

Cloud Computing – LAB-4

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1. Exploring pre-created IAM Users and Groups

Viewing pre-created users

The screenshot shows the AWS IAM Users interface. At the top, there is a navigation bar with 'IAM' and 'Users'. Below it, a table lists four users:

User name	Path	Groups	Last activity	MFA	Password age	Console last sign-in
awsstudent	/	Access denied	Access denied	Access denied	-	-
user-1	/spl66/	0	-	-	8 minutes	-
user-2	/spl66/	0	-	-	8 minutes	-
user-3	/spl66/	0	-	-	8 minutes	-

Below the table, the 'user-1' details page is displayed. It includes sections for Summary, Permissions, Groups, Tags (1), Security credentials, and Access Advisor.

Summary

ARN arn:aws:iam::181260347450:user/spl66/user-1	Console access Enabled without MFA	Access key 1 AKIASUM7VNA5K5Z0CC6B - Active Never used. Created today.
Created July 16, 2024, 10:10 (UTC+05:30)	Last console sign-in Never	Access key 2 Create access key

Permissions

Permissions policies (0)

No resources to display

Inspecting IAM policies as applied to the pre-created groups

a) The pre-defined security groups

The screenshot shows the 'User groups' page in the AWS IAM console. It lists three groups: EC2-Admin, EC2-Support, and S3-Support. Each group has 0 users and is defined. They were created 25 minutes ago. The 'Create group' button is visible at the top right.

Group name	Users	Permissions	Creation time
EC2-Admin	0	Defined	25 minutes ago
EC2-Support	0	Defined	25 minutes ago
S3-Support	0	Defined	25 minutes ago

- b) A policy defines what actions are allowed or denied for specific AWS resources. The S3-Support group has the **AmazonS3ReadOnlyAccess** policy attached.

The screenshot shows the 'S3-Support' user group details page. It includes a summary section with the group name, creation time, and ARN, and a 'Permissions' tab showing one attached policy: 'AmazonS3ReadOnlyAccess'. The 'Add permissions' button is also visible.

User group name	Creation time	ARN
S3-Support	July 16, 2024, 10:11 (UTC+05:30)	arn:aws:iam::181260347450:group/spl66/S3-Support

Permissions policies (1)

Policy name	Type	Attached entities
AmazonS3ReadOnlyAccess	AWS managed	1

2. Following a real-world scenario, adding users to groups with specific capabilities enabled.

User	In Group	Permissions
user-1	S3-Support	Read-Only access to Amazon S3
user-2	EC2-Support	Read-Only access to Amazon EC2
user-3	EC2-Admin	View, Start and Stop Amazon EC2 instances

Real-world scenario

- a) Add user1 to the S3 support group

The screenshot shows the AWS IAM console interface. At the top, the navigation path is IAM > User groups > S3-Support > Add users. Below this, the heading is "Add users to S3-Support" with an "Info" link. A sub-section titled "Other users in this account (1/4)" lists four users: awsstudent, user-1, user-2, and user-3. The checkbox next to "user-1" is checked, indicating it is selected for addition to the group. The main summary page for the "S3-Support" group shows its ARN as arn:aws:iam::181260347450:group/spl66/S3-Support. The "Users" tab is active, showing one user assigned to the group: "user-1".

User	Groups	Last activity	Creation time
awsstudent	0	None	45 minutes ago
user-1	0	None	46 minutes ago
user-2	0	None	46 minutes ago
user-3	0	None	46 minutes ago

User group name	Creation time	ARN
S3-Support	July 16, 2024, 10:11 (UTC+05:30)	arn:aws:iam::181260347450:group/spl66/S3-Support

Users in this group (1)	
<input type="checkbox"/> User name user-1 1 None 46 minutes ago	

b) Add user 2 to the EC2 support group

The screenshot shows the AWS IAM User Groups page for the 'EC2-Support' group. The 'Summary' section displays the group's name, creation time (July 16, 2024, 10:11 UTC+05:30), and ARN (arn:aws:iam::181260347450:group/spl66/EC2-Support). Below the summary, there are tabs for 'Users (1)', 'Permissions', and 'Access Advisor'. The 'Users (1)' tab is selected, showing a table titled 'Users in this group (1)'. The table includes a search bar, pagination (page 1 of 1), and columns for 'User name' (user-2), 'Groups' (1), 'Last activity' (None), and 'Creation time' (49 minutes ago). There are buttons for 'Edit', 'Delete', 'Remove', and 'Add users'.

c) Add user 3 to the EC2 admin group

The screenshot shows the AWS IAM User Groups page for the 'EC2-Admin' group. The 'Summary' section displays the group's name, creation time (July 16, 2024, 10:11 UTC+05:30), and ARN (arn:aws:iam::181260347450:group/spl66/EC2-Admin). Below the summary, there are tabs for 'Users (1)', 'Permissions', and 'Access Advisor'. The 'Users (1)' tab is selected, showing a table titled 'Users in this group (1)'. The table includes a search bar, pagination (page 1 of 1), and columns for 'User name' (user-3), 'Groups' (1), 'Last activity' (None), and 'Creation time' (57 minutes ago). There are buttons for 'Edit', 'Delete', 'Remove', and 'Add users'.

4. Locating and using the IAM sign-in URL

- Copy Sign-in URL from the dashboard

The screenshot shows the AWS Account dashboard. In the 'Sign-in URL for IAM users in this account' section, there is a link: <https://181260347450signin.aws.amazon.co>. Below the link is a button labeled 'Copy Sign-in URL to clipboard'.

- Opening the link in an incognito window and logging in as **user-1**

The left side of the image shows the AWS Sign-in page. It has fields for 'Account ID (12 digits) or account alias' (containing '181260347450'), 'IAM user name' (containing 'user-1'), and 'Password' (containing '.....'). There is also a 'Remember this account' checkbox and a 'Sign in' button. Below the sign-in form are links for 'Sign in using root user email' and 'Forgot password?'. The right side of the image features a dark blue sidebar with white text advertising AWS services for financial services, including a call to action to 'Download ebook >'.

5. Experimenting with the effects of policies on service access

- a) **User-1** has been hired to the S3 support group and hence has access to the S3 buckets but **can't access the EC2 instances** as **user-2** has been hired as EC2 support.

The screenshot shows the AWS S3 console interface. On the left, the navigation pane includes 'Buckets', 'Access Grants', 'Access Points', 'Object Lambda Access Points', 'Multi-Region Access Points', 'Batch Operations', 'IAM Access Analyzer for S3', 'Block Public Access settings for this account', 'Storage Lens' (with 'Dashboards', 'Storage Lens groups', and 'AWS Organizations settings'), 'Feature spotlight', and 'AWS Marketplace for S3'. The main content area displays an 'Account snapshot - updated every 24 hours' with 'All AWS Regions'. Below it, under 'General purpose buckets', there is one entry: 'samplebucket--8b9dab10' (Name), 'US East (N. Virginia)' (AWS Region), 'us-east-1' (IAM Access Analyzer), and 'July 16, 2024, 10:10:43 (UTC+05:30)' (Creation date). A 'Create bucket' button is visible at the top right of the bucket list. The bottom of the screen shows standard AWS footer links: CloudShell, Feedback, © 2024, Amazon Web Services, Inc. or its affiliates., Privacy, Terms, and Cookie preferences.

The screenshot shows the AWS EC2 Instances page. The left sidebar lists 'EC2 Dashboard', 'EC2 Global View', 'Events', and 'Instances' (with 'Instances Types', 'Launch Templates', 'Spot Requests', 'Savings Plans', 'Reserved Instances', and 'Dedicated Hosts'). The main content area is titled 'Instances Info' and shows two EC2 instances: 'LabHost' (Instance ID: i-0441a145b5918acad, State: Running, Type: t2.micro) and 'Bastion Host' (Instance ID: i-016c7d1343ac8f95e, State: Running, Type: t2.micro). The table includes columns for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, Public IPv4 DNS, and Public IPv6. A message at the top states: 'You are not authorized to perform this operation. User: arn:aws:iam::181260347450:user/spl66/user-1 is not authorized to perform: ec2:DescribeInstances because no identity-based policy allows the ec2:DescribeInstances action'. The bottom of the screen shows standard AWS footer links: CloudShell, Feedback, © 2024, Amazon Web Services, Inc. or its affiliates., Privacy, Terms, and Cookie preferences.

- b) Logging in as **user-2** gives us access to the instance as the user has been hired as the EC2 support group

The screenshot shows the AWS EC2 Instances page for user-2. The left sidebar and main content area are identical to the previous screenshot, displaying the same two EC2 instances: 'LabHost' and 'Bastion Host'. The table structure and columns are the same, showing instance details like Name, Instance ID, State, Type, and network information. The bottom of the screen shows standard AWS footer links: CloudShell, Feedback, © 2024, Amazon Web Services, Inc. or its affiliates., Privacy, Terms, and Cookie preferences.