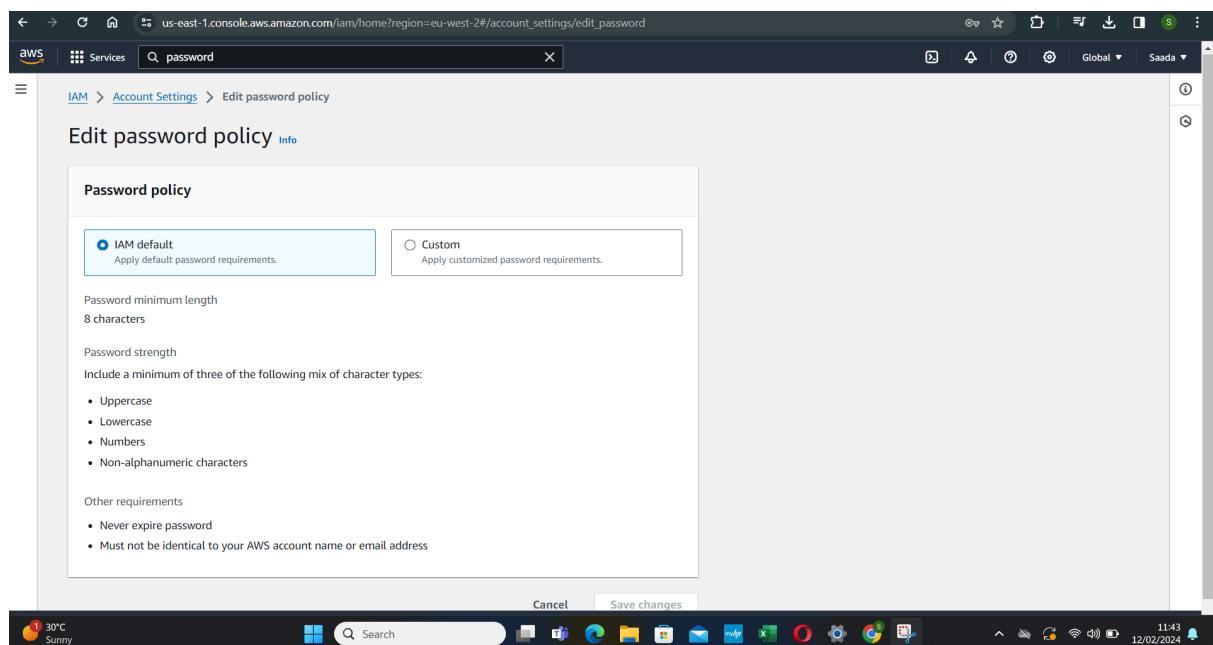
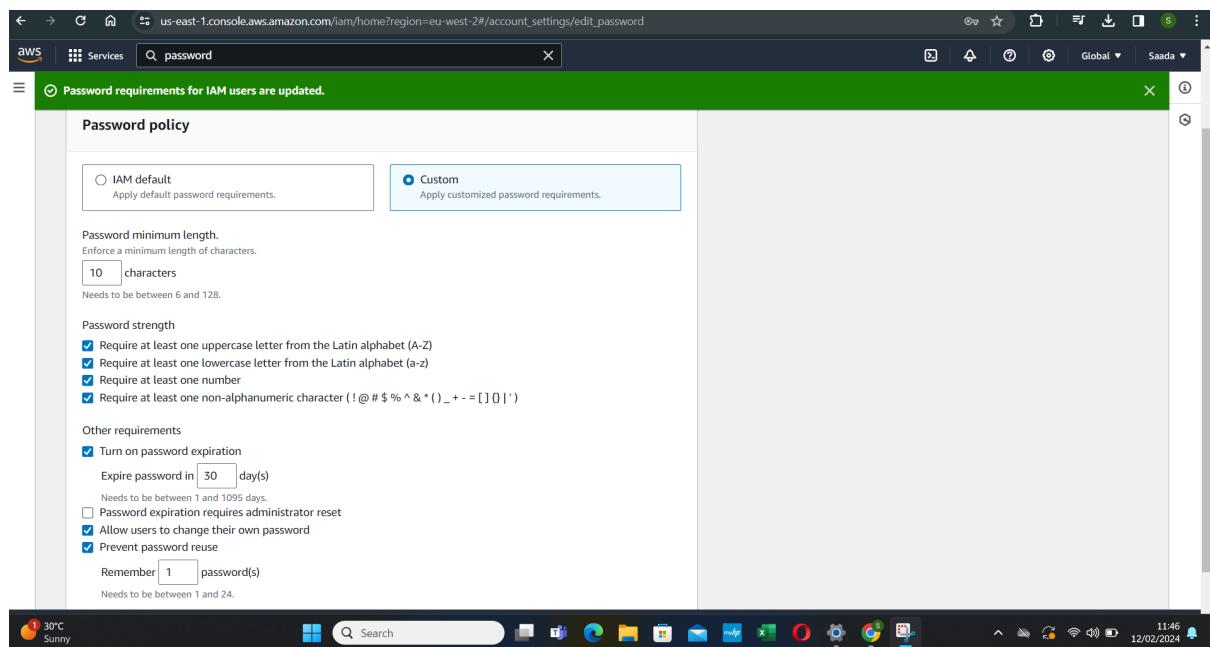


# Cloud Pathway Project

## Task 1: Set IAM User Account Password Requirements

- Set password rules as follows:
- Passwords must contain a minimum of 10 characters
- Password must have a mix of uppercase and lowercase letters, at least one number and a special character.
- Users must change passwords every month,
- Passwords cannot be reused.
- All new users must change their password on the first login.
- Provide a screenshot of these settings





## Task 2: Create Administration Users (with full Admin permissions)

Create two users with full administration permissions on your cloud infrastructure but without access to financial and payment details. Place these users in a group that gives them the required permissions.

S - X

Users | IAM | Global IAMUserChangePassword | IAM us-east-1.console.aws.amazon.com/iam/ho... 🔒 ⚡ S :

aws Services Global Saada

## Identity and Access Management (IAM)

Search IAM

Dashboard

Access management

- User groups
- Users**
- Roles
- Policies
- Identity providers
- Account settings

Access reports

- Access Analyzer
- External access
- Unused access
- Analyzer settings
- Credential report
- Organization activity

CloudShell Feedback Privacy Terms Cookie preferences

10:54 12/02/2024

**User "Emir" deleted.**

IAM > Users

### Users (0) Info

An IAM user is an identity with long-term credentials that is used to interact with AWS in an account.

Search

< 1 > ⚡

User name	Path
No resources to display	

The screenshot shows the AWS Identity and Access Management (IAM) service in a web browser. The left sidebar has a tree view with 'Access management' expanded, showing 'User groups', 'Users' (which is selected), 'Roles', 'Policies', 'Identity providers', and 'Account settings'. Below that is 'Access reports' with 'Access Analyzer', 'External access', 'Unused access', 'Analyzer settings', 'Credential report', and 'Organization activity'. At the bottom of the sidebar are 'CloudShell' and 'Feedback' buttons, along with links for 'Privacy', 'Terms', and 'Cookie preferences'. The main content area shows a green success message: 'User "Emir" deleted.' above a table titled 'Users (0) Info'. The table has a single row with a note: 'An IAM user is an identity with long-term credentials that is used to interact with AWS in an account.' A search bar and navigation controls (< 1 > ⚡) are also present. The browser's address bar shows the URL 'us-east-1.console.aws.amazon.com/iam/ho...'. The status bar at the bottom right shows the time '10:54' and date '12/02/2024'.

Screenshot of the AWS IAM console showing the details of the user group "Admin--team-no-financials".

**Summary:**

User group name: Admin--team-no-financials	Creation time: February 12, 2024, 12:48 (UTC)	ARN: arnaws:iam::637423418934:group/Admin--team-no-financials
--	---	---

**Users (2):**

User name	Groups	Last activity	Creation time
Emir	1	None	2 days ago
Huda	1	None	2 days ago

**Permissions:** Not visible in the screenshot.

**Access Advisor:** Not visible in the screenshot.

Screenshot of the AWS Billing and Cost Management console showing the "Payments" section.

**Billing and Cost Management > Payments:**

You don't have permission to access billing information for this account. Contact your AWS administrator if you need help. If you are an AWS administrator, you can provide permissions for your users or groups by making sure that (1) [this account allows IAM and federated users to access billing information](#) and (2) [you have the required IAM permissions](#).

**Navigation:**

- Home [New](#)
- Getting Started [New](#)
- Payments**
- Credits
- Purchase Orders

**Cost Analysis:**

- Cost Explorer [New](#)
- Cost Explorer Saved Reports
- Cost Anomaly Detection
- Free Tier
- Data Exports [New](#)

**Cost Organization:**

- Cost Categories
- Cost Allocation Tags
- Billing Conductor [New](#)

**Budgets and Planning:**

- Budgets

**CloudShell Feedback:**

The screenshot shows the AWS IAM User details page for a user named 'Emir'. The left sidebar contains navigation links for Identity and Access Management (IAM), including Dashboard, Access management (User groups, Roles, Policies, Identity providers, Account settings), Access reports (Access Analyzer, External access, Unused access, Analyzer settings, Credential report, Organization activity, Service control policies (SCPs)), and CloudShell/Feedback.

The main content area displays the 'Summary' tab for 'Emir'. Key information includes:

- ARN: arn:aws:iam::637423418934:user/Emir
- Console access: Enabled without MFA
- Created: February 12, 2024, 11:00 (UTC)
- Last console sign-in: Never
- Access key 1: Create access key

The 'Permissions' tab is selected, showing two attached policies:

Policy name	Type	Attached via
Admin-team-no-financials	Customer managed	Group Admin-team-no-financials
AdministratorAccess	AWS managed - job function	Group Admin-team-no-financials

At the bottom, there are links for Privacy, Terms, and Cookie preferences.

### Task 3: Create Billing Users

Create two users who do have access to financial and payment details. Place these users in a finance group which gives them the required permissions. These users should not have access to other features.

The screenshot shows the AWS IAM User Groups details page for a group named 'BillingTeam'. The left sidebar is identical to the previous screenshot, showing the same navigation links.

The main content area displays the 'Summary' tab for 'BillingTeam'. Key information includes:

- User group name: BillingTeam
- Creation time: January 10, 2024, 11:15 (UTC)
- ARN: arn:aws:iam::637423418934:group/BillingTeam

The 'Users' tab is selected, showing two users in the group:

User name	Groups	Last activity	Creation time
Dudu	1	None	Now
Farah	1	None	Now

At the bottom, there are links for Privacy, Terms, and Cookie preferences.

The screenshot shows the AWS IAM User Groups page. A user group named 'BillingTeam' is selected. The 'Permissions' tab is active, displaying a single attached policy named 'Billing'. The policy is described as 'AWS managed - job function'.

## Task 4: Create Administration Users (with Limited Admin permissions)

Create two users who each have access to one or two services only. Demonstrate how to do the above using the command-line interface

```
{
  "Users": [
    {
      "Path": "/",
      "UserName": "Dudu",
      "UserId": "AIDAZIZLFPY3EDGLMT2FG",
      "Arn": "arn:aws:iam::637423418934:user/Dudu",
      "CreateDate": "2024-02-14T11:15:54+00:00"
    },
    {
      "Path": "/",
      "UserName": "Emir",
      "UserId": "AIDAZIZLFPY3GWM3QKJ6V",
      "Arn": "arn:aws:iam::637423418934:user/Emir",
      "CreateDate": "2024-02-12T11:00:13+00:00",
      "PasswordLastUsed": "2024-02-14T11:10:23+00:00"
    },
    {
      "Path": "/",
      "UserName": "Farah",
      "UserId": "AIDAZIZLFPY3M5W4EWLVP",
      "Arn": "arn:aws:iam::637423418934:user/Farah",
      "CreateDate": "2024-02-14T11:15:20+00:00"
    },
    {
      "Path": "/",
      "UserName": "Huda",
      "UserId": "AIDAZIZLFPY3C7HQQREP7",
      "Arn": "arn:aws:iam::637423418934:user/Huda",
      "CreateDate": "2024-02-14T11:15:20+00:00"
    }
  ]
}
-- More --
```

```
Windows PowerShell

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\sacda> aws configure
AWS Access Key ID [*****]: AKIAZI2LFPY3NR7R3Z7Z
AWS Secret Access Key [*****]: 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
Default region name [eu-west-2]: eu-west-2
Default output format [json]:
PS C:\Users\sacda> aws iam create-user --user-name suhur
{
    "User": {
        "Path": "/",
        "UserName": "suhur",
        "UserId": "AIDAZI2LFPY3KEMNYJSPB",
        "Arn": "arn:aws:iam::637423418934:user/suhur",
        "CreateDate": "2024-02-14T12:04:32+00:00"
    }
}

PS C:\Users\sacda> aws iam create-user --user-name qadan
{
    "User": {
        "Path": "/",
        "UserName": "qadan",
        "UserId": "AIDAZI2LFPY3NJNCXOSMO",
        "Arn": "arn:aws:iam::637423418934:user/qadan",
        "CreateDate": "2024-02-14T12:05:36+00:00"
    }
}

PS C:\Users\sacda>
```

```
Windows PowerShell

{
    "User": {
        "Path": "/",
        "UserName": "suhur",
        "UserId": "AIDAZI2LFPY3KEMNYJSPB",
        "Arn": "arn:aws:iam::637423418934:user/suhur",
        "CreateDate": "2024-02-14T12:04:32+00:00"
    }
}

PS C:\Users\sacda> aws iam create-user --user-name qadan
{
    "User": {
        "Path": "/",
        "UserName": "qadan",
        "UserId": "AIDAZI2LFPY3NJNCXOSMO",
        "Arn": "arn:aws:iam::637423418934:user/qadan",
        "CreateDate": "2024-02-14T12:05:36+00:00"
    }
}

PS C:\Users\sacda> aws iam attach-user-policy --user-name suhur --policy-arn
SupportUser

Parameter validation failed:
Invalid length for parameter PolicyArn, value: 11, valid min length: 20
PS C:\Users\sacda> aws iam attach-user-policy --user-name suhur --policy-arn
arn:aws:iam::aws:policy/job-function/SupportUser
PS C:\Users\sacda> aws iam attach-user-policy --user-name qadan --policy-arn
arn:aws:iam::aws:policy/job-function/SupportUser
PS C:\Users\sacda>
```

The screenshot shows the AWS IAM Policies page for a 'SupportUser' policy. The policy grants permissions to troubleshoot and resolve issues in an AWS account, enabling user contact with AWS support to create and manage cases. The 'Policy details' section shows the policy was created on November 10, 2016, at 17:21 UTC and last edited on August 25, 2023, at 19:40 UTC. The ARN is arn:aws:iam::awspolicy:job-function/SupportUser. Below this, there are tabs for 'Permissions', 'Entities attached', 'Policy versions (8)', and 'Access Advisor'. The 'Entities attached' tab is selected, showing a list of entities: 'qadan' (IAM Users), 'suhur' (IAM Users), and 'SupportGroup' (User groups). There are 'Attach' and 'Detach' buttons for managing these associations.

## Task 5: Create a Windows SQL Server Database WITHOUT using Managed Services

Logged in as one of the administration users "spin up" a virtual server with Windows Server preinstalled. When this server is ready, install a free version of the SQL Server RDBMS. Remotely access the server using Windows Remote Desktop, create a database with one table, and enter some data. Configure your infrastructure to back up your database daily. Store your backups in S3

The screenshot shows the AWS EC2 Instances page. It displays two instances: 'Project' (terminated) and 'Task5' (running). The 'Task5' instance is a t2.micro type in eu-west-2c, with 2/2 checks passed. The 'Instances' section of the sidebar is expanded, showing options like Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, and AMIs.

AWS Services Search [Alt+S] London Saada

**Amazon RDS**

Introducing Aurora I/O-Optimized  
Aurora's I/O-Optimized is a new cluster storage configuration that offers predictable pricing for all applications and improved price-performance, with up to 40% cost savings for I/O-intensive applications.

RDS > Databases

Databases (0) Group resources Modify Actions Restore from S3 Create database

Filter by databases DB identifier Status Role Engine Region & AZ Size Recommendations CPU Current act

No instances found

CloudShell Feedback 24°C © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences 08:11

Subnet groups Parameter groups Option groups Custom engine versions

Events Event subscriptions

dws Services Search [Alt+S] London Saada

**Amazon RDS**

Deleting DB instance task5

Deleting DB instance mysql-task9

Creating database task10  
Your database might take a few minutes to launch.  
You can use settings from task10 to simplify configuration of suggested database add-ons while we finish creating your DB for you. View credential details

RDS > Databases

Databases (1) Group resources Modify Actions Restore from S3 Create database

Filter by databases DB identifier Status Role Engine Region & AZ Size Recommendations

task10 Creating Instance SQL Server Express Edition eu-west-2b db.t3.micro

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Subnet groups Parameter groups Option groups Custom engine versions

Events Event subscriptions

## Task 6: Chat Bot with Conversational Features

Set up a chatbot that can respond to simple voice commands

The screenshot shows the AWS Lambda console interface. At the top, there's a navigation bar with the AWS logo, 'Services', 'Project', and a search bar. On the right, it shows 'London' and 'Saada'. Below the navigation, a green header bar says 'Successfully created bot: Pizza'. Underneath, there are buttons for 'Draft version', 'English (US)', and 'Not built'. A message states 'English (US) has not built changes.' with 'Build' and 'Test' buttons. The main area contains a text input field with placeholder 'I want to book a flight' and an 'Add utterance' button. Below this is a section titled 'Initial response' with a note about providing messages for initial requests. It includes a 'Response to acknowledge the user's request' section with a 'Message:' input field. At the bottom, tabs for 'Editor', 'Visual builder', and 'New' are visible, along with a 'Save intent' button.

The screenshot shows the Amazon Lex console interface. At the top, there's a navigation bar with the AWS logo, 'Services', 'Project', and a search bar. On the right, it shows 'London' and 'Saada'. Below the navigation, a green header bar says 'Successfully built language English (US) in bot: Pizza'. Underneath, there are buttons for 'Draft version', 'English (US)', and 'Successfully built'. The main area shows a breadcrumb trail: Lex > Bots > Bot: Pizza > Versions > Version: DRAFT > All languages > Language: English (US) > Intents > Intent: Pizzaaa. To the left, there's a sidebar with a search bar, a sort dropdown set to 'Sort by last updated', and a list containing 'Pizzaaa' and 'FallbackIntent'. The main content area shows the 'Intent details' for 'Pizzaaa', including the intent name 'Pizzaaa' and a description 'Ordering Pizza'. On the right, a 'Test Draft version' pane shows a conversation between 'Hello' and 'Saada' with the message 'Hello, May I know your name, please?'. Below this is a 'Ready for complete testing' section with a 'Type a message' input field and a 'Save intent' button.

## Task 7: Create an Organisation

Create an organisation to manage several accounts with your chosen cloud services

The screenshot shows the AWS Organizations console at [us-east-1.console.aws.amazon.com/organizations/v2/home/accounts](https://us-east-1.console.aws.amazon.com/organizations/v2/home/accounts). A green banner at the top says "You successfully created an AWS organization." The main page displays the "AWS accounts" section with a table showing one account: "Saada" (management account), joined on "2024/02/17". The account details include the email "637423418934 | saada.calib78@icloud.com". The left sidebar shows navigation options like "AWS accounts", "Services", "Policies", "Settings", and "Get started".

## Task 8: Face Recognition

Use AWS/Azure AI-based services to create a demonstration of face or photo recognition. The below is my Mom!!

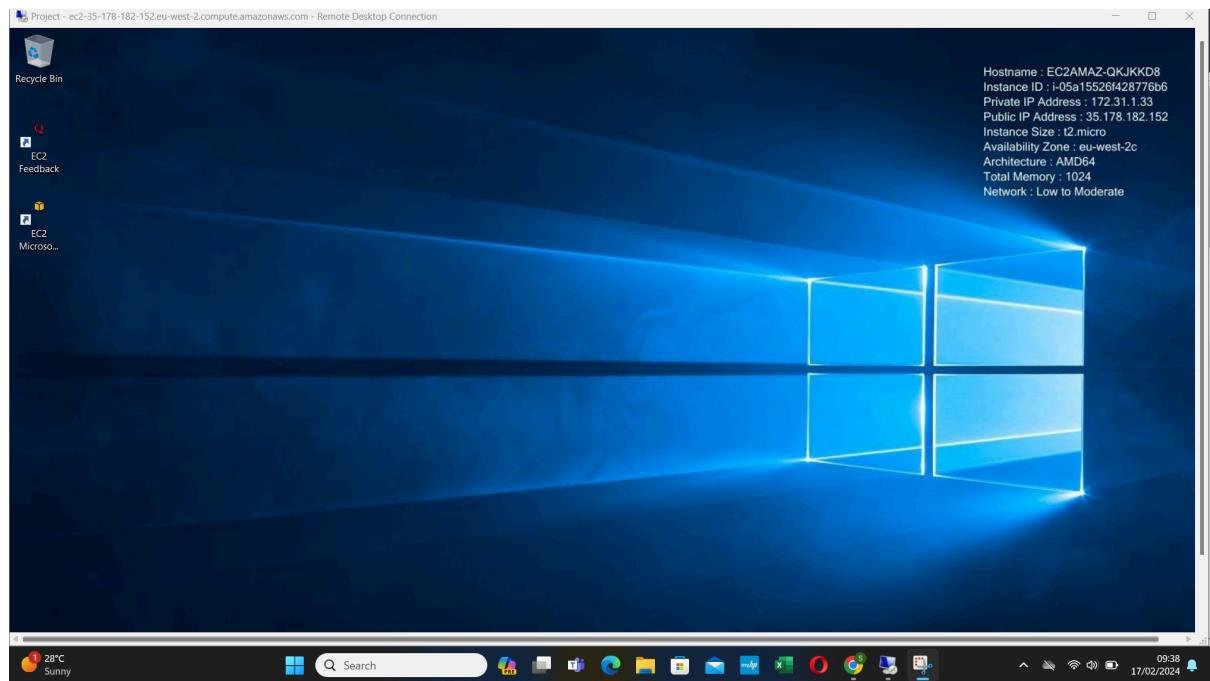
The screenshot shows the Amazon Rekognition console at <https://us-east-1.console.aws.amazon.com/rekognition/>. It displays a confidence score analysis for a photo of a woman in a pink hijab. The results table shows the following items:

Label	Confidence
Adult	99.9 %
Female	99.9 %
Person	99.9 %
Woman	99.9 %
Sitting	98.6 %
Face	83 %

Below the results, there is a "Request" button.

## Task 9: Deploy a Windows Virtual Desktop

Deploy a Windows virtual desktop for computers or handheld devices.



A screenshot of the AWS EC2 Instances page. The sidebar on the left shows navigation links for EC2 Dashboard, EC2 Global View, Events, Instances (selected), Instances Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images (AMIs, AMI Catalog), Elastic Block Store (Volumes, Snapshots, Lifecycle Manager), CloudShell, and Feedback. The main content area displays a table titled "Instances (1) Info" with one row. The row details are: Name: Project, Instance ID: i-05a15526f428776b6, Instance state: Running (green checkmark), Instance type: t2.micro, Status check: 2/2 checks passed (green checkmark), Alarm status: View alarms +, Availability Zone: eu-west-2c, and Public IPv4 DNS: ec2-35-178-182-152.eu-west-2.compute.amazonaws.com. Below the table, a modal window titled "Select an instance" is open, showing the same instance details. The bottom of the page includes a footer with copyright information: © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences.

