

Summary

This Cloud Lab covers best practices for AWS multi-account (personal) creation & administration.

Topics include:

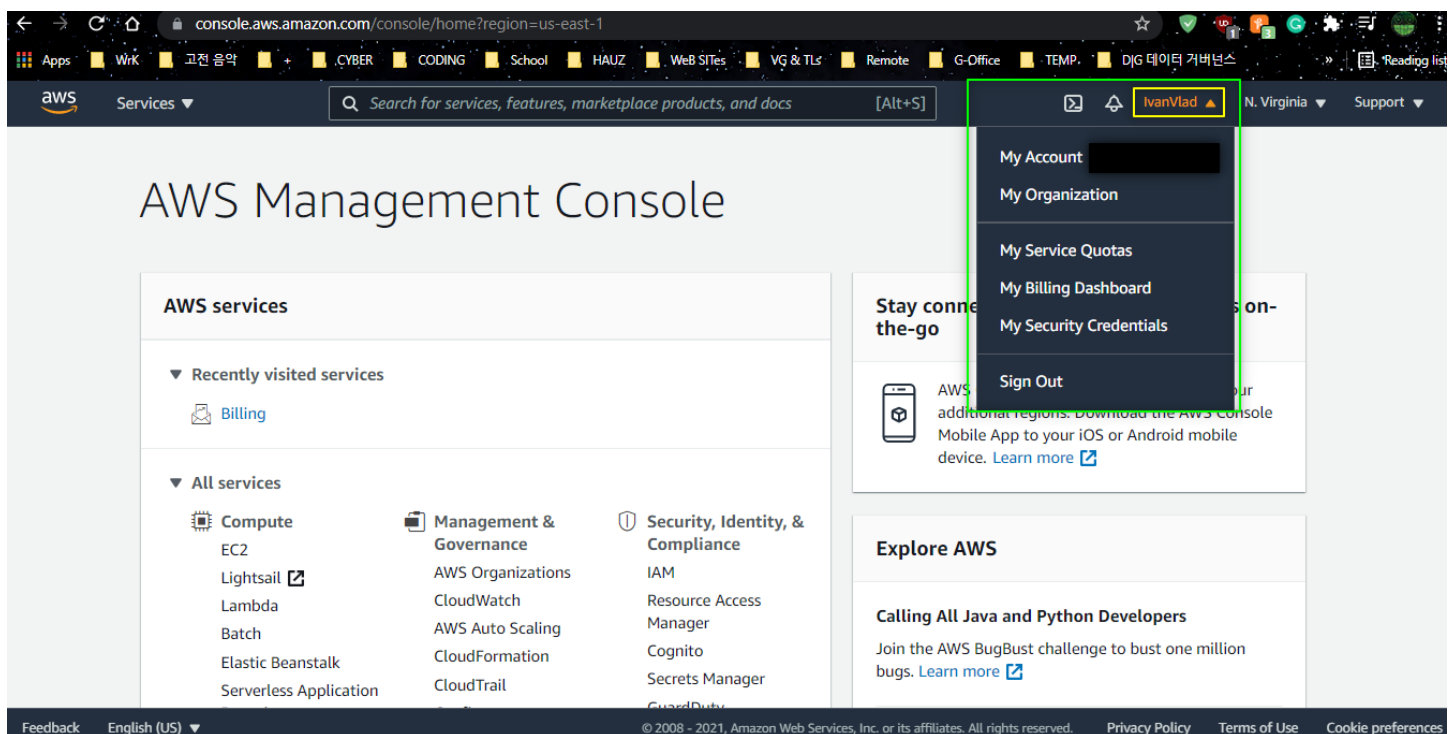
- Securing an AWS account
- Billing alerts
- General account vs Prod account
- Access Keys
- Setup AWS CLI v2 tools

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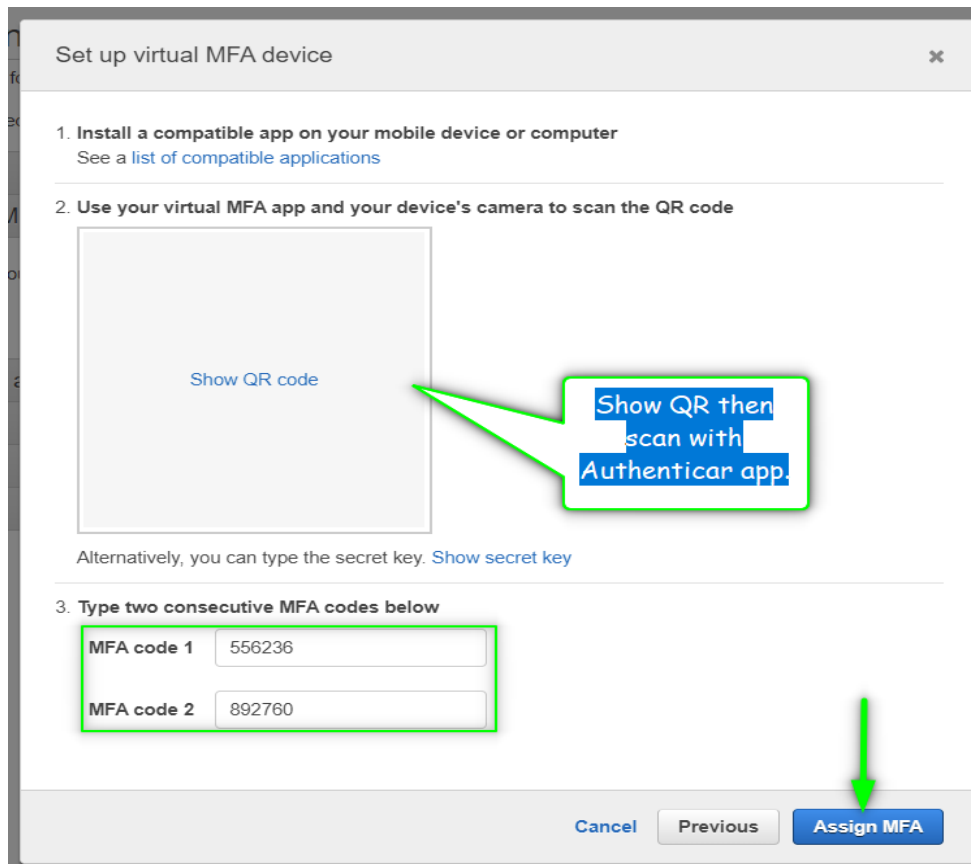
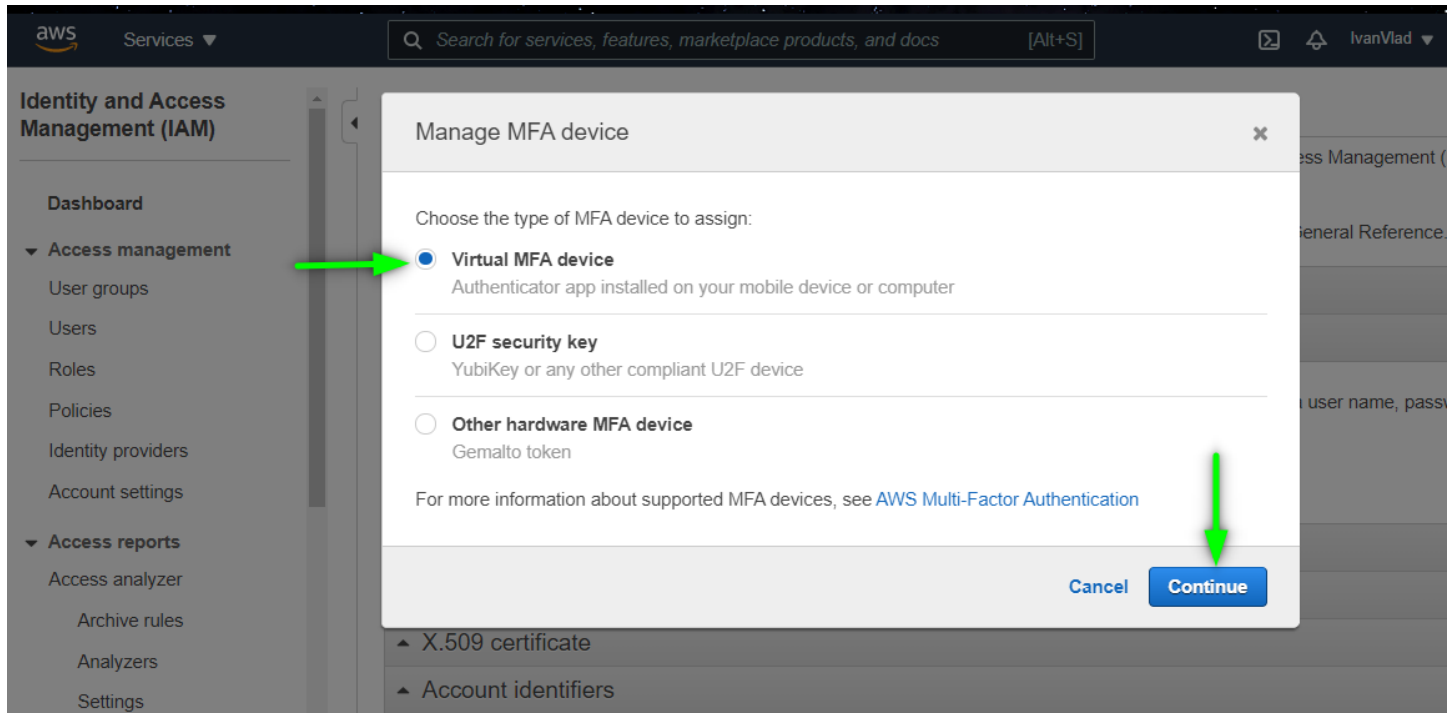
1. Account Creation

Create AWS free tier account – initial account is the root.



2. Secure the Account

*Need an authenticator app. Navigate to IAM MFA, we will enable via authenticator app.



3. Billing

Home

Cost Management

Cost Explorer

Budgets

Budgets Reports

Savings Plans

Cost & Usage Reports

Cost Categories

Cost allocation tags

Billing

Bills

Payments

Credits

Purchase orders

Preferences

Billing preferences

Payment methods

Consolidated billing ☒

Tax settings

Preferences

Billing Preferences

☒ **Receive PDF Invoice By Email**
Turn on this feature to receive a PDF version of your invoice by email. Invoices are generally available within the first three days of the month.

Cost Management Preferences

☒ **Receive Free Tier Usage Alerts**
Turn on this feature to receive email alerts when your AWS service usage is approaching, or has exceeded, the AWS Free Tier usage limits. If you wish to receive these alerts at an email address that is not the primary email address associated with this account, please specify the email address below.

Email Address:

☒ **Receive Billing Alerts**
Turn on this feature to monitor your AWS usage charges and recurring fees automatically, making it easier to track and manage your spending on AWS. You can set up billing alerts to receive email notifications when your charges reach a specified threshold. Once enabled, this preference cannot be disabled. [Manage Billing Alerts](#) or [try the new budgets feature!](#)

Detailed Billing Reports [Legacy]

Save preferences

Navigate to billing mgmt console, then billing preferences. Ensure all 3 alerts are checked.

CloudWatch

Dashboards

Alarms

In alarm

Insufficient data

OK

Billing

Logs

Log groups

Insights

Metrics

Explorer

Streams **New**

Events

Rules

Event Buses

ServiceLens

Service Map

Traces

Resource Health **New**

Container Insights

Resources

Performance monitoring

Lambda Insights

Performance monitoring

Synthetics

Canaries

Contributor Insights

Settings

Favorites

Feedback English (US)

Successfully created alarm BillingAlert. [View alarm](#)

Some subscriptions are pending confirmation
Amazon SNS doesn't send messages to an endpoint until the subscription is confirmed. [View SNS Subscriptions](#)

CloudWatch > Alarms

Alarms (1)

☐ Hide Auto Scaling alarms

<input type="checkbox"/>	Name	State	Last state update	Conditions	Actions
<input type="checkbox"/>	BillingAlert	OK	2021-07-10 22:46:28	EstimatedCharges > 10 for 1 datapoints within 6 hours	<input checked="" type="checkbox"/> 1 action(s) enabled

Navigate to CloudWatch, then Alarms to create a billing alert. Created a basic billing alert with a \$10 threshold. Confirm via SNS email to activate alarm.

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IvanVlad ▼

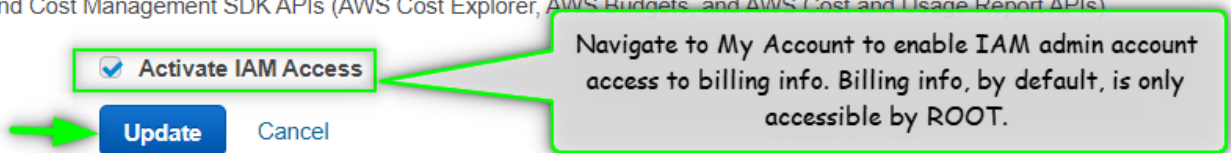
▼ IAM User and Role Access to Billing Information

Use the **Activate IAM Access** setting to allow IAM users and roles access to pages of the Billing and Cost Management console. This setting alone doesn't grant IAM users and roles the necessary permissions for these console pages. In addition to activating IAM access, you must also attach the required IAM policies to those users or roles. For more information, see [Granting access to your billing information and tools](#).

If this setting is deactivated, then IAM users and roles in this account can't access the Billing and Cost Management console pages, even if they have administrator access or the required IAM policies.

The **Activate IAM Access** setting does not control access to:

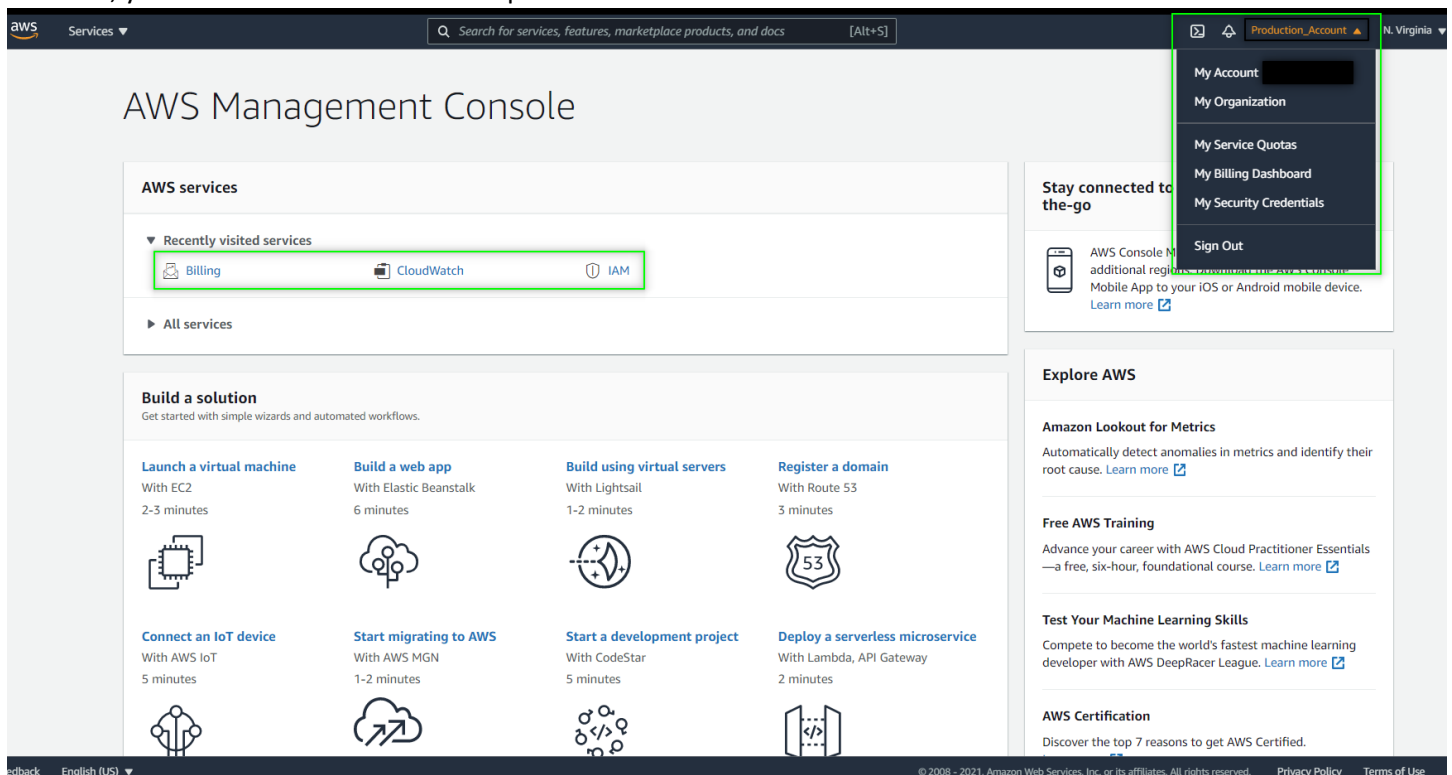
- The console pages for AWS Cost Anomaly Detection, Savings Plans overview, Savings Plans inventory, Purchase Savings Plans, and Savings Plan cart
- The Cost Management view in the AWS Console Mobile Application
- The Billing and Cost Management SDK APIs (AWS Cost Explorer, AWS Budgets, and AWS Cost and Usage Report APIs)



4. Creating Prod Account

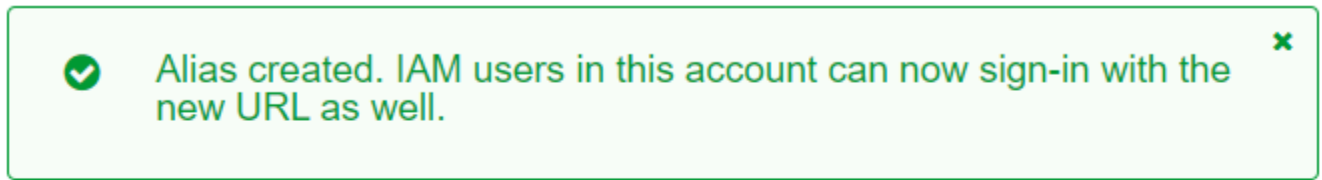
Similar to the 1st step with root acc – use gmail trick:

Now, you need to follow the same steps to create a **PRODUCTION** AWS account.



5. IAM – General Account

- Customize sign-in URL for IAM users in account



IAM dashboard

Sign-in URL for IAM users in this account

<https://ivan-general.signin.aws.amazon.com/console> | [Edit](#) | [Delete alias](#)



Add user



Review

Review your choices. After you create the user, you can view and download the autogenerated password and access key.

User details

User name	iamadmin
AWS access type	AWS Management Console access - with a password
Console password type	Custom
Require password reset	No
Permissions boundary	Permissions boundary is not set

Permissions summary

The following policies will be attached to the user shown above.

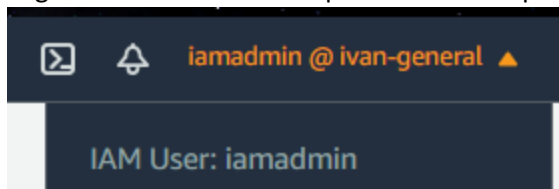
Type	Name
Managed policy	AdministratorAccess

Create IAM user with Admin Access

Tags

No tags were added.

- Login as IAM admin & setup MFA like in step 2:



Repeat process for Prod account.

Now we have 4 accounts:

- Ivan-general (root)
- Ivan-prod (IAM admin)
- lam-general (root)

- iam-prod (IAM admin)

This enabled to utilize the IAM admin accounts and not have to login as ROOT, unless needed, which is best practice.

6. Access Key Creation & AWS CLI v2 tools setup

Creating access keys for IAM accounts.

Create access key

✔ Your new access key is now available.

This is the only time that the secret access key can be viewed or downloaded.
You cannot recover it later. However, you can create new access keys at any time.

Download .csv file

Access key ID	AKIAVIMRD2RV43ZOBL33	📋
Secret access key	Show secret access key	

Close

Download & store CSV file securely, it contains Access KEY information.

Install AWS CLI and confirm:

```
Command Prompt
Microsoft Windows [Version 10.0.19042.1083]
(c) Microsoft Corporation. All rights reserved.

C:\Users\IvanVlad>aws

usage: aws [options] <command> <subcommand> [<subcommand> ...] [parameters]
To see help text, you can run:

    aws help
    aws <command> help
    aws <command> <subcommand> help

aws: error: the following arguments are required: command

C:\Users\IvanVlad>aws --version
aws-cli/2.2.18 Python/3.8.8 Windows/10 exe/AMD64 prompt/off
```

Configure named profile for both IAM accounts:

```
C:\Users\IvanVlad>aws configure --profile iamadmin-general
AWS Access Key ID [None]: AKIA[REDACTED]
AWS Secret Access Key [None]: [REDACTED]
Default region name [None]: us-east-1
Default output format [None]:
```

```
C:\Users\IvanVlad>aws configure --profile iamadmin-production
AWS Access Key ID [None]: AKIA[REDACTED]
AWS Secret Access Key [None]: [REDACTED]
Default region name [None]: us-east-1
Default output format [None]:
```

CLI is now configured with both IAM admin accounts (Gen + Prod) – store KEYS securely, or delete csv's altogether since it is already configured in the CLI.