

# HyperCloud™ Analytics Quick Start Guide for AWS

HyperCloud™ Analytics provides users intelligence and real-time cloud cost data normalized across different cloud options to help make apples to apples comparisons. It provides accurate recommendations so users can make informed cloud decisions.

This guide outlines the simple steps you can follow to get started with HyperCloud™. It covers the following topics

1. [Discover and Plan](#)

2. [Model Apps](#)

3. [Optimize cloud](#)

- [Manage Cloud Accounts](#)

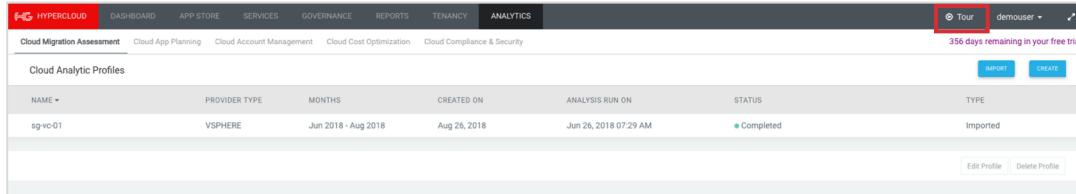
- [Optimize Cloud Costs](#)

4. [Secure Cloud](#)

## Taking a Tour

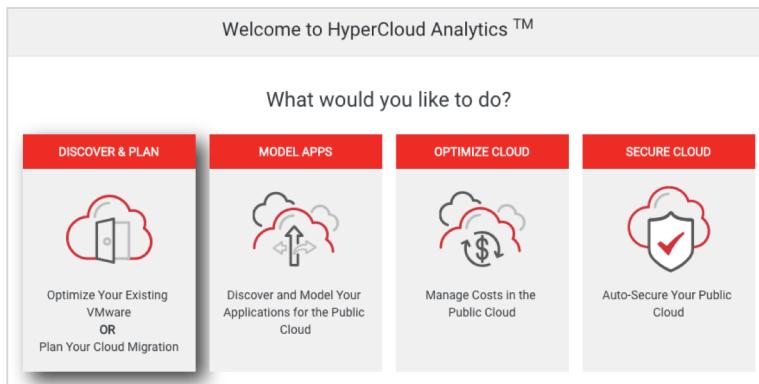
To quickly get up to speed on the multiple things that you can do with HyperCloud™ Analytics.

1. Log in to HyperCloud with your valid user credentials
2. On the **Analytics** tab, click on **Tour**



The screenshot shows the HyperCloud Analytics dashboard. The top navigation bar has tabs for DASHBOARD, APP STORE, SERVICES, GOVERNANCE, REPORTS, TENANCY, and ANALYTICS. The ANALYTICS tab is active. Below the tabs, there's a sub-navigation menu with items: Cloud Migration Assessment, Cloud App Planning, Cloud Account Management, Cloud Cost Optimization, and Cloud Compliance & Security. To the right of the sub-menu, there's a 'Tour' button with a red box around it. Further down, there's a section titled 'Cloud Analytic Profiles' with a table showing one entry: sg-vc-01 (VSphere provider type), Jun 2018 - Aug 2018 (months), Aug 26, 2018 (Created On), Jun 26, 2018 07:29 AM (Analysis Run On), Completed (Status), and Imported (Type). Buttons for 'Import' and 'Create' are also visible.

3. On the pop-up window, you can click on any of the four options to for a quick minute tour of what you can do.



The pop-up window has a title 'Welcome to HyperCloud Analytics™'. Below it, a question 'What would you like to do?' is displayed. There are four main buttons: 'DISCOVER & PLAN' (red background), 'MODEL APPS' (white background), 'OPTIMIZE CLOUD' (white background), and 'SECURE CLOUD' (white background). Each button has an icon: a server for Discover & Plan, an arrow for Model Apps, a dollar sign for Optimize Cloud, and a shield for Secure Cloud. Below each icon is a brief description: 'Optimize Your Existing VMware OR Plan Your Cloud Migration' for Discover & Plan, 'Discover and Model Your Applications for the Public Cloud' for Model Apps, 'Manage Costs in the Public Cloud' for Optimize Cloud, and 'Auto-Secure Your Public Cloud' for Secure Cloud.

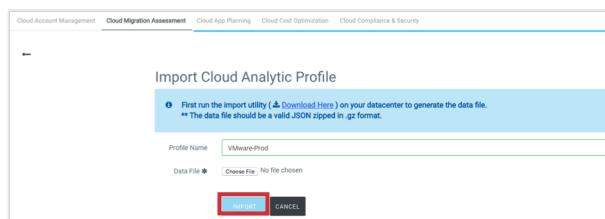
# DISCOVER AND PLAN

## Cloud Migration Assessments

HyperCloud offers a simple way for you to assess your existing on-premises VMware environments, for migration to public cloud. You will get a clear picture of true cost for migration and also be able to assess the on premises footprint all through a single pane of glass with just couple clicks.

### Step 1: Import your VMware profile

1. Log in to HyperCloud with your valid user credentials
2. On the **Cloud Migration Assessment** tab, click on **Import**
3. Download the import utility to run in your datacenter. Note *this machine needs to have access to your vSphere server*.
4. Upload the gz file generated from this utility to HyperCloud and click **IMPORT**



Once the import completes, the profile will show up under **Cloud Analytic Profiles**

5. With import complete, you can now view a visual summary of your datacenter and drill down further into details of your hosts.
6. You can view your VMs under the **VM Usage** tab and further perform actions **Start**, **Stop**, **Right Size** and **Destroy**

Discovered Virtual Machines (239)								
NAME	IP ADDRESS	HOST	CPU UTIL   ALLOC	MEMORY UTIL   ALLOC	RIGHT SIZE REC   CPU   MEMORY	UP TIME	STATE	
								Filter
431-m01	10.0.1.128	host9	0.32 %   0 vCPU	20.04 %   2 GB	2 vCPU   1 GB	140 days(s)	UP	⋮
430-021	140.0.4.220	host9	2.17 %   2 vCPU	18.36 %   2 GB	1 vCPU   2 GB	125 days(s)	UP	⋮
A_HCP	10.0.9.106	host18	1.25 %   4 vCPU	5.05 %   10 GB	1 vCPU   1 GB	37 days(s)	UP	⋮
app1-hp	160.10.20.10	host20	0.63 %   1 vCPU	3.3 %   4 GB	1 vCPU   2 GB	167 days(s)	UP	⋮
app1_hcp_hns_bry_7...	10.0.9.96	host22	0.44 %   1 vCPU	1 %   16 GB	1 vCPU   4 GB	100 days(s)	UP	⋮
app1-m01	192.168.122.1	host22	0.88 %   2 vCPU	5.94 %   4 GB	1 vCPU   2 GB	215 days(s)	UP	⋮
app1-vms	192.168.122.1	host22	1.27 %   2 vCPU	9.93 %   4 GB	1 vCPU   2 GB	213 days(s)	UP	⋮
A_SkyNet	10.0.9.99	host20	5.39 %   4 vCPU	2.78 %   10 GB	2 vCPU   1 GB	0.00 hrs	UP	⋮
A_Killer	10.0.9.112	host22	20.97 %   4 vCPU	5.69 %   10 GB	2 vCPU   3 GB	0.00 hrs	UP	⋮
BackupOfficer4ts		host20	0.22 %   4 vCPU	1.1 %   1 GB	1 vCPU   1 GB	215 days(s)	UP	⋮

5. You can visualize your disk usage on the **Disk Usage** tab and perform the **Destroy** action

Discovered Disks (147)				
NAME	STATUS	SIZE	ATTACHED	
				Filter
430-hp	OK	7 GB	⋮	
A_SkyNet	OK	204 GB	⋮	
A_Killer	OK	204 GB	⋮	
CentOS7-vm04-1_80209119-d092-4703-9a41-8544f5d9f400	OK	2 GB	⋮	
CentOS7-template	OK	2 GB	⋮	
CentOS7-template (Net75702-4422-4990-8103-9181ef4b5310)	OK	7 GB	⋮	
CentOS7-x86_64-GenericCloud	OK	812 MB	⋮	
CloudBOSH-7.4.0.1	OK	54 GB	⋮	
dh-00n	OK	10 GB	⋮	
dv-Ubuntu1604-00000001	OK	2 GB	⋮	

## Step 2: Running a Migration Analysis

1. On the **Migration Assessment** tab, click on **MIGRATION ANALYSIS** to start

The screenshot shows the 'Migration Assessment' tab selected. At the bottom right of the tab, there is a red-bordered button labeled 'MIGRATION ANALYSIS'. To its right is a blue button labeled 'DOWNLOAD REPORT'.

2. On the **Migration Analysis** pop-up, pick the cloud provider and region that you want to assess and click **RUN**

The dialog box has a title 'Migration Analysis'. Under 'Cloud Provider Requirements', 'Cloud Provider' is set to 'AWS' and 'Regions' is set to 'AWS.US-WEST-1'. A note at the bottom says 'Please save the existing migration analysis report before executing again.' There are 'CANCEL' and 'RUN' buttons at the bottom, with 'RUN' also having a red border.



*The assessment takes a few minutes to complete. Once the assessment is complete, you can repeat the same for any other cloud provider to compare*

3. After the assessment is complete, you can further **Download Report**

The report summary shows:  
- Total VMs: 239  
- Idle VMs: 216  
- Right Size VMs: 151  
- Total Storage: 14 TB

**Summary** table:

DURATION	TOTAL MONTHLY	TOTAL UP FRONT	TOTAL COST	IDLE VM SAVINGS	RIGHT SIZE SAVINGS
on demand	\$24,892.82	\$0.00	\$29,793.04	\$26,289.48	\$11,176.64
1 hour	\$6.00	\$0.00	\$0.00	\$0.00	\$0.00
2 hours	\$6.00	\$41,618.62	\$41,618.62	\$34,617.96	\$14,086.00

**VM Assessment** table:

VM NAME	CORES	MEMORY	DISK	INSTANCE	REPORT SIZE	VM STATE	ON DEMAND	2 HOURS	
A1-m1s	8 vCPUs	2 GB	100 GB	1 large	2 vCPU	1 2GB	\$82.91	\$303.04	\$2,301.12
A1-HCP	8 vCPUs	10 GB	200 GB	1 large	2 vCPU	1 2GB	\$103.99	\$1,298.29	\$2,349.60
A1-Small	4 vCPUs	10 GB	100 GB	1 large	2 vCPU	1 2GB	\$103.99	\$111.32	\$1,908.96
A1-Med	4 vCPUs	10 GB	100 GB	1 large	2 vCPU	1 2GB	\$103.99	\$111.32	\$1,908.96
after-10	2 vCPUs	2 GB	40 GB	1 large	1 vCPU	1 2GB	\$62.91	\$45.04	\$1,301.12
avg-m1s	2 vCPUs	4 GB	100 GB	1 2GB	1 vCPU	1 2GB	\$69.95	\$741.32	\$1,568.76

# MODEL APPS

## Cloud Application Planning

HyperCloud™ Cloud Application Planning provides application migration and deployment assessments. It summarizes their application needs, be it traditional VMs or modern container based micro services and simulates deployment scenarios for public cloud.

### Step 1: Import your Application

1. Log in to HyperCloud with your valid user credentials
2. On the **Cloud Application Planning** tab, click on **Import** and choose one of the three options below

Cloud Account Management    Cloud Migration Assessment <b>Cloud App Planning</b> Cloud Cost Optimization    Cloud Compliance & Security				
Cloud App Planning				
NAME	DESCRIPTION	CREATED ON	LAST RUN ON	
test app 2	test app 2 for modeling	Aug 22, 2018 11:34 AM	Sep 11, 2018 02:35 PM	
<b>IMPORT</b> <b>CREATE</b>				Connect to Dynatrace Account Dynatrace Import Tool Upload YAML File

### Import via Connect to Dynatrace Account

3. Enter the details of your Dynatrace account and **Save Changes**

The screenshot shows a configuration dialog for connecting to a Dynatrace account. It includes fields for ID (auto-filled), Name (dynatrace), Type (SaaS), URL (https://gxx46482.live.dynatrace.com/), and Access token (redacted). At the bottom are 'Save Changes' and 'Cancel' buttons.

### Import via Dynatrace Import Tool

3. Run the import utility on your Dynatrace Hosts and upload the tar.gz generated. Click **Import** to upload the file

The screenshot shows a dialog for importing Dynatrace hosts. It includes instructions to run the import tool and upload a tar.gz file. Below are 'Upload File' and 'Import' buttons.

### Import via YAML file

3. Import your application as a YAML file and click **Import**. Note the example YAML available for reference

The screenshot shows a dialog for importing a YAML file. It includes instructions to edit a sample YAML file and upload a YAML file. Below are 'YAML File' and 'Import' buttons.

## Step 2: Running an optimization assessment

1. Once import is complete, choose an application that you want to run an analysis on
2. Configurations for the (multi-tier) application is imported and can be edited under the **App Modeling** tab. For each app edit the settings under **Instance Settings** or change **Global Settings**

The screenshot shows the 'APP MODELING' tab for a 'WordPress' application. On the left, there's a tree view with 'APPLICATION' (WordPress) and 'WEB SERVER' (Nginx). The main area is titled 'INSTANCE SETTINGS' and contains fields for Compute & Memory (Homogeneous selected), Platform (Linux), Minimum Instances (1), Minimum CPU (5 vCPU), Aggregated CPU (20 vCPU), Minimum Memory (4 GB), Aggregated Memory (40 GB), Block Storage, and Object Storage.

3. Choose cloud providers and regions and click on Start Analysis

The screenshot shows the 'APP MODELING' tab for the same 'WordPress' application. The 'CLOUD PROVIDER REQUIREMENTS' section is highlighted with a red box. It shows 'Geographical Regions' (2 Geographical Region Selected) and 'Cloud Provider Regions' (3 Cloud Provider Region Selected). Below these are icons for 'ap-southeast-2' (AWS), 'australiaeast' (Azure), and 'australia-southeast1' (Google Cloud).



Here you can choose multiple providers and multiple regions. You can verify that the choices are displayed below

4. Your assessment will be available under the **Optimization Assessment** tab. You can further download this report

Optimization Analysis					
PROVIDER	TOTAL OPEX	UP FRONT	TOTAL COST		
aws.ap-southeast-2	\$1,485.14	\$0.00	\$1,485.14		
azure.australiaeast	\$2,326.93	\$0.00	\$2,326.93		
gcp.australia-southeast1	\$1,863.90	\$0.00	\$1,863.90		

SUMMARY						
Application Name:	test app 2	ITEM #	ITEM	QUANTITY	PRICE	DESCRIPTION
Date:	9/12/2018, 4:06:49 PM	1	linux_instances	3	\$114.91	r4.large ondemand ondemand
Provider:	aws.ap-southeast-2	2	linux_instances	3	\$114.91	r4.large ondemand ondemand
Duration:	1 Month	3	block	10	\$24.00	200 GB AWS EBS General Purpose SSD
		4	block	10	\$24.00	200 GB AWS EBS General Purpose SSD
		5	object	1	\$0.02	1.0 GB AWS S3 storage
		6	data_transfer	1	\$14.49	2,635,200 AWS S3 writes per month
		7	data_transfer	1	\$1.16	2,635,200 AWS S3 reads per month
		8	object	1	\$0.02	1.0 GB AWS S3 storage
		9	data_transfer	1	\$14.49	2,635,200 AWS S3 writes per month

# OPTIMIZE CLOUD

## Cloud Account Management

Your AWS master accounts can be added to this tab along with all the linked accounts for single pane management. Accounts that are added here are further used for other capabilities such as cost optimization.

### Step 1: Create account

1. Log in to HyperCloud with your valid user credentials
2. On the **Cloud Account Management** tab, click on **AWS**
3. Click on **ADD ACCOUNT**

Cloud Migration Assessment Cloud App Planning Cloud Account Management Cloud Cost Optimization Cloud Compliance & Security

AWS Azure GCP

Accounts

Show Failed Accounts

ACCOUNT	AVATAR	ACCOUNT ID	CREATED ON	STATUS	ROLE ARN	NET BILL	CONSOLIDATED BILL	ACTION
No Master Account found please import a master account.								

3. On the pop-up window, select the **ACCOUNT TYPE** and input the **ACCOUNT ID**

AWS Checklist

All items must be marked "Yes" to perform analysis.

Account Type

Select account type

Account ID

Do you have admin access for the account?  
If No, Direct login, Approvals from account admin will suffice.



You can add master, standalone and member accounts using the same wizard

4. Click on the toggle to mark **Yes** to see all the pre-requisite setup that is required for adding your AWS account.

AWS Checklist

All items must be marked "Yes" to perform analysis.

Account Type

Standalone

Account ID

11111111111111111111

Do you have admin access for the account?  
If No, Direct login, Approvals from account admin will suffice.

CAPABILITY	ACTION	STATUS
Spend Analysis	Enabled AWS Cost Explorer(CE) How to enable this?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Instance right sizing	Enabled AWS Cost and Usage Report(CUR) How to enable this?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Reserved instance planning	Access to AWS S3 bucket with CUR data How to enable this?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Security/Compliance	Enabled AWS Config How to enable this?	<input checked="" type="radio"/> Yes <input type="radio"/> No

Please self-assess accurately. HyperCloud will not verify status independently.



You need to complete the setup pre-requisites on AWS to successfully add your account. The following four pre-reqs are

- [Spend Analysis - Enable Cost Explorer](#)
- [Instance Right-sizing; RI Planning - Enable AWS CUR](#)
- [Instance Right-sizing; RI Planning - Access to S3 bucket with CUR data](#)
- [Security/Compliance - Enable AWS Config](#)

5. Toggle to **Yes** on each pre-requisite is complete and click **DONE** to begin adding your account

6. On the ROLE ARN pop-up, input your name and S3 Bucket Name and click **CREATE ROLE ARN**

Name

HyperGrid Account ID

External ID

S3 Bucket Name

HyperCloud relies on Cost Usage Report (CUR) for Cost Optimization Analysis. To enable AWS CUR please see [this guide](#) and make sure to choose Hourly for Time unit and select Resource IDs for include. Queries from HyperCloud may result in additional charges from AWS.

Clicking Create Role ARN button will launch a CloudFormation template stack to create a Role ARN in AWS targeted account with HyperGrid Account (675504356908) as Trusted Entity and with the External ID. This step requires admin privileges in AWS.

[Click here](#) to view policies for this ARN.

**CREATE ROLE ARN** **CANCEL**



For more details on how to create an S3 bucket, go to section

7. Log into you AWS account for the setup to progress. Once you login, enter the **Stack name**, check the box to provide permission and click **Create**

Create stack

Template

Template URL: <https://s3.amazonaws.com/hcp-aws-cloudformation-templates/cross-account-role-CFN/template>

Description: This template creates a cross account role in an account.

Details

Stack name

Parameters

ExternalID  The External ID that will be required to assume the role.

OtherAccountNumber  The 12 digit AWS account number to grant access to.

Capabilities

The following resource(s) require capabilities: [AWS::IAM::Role]  
This template contains Identity and Access Management (IAM) resources that might provide entities access to make changes to your AWS account. Check that you want to create each of these resources and that they have the minimum required permissions. [Learn more](#).

I acknowledge that AWS CloudFormation might create IAM resources.

**Create**



This will initiate a task that you will see on your AWS console. Once creation of this task is complete, the Create Role ARN will be auto-populated with the ARN

8. After task creation on your AWS account is completed, the Role ARN is auto-populated on your HyperCloud Create Account wizard. Click **SUBMIT** to finish creating your account

Account ID

External ID

**CREATE ROLE ARN**

Clicking above button will launch a CloudFormation template stack to create a Role ARN in AWS targeted account with HyperCloud Account (536236592066) as Trusted Entity and with the ExternalId. Please SUBMIT after rolearn is created.

[Click here](#) to view policies for this ARN.

Role ARN

**SUBMIT** **CANCEL**



Importing your AWS account will take a few seconds. Once the creation is done, your account will show up under **Accounts** on HyperCloud

## Cloud Cost Optimization

HyperCloud provides the ability to analyze public cloud bills and usage to make recommendations for cost reduction and instance placements. You can derive insights on spending distribution of your cloud services and instances usage to optimize your cloud usage

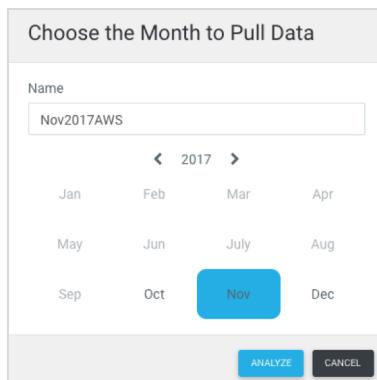
### Step 1: Run Assessment

1. Log in to HyperCloud with your valid user credentials
2. On the **Cloud Cost Optimization** tab choose the cloud profile that you want to analyze and click **Run Assessment**



The screenshot shows the HyperCloud dashboard with the 'ANALYTICS' tab selected. Under 'Cloud Cost Optimization', the 'Selected Profile: HyperGrid Dev (AWS)' dropdown is set to 'Account Id: 771946146911'. The 'Run Assessment' button is highlighted with a red box.

3. Choose the month that you want to run your assessment, input a name for your assessment and click **Analyze**



Choose the Month to Pull Data

Name: Nov2017AWS

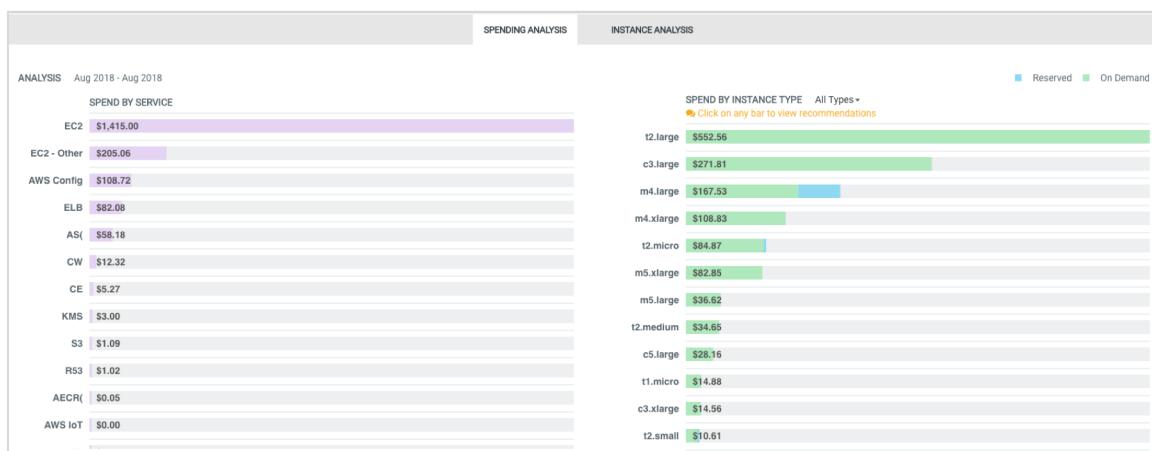
2017

Jan	Feb	Mar	Apr
May	Jun	July	Aug
Sep	Oct	Nov	Dec

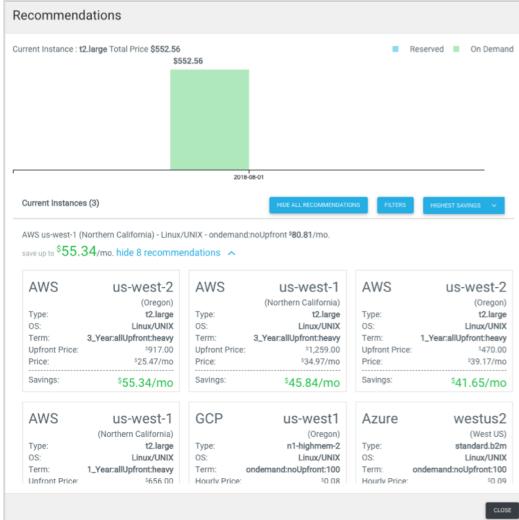
ANALYZE CANCEL

### Step 2: Your Analysis Report and Recommendations

1. Once your report is generated, you can view your spending split by services and instances under the **Spending Analysis** tab



2. Click on any instance spend bar to further drill down into your cloud spend and view recommendations for optimization



You can further filter your recommendations based on **Highest Savings**. Click on **Filters** to get a complete list of options that will help you customize these recommendations based on your preferences

### Step 3: Instance Analysis

1. Click the **Instance Analysis** tab to see the breakdown of your costs and idle resources

Cloud Migration Assessment								Cloud App Planning	Cloud Account Management	Cloud Cost Optimization	Cloud Compliance & Security	171 days remaining in your free trial	
								SPENDING ANALYSIS		INSTANCE ANALYSIS			
Cost Savings Summary													
75	<b>\$340.77</b> Instance Cost	<b>\$47.44</b> Right Size Savings	<b>\$97.94</b> Idle Resources	<b>\$115.92</b> Potential Reserved Instance Savings	<b>\$1.86</b> Reserved Instance Wastage	<b>\$0.00</b> Current Reserved Instance Savings							
35													
Low Utilization Resources (<20% vCPU)													
12													
Idle Resources (<5% vCPU)													
Discovered Instances (75)								FILTER	REFRESH				
	NAME	INSTANCE TYPE	REGION	CPU: UTIL   ALLOC	MEMORY: UTIL   ALLOC	STATE	ON DEMAND USAGE	ON-DEMAND COST					
	i-0d555e2d1690761	c4.large	ap-south-1	6.58%, 2 vCPU	-, 3840 MB	terminated	67.00 Hrs	\$12.864	I				
	i-09143dd73738e6c1	t2.large	ap-south-1	6.33%, 2 vGPU	-, 8192 MB	terminated	66.31 Hrs	\$6.578	I				
	i-034942b7f1108f6c	t2.large	ap-south-1	11.97%, 2 vCPU	-, 8192 MB	terminated	66.31 Hrs	\$6.578	I				
	i-0ad8df58c326d1296	t2.large	ap-south-1	12.58%, 2 vCPU	-, 8192 MB	terminated	66.31 Hrs	\$6.578	I				
	i-0e8920bd227805c	t2.large	ap-south-1	10.25%, 2 vCPU	-, 8192 MB	terminated	66.31 Hrs	\$6.578	I				
	i-017a92a5476ba99	t2.large	ap-south-1	7.25%, 2 vCPU	-, 8192 MB	terminated	66.31 Hrs	\$6.578	I				
	i-0fe263c61d5c18232	t2.large	ap-south-1	7.37%, 2 vCPU	-, 8192 MB	terminated	66.31 Hrs	\$6.578	I				
	i-06d80e0fb1b73d477d	t2.large	ap-south-1	7.00%, 2 vCPU	-, 8192 MB	terminated	66.31 Hrs	\$6.578	I				
	i-01527e15b0c5c5885	t2.large	ap-south-1	4.83%, 2 vCPU	-, 8192 MB	terminated	66.13 Hrs	\$6.560	I				
	i-0f80e0909801b0f1	t2.small	ap-south-1	11.00%, 1 vCPU	-, 2048 MB	terminated	66.81 Hrs	\$1.657	I				

# SECURE CLOUD

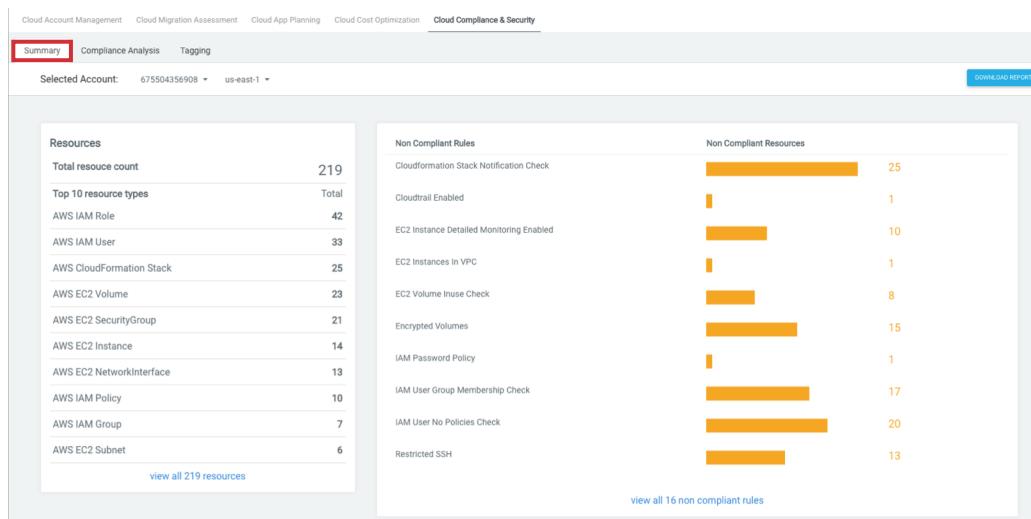
## Cloud Compliance and Security

HyperCloud's Cloud Compliance and Security analysis provides visibility and insights so you can instantly pinpoint the non-compliance /rules as well as associated resources and take the necessary corrective actions. These compliance rules are based on AWS Configuration guidelines and best practices.

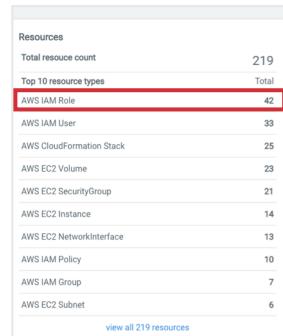
**Prerequisites:** Make sure you have at least one AWS account added to manage to explore these capabilities

### Step 1: Your Compliance Dashboard Summary

1. Log in to HyperCloud with your valid user credentials
2. On the **Cloud Compliance & Security** tab, click on **Summary**



3. You can further drill down into details for each resource type by clicking on the resource



## Step 2: Compliance Analysis

1. Click on the **Compliance Analysis** tab for a detailed breakdown by policy
2. Choose the Account and region that you want to inspect

POLICY NAME		SUMMARY
✓	ACM Certificate Expiration Check ⓘ	All Amazon resources are compliant with this rule
✓	Autoscaling Group ELB Healthcheck Required ⓘ	All Amazon resources are compliant with this rule
>	Cloudformation Stack Notification Check ⓘ	25+ Amazon resources are not compliant with cloudformation-stack-notification-check policy
>	Cloudtrail Enabled ⓘ	1 Amazon resource is not compliant with cloudtrail-enabled policy
✓	DB Instance Backup Enabled ⓘ	All Amazon resources are compliant with this rule
✓	Dynamodb Autoscaling Enabled ⓘ	All Amazon resources are compliant with this rule
✓	Dynamodb Throughput Limit Check ⓘ	All Amazon resources are compliant with this rule
✓	EBS Optimized Instance ⓘ	All Amazon resources are compliant with this rule
>	EC2 Instance Detailed Monitoring Enabled ⓘ	10 Amazon resources are not compliant with ec2-instance-detailed-monitoring-enabled policy
>	EC2 Instances In VPC ⓘ	1 Amazon resource is not compliant with ec2-instances-in-vpc policy
>	EC2 Volume Inuse Check ⓘ	8 Amazon resources are not compliant with ec2-volume-inuse-check policy
✓	EIP Attached ⓘ	All Amazon resources are compliant with this rule
✓	ELB ACM Certificate Required ⓘ	All Amazon resources are compliant with this rule
>	Encrypted Volumes ⓘ	15 Amazon resources are not compliant with encrypted-volumes policy
>	IAM Password Policy ⓘ	1 Amazon resource is not compliant with iam-password-policy policy

3. Rules that have resources that are non-compliant, you can view additional details which resources are non-compliant and the account id associated with these resources

✓	Dynamodb Throughput Limit Check ⓘ	All Amazon resources are compliant with this rule																																												
✓	EBS Optimized Instance ⓘ	All Amazon resources are compliant with this rule																																												
>	EC2 Instance Detailed Monitoring Enabled ⓘ	10 Amazon resources are not compliant with ec2-instance-detailed-monitoring-enabled policy																																												
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> EC2 Instances In VPC ⓘ																																														
1 Amazon resource is not compliant with ec2-instances-in-vpc policy																																														

4. Click on **Download Report** to download the entire analysis

Summary		Compliance Analysis	Tagging	SEARCH	DOWNLOAD REPORT
Selected Account:	675504356908	us-east-1	All	Search	

## Step 3: Tagging

- Click on the **Tagging** tab to get an overview of all your resources that are tagged and not tagged

Resources with Tags		
AWS EC2 VPC	NAME	TAGS
arn:aws:ec2:us-east-1:675504356908:vpc/vpc-04d2e2f1	-	2
arn:aws:ec2:us-east-1:675504356908:vpc/c88ec0b3	-	1
arn:aws:ec2:us-east-1:675504356908:vpc/vpc-c282c109	-	1
arn:aws:ec2:us-east-1:675504356908:vpc/vpc-31b00254	-	1
arn:aws:ec2:us-east-1:675504356908:vpc/vpc-fd8fc0f7	-	1

AWS EC2 RouteTable		
AWS EC2 RouteTable	NAME	TAGS
arn:aws:ec2:us-east-1:675504356908:route-table/rb-02491d7e	-	2
arn:aws:ec2:us-east-1:675504356908:route-table/rb-f5a0468a	-	1
arn:aws:ec2:us-east-1:675504356908:route-table/rb-7670240a	-	1
arn:aws:ec2:us-east-1:675504356908:route-table/rb-c0a516a5	-	1
arn:aws:ec2:us-east-1:675504356908:route-table/rb-24471358	-	1

Resources with NO Tags		
AWS IAM User	NAME	
arn:aws:iam:675504356908:user/ninjauser	ninjauser	
arn:aws:iam:675504356908:user/xocue-hcp	xocue-hcp	
arn:aws:iam:675504356908:user/jmasci	jmasci	
arn:aws:iam:675504356908:user/XOcur	XOcur	
arn:aws:iam:675504356908:user/Issues	Issues	
arn:aws:iam:675504356908:user/MySwitchhole	MySwitchhole	
arn:aws:iam:675504356908:user/ghost-blog	ghost-blog	
arn:aws:iam:675504356908:user/marketplace-portal	marketplace-portal	
arn:aws:iam:675504356908:user/marketplace-apis-dev	marketplace-api-dev	
arn:aws:iam:675504356908:user/hypergrid-demo-analytics	hypergrid-demo-analytics	
arn:aws:iam:675504356908:user/hcp-account-mgmt-prod	hcp-account-mgmt-prod	
arn:aws:iam:675504356908:user/wang	wang	

- Choose the Resource you want to inspect by checking on the box. Click on **Add Tags**

Resources with Tags		
AWS EC2 VPC	NAME	TAGS
<input checked="" type="checkbox"/> arn:aws:ec2:us-east-1:675504356908:vpc/vpc-04d2e2f1	-	2
<input checked="" type="checkbox"/> arn:aws:ec2:us-east-1:675504356908:vpc/vpc-c88ec0b3	-	1
<input type="checkbox"/> arn:aws:ec2:us-east-1:675504356908:vpc/vpc-c282c109	-	1
<input type="checkbox"/> arn:aws:ec2:us-east-1:675504356908:vpc/vpc-31b00254	-	1
<input type="checkbox"/> arn:aws:ec2:us-east-1:675504356908:vpc/vpc-fd8fc0f7	-	1

AWS EC2 RouteTable		
AWS EC2 RouteTable	NAME	TAGS
<input checked="" type="checkbox"/> arn:aws:ec2:us-east-1:675504356908:route-table/rb-02491d7e	-	2
<input type="checkbox"/> arn:aws:ec2:us-east-1:675504356908:route-table/rb-f5a0468a	-	1
<input type="checkbox"/> arn:aws:ec2:us-east-1:675504356908:route-table/rb-7670240a	-	1
<input type="checkbox"/> arn:aws:ec2:us-east-1:675504356908:route-table/rb-c0a516a5	-	1

- Input values on the **Add Tag** pop-up and click **Save** to add tags to the selected resources

Key	Value
NAME	WT

Save    Close

- To delete tags, click on the resource name. On the pop-up select the tag you want to remove and click **Delete**

KEY	VALUE
<input checked="" type="checkbox"/> Name	
<input type="checkbox"/> asd	asd

Add    Delete    Close

# APPENDIX

## AWS Setup Prerequisites

### Spend Analysis - Enable Cost Explorer

1. Sign in to [AWS Management Console](#)
2. Navigate to Billing and Cost Management at <https://console.aws.amazon.com/billing/home#/>
3. On the navigation pane choose **Cost Explorer**

The screenshot shows the AWS Billing & Cost Management Dashboard. The left sidebar has a 'Cost Explorer' menu item highlighted with a red box. The main content area displays a 'Getting Started with AWS Billing & Cost Management' section with several bullet points about cost management features like AWS Budgets, Cost Explorer, and Athena integration.

4. On the “Welcome to Cost Explorer” page, click **Enable Cost Explorer**

The screenshot shows the 'Welcome to Cost Explorer' page. The left sidebar has a 'Cost Explorer' menu item highlighted with a red box. The main content area includes a 'Welcome to Cost Explorer' section with a 'Enable Cost Explorer' button, followed by three sections: 'How it works', 'Use Preconfigured Views', and 'Analyze Spend'. Each section contains an icon and a brief description.

### Cost Allocation Tags

1. Sign in to [AWS Management Console](#)
2. Navigate to Billing and Cost Management at <https://console.aws.amazon.com/billing/home#/>
3. On the navigation pane choose **Cost Allocation Tags**

The screenshot shows the 'Cost Explorer' page. The left sidebar has a 'Cost Allocation Tags' menu item highlighted with a red box. The main content area includes a 'Launch Cost Explorer' section with a search icon and a 'Preconfigured Views' section with three items: 'Monthly Spend by Service View', 'Monthly Spend by Linked Account View', and 'Daily Spend View'.

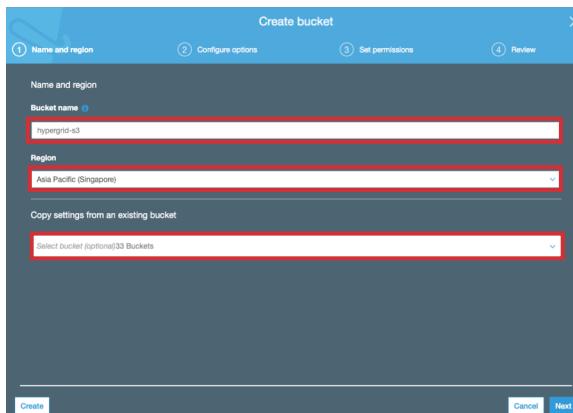
#### 4. On the “Cost Allocation Tags” page, click **Activate**

The screenshot shows the "Cost Allocation Tags" page in the AWS Management Console. At the top left is the title "Cost Allocation Tags". Below it is a section titled "AWS-Generated Cost Allocation Tags" with a note: "A resource created by tag is an AWS-generated cost allocation tag containing resource creator information that is automatically applied to the resources that you create. This feature is only available in the Billing & Cost Management console, and will not appear anywhere else in the AWS console, including the Tag Editor." A large red box highlights the "Activate" button at the bottom left of the page.

### Setting Up AWS CUR

#### Step 1: Create an S3 bucket

1. Sign in to [AWS Management Console](#)
2. Navigate to S3 from the top **Services** menu
3. Click **Create Bucket** to begin. Enter Name, Region (and choose an existing bucket to replicate settings from if applicable)



4. Click **Next**. Input all the settings that apply to your bucket and click **Next** to proceed

This block contains two side-by-side screenshots of the "Create bucket" wizard Step 2: "Configure options". The left screenshot shows the "Properties" section with several checkboxes: "Versioning" (checked), "Keep all versions of an object in the same bucket.", "Server access logging" (checked), "Log requests for access to your bucket.", "Tags" (checked), "You can use tags to track project costs.", "Object-level logging" (checked), "Record object-level API activity using AWS CloudTrail for an additional cost. See CloudTrail pricing or learn more.", "Default encryption" (checked), "Automatically encrypt objects when they are stored in S3.", and "Advanced settings". The right screenshot shows the "Public access settings for this bucket" section with two checkboxes: "Note: You can grant access to specific users after you create the bucket." and "Use the Amazon S3 block public access settings to enforce that buckets don't allow public access to data. You can also configure the Amazon S3 block public access settings at the account level. Learn more." Below these are sections for "Manage public access control lists (ACLs) for this bucket", "Manage public bucket policies for this bucket", and "Manage system permissions". Both screenshots have "Previous" and "Next" buttons at the bottom right.

5. Review your inputs and click **Create Bucket** to finish

This screenshot shows the Amazon S3 dashboard. At the top, it says "Welcome to Amazon S3. Create new buckets or select an existing bucket to view and configure properties.". Below this is a search bar with the placeholder "Search for buckets". There are three buttons: "+ Create bucket" (highlighted with a red box), "Delete bucket", and "Empty bucket". A list of buckets is shown, with one named "hypergridcostreport" highlighted with a red box. At the bottom, there is a note: "\* Objects might still be publicly accessible due to object ACLs. Learn more".

## Step 2: Create a Report

1. Sign in to [AWS Management Console](#)
2. Navigate to Billing and Cost Management at <https://console.aws.amazon.com/billing/home#/>
3. On the navigation pane choose **Reports**

The screenshot shows the 'AWS Cost and Usage Reports' page. On the left, a sidebar lists various options: Dashboard, Bills, Cost Explorer, Budgets, **Reports** (which is selected and highlighted with a red box), Cost Allocation Tags, Payment Methods, Payment History, Consolidated Billing, Preferences, Credits, and Tax Settings. The main content area is titled 'AWS Cost and Usage Reports' and contains a brief description: 'AWS Cost and Usage reports provide access to detailed data, enabling you to better analyze and understand your AWS costs as well as the specific product offerings and usage amounts underlying those costs. You can customize the content and delivery of your reports and manage them from the reports dashboard.' Below this is a 'Create report' button. A '▼ Other Reports' section follows, featuring three items with icons: 'EC2 Instance Usage Report' (bar chart icon), 'EC2 Reserved Instance Utilization Report' (line graph icon), and 'AWS Usage Report' (document icon). Each item has a brief description and a 'Learn more' link.

4. Input the name of your report and click **Next**

The screenshot shows the 'Report content' step of the report creation wizard. It includes fields for 'Report name - required' (with a red box around it), 'Report includes' (a list of items like Account identifiers, Invoice and Bill Information, etc.), 'Additional report details' (checkbox for 'Include resource IDs'), 'Data refresh settings' (checkbox for 'Automatically refresh your Cost & Usage Report when charges are detected for previous months with closed bills'), and a 'Next' button (highlighted with a red box).

5. Input the S3 bucket you want to use and choose the frequency and format of your report. Click **Next**

The screenshot shows the 'Delivery options' step of the report creation wizard. It includes fields for 'S3 bucket - required' (with a red box around it and a 'Verify' button), 'Report path prefix' (text input 'My prefix'), 'Time granularity' (radio buttons for 'Hourly' and 'Daily'), 'Report versioning' (radio buttons for 'Create new report version' and 'Overwrite existing report'), 'Enable report data integration for' (checkboxes for Amazon Athena, Amazon Redshift, and Amazon QuickSight), 'Compression type' (dropdown menu 'GZIP'), 'File format' (text input 'text/csv'), and 'Next' and 'Previous' buttons at the bottom.

6. Skip to step 13 if your verify is successful in the above step. Click on the **sample policy**

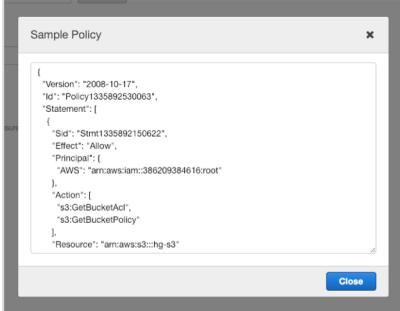
AWS Cost and Usage Reports > Create report

Step 1 Report content

Step 2 Delivery options

In order to receive AWS Cost & Usage Reports, you must have an Amazon S3 bucket created and configured with the appropriate access permissions. To ensure that your Amazon S3 bucket has the appropriate permissions, you can copy and paste the text in this sample policy into the permissions associated with your Amazon S3 bucket or learn more about S3 permissions [here](#).

7. Copy the sample policy that shows up in the pop-up window



8. On another browser window open the S3 Management Console (Navigate to **S3** from the top **Services** menu)
9. Click on the S3 bucket you want to use for the report creation
10. Navigate to **Permissions -> Bucket Policy**
11. On the editor, paste the policy that you copied in step 7. Click **Save**

Amazon S3 > hg-s3

Overview Properties Permissions Management

Public access settings Access Control List Bucket Policy CORS configuration

Bucket policy editor ARN: arn:aws:s3:::hg-s3  
Type to add a new policy or edit an existing policy in the text area below.

Delete Cancel Save

```
[{"Version": "2008-10-17", "Id": "Policy1335892530063", "Statement": [{"Sid": "String1335892150622", "Effect": "Allow", "Principal": {"AWS": "arn:aws:iam::386209384616:root"}, "Action": ["s3:GetBucketAcl", "s3:GetBucketPolicy"], "Resource": "arn:aws:s3:::hg-s3"}, {"Sid": "String1335892526596", "Effect": "Allow", "Principal": {"AWS": "arn:aws:iam::386209384616:root"}, "Action": ["s3:PutObject"], "Resource": "arn:aws:s3:::hg-s3/*"}]}
```

12. Once the policy is updated on your S3 bucket, the Verify operation on your create report wizard should successfully complete.

AWS Cost and Usage Reports > Create report

Step 1 Report content

Step 2 Delivery options

Step 3 Review

S3 bucket - required

hg-s3 | Verify | Valid Bucket

13. Click Next to progress on your create report wizard

AWS Cost and Usage Reports > Create report

Step 1 Report content

Step 2 Delivery options

Step 3 Review

### Delivery options

In order to receive AWS Cost & Usage Reports, you must have an Amazon S3 bucket created and configured with the appropriate access permissions. To ensure that your Amazon S3 bucket has the appropriate permissions, you can copy and paste the text in this sample policy into the permissions associated with your Amazon S3 bucket or learn more about S3 permissions here.

S3 bucket - required  
hg-63  Valid Bucket

Report path prefix  
HGCostReport

Time granularity  
 Hourly  
 Daily  
The time granularity on which report data are measured and displayed.

Report versioning  
 Create new report version  
 Overwrite existing report

Enable report data integration for  
 Amazon Athena  
 Amazon Redshift  
 Amazon QuickSight

Compression type  
GZIP

File format  
text/csv

14. Review your inputs and click **Review and Complete** to finish

AWS Cost and Usage Reports > Create Report

Step 1 Select Content

Step 2 Select Delivery Options

Step 3 Review

### Review

**Report content**

Report name  
hypergridcostreport

Time unit  
Hourly

Optional categories  
Resource IDs

Report includes  
 Account Identifiers  
 Invoice and Bill Information  
 Usage Amount and Unit  
 Rate and Cost  
 Product Attributes (e.g., instance type, operating system, and region)  
 Pricing Attributes (e.g., offer types, and lease lengths)  
 Reservation Identifiers and related details (for reserved instances only)

Data refresh settings  
Opted in

**Delivery Options**

Frequency  
Daily

S3 Bucket  
hypergridcostreport

Report path prefix  
HGCostReport/hypergridcostreport/date-range/

Format  
CSV

Compression  
GZIP

