

1. Setup billing alarm.

The screenshot shows the AWS Billing and Cost Management console in the 'us-east-1' region. The 'Budgets (2)' overview page is displayed, showing a table of existing budgets. The table has columns for Name, Thresholds, Budget, Amount, Forecast, and Current vs. budget. Two budgets are listed: 'My Monthly Cost Budget' and 'myawsbill', both with a threshold of 'OK' and a budget of '\$10.00'. The 'Create budget' button is visible in the top right corner.

Name	Thresholds	Budget	Amount	Forecast	Current vs. budget
My Monthly Cost Budget	OK	\$10.00	\$0.00	-	
myawsbill	OK	\$10.00	\$0.00	-	

2. Create Linux ec2 Instance in Mumbai region.

The screenshot shows the AWS Management Console in the 'ap-south-1' region. The 'Instances (1/2)' page is displayed, showing a table of existing instances. The table has columns for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, and Availability zone. Two instances are listed: 'LinuxVM' (i-0be7cef5911755c43) and 'LinuxVM' (i-064f2045e6d871ce7), both with a state of 'Running' and a type of 't2.micro'. The 'Launch instances' button is visible in the top right corner.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability
LinuxVM	i-0be7cef5911755c43	Running	t2.micro	2/2 checks passed	View alarms	ap-south-1
LinuxVM	i-064f2045e6d871ce7	Running	t2.micro	2/2 checks passed	View alarms	ap-south-1

The details for the instance 'i-0be7cef5911755c43 (LinuxVM)' are shown below the table. The instance is in the 'Running' state and has a public IPv4 address of 43.205.136.51. The instance type is 't2.micro' and the operating system is 'LinuxVM'.

3. Setup MFA for Root User

The screenshot shows the AWS IAM console for the root user 'Abhimanyu_Chandgude'. The 'Account details' section displays the account name, email address (akchandgude0107@gmail.com), AWS account ID (528757786221), and canonical user ID. The 'Multi-factor authentication (MFA)' section shows one virtual MFA device with the identifier 'arn:aws:iam::528757786221:mfa/auto', created on 'Thu Aug 15 2024'. The 'Access keys (0)' section shows no access keys are currently configured.

Type	Identifier	Certifications	Created on
Virtual	arn:aws:iam::528757786221:mfa/auto	Not Applicable	Thu Aug 15 2024

Access key ID	Created on	Access key last used	Region last used	Service last used	Status
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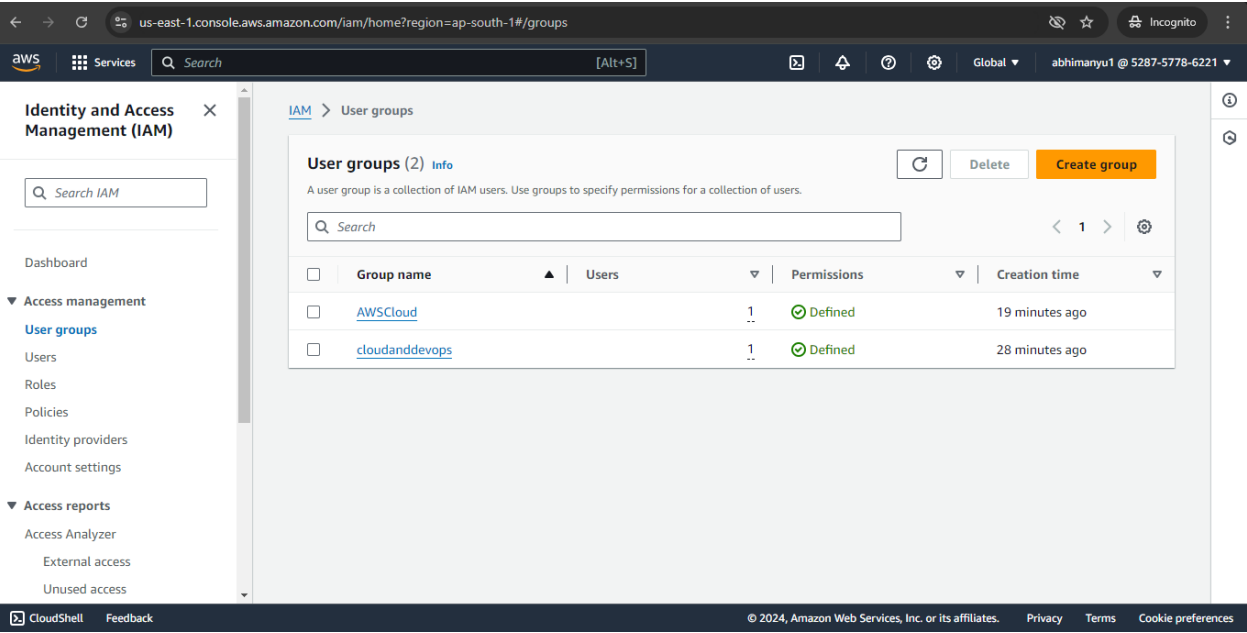
4. Create user, group and role using GUI

User:

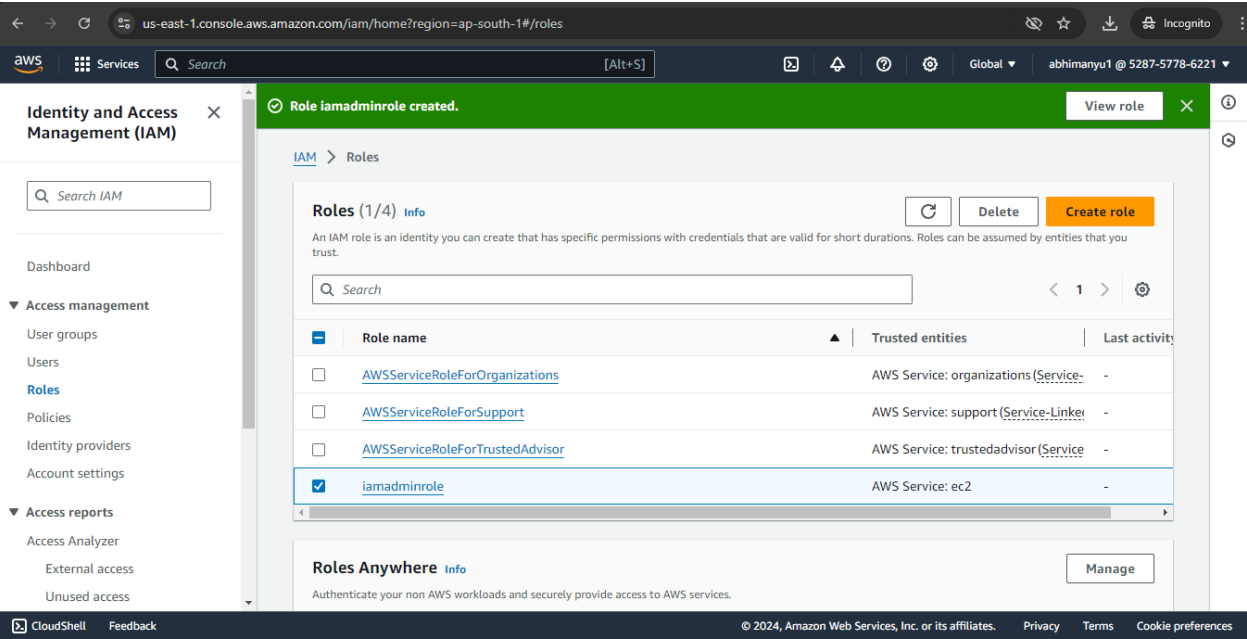
The screenshot shows the AWS IAM console for the 'Users' section. It displays a list of two users: 'Abhimanyu' and 'abhimanyu1'. The 'Abhimanyu' user has a path of '/', a group of '0', and a password age of '1 hour'. The 'abhimanyu1' user has a path of '/', a group of '2', and a password age of '1 hour ago'.

User name	Path	Group	Last activity	MFA	Password age
Abhimanyu	/	0	-	-	1 hour
abhimanyu1	/	2	1 hour ago	-	1 hour

Group:



Role:



us-east-1.console.aws.amazon.com/iam/home?region=ap-south-1#/roles/details/iamadminrole?section=permissions

Identity and Access Management (IAM)

iamadminrole [Info](#) [Delete](#)

Allows EC2 instances to call AWS services on your behalf.

Summary [Edit](#)

Creation date August 15, 2024, 21:12 (UTC+05:30)	ARN arn:aws:iam::528757786221:role/iamadminrole	Instance profile ARN arn:aws:iam::528757786221:instance-profile/iamadminrole
Last activity -	Maximum session duration 1 hour	

[Permissions](#) [Trust relationships](#) [Tags](#) [Access Advisor](#) [Revoke sessions](#)

Permissions policies (1) [Info](#) [Refresh](#) [Simulate](#) [Remove](#) [Add permissions](#)

You can attach up to 10 managed policies.

Filter by Type

ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#Instances:

Successfully attached iamadminrole to instance i-0be7cef5911755c43

Instances (1/2) [Info](#) [Refresh](#) [Connect](#) [Instance state](#) [Actions](#) [Launch instances](#)

[All states](#)

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability
<input checked="" type="checkbox"/>	LinuxVM	i-0be7cef5911755c43	Running	t2.micro	2/2 checks passed	View alarms	ap-south-1
<input type="checkbox"/>	LinuxVM	i-064f2045e6d871ce7	Running	t2.micro	2/2 checks passed	View alarms	ap-south-1

i-0be7cef5911755c43 (LinuxVM)

IAM Role iamadminrole	Subnet ID subnet-00c35046390d8ad10	Auto Scaling Group name -
IMDSv2 Required	Instance ARN arn:aws:ec2:ap-south-1:528757786221:instance/i-0be7cef5911755c43	

[Learn more](#)

Instance details [Info](#)

5. Create user, group and role using CLI

```
C:\Users\abhimanyu.chandgude>aws configure
AWS Access Key ID [None]: AKIAWMHDLQZW7Q67JA33
AWS Secret Access Key [None]: 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
Default region name [None]: ap-south-1
Default output format [None]: json

C:\Users\abhimanyu.chandgude>aws iam create-user --user-name abhimanyu001
{
  "User": {
    "Path": "/",
    "UserName": "abhimanyu001",
    "UserId": "AIDAXMHDLQZW680B53M03",
    "Arn": "arn:aws:iam::528757786221:user/abhimanyu001",
    "CreateDate": "2024-08-15T15:22:06+00:00"
  }
}

C:\Users\abhimanyu.chandgude>aws iam create-group --group-name awscloud
An error occurred (EntityAlreadyExists) when calling the CreateGroup operation: Group with name awscloud already exists.

C:\Users\abhimanyu.chandgude>aws iam create-group --group-name fusioncloud
{
  "Group": {
    "Path": "/",
    "GroupName": "fusioncloud",
    "GroupId": "AGPAXMHDLQZWRCI4ICFVB",
    "Arn": "arn:aws:iam::528757786221:group/fusioncloud",
    "CreateDate": "2024-08-15T15:23:43+00:00"
  }
}

C:\Users\abhimanyu.chandgude>
```

```
ec2-user@ip-172-31-34-162:~
login as: ec2-user
Authenticating with public key "awsdevopsclass"
Last login: Thu Aug 15 16:16:11 2024 from 49.36.48.220

#_
~\_####_      Amazon Linux 2
~~\_#####\
~~\_####|      AL2 End of Life is 2025-06-30.
~~\_#/
~~_V~'-'>
~~~~_/_/      A newer version of Amazon Linux is available!
~~_/_/
_/_/m/'_/_/      Amazon Linux 2023, GA and supported until 2028-03-15.
                        https://aws.amazon.com/linux/amazon-linux-2023/

[ec2-user@ip-172-31-34-162 ~]$ aws configure list
      Name                               Value                               Type    Location
      ----                               -
      profile                            <not set>                           None     None
      access_key                         *****AMHO                         iam-role
      secret_key                         *****96Js                         iam-role
      region                             <not set>                           None     None
[ec2-user@ip-172-31-34-162 ~]$
```

6. Attach Role and Access to Instance

```
ec2-user@ip-172-31-34-162:~  
login as: ec2-user  
Authenticating with public key "awsdevopsclass"  
Last login: Thu Aug 15 16:24:26 2024 from 49.36.48.220  
#  
~\##### Amazon Linux 2  
~~\#####  
~~\###| AL2 End of Life is 2025-06-30.  
~~\#/ V~'!->  
~~~  
~~~ A newer version of Amazon Linux is available!  
~~~  
~~~ Amazon Linux 2023, GA and supported until 2028-03-15.  
~~~ https://aws.amazon.com/linux/amazon-linux-2023/  
[ec2-user@ip-172-31-34-162 ~]$ aws configure list  
Name Value Type Location  
----  
profile <not set> None None  
access_key *****AMHO iam-role  
secret_key *****96Js iam-role  
region <not set> None None  
[ec2-user@ip-172-31-34-162 ~]$ aws configure  
AWS Access Key ID [None]: AKIAWXHDLQZW7Q67JA33  
AWS Secret Access Key [None]: 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  
Default region name [None]: ap-south-1  
Default output format [None]: json  
[ec2-user@ip-172-31-34-162 ~]$  
[ec2-user@ip-172-31-34-162 ~]$ aws configure list  
Name Value Type Location  
----  
profile <not set> None None  
access_key *****JA33 shared-credentials-file  
secret_key *****GcCw shared-credentials-file  
region ap-south-1 config-file ~/.aws/config  
[ec2-user@ip-172-31-34-162 ~]$
```