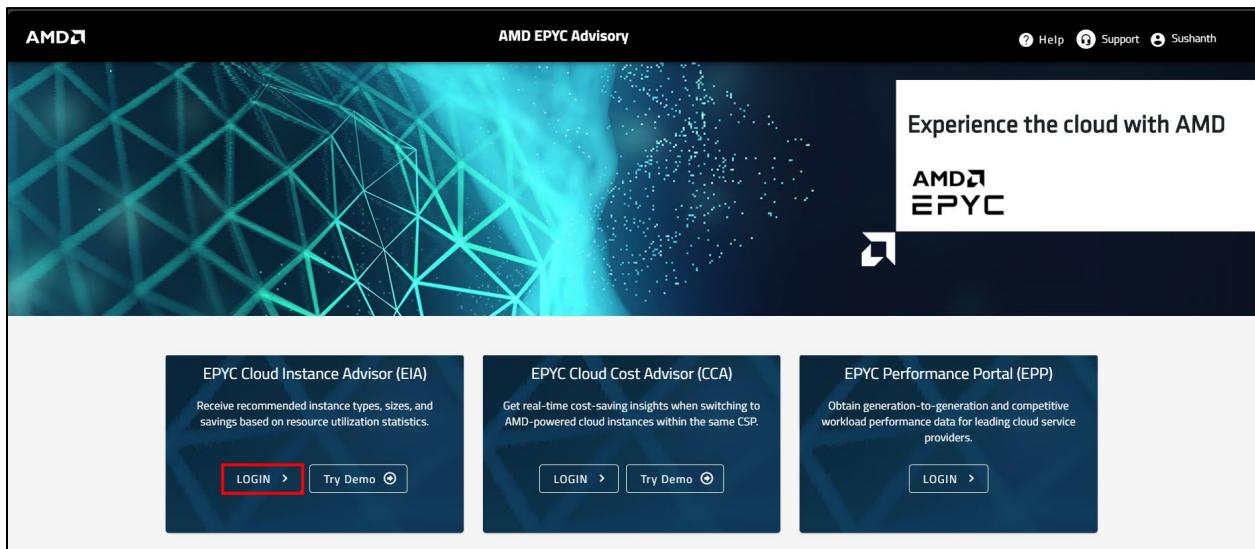
- By clicking the login link, you will be directed to the AMD EPYC Cloud Instance Advisor portal, where you can sign in to the application. You can also log in through the AMD EPYC Advisory Portal.

Login

Login through AMD EPYC Advisory Portal

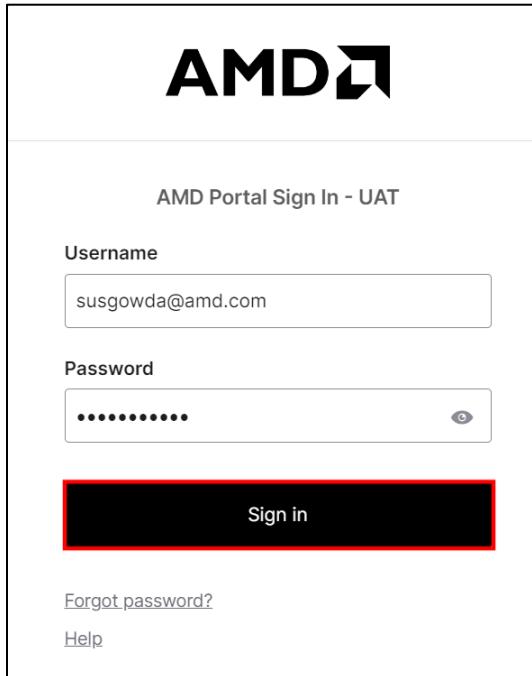
Step 1: Sign In

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



Step 2: Input Credentials

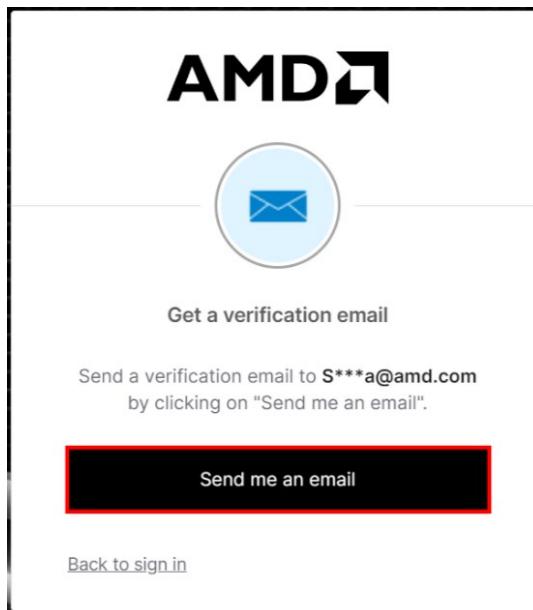
- Enter your email address and password.
- Click **Sign-in**.



The screenshot shows the AMD Portal Sign In - UAT page. At the top is the AMD logo. Below it, the text "AMD Portal Sign In - UAT". There are two input fields: "Username" containing "susgowda@amd.com" and "Password" containing a series of dots. A red box highlights the "Sign in" button. Below the button are links for "Forgot password?" and "Help".

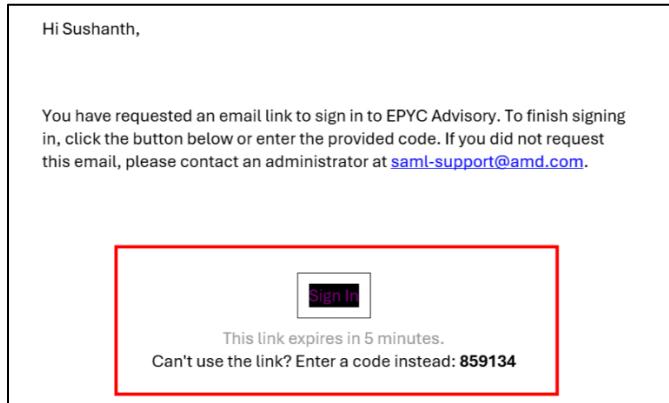
Step 3: Verify Your Email

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

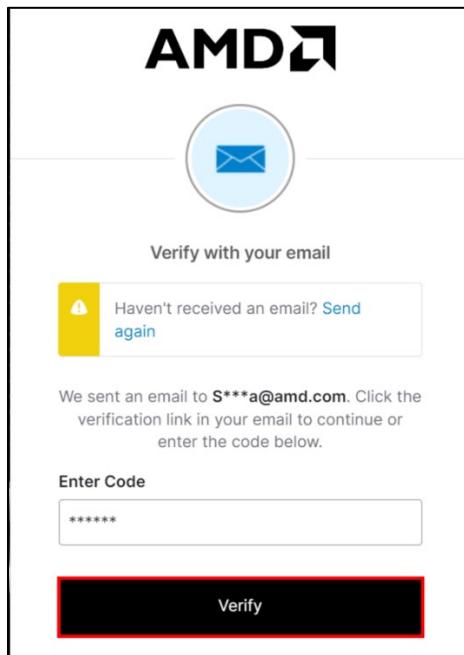


The screenshot shows a page titled "Get a verification email". It features the AMD logo at the top and a large blue circle with an envelope icon in the center. Below the icon, the text "Get a verification email" is displayed. Further down, it says "Send a verification email to S***a@amd.com by clicking on "Send me an email"". A red box highlights the "Send me an email" button. At the bottom, there is a link "Back to sign in".

- 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.

The screenshot shows the AMD EPYC Cloud Instance Advisor interface. At the top, there's a navigation bar with the AMD logo, the title "AMD EPYC Cloud Instance Advisor", and user information "susgowda@amd.com". Below the navigation bar, there's a search bar with dropdowns for "Service Provider" (set to AWS), "Portfolio Name", and "Upload Instance...". There's also a checkbox for "Self Perf Assessment" and a "Downloads" button. On the left, there's a sidebar titled "Portfolios" with a list of items: "Test_Instances1", "AWSInst_Portfolio", "Test_Instances", "test-1011", and "test-demo-102". To the right of the sidebar are "Generic metadata" and "Consumption metadata" sections with various input fields like "Region*", "Instance Type*", "UUID/Instance Name", "Pricing Model*", and performance metrics like "Max CPU %*", "Max Mem*", "Max Network ...", "Max Disk BW*", and "Max IOPS*". Below these are two input fields for "UAVG" and "U95" with values "0" and "0" respectively. At the bottom right are three buttons: a plus sign, a download icon, and a question mark.

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:

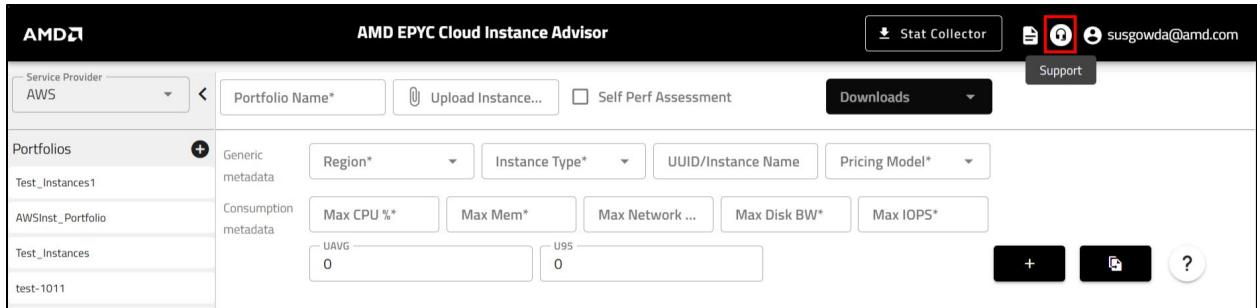
- Stat Collector Download:** Click to download the Stat Collector package.

This screenshot is identical to the one above, showing the AMD EPYC Cloud Instance Advisor homepage. The "Stat Collector" button in the top right corner is highlighted with a red box.

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

This screenshot is identical to the previous ones, showing the AMD EPYC Cloud Instance Advisor homepage. The "Release Notes" button in the top right corner is highlighted with a red box.

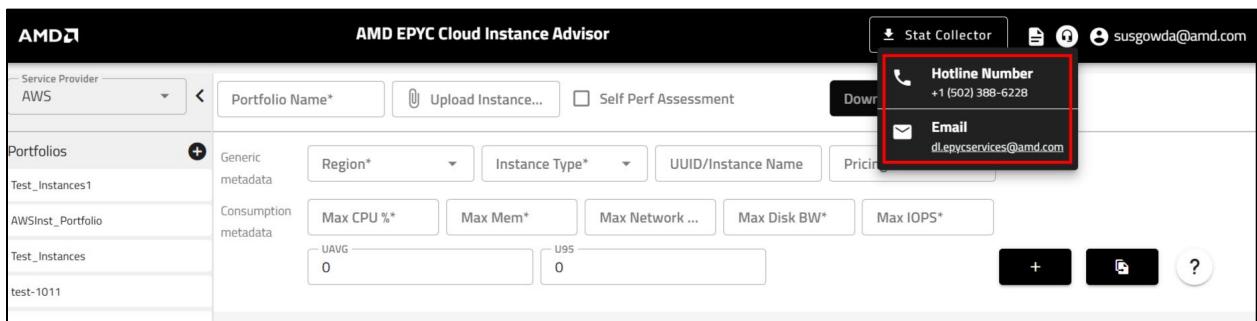
- Support:** Represented by the "Support" icon (a person with a speech bubble). If you need assistance or have any questions, click on the support icon to reach out for help.



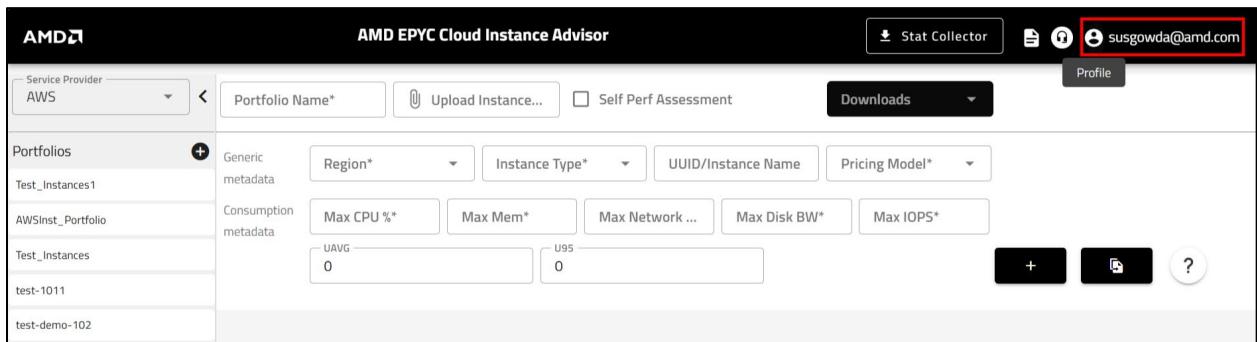
You can connect with us through the hotline number or email us your query:

Hotline number: +1 (502) 388-6228

Email: dl.epycservices@amd.com

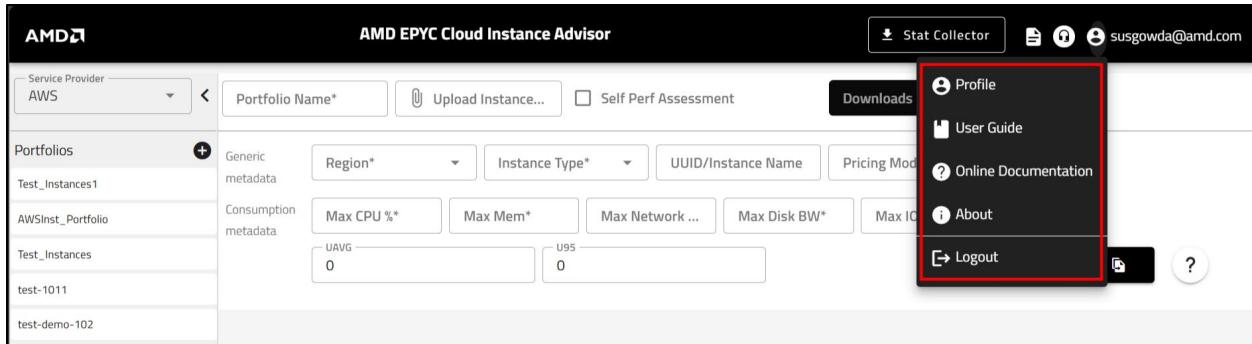


- ▶ **Profile:** Displays the email ID of the logged-in user.



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.

The screenshot shows the AMD EPYC Advisory - Profile Settings page. It displays account details: Email (susgowda@amd.com), Full Name (Sushanth Gowda), and Current Role (admin). Below this, there is a "Role Change Request" section with fields for Application Name*, Role*, and Reason for Role Change, along with Cancel and Submit buttons.

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.

Profile Settings
Manage your account details and permissions

Email: susgowda@amd.com Full Name: Sushanth Gowda Current Role: admin

Role Change Request

Application Name*: EPYC Cloud Instance ... Role*: user Reason for Role Change: Requesting user role for testing.

Role Description: user for limited access

Submit

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

Profile Settings
Manage your account details and permissions

Email: susgowda@amd.com Full Name: Sushanth Gowda Current Role: admin

Role Change Request

Application Name*: EPYC Cloud Instance ... Role*: user Reason for Role Change: Requesting user role for testing.

Role Description: user for limited access

Submit

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

Profile Settings
Manage your account details and permissions

Email: susgowda@amd.com Full Name: Sushanth Gowda Current Role: admin

Role Change Request

Name	Application	Email	Current Role	Requested Role	Requested Date	Actions
Sushanth Gowda	EIA	susgowda@amd.com	admin	user	Jun 23, 2025 2:35 PM	

- 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

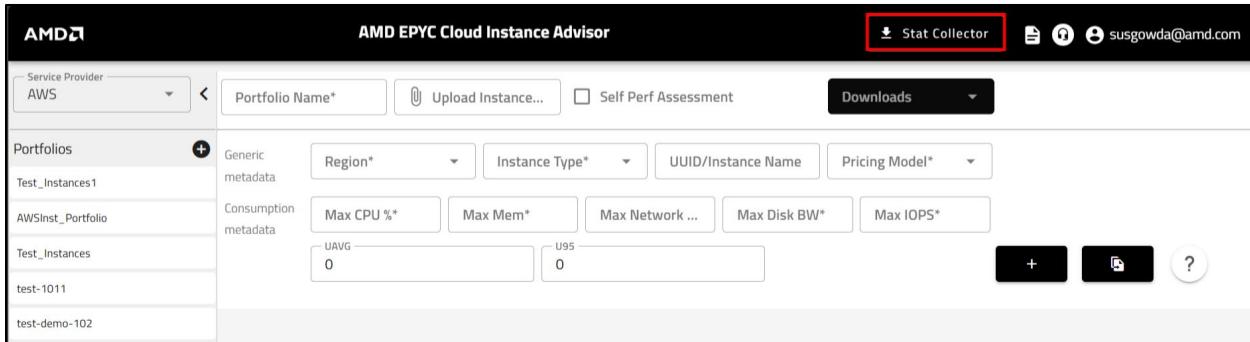
Stat Collector: This component is responsible for collecting statistics in real-time from a single node instance. The collected data is stored in a XLSX file for easy upload and analysis.

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.

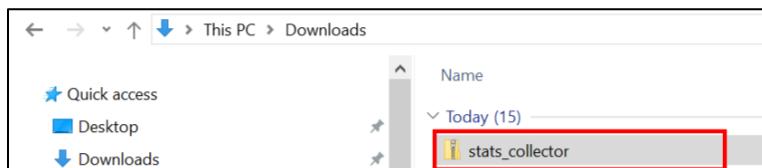
Stat Collector Download

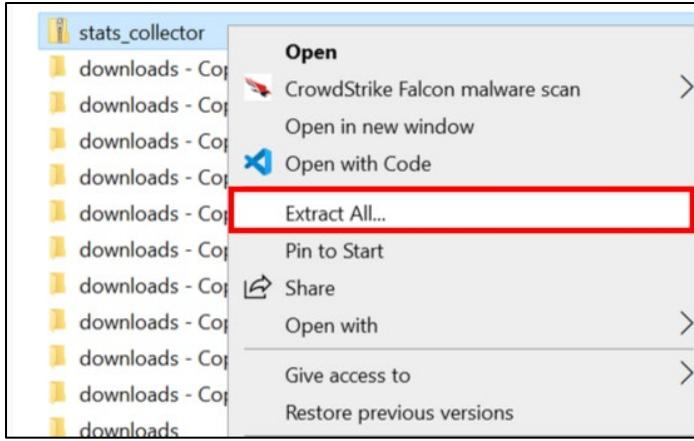
To begin using the Stat Collector, follow these steps to download and prepare the tool for execution:

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

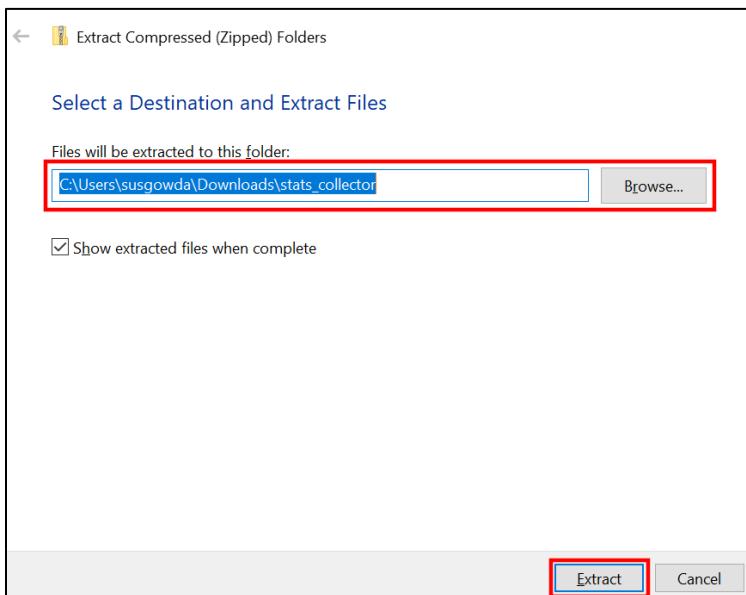


- Once the download is complete, unzip the file to a specific location on your machine where you can easily access it.
- Right-click the zipped folder and choose **Extract All**.





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.
 - 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_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

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

- Open a Command Prompt or Terminal:** Navigate to the directory where the `multi_stat_controller` executable is located.
- 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_controller -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: epycadvisor_run_azure_1728388241.csv
azureadmin@collect-azure-instance-data:~/stat$
```

- 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.

epycadvisor_multi_node_session_1719221027...	10/16/2024 3:55 PM	Microsoft Excel Com...	1 KB
multi_stat_controller	10/15/2024 5:19 PM	File	45,229 KB
multi_stat_controller	10/15/2024 5:19 PM	Application	37,314 KB
README	10/15/2024 5:19 PM	Text Document	7 KB
sample	10/16/2024 3:55 PM	Microsoft Excel Com...	1 KB
test_18c82bb6db308378c15d88d3a4b64f52	10/16/2024 10:05 AM	Microsoft Excel Com...	1 KB

Downloads

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

- ▶ Click on “Downloads”.

The screenshot shows the AMD EPYC Cloud Instance Advisor web application. At the top, there's a navigation bar with the AMD logo, the title "AMD EPYC Cloud Instance Advisor", and user information (susgowda@amd.com). Below the title, there are dropdown menus for "Service Provider" (set to AWS) and "Portfolio Name" (empty), along with buttons for "Upload Instance..." and "Self Perf Assessment". A red box highlights the "Downloads" dropdown menu. To the left, a sidebar lists "Portfolios" with items like "Test_Instances1", "AWSInst_Portfolio", etc. On the right, there are sections for "Generic metadata" (Region*, Instance Type*, UUID/Instance Name, Pricing Model*) and "Consumption metadata" (Max CPU %*, Max Mem*, Max Network..., Max Disk BW*, Max IOPS*). Below these are fields for "UAVG" and "U95". At the bottom right are buttons for "+", "Download", and "?".

- ▶ 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.

This screenshot is similar to the previous one but shows the "Downloads" menu expanded. A red box highlights the expanded menu options: "Download template" and "Download self perf template". The rest of the interface is identical to the first screenshot.

- ▶ 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 for workloads that can handle interruptions.

- **UAVG (Usage Average):** Represents the average system utilization (e.g., CPU, memory, etc.) over the observation period.
- **U95 (Usage 95th Percentile):** The 95th percentile of system utilization. This metric captures the value below which 95% of the utilization data points fall, filtering out extreme outliers and highlighting peak demand periods.

	A	B	C	D	E	F	G	H	I	J	K	M
1	uuid	cloud_csp	region	instance type	max cpu%	max mem used	max network bw	max disk bw used	max iops	Pricing Model	UAVG	U95
2												
3												
4												
5												
6												
7												
8												
9												

- ▶ 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						

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.

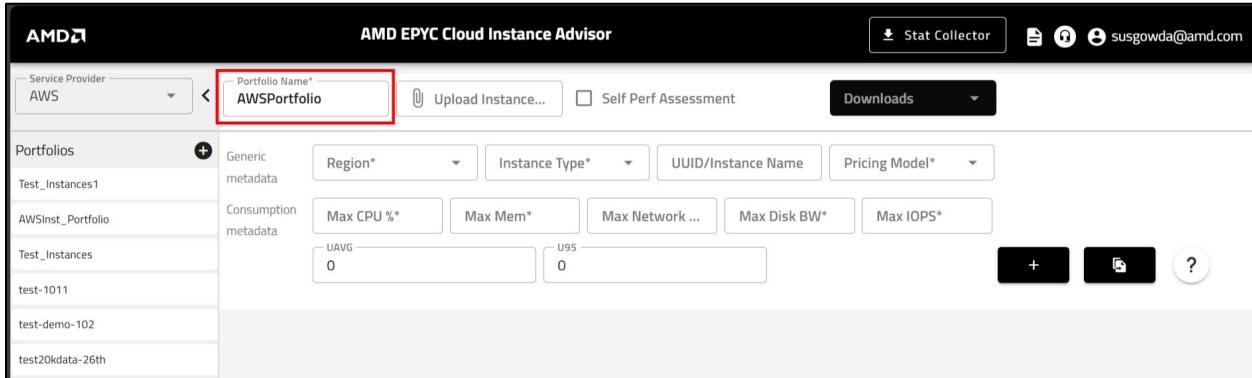
Steps to Upload the File

1. Choose the Cloud Service Provider.

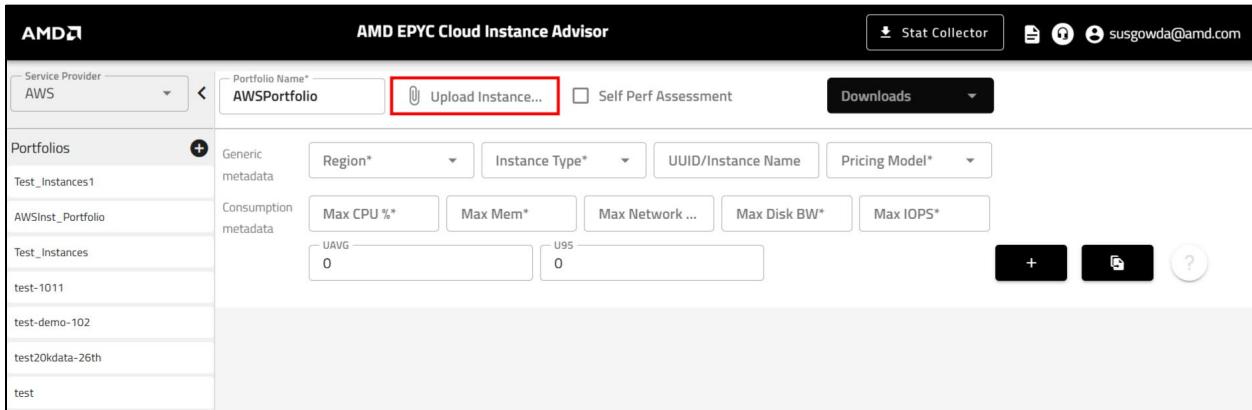
The screenshot shows the AMD EPYC Cloud Instance Advisor web interface. At the top, there's a navigation bar with the AMD logo, a 'Stat Collector' button, and a user email 'susgowda@amd.com'. Below the navigation is a search bar with 'Portfolio Name*' and a 'Upload Instance...' button. A 'Downloads' dropdown is also present. The main area has a 'Service Provider' dropdown set to 'AWS', which is highlighted with a red box. To the right of the dropdown are sections for 'Generic metadata' (Region*, Instance Type*, UUID/Instance Name, Pricing Model*) and 'Consumption metadata' (Max CPU %*, Max Mem*, Max Network ..., Max Disk BW*, Max IOPS*). Below these are two input fields for 'UAVG' and 'U95' with values '0' and '0' respectively. On the left, there's a sidebar with a list of portfolios: 'Test_Instances1', 'AWSInst_Portfolio', 'Test_Instances', 'test-1011', and 'test-demo-102'. A '+' button is available to add new portfolios.

This screenshot shows the same interface as above, but the 'Cloud' section of the 'Telemetry Connector' dropdown is now highlighted with a red box. It lists several options: 'aws AWS', 'AZURE', and 'GCP'. Below the dropdown, a disclaimer states: 'Disclaimer: All third-party logos and icons used are the property of their respective owners and are displayed for informational purposes only, without implying any affiliation, endorsement, or sponsorship.' The rest of the interface remains the same, including the portfolio list on the left.

2. Enter the Portfolio name.



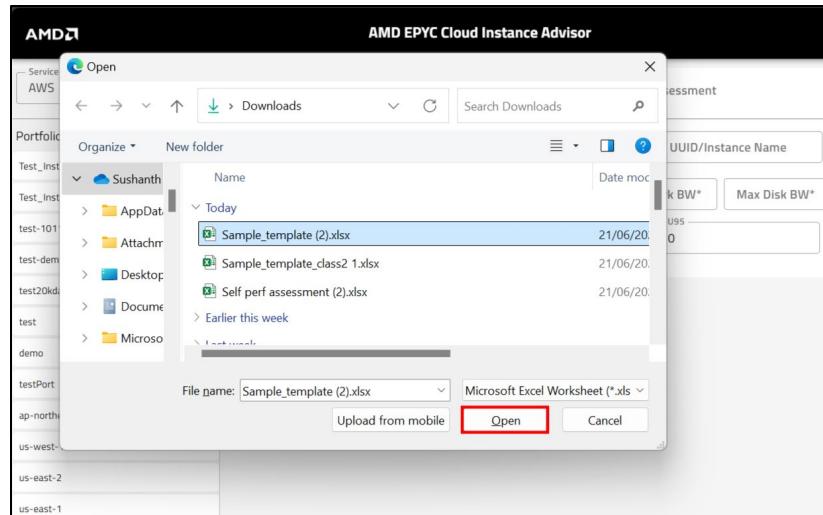
3. Locate the Upload Section and click the Upload Instances button.



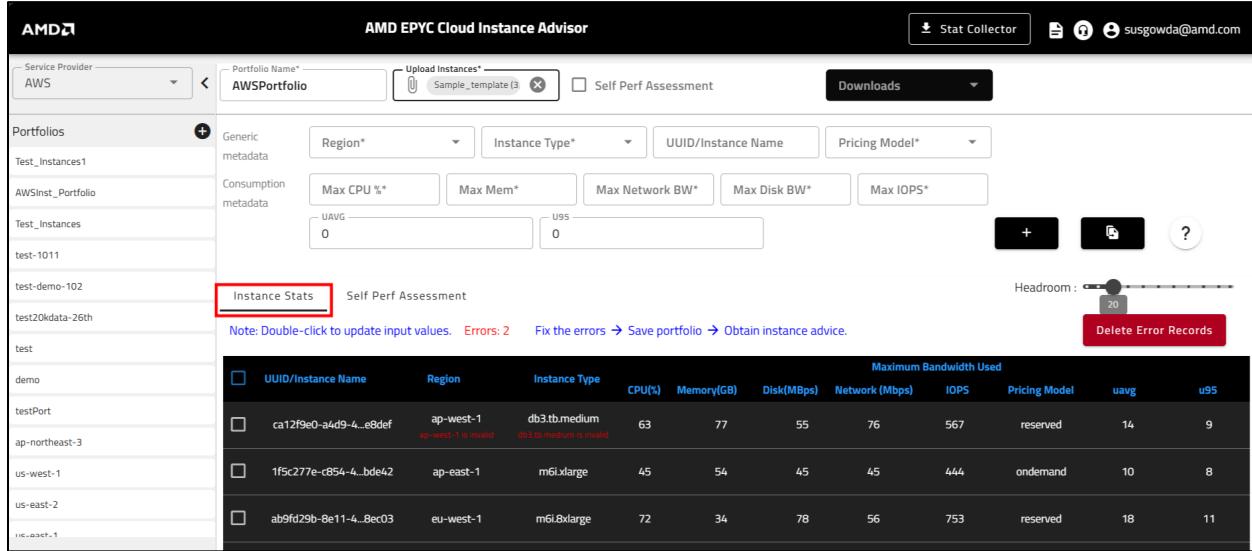
4. Browse and select the file with instance details. Users can upload XLSX format files.

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.

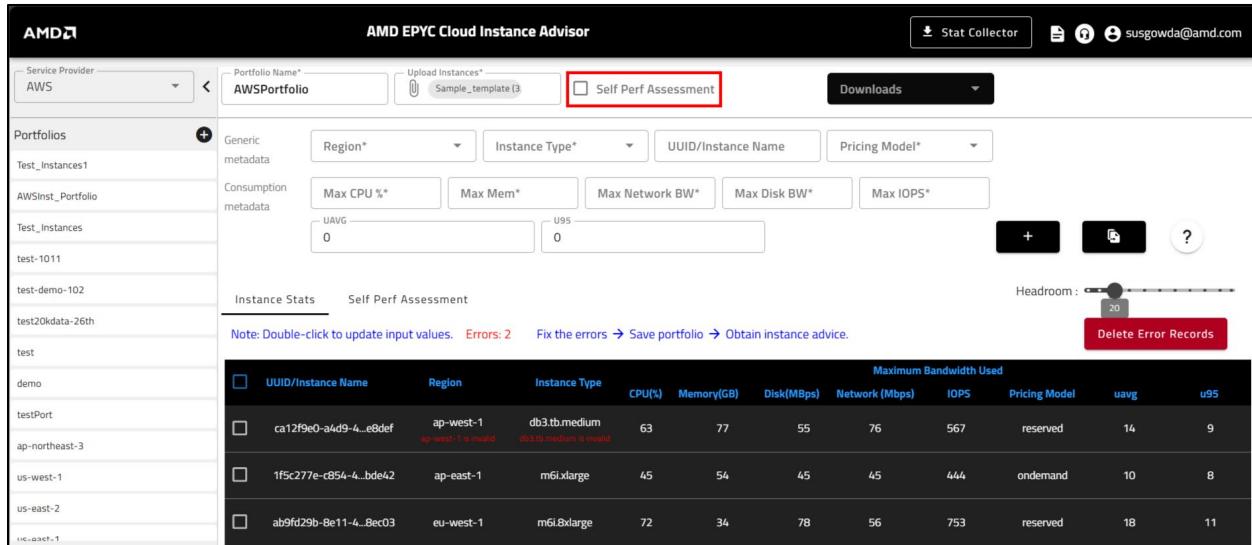


The screenshot shows the AMD EPYC Cloud Instance Advisor web application. At the top, there are dropdown menus for 'Service Provider' (set to AWS), 'Portfolio Name' (set to 'AWSPortfolio'), and 'Upload Instances' (with a 'Sample_template (3)' button). There is also a checkbox for 'Self Perf Assessment' and a 'Downloads' dropdown. On the left, a sidebar lists various portfolios. In the center, there are input fields for 'Generic metadata' (Region*, Instance Type*, UUID/Instance Name, Pricing Model*) and 'Consumption metadata' (Max CPU %*, Max Mem*, Max Network BW*, Max Disk BW*, Max IOPS*). Below these are two input fields: 'UAVG' (0) and 'U95' (0). To the right are buttons for '+', a download icon, and a question mark. A 'Headroom' slider is set to 20. The 'Instance Stats' tab is selected and highlighted with a red box. Below it is the 'Self Perf Assessment' tab. A note at the bottom says: 'Note: Double-click to update input values. Errors: 2 Fix the errors → Save portfolio → Obtain instance advice.' A 'Delete Error Records' button is also present. The main table below has columns: UUID/Instance Name, Region, Instance Type, CPU(%), Memory(GB), Disk(MBps), Network (Mbps), IOPS, Pricing Model, uavg, and u95. The table contains four rows of data.

Maximum Bandwidth Used										
UUID/Instance Name	Region	Instance Type	CPU(%)	Memory(GB)	Disk(MBps)	Network (Mbps)	IOPS	Pricing Model	uavg	u95
ca12f9e0-a4d9-4..e8def	ap-west-1	db3.tb.medium	63	77	55	76	567	reserved	14	9
1f5c277e-c854-4..bde42	ap-east-1	m6lxlarge	45	54	45	45	444	ondemand	10	8
ab9fd29b-8e11-4..8ec03	eu-west-1	m6lxlarge	72	34	78	56	753	reserved	18	11

Self-Perf Assessment:

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



This screenshot is identical to the one above, but the 'Self Perf Assessment' tab is now selected and highlighted with a red box. The rest of the interface remains the same, including the portfolio list on the left, the input fields in the center, and the table of instance stats below.

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

The screenshot shows the AMD EPYC Cloud Instance Advisor web application. At the top, there's a header with the AMD logo, the title "AMD EPYC Cloud Instance Advisor", and user account information. Below the header, there are dropdown menus for "Service Provider" (set to AWS) and "Portfolio Name" (set to "AWSPortfolio"). There are also buttons for "Upload Instances" (with a sample template), "Self Perf Assessment" (which is checked), and "Upload self perf ass...". On the right side of the header, there are "Stat Collector", "Downloads", and an email link.

The main area has two tabs: "Instance Stats" (selected) and "Self Perf Assessment". Under "Instance Stats", there are input fields for "Region*", "Instance Type*", "UUID/Instance Name", and "Pricing Model*". There are also fields for "Max CPU %*", "Max Mem*", "Max Network BW*", "Max Disk BW*", and "Max IOPS*". Below these are two numerical input fields: "UAVG" (0) and "U95" (0). To the right, there's a "Headroom" slider set to 20. A note at the bottom says: "Note: Double-click to update input values. Errors: 2 Fix the errors → Save portfolio → Obtain instance advice." A red button labeled "Delete Error Records" is visible.

The "Self Perf Assessment" section contains a table with the following data:

UUID/Instance Name	Region	Instance Type	CPU(s)	Memory(GB)	Disk(MBps)	Network (Mbps)	IOPS	Pricing Model	uavg	u95
ca12f9e0-a4d9-4..e8def	ap-west-1	db3.tb.medium	63	77	55	76	567	reserved	14	9
1f5c277e-c854-4..bde42	ap-east-1	m6i.xlarge	45	54	45	45	444	ondemand	10	8
ab9fd29b-8e11-4..8ec03	eu-west-1	m6i.Bxlarge	72	34	78	56	753	reserved	18	11

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.

This screenshot is identical to the one above, showing the "Self Perf Assessment" tab selected. The table now displays three rows of data, indicating a successful upload and analysis of the self-performance assessment file. The columns are "instance type" and "performance score".

instance type	performance score
m6i.xlarge	90153
m6i.Bxlarge	14200
c5.18xlarge	22100

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

The screenshot shows the AMD EPYC Cloud Instance Advisor web application. At the top, there are dropdown menus for 'Service Provider' (set to AWS) and 'Portfolio Name' (set to 'AWSPortfolio'). Below these are input fields for 'Region*', 'Instance Type*', 'UUID/Instance Name', and 'Pricing Model*'. There are also fields for 'Max CPU %*', 'Max Mem*', 'Max Network BW*', 'Max Disk BW*', and 'Max IOPS*'. A 'Headroom' slider is set to 20. The main area displays a table of instance statistics. One row in the table is highlighted with a red border, indicating it has been selected or edited. The table columns include: UUID/Instance Name, Region, Instance Type, CPU(%), Memory(GB), Disk(MBps), Network (Mbps), IOPS, Pricing Model, uavg, and u95.

UUID/Instance Name	Region	Instance Type	CPU(%)	Memory(GB)	Disk(MBps)	Network (Mbps)	IOPS	Pricing Model	uavg	u95
ca12f9e0-a4d9-4...e8def	ap-west-1	db3.tb.medium	63	77	55	76	567	reserved	14	9
1f5c277e-c854-4...bde42	ap-east-1	m6xlarge	45	54	45	45	444	ondemand	10	8
ab9fd29b-8e11-4...8ec03	eu-west-1	m6l8xlarge	72	34	78	56	753	reserved	18	11

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

This screenshot shows the same interface after a double-click on the 'Region' field of the first instance row. A dropdown menu has opened, listing several regions: 'af-south-1', 'ap-east-1', 'ap-northeast-1', 'ap-northeast-2', 'ap-northeast-3', and 'ap-south-1'. The original value 'ap-west-1' is still visible in the dropdown. The rest of the page remains largely the same, with the table below showing the updated or intended instance data.

UUID/Instance Name	Region	Instance Type	CPU(%)	Memory(GB)	Disk(MBps)	Network (Mbps)	IOPS	Pricing Model	uavg	u95
ca12f9e0-a4d9-4...e8def	ap-west	db3.tb.medium	63	77	55	76	567	reserved	14	9
1f5c277e-c854-4...bde42	ap-east-1	m6xlarge	45	54	45	45	444	ondemand	10	8
ab9fd29b-8e11-4...8ec03	eu-west-1	m6l8xlarge	72	34	78	56	753	reserved	18	11

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.

The screenshot shows the AMD EPYC Cloud Instance Advisor interface. At the top, there are dropdowns for Service Provider (AWS) and Portfolio Name (AWSPortfolio). Below these are sections for Generic metadata (Region*, Instance Type*, UUID/Instance Name, Pricing Model*) and Consumption metadata (Max CPU %*, Max Mem*, Max Network BW*, Max Disk BW*, Max IOPS*). A table at the bottom lists instances with columns: UUID/Instance Name, Region, Instance Type, CPU(%), Memory(GB), Disk(MBps), Network (Mbps), IOPS, Pricing Model, uavg, and u95. The table shows three rows of data.

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

The screenshot shows the same interface as above, but with a 'Find and Replace' dialog box overlaid. The dialog has fields for 'Instance Type' (From: db3.tb.medium), 'Region' (From), and 'Pricing Model' (From). To the right of these fields is a dropdown menu showing a list of instance types: a1.medium, a1.metal, a1.xlarge, c1.medium, c1.xlarge, and c3.2xlarge. The 'a1.medium' option is highlighted. The main instance list table is visible in the background.

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

The screenshot shows the AMD EPYC Cloud Instance Advisor interface. On the left, there's a sidebar with a list of portfolios. In the center, there's a search bar with 'AWSPortfolio' selected. A 'Find and Replace' dialog box is open over the main content area. Inside the dialog, the 'From' field is set to 'ap-west-1'. The 'To' field is currently empty. A dropdown menu is open under 'To', listing several AWS regions: me-south-1, sa-east-1, us-east-1, us-east-2, us-west-1, and us-west-2. At the bottom right of the dialog, there are 'Cancel' and 'Replace all' buttons, with 'Replace all' being highlighted.

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

This screenshot shows the same interface after the replacement action has been completed. The 'From' field now contains 'us-ea...', indicating the replacement was successful. The 'To' dropdown menu is no longer open. The 'Replace all' button is still present at the bottom right of the dialog.

- If needed, repeat the above step for other Instance Types, Regions, or Pricing Models.

Delete Error Records:

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

The screenshot shows the AMD EPYC Cloud Instance Advisor web application. On the left, there's a sidebar with a list of portfolios: Test_Instances1, AWSInst_Portfolio, Test_Instances, test-1011, test-demo-102, test20kdata-26th, test, demo, testPort, ap-northeast-3, and us-west-1. The main area has tabs for 'Instance Stats' and 'Self Perf Assessment'. A note at the top says 'Note: Double-click to update input values. Errors: 2 Fix the errors → Save portfolio → Obtain instance advice.' Below this is a table with columns: UUID/Instance Name, Region, Instance Type, CPU(%), Memory(GB), Disk(MBps), Network (Mbps), IOPS, Pricing Model, uavg, and u95. Two rows are listed: one for ca12f9e0-a4d9-4.. and another for 1f5c277e-c854-4.. Both rows have error messages in the Region and Instance Type fields. At the bottom right of the table is a red box around 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.

This screenshot is similar to the previous one but includes a modal dialog box titled 'Confirm Delete Error Records?'. The dialog contains the question 'Are you sure you want to delete?' with 'Cancel' and 'Delete' buttons. The 'Delete' button is also highlighted with a red box. The rest of the interface, including the table of instance data, remains the same.

Headroom Support (%):

This field allows you to specify an additional buffer for your instance recommendations. This feature allows you to either specify a custom headroom percentage or utilize the default 20%. This percentage is applied to scale the maximum observed utilization from your input data. The scaled utilization then drives the EIA's recommendations, ensuring that the suggested instances have ample "breathing room" to accommodate unexpected workload spikes or increased resource demands, thereby preventing under-provisioning and maintaining optimal performance.

Calculation:

$$\text{Scaled Max Utilization} = \text{Original Max Utilization} \times (1 + \text{Headroom Percentage} / 100)$$

- The default value is 20% for all portfolios. Adjusting this value helps avoid under-provisioning by ensuring recommendations provide sufficient performance headroom.

EPYC Cloud Instance Advisor User Guide

The screenshot shows the AMD EPYC Cloud Instance Advisor interface. The top navigation bar includes 'Stat Collector', 'Downloads', and a user email 'susgowda@amd.com'. The main area has tabs for 'Portfolio Name' (set to 'AWSPortfolio') and 'Upload Instances' (with a 'Sample_template.xls' file selected). A checkbox for 'Self Perf Assessment' is checked. Below this are sections for 'Portfolios' (listing items like 'Test_Instances1', 'AWSInst_Portfolio', etc.) and 'Consumption metadata' (with fields for 'Max CPU %*', 'Max Mem*', 'Max Network BW*', 'Max Disk BW*', and 'Max IOPS*'). A table titled 'Instance Stats' displays instance details such as Region, Instance Type, CPU(%), Memory(GB), Disk(MBps), Network (Mbps), IOPS, Pricing Model, uavg, and u95. A note at the bottom says 'Note: Double-click to update input values.' A 'Headroom' slider is shown with a value of 20, also highlighted with a red box.

- Click “Save” to apply changes.

This screenshot shows the same interface after changes have been saved. The 'Headroom' slider value remains at 20. The 'Instance Stats' table now includes additional rows for instances in different regions and instance types. At the bottom, there are buttons for 'Delete', 'Cancel', 'Save' (highlighted with a red box), and 'Instance advice'.

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

This screenshot shows the interface with the 'AWSPortfolio' portfolio selected in the 'Portfolios' list (highlighted with a red box). The rest of the interface is identical to the previous screenshots, showing the consumption metadata section and the 'Instance Stats' table.

Adding Instances:

1. To add additional instances, select the portfolio and fill in the below details:

1. Under Generic Metadata:

- Select the Region
- Select the Instance Type
- Enter UUID/Instance Name
- Pricing Model (ondemand, reserved, or spot)

2. Under Consumption Metadata, enter the data/values for:

- Max CPU%
- Max Memory
- Max Network Bandwidth
- Max Disk Bandwidth
- Max IOPS
- UAVG
- U95

The screenshot shows the AMD EPYC Cloud Instance Advisor web interface. At the top, it says "AMD EPYC Cloud Instance Advisor". Below that, there's a header with "Service Provider: AWS", "Portfolio Name: AWSPortfolio", and a "Downloads" dropdown. On the left, a sidebar lists portfolios: "AWSPortfolio" (selected), "Test_Instances1", "AWSInst_Portfolio", "Test_Instances", "test-1011", "test-demo-102", "test20kdata-26th", and "test". The main area has tabs for "Instance Stats" and "Self Perf Assessment". A note says "Note: Double-click to update input values." Below this is a table with columns: "UUID/Instance Name", "Region", "Instance Type", "CPU%", "Memory(GB)", "Disk(MBps)", "Network (Mbps)", "IOPS", "Pricing Model", "uavg", and "u95". The "uavg" and "u95" columns are highlighted in blue. The "Consumption metadata" section contains fields for Max CPU %, Max Mem, Max Network BW, Max Disk BW, and Max IOPS. The "Generic metadata" section includes Region (us-east-1), Instance Type (a1.medium), UUID/Instance Name (useast1_aws_region1), and Pricing Model (reserved). A "Created By" field shows "susgowda". A "Headroom" slider is set to 20. A red box highlights the "Generic metadata" and "Consumption metadata" sections.

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

This screenshot shows the same interface as the previous one, but with an additional row in the table at the bottom. The new row contains the following data: "1f5c277e-c854-4...-bde42", "ap-east-1", "m6i.xlarge", "45", "54", "45", "45", "444", "ondemand", "10", and "8". The "Add Instance" button (+) is highlighted with a red box. The rest of the interface remains the same, with the "Generic metadata" and "Consumption metadata" sections filled out.

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.

The screenshot shows the AMD EPYC Cloud Instance Advisor interface. On the left, there's a sidebar with a list of 'Test_Instances' including 'test-1011', 'test-demo-102', 'test20kdata-26th', 'test', 'demo', 'testPort', 'ap-northeast-3', 'us-west-1', and 'ue-east-2'. The main area has tabs for 'Instance Stats' and 'Self Perf Assessment'. A note says 'Note: Double-click to update input values.' Below is a table titled 'Maximum Bandwidth Used' with columns: UUID/Instance Name, Region, Instance Type, CPU(%), Memory(GB), Disk(MBps), Network (Mbps), IOPS, Pricing Model, uavg, and u95. It lists four instances from different regions and types. At the bottom, there are buttons for 'Delete', 'List of AWS Regions', 'Cancel', 'Delete portfolio', 'Save', and 'Instance advice'.

UUID/Instance Name	Region	Instance Type	CPU(%)	Memory(GB)	Disk(MBps)	Network (Mbps)	IOPS	Pricing Model	uavg	u95
useast1_aws_region1	us-east-1	a1.medium	55	111	87	65	441	reserved	11	9
1f5c277e-c854-4.bde42	ap-east-1	m6xl.xlarge	45	54	45	45	444	ondemand	10	8
ab9fd29b-8e11-4.8ec03	eu-west-1	m6l.Bxlarge	72	34	78	56	753	reserved	18	11
7dabc5da-25b7-4.ef821	eu-west-1	c5.18xlarge	54	65	56	75	452	spot	22	14

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

This screenshot is identical to the one above, showing the same list of instances and the same table of instance details. The 'Save' button at the bottom is now highlighted with a red box, indicating it has been clicked.

User Actions

Remove Unsaved Instances

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

The screenshot shows the AMD EPYC Cloud Instance Advisor interface. On the left, there's a sidebar with a tree view of 'Test_Instances' containing items like 'test-1011', 'test-demo-102', etc. The main area has tabs for 'Instance Stats' and 'Self Perf Assessment'. Below these are two tables. The first table is titled 'Maximum Bandwidth Used' and lists four instances with columns for Region, Instance Type, CPU(%), Memory(GB), Disk(MBps), Network (Mbps), IOPS, Pricing Model, uavg, and u95. The second table is titled 'Items per page' with a dropdown set to 10, and navigation buttons for 1-4 of 4. At the bottom left is a red 'Delete' button. The bottom right has buttons for 'Cancel', 'Delete portfolio' (highlighted in red), 'Save', and 'Instance advice'.

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

This screenshot shows the same interface as above, but with a modal dialog box overlaid on the instance table. The dialog box is titled 'Unsaved Changes' and contains the message 'You have unsaved changes. Are you sure you want to discard changes?'. It has 'NO' and 'YES' buttons. The 'YES' button is highlighted with a red border.

Delete Portfolio

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

This screenshot shows the interface again, but with the 'Delete portfolio' button highlighted with a red border in the bottom right corner of the main content area.

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

The screenshot shows the AMD EPYC Cloud Instance Advisor interface. On the left, there's a sidebar with a list of test instances. In the center, there's a table of instance details. A modal dialog box is overlaid on the table, asking "Confirm Delete Portfolio" and "Are you sure you want to delete this Portfolio?". At the bottom right of the modal are two buttons: "Cancel" and "Delete". The "Delete" button is highlighted with a red border.

UUID/Instance Name	Region	Instance Type	CPU(%)	Memory(GB)	Disk(MBps)	Network (Mbps)	IOPS	Pricing Model	uavg	u95
useast1_aws_region1	us-east-1	a1.medium	55	111	87	65	441	reserved	11	9
1f5c277e-c854-4...bde42	ap-east-1	m6xl.xlarge	45	54	45	45	444	ondemand	10	8
ab9fd29b-8e11-4...8ec03	eu-west-1	m6l.xlarge	72	34	78	56	753	reserved	18	11
7dabc5da-25b7-4...efb21	eu-west-1	c5.18xlarge	54	65	56	75	452	spot	22	14

Delete Instances

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

The screenshot shows the same interface as before, but now two specific instances have been selected for deletion. Red boxes highlight the checkboxes next to "useast1_aws_region1" and "1f5c277e-c854-4...bde42". At the bottom of the table, a large red button labeled "Delete(2)" is visible, indicating the number of selected items.

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

This screenshot shows the confirmation dialog again. It asks "Are you sure you want to delete 2 instances?". The "Delete" button is once again highlighted with a red border.

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:

- From the service provider dropdown, select **Datadog**.

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

The screenshot shows the AMD EPYC Cloud Instance Advisor interface. In the top left, there's a 'Service Provider' dropdown set to 'Datadog'. Below it is a 'Cloud' dropdown with three options: 'AWS', 'AZURE', and 'GCP'. The 'AWS' option is selected and highlighted with a red box. To the right of the dropdowns are fields for 'Portfolio Name*', 'Regions*', 'API key*', 'Application Key*', and 'Host Tag*'. A 'Test Connection' button is at the bottom right.

3) Provide a name for your portfolio.

The screenshot shows the same interface as above, but now the 'Portfolio Name*' field contains the value 'PortfolioTest', which is highlighted with a red box. The rest of the interface remains the same.

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

The screenshot shows the 'Regions*' dropdown expanded, displaying a list of available regions. Several regions are checked: 'af-south-1', 'ap-south-1', 'ap-east-1', 'ap-northeast-1', 'ap-northeast-2', and 'ap-northeast-3'. The entire dropdown menu is highlighted with a red box. The rest of the interface is identical to the previous screenshots.

5) Enter the below details

- API Key:** your Datadog API Key to authenticate the connection.
- 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.

The screenshot shows the AMD EPYC Cloud Instance Advisor web interface. On the left, there's a sidebar with 'Service Provider' set to 'Datadog', 'Cloud' set to 'AWS', and a 'Portfolios' section containing 'PortfolioTest'. The main area has fields for 'Portfolio Name' (set to 'PortfolioTest'), 'Regions' (set to 'af-south-1 (+29 others)'), and three input fields for 'API key', 'Application Key', and 'Host Tag', all of which are currently empty and highlighted with a red box. A 'Test Connection' button is located to the right of these fields.

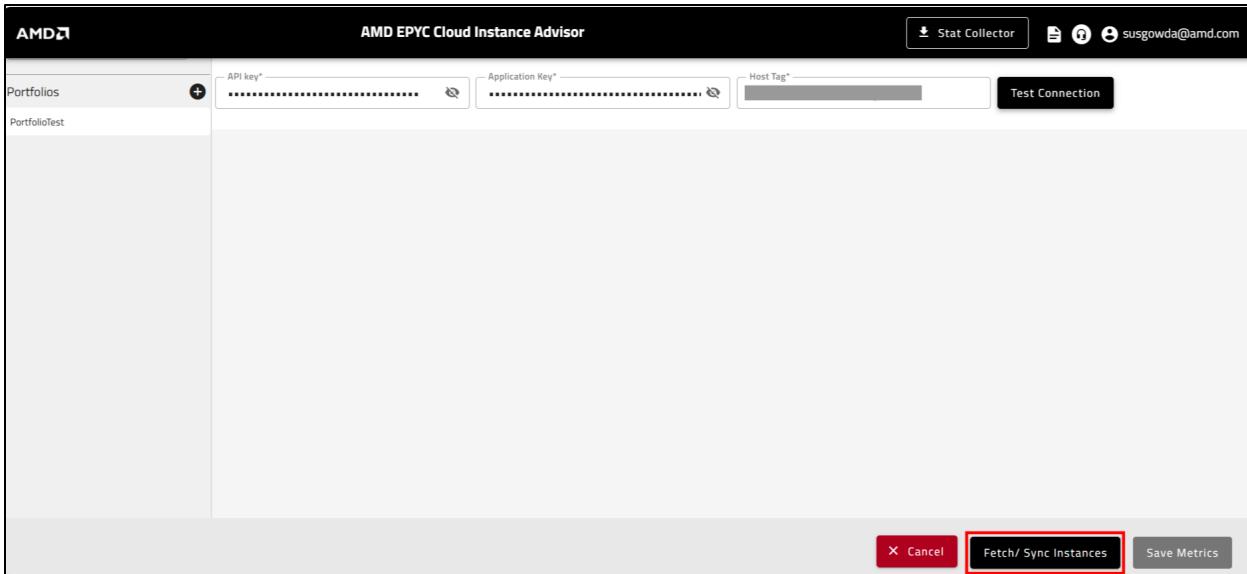
- 6) Click **Test Connection** to verify the connection.

This screenshot is similar to the previous one, but the 'Test Connection' button has been clicked. The interface now shows a green confirmation message 'Datadog connection is successful.' at the bottom center, which is also highlighted with a red box.

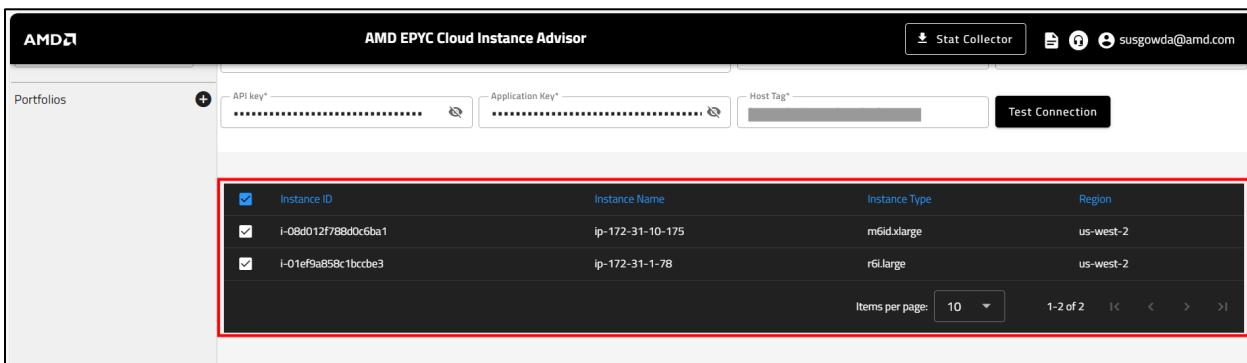
- 7) Once the connection is successful, a confirmation message “**Datadog connection is successful**” will appear.

This screenshot shows the same interface as before, but the 'Datadog connection is successful.' message is now displayed prominently at the bottom of the screen within a red-bordered box. A 'CLOSE' button is visible next to the message.

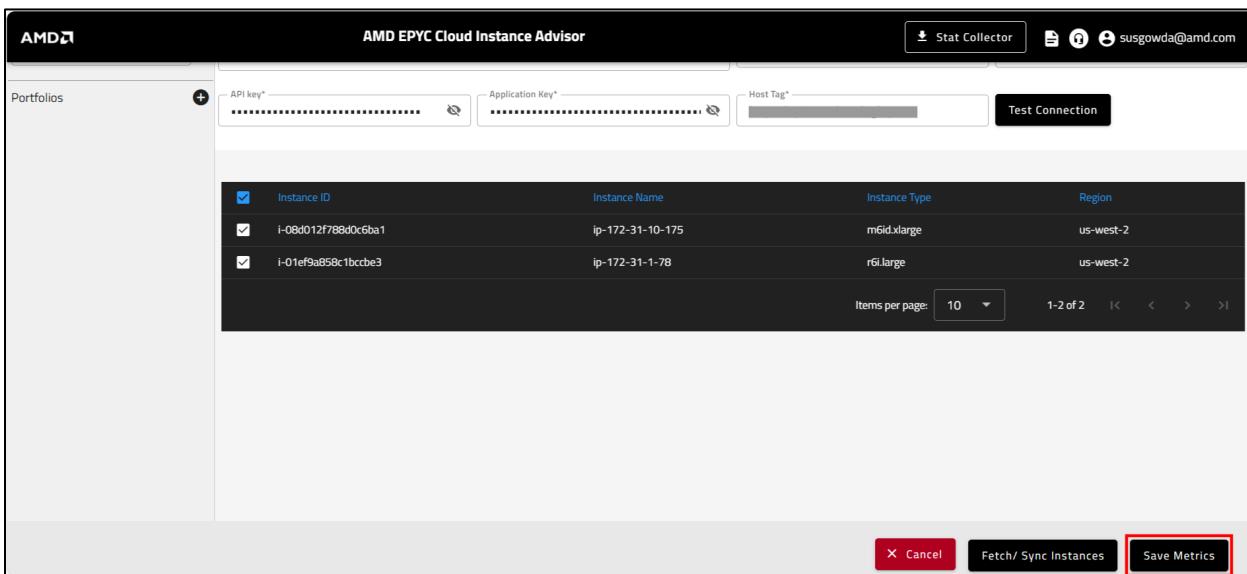
- 8) Click on **Fetch/Sync Instances** to retrieve all the instances that are linked to your Datadog telemetry account.



- 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.

UUID/Instance Name	Region	Instance Type	CPU(%)	Memory(GB)	Disk(GB)	Network(Mbps)	IOPS	UAVG	U95
datadogteam	us-west-2	m5.2xlarge	2.5	4.91	0.92	0.34	42.02	0.39	0.42

12) Headroom can also be configured for telemetry accounts, allowing the same scaling buffer to be applied to utilization data collected via telemetry. This ensures consistent recommendation logic across both manual and automated data inputs.

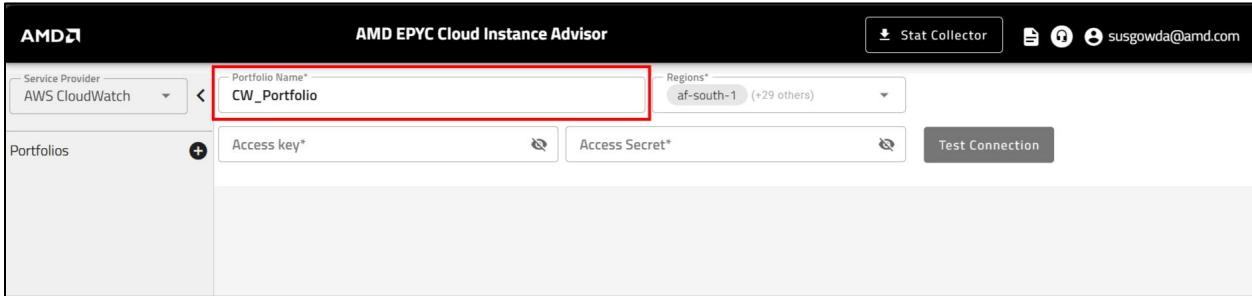
Add Instances via AWS CloudWatch

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:

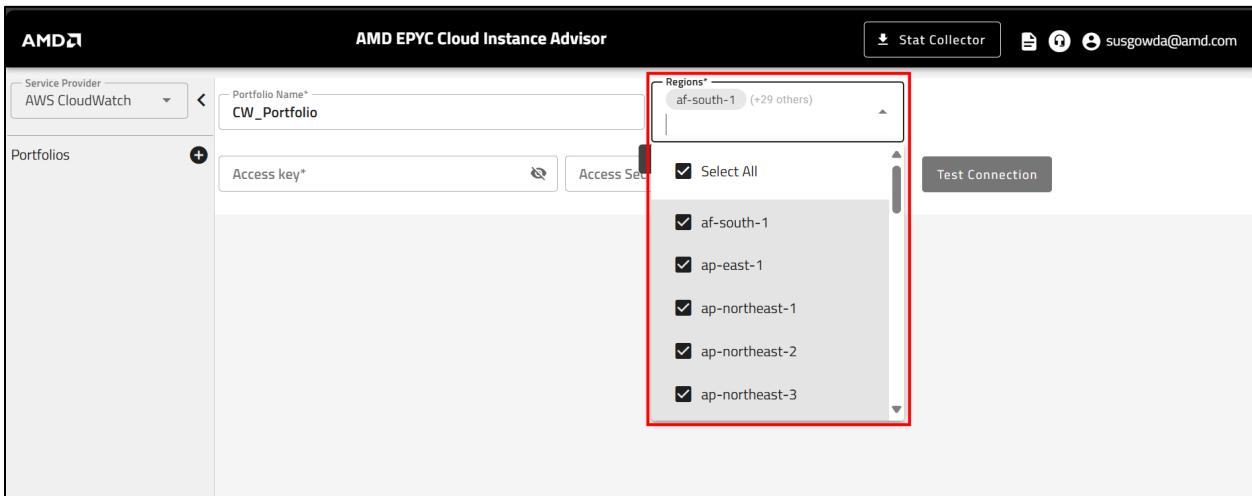
1) From the service provider dropdown, select **AWS CloudWatch**.

- 2) Provide a name for your portfolio.



The screenshot shows the AMD EPYC Cloud Instance Advisor web interface. At the top, there's a header with the AMD logo and the title 'AMD EPYC Cloud Instance Advisor'. Below the header, there's a navigation bar with a dropdown for 'Service Provider' set to 'AWS CloudWatch'. To the right of the provider dropdown is a 'Portfolio Name' input field containing 'CW_Portfolio', which is also highlighted with a red box. Next to it is a 'Regions' dropdown showing 'af-south-1 (+29 others)'. Below these fields are 'Access key*' and 'Access Secret*' inputs, both with clear icons. A 'Test Connection' button is located at the bottom right of this section. On the left side, there's a sidebar titled 'Portfolios' with a '+' icon.

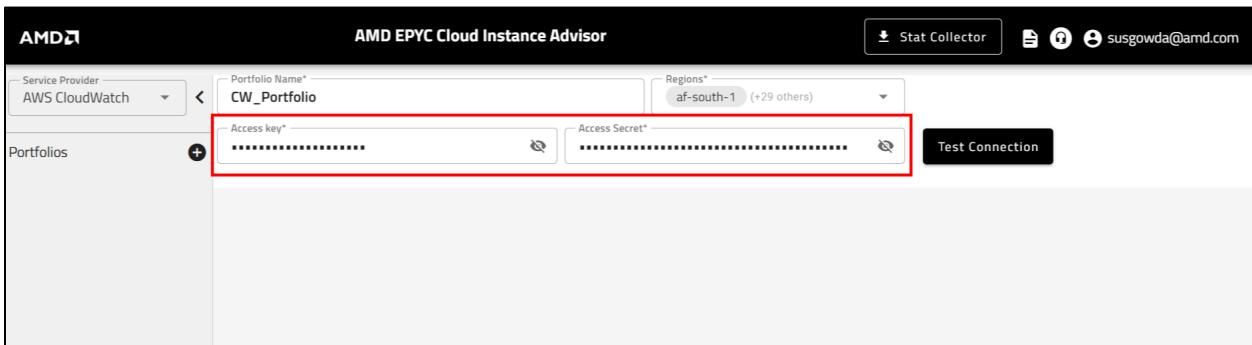
- 3) Select the **Region**. By default, all applicable regions will be selected, but you can edit this to choose only the specific regions needed



This screenshot is similar to the previous one but focuses on the 'Regions' selection. The 'Regions' dropdown is open, showing a list of regions: 'af-south-1 (+29 others)', 'Select All', 'af-south-1', 'ap-east-1', 'ap-northeast-1', 'ap-northeast-2', and 'ap-northeast-3'. The 'af-south-1' checkbox is checked and highlighted with a red box. The rest of the interface elements are visible but not highlighted.

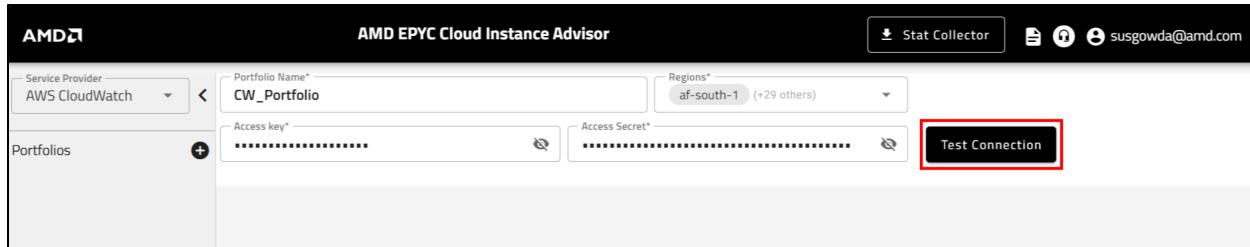
- 4) Enter the details below:

- Access Key:** your AWS Access Key to authenticate the connection.
- Access Secret:** Provide your AWS Access Secret for secure access to your telemetry data.

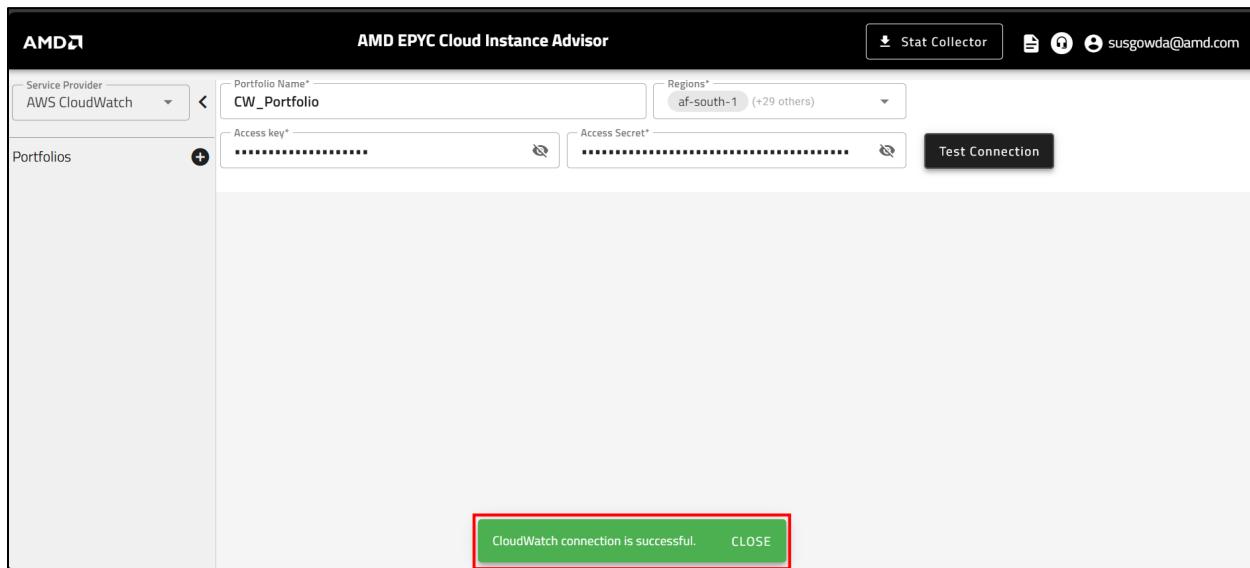


The screenshot shows the same interface as before, but now the 'Access key*' and 'Access Secret*' fields are highlighted with a red box. Both fields contain placeholder text consisting of several dots ('.....'). The 'Test Connection' button is visible to the right of these fields.

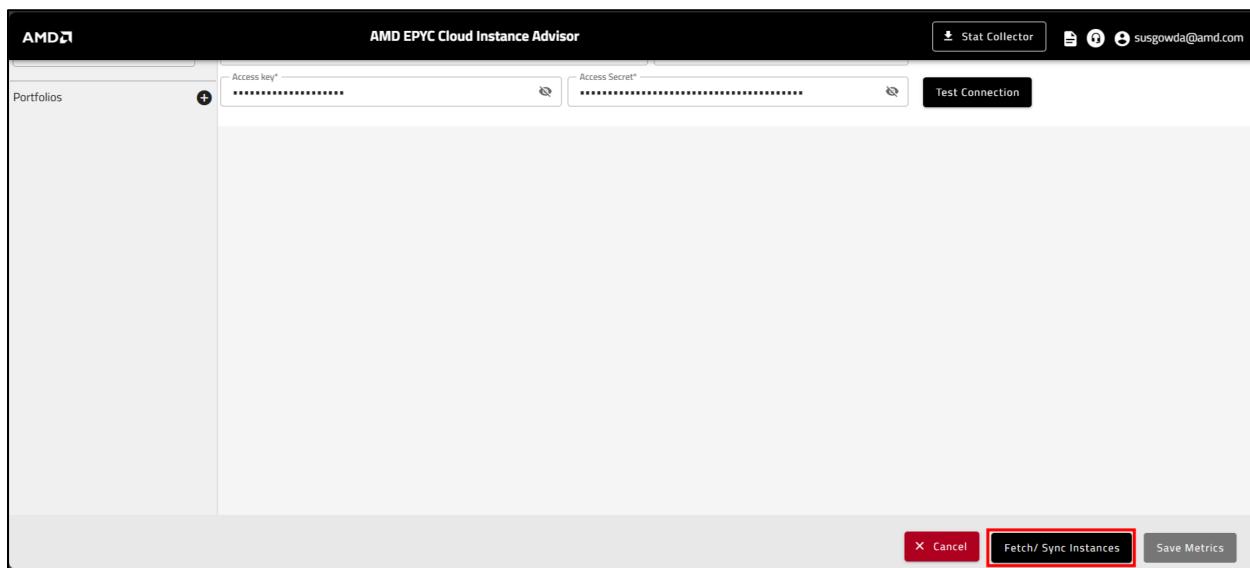
- 5) Click **Test Connection** to verify the connection.



- 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.

Instance ID	Instance Name	Instance Type	Region
<input checked="" type="checkbox"/> i-0b803b697b0d1b831	DataDogTeam	m5.2xlarge	us-west-2

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

X Cancel
Fetch/ Sync Instances
Save Metrics

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

UUID/Instance Name	Region	Instance Type	CPU(%)	Memory(GB)	Disk(GB)	Network(Mbps)	IOPS	UAVG	U95
DataDogTeam	us-west-2	m5.2xlarge	2.5	4.68	4.07	0.35	62.6	0.36	0.37

11) Headroom can also be configured for telemetry accounts, allowing the same scaling buffer to be applied to utilization data collected via telemetry. This ensures consistent recommendation logic across both manual and automated data inputs.

UUID/Instance Name	Region	Instance Type	CPU(%)	Memory(GB)	Disk(GB)	Network(Mbps)	IOPS	UAVG	U95
DataDogTeam	us-west-2	m5.2xlarge	2.5	4.68	4.07	0.35	62.6	0.36	0.37

Add Instances via Azure App Insights

To add instance via Azure App Insights:

- 1) From the service provider dropdown, select **Azure App Insights**.

- 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.

The screenshot shows the 'AMD EPYC Cloud Instance Advisor' interface. In the top right corner, there are icons for 'Stat Collector', a download arrow, a gear, and an envelope, followed by the email address 'susgowda@amd.com'. On the left, a sidebar lists 'Portfolios' with entries like 'test-akash-103', 'test-akash-102', 'test-akash-101', 'test002', 'DemoTest', 'azureinsight', and 'test-12345'. The main area has fields for 'Portfolio Name*' (set to 'AzurePortfolio'), 'Client ID*', 'Client Secret*', 'Tenant ID*', and 'Subscription ID*'. Below these is a 'Regions*' dropdown set to 'australiacentral (+53 others)', with a red box highlighting its dropdown menu which contains several checked region names: 'australiacentral', 'australiacentral2', 'australiaeast', 'australiasoutheast', and 'brazilsouth'. There is also a 'Select All' checkbox. To the right of the dropdown is a 'Test Connection' button.

- 4) Enter the details below:

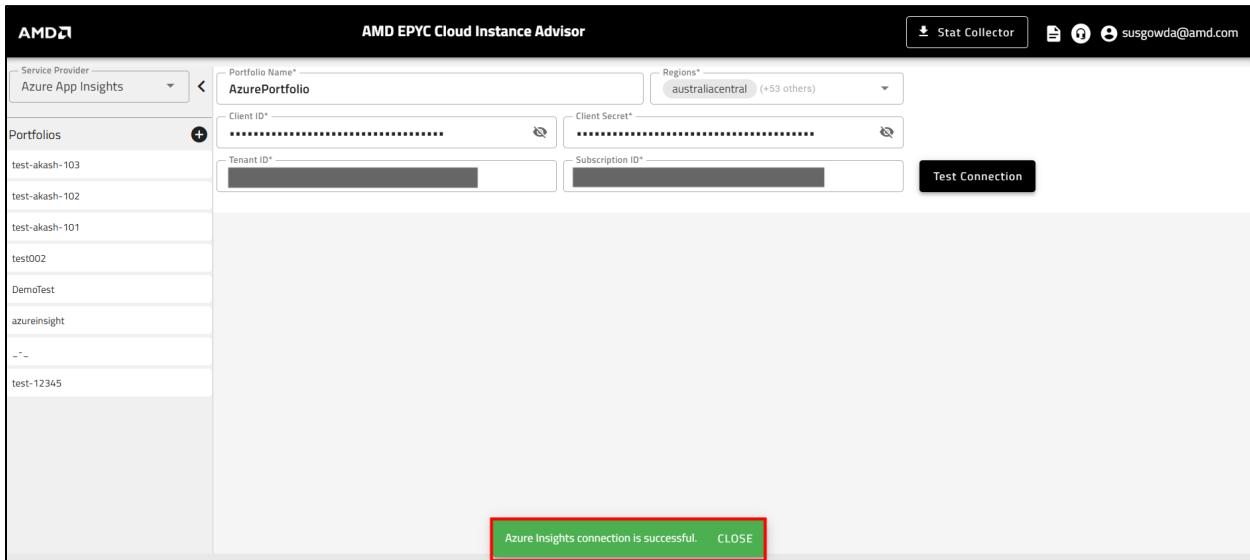
- Client ID**
- Client Secret**
- Tenant ID**
- Subscription ID**

The screenshot shows the same interface as the previous one, but now the input fields for 'Client ID*', 'Client Secret*', 'Tenant ID*', and 'Subscription ID*' are highlighted with a red box. The rest of the interface remains the same, including the sidebar, portfolio list, and 'Regions*' dropdown.

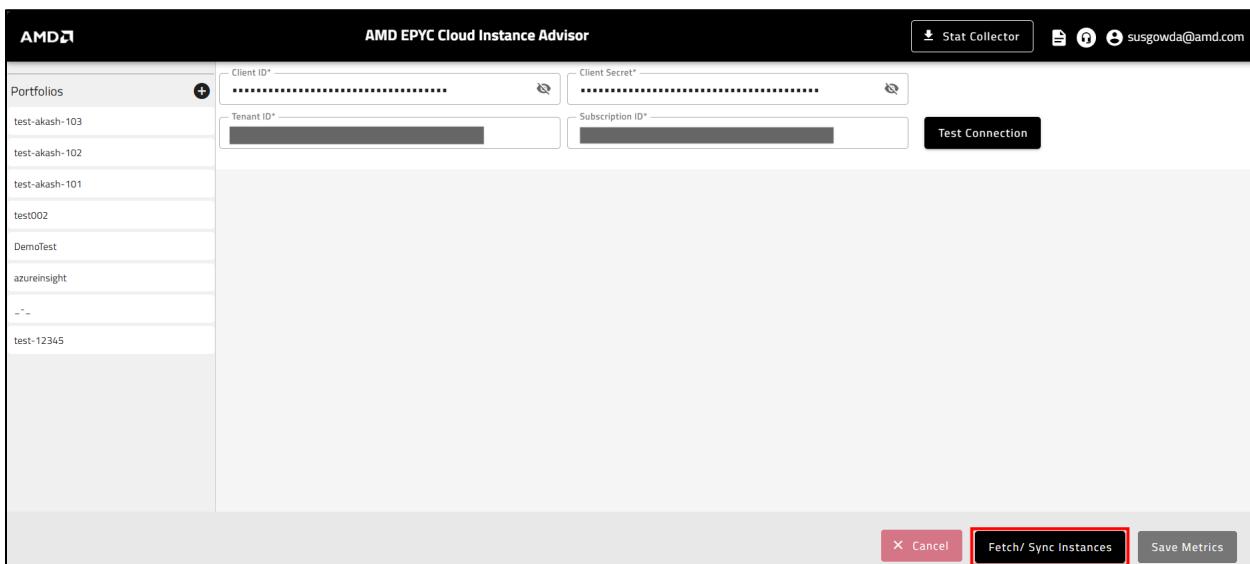
- 5) Click **Test Connection** to verify the connection.

The screenshot shows the final step of the process. The 'Test Connection' button in the bottom right corner of the main form area is highlighted with a red box. The rest of the interface, including the sidebar, portfolio list, and other input fields, appears identical to the previous screenshots.

- 6) Once the connection is successful, a confirmation message “**Azure Insights 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.

The screenshot shows the AMD EPYC Cloud Instance Advisor interface. At the top, there are fields for 'Portfolio Name*' (set to 'AzurePortfolio'), 'Regions*' (set to 'australiacentral (+53 others)'), 'Client ID*', 'Client Secret*', 'Tenant ID*', and 'Subscription ID*'. Below these, a table lists instances with columns for 'Instance Name', 'Instance Type', 'Pricing Model', and 'Region'. The table contains five rows: 'Dem-document' (Standard_B2ms, ondemand, eastus), 'terraform-demo-vm' (Standard_B16ms, ondemand, eastus), 'Test-Azure' (Standard_B2ms, ondemand, eastus), and 'azureinsights' (Standard_B2ms, ondemand, eastus). A red box highlights this table area.

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

The screenshot shows the same interface as above, but the 'Save Metrics' button at the bottom right is highlighted with a red box. The rest of the interface is identical to the previous screenshot.

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

The screenshot shows the interface after saving. On the left, the 'Portfolios' list includes 'AzurePortfolio' (which is highlighted with a red box). To the right, a table titled 'List of Azure Insights' is displayed, showing data for four instances: 'azureinsights', 'terraform-demo-vm', 'Test-Azure', and 'Dem-document'. The table includes columns for 'UUID/Instance Name', 'Region', 'Instance Type', and various performance metrics like CPU(%), Memory(GB), Disk(GB), Network(Mbps), IOPS, UAVG, and U95. A red box highlights the 'AzurePortfolio' entry in the portfolio list.

User Actions for Telemetry Connector Portfolios

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).

- **Delete Portfolio:**

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

UUID/Instance Name	Region	Instance Type	CPU(%)	Memory(GB)	Disk(GB)	Network(Mbps)	IOPS	UAVG	U95
azureinsights	eastus	Standard_B2ms	2.72	1.12	0.11	0.57	8.76	0.98	2.18
terraform-demo-vm	eastus	Standard_B16ms	4.56	-53.18	4.04	0.89	26.69	2.69	2.85
Test-Azure	eastus	Standard_B2ms	4.19	1.31	0.11	0.56	7.62	1.81	2.9
Dem-document	eastus	Standard_B2ms	2.83	1.05	0.1	0.49	8.25	1.08	2.36

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

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

The screenshot shows the AMD EPYC Cloud Instance Advisor web application. On the left, there's a sidebar titled "Portfolios" listing several entries like "AzurePortfolio", "test-akash-103", etc. The main content area is titled "AMD EPYC Cloud Instance Advisor" and displays a table of instance details. The columns include "UUID/Instance Name", "Region", "Instance Type", "CPU(%)", "Memory(GB)", "Disk(GB)", "Network(Mbps)", "IOPS", "UAVG", and "U95". Below the table are buttons for "Delete portfolio", "Update Credentials" (which is highlighted with a red box), and "Instance advice".

Maximum Bandwidth Used									
UUID/Instance Name	Region	Instance Type	CPU(%)	Memory(GB)	Disk(GB)	Network(Mbps)	IOPS	UAVG	U95
azureinsights	eastus	Standard_B2ms	2.72	1.12	0.11	0.57	8.76	0.98	2.18
terraform-demo-vm	eastus	Standard_B16ms	4.56	-53.18	4.04	0.89	26.69	2.69	2.85
Test-Azure	eastus	Standard_B2ms	4.19	1.31	0.11	0.56	7.62	1.81	2.9
Dem-document	eastus	Standard_B2ms	2.83	1.05	0.1	0.49	8.25	1.08	2.36

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.

This screenshot shows the "Portfolio" section of the AMD EPYC Cloud Instance Advisor. A dropdown menu "Service Provider" is set to "AWS". The "Portfolios" list includes "AWSPortfolio" (which is highlighted with a red box). To the right, there are input fields for "Portfolio Name*", "Region*", "Instance Type*", "UUID/Instance Name", "Pricing Model*", and "Downloads". Below these are sections for "Generic metadata" and "Consumption metadata" with fields for "Max CPU %*", "Max Mem*", "Max Network ...", "Max Disk BW*", "Max IOPS*", "UAVG", and "U95". There are also buttons for "+", "?", and a download icon.

3. Click on "Instance Advice."

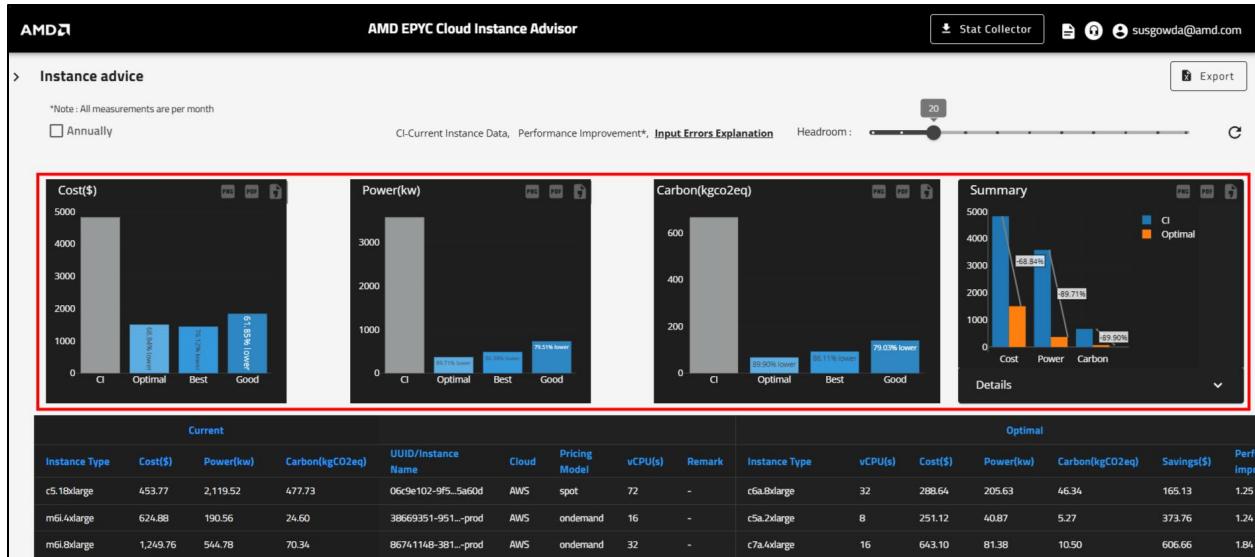
The screenshot shows the AMD EPYC Cloud Instance Advisor interface. On the left, there's a sidebar with a list of AWS regions: Test_Instances1, AWSInst_Portfolio, Test_Instances, test-1011, test-demo-102, test20kdata-26th, test, demo, testPort, ap-northeast-3, us-west-1, and us-east-1. The main area has tabs for Consumption metadata and Instance Stats. Under Consumption metadata, there are input fields for Max CPU %*, Max Mem*, Max Network BW*, Max Disk BW*, and Max IOPS*. Below these are Uavg (0) and U95 (0). To the right are buttons for '+', a trash can, a question mark, and a dropdown for Headroom. A note says "Note: Double-click to update input values." Under Instance Stats, there's a table titled "Maximum Bandwidth Used" with columns: UUID/Instance Name, Region, Instance Type, CPU(%), Memory(GB), Disk(MBps), Network (Mbps), IOPS, Pricing Model, uavg, and u95. It lists three instances: d6557fec-9b48-4...4bd00 (m6i.xlarge), 978cf0f2-a053-4...46151 (m6i.8xlarge), and c5dd61ae-abf7-4...24ab8c (c5.18xlarge). At the bottom are buttons for Delete, Cancel, Save, and Instance advice (which is highlighted with a red box).

UUID/Instance Name	Region	Instance Type	CPU(%)	Memory(GB)	Disk(MBps)	Network (Mbps)	IOPS	Pricing Model	uavg	u95
d6557fec-9b48-4...4bd00	ap-east-1	m6i.xlarge	45	54	45	45	444	ondemand	10	27
978cf0f2-a053-4...46151	eu-west-1	m6i.8xlarge	72	34	78	56	753	reserved	18	21
c5dd61ae-abf7-4...24ab8c	eu-west-1	c5.18xlarge	54	65	56	75	452	spot	22	20

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.

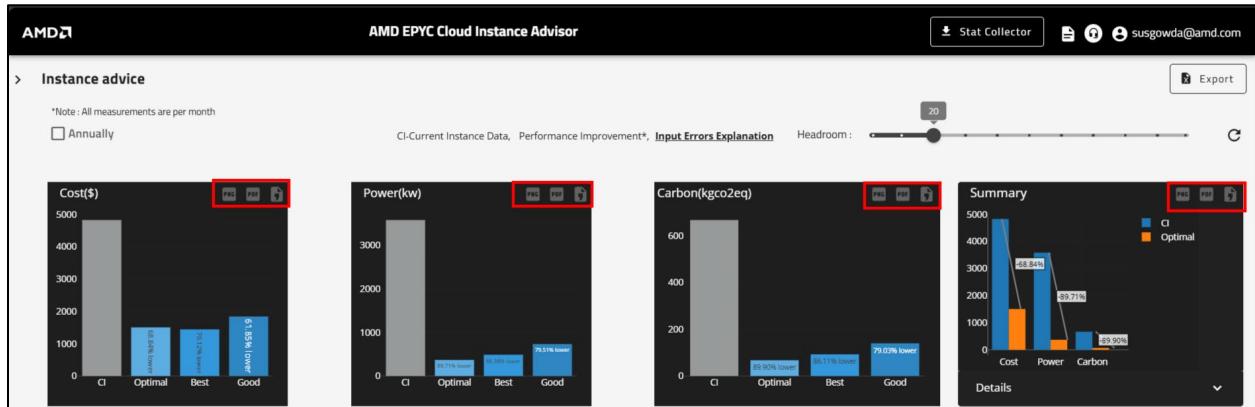
The following graphs are displayed:

- ▶ **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.

The screenshot shows the AMD EPYC Cloud Instance Advisor web application. At the top, there's a navigation bar with the AMD logo, the title "AMD EPYC Cloud Instance Advisor", a "Stat Collector" button, and a user icon with the email "susgowda@amd.com". Below the header is a table titled "Current" showing instance details for four AWS instances: c5.18xlarge, m6i.4xlarge, m6i.8xlarge, and m6i.16xlarge. The table includes columns for Instance Type, Cost(\$), Power(kw), Carbon(kgCO₂eq), UUID/Instance Name, Cloud, Pricing Model, vCPU(s), and Remark. A red box highlights the first four rows of this table. To the right of the main table is a smaller table showing recommended instances: c6a.8xlarge, c5a.2xlarge, c7a.2xlarge, and c7a.xlarge, with their respective details. At the bottom of the page, there's a note about spot instances and a "Close" button.

Current								
Instance Type	Cost(\$)	Power(kw)	Carbon(kgCO ₂ eq)	UUID/Instance Name	Cloud	Pricing Model	vCPU(s)	Remark
c5.18xlarge	453.77	1,914.63	431.38	06c9e102-9f5...5a60d	AWS	spot	72	-
m6i.4xlarge	624.88	182.44	23.56	38669351-951...prod	AWS	ondemand	16	-
m6i.8xlarge	1,249.76	499.97	64.56	86741148-381...prod	AWS	ondemand	32	-
m6i.16xlarge	2,499.52	701.84	90.61	21360249-077...prod	AWS	ondemand	64	-
Grand Total	4,827.93	3,298.88	610.11					

Instance Type	vCPU(s)	Cost(\$)	Power
c6a.8xlarge	32	288.64	205.19
c5a.2xlarge	8	251.12	40.78
c7a.2xlarge	8	321.55	40.94
c7a.xlarge	4	160.78	20.49
		1,022.09	307.31

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.

- **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.xlarge	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
		1,061.68	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	-	-	-	025..a687-0e9..381d0	AWS	reserved	-	CCA is Recommended	-	-	-	-	-	-
c5.12xlarge	-	-	-	4f13ed5f-836..9a02	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

- On the Instance Advice page, a headroom slider is also available above the recommendation table and graphs. You can adjust the headroom percentage here to dynamically update, and view instance recommendations based on the modified utilization buffer.

The screenshot shows the AMD EPYC Cloud Instance Advisor interface. In the 'Instance advice' section, there are four bar charts comparing 'CI-Current Instance Data' (gray bars) with 'Optimal' instances (blue bars). The charts are for Cost(\$), Power(kw), Carbon(kgCO2eq), and a Summary chart showing improvements of 68.84%, 99.90% lower, 99.90% lower, and 89.50% respectively. Above the charts is a note: "Note : All measurements are per month". Below the charts is a checkbox for "Annually". At the top right, there are 'Stat Collector', 'Export', and user info ('susgowda@amd.com'). A red box highlights the 'Headroom:' slider, which is currently set to 20%.

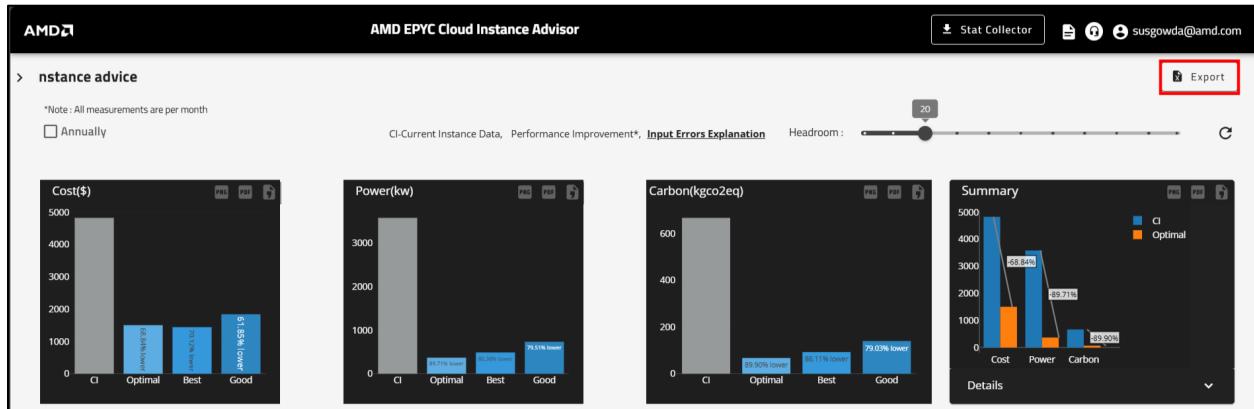
- Slide to set the desired percentage and click the "Refresh" button to apply the changes.

The screenshot shows the same interface as the previous one, but the 'Headroom:' slider has been adjusted to 40%. The charts now reflect the updated headroom settings. The summary chart shows improved values of 68.84%, 99.90% lower, 99.90% lower, and 89.50% for Cost(\$), Power(kw), Carbon(kgCO2eq), and Summary respectively. A red box highlights the 'Headroom:' slider set to 40%.

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

The screenshot shows the 'Input Errors Explanation' tooltip open over the 'Invalid or Unsupported Scenarios' section. The tooltip contains the following text: "Region or Instance input data is invalid or specifies an unsupported instance type" and a numbered list of 4 items: 1. Instances for which performance data is unavailable. 2. Older generation series (e.g., 3rd generations) with insufficient performance data. 3. Smaller instance types (e.g., micro, nano, medium) that are not ideal for EIA recommendations. 4. Graviton instances, which are not currently supported by EIA. A red box highlights 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:
 - UUID/Instance Name, Cloud Service Provider (CSP), Pricing Model.
 - Current instance details**: Instance type, Current vCPU, Current Monthly Cost (\$), Current Instance Energy Consumption (kwh), and Current Instance Emission (kgco2eq).

The table displays the following data:

	EPYC Cloud Instance Advisory Recommendations - { Headroom : 40% }								
	Current Instance	Current Monthly Cost	Current Instance Energy Consumption (kwh)	Current Instance Emission (kgco2eq)	UUID/Instance Name	Cloud	Pricing Model	Current vCPU(s)	Remark
4	r5.18xlarge	\$453.77	4595.72	1035.82	e21-907e-ef9b16a5e60d	AWS	spot	72	-
5	m6i.4xlarge	\$624.88	225.48	29.1	790-1652-645822392664-tlnk-oxford-prod	AWS	ondemand	16	-
6	m6i.8xlarge	\$1,249.76	1265.87	163.41	137-7427-277849738636-tlnk-oxford-prod	AWS	ondemand	32	-
7	m6i.16xlarge	\$2,499.52	795.68	102.74	243-9319-215533707450-tlnk-oxford-prod	AWS	ondemand	64	-
8	Grand Total	\$4,827.93	6882.76	1331.07					
9	Note : Green color instances indicate positive savings.								

At the bottom, there are tabs for **Recommended-Instance**, **Total Annual Savings**, and **Legal Disclaimer**.

- Recommended instance details (for selected headroom percentage)**: 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.

	A	J	K	L	M	N	O	P	Q	R	S	T	U
1													
2	Current Instance					OPTIMAL							BEST
3		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 Consumption
4	m6i.8xlarge	m7a.4xlarge	16	\$425.74	\$400.88	81.38	10.5	1.84	m7a.4xlarge	16	\$499.12	\$327.60	112.96
5	c5.18xlarge	m7a.8xlarge	32	\$578.16	\$556.63	162.66	21.02	1.76	m7a.8xlarge	32	\$715.25	\$419.54	226.11
6	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.

	A	B	C	D	E	F	G
1	Current Cost		OPTIMAL		BEST		GOOD
2		Total Cost	Total Savings	Total Cost	Total Savings	Total Cost	Total Savings
3	\$58,296.00	\$11,718.48	\$46,577.52	\$10,450.80	\$47,845.20	\$17,275.68	\$41,020.32
4							

Recommended-Instance Total Annual Savings Legal Disclaimer +

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

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Recommended-Instance Total Annual Savings Legal Disclaimer +

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 CO ₂ , 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?
7 th gen	4 th Gen - Genoa (AMD EPYC™ Processor - 9xx4)	Yes
6 th gen	3 rd Gen - Milan (AMD EPYC™ Processor - 7xx3)	Yes
5 th gen	2 nd Gen - Rome (AMD EPYC™ Processor 7xx2)	Yes
4 th 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?
6 th gen	4 th Gen - Genoa (AMD EPYC™ Processor - 9xx4)	Yes
5 th gen	3 rd Gen - Milan (AMD EPYC™ Processor - 7xx3)	Yes
4 th gen	2 nd Gen - Rome (AMD EPYC™ Processor 7xx2)	Yes
3 rd 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?
4 th gen	4th Gen - Genoa (AMD EPYC™ Processor - 9xx4)	Yes
3 rd gen	3rd Gen - Milan (AMD EPYC™ Processor - 7xx3)	Yes
2 nd gen	2 nd 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