

Prerequisites:

The following requires administrator privileges within the Duke University MIDS account.

Configure IAM Settings

Step 1: Create Group Access Policy

AWS Console > IAM > Policies > Create Policy > JSON Editor > Add Policy:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "VisualEditor0",
      "Effect": "Allow",
      "Action": "lightsail:GetCostEstimate",
      "Resource": [
        "*"
      ]
    },
    {
      "Sid": "VisualEditor1",
      "Effect": "Allow",
      "Action": "lightsail:Get*",
      "Resource": [
        "*"
      ]
    }
  ]
}
```

Policy Name: `lfr-student-access`

Policy Description: `Lightsail for Research Student Access`

Step 2: Create User Group

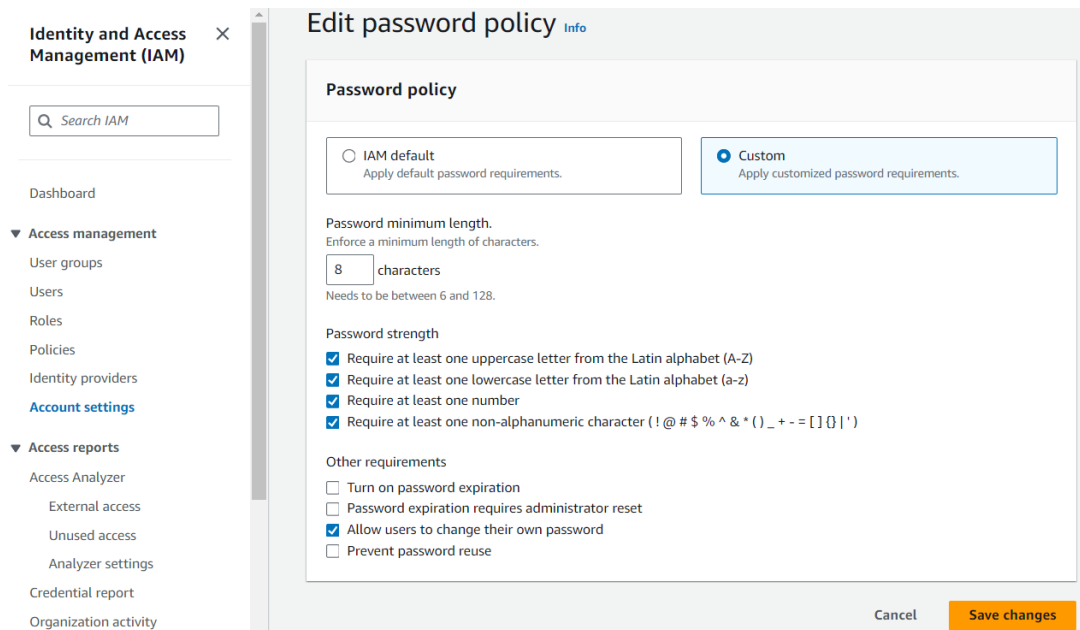
AWS Console > IAM > User Groups > Create Group

Create a user group name with the format: `lfr-{course code}-{semester}` eg. `lfr-721-fall24`

Attach permissions policies > search for `lfr-student-access` > Attach policy > Create Group

Step 3: Enable IAM Users to Change Password

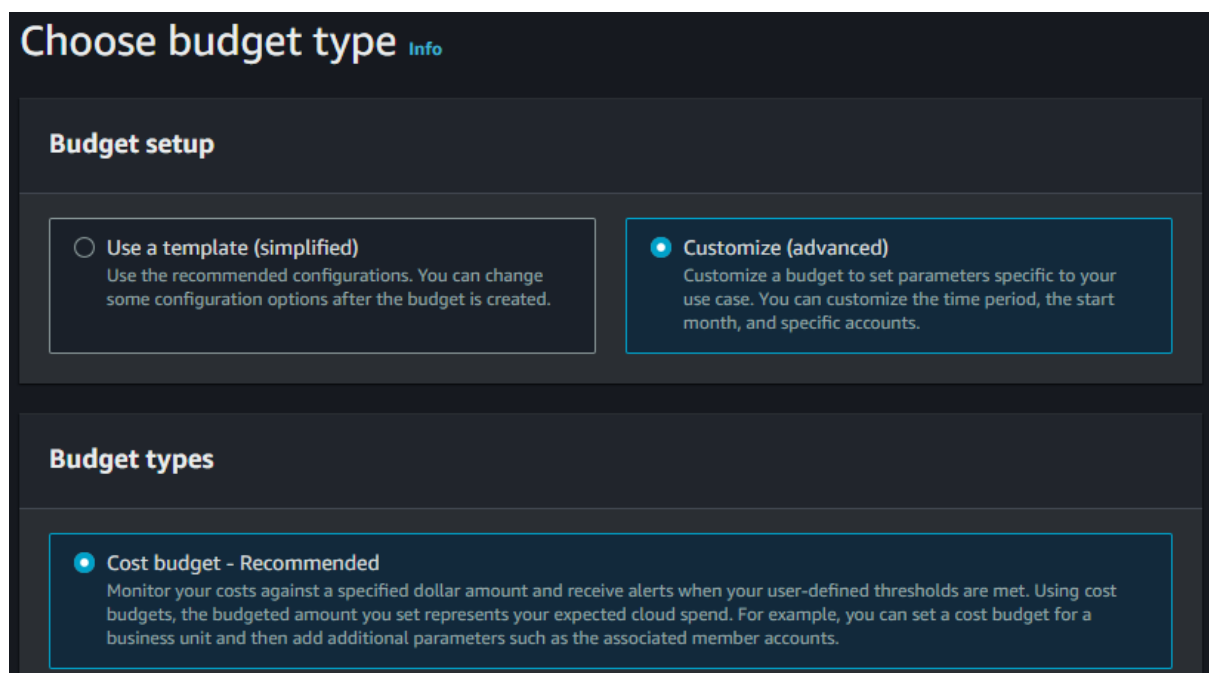
IAM > Account Settings > Edit Password Policy > Custom



Configure Budget Controls

Step 1: Create Budget

AWS Console > Billing & Cost Management > Budgets > Create Budget



Set a monthly budget per approved amount by the department

Details

Budget name
Provide a descriptive name for this budget.

Names must be between 1-100 characters.

Set budget amount

Period
Daily budgets do not support enabling forecasted alerts, or daily budget planning.

Monthly ▾

Budget renewal type

☐ **Recurring budget**
Recurring budgets renew on the first day of every monthly billing period.

☒ **Expiring budget**
Expiring monthly budgets stop renewing at the end of the selected expiration month.

Start month **End month**

Aug ▾

2024 ▾

Dec ▾

2024 ▾

Budgeting method [Info](#)

Fixed ▾

Create a budget that tracks against a single monthly budgeted amount.

Enter your budgeted amount (\$)
Last month's cost: \$97.78

Budget scope [Info](#)

Add filtering and use advanced options to narrow the set of cost information tracked as part of this budget

Scope options

☒ **All AWS services (Recommended)**
Track any cost incurred from any service for this account as part of the budget scope

☐ **Filter specific AWS cost dimensions**
Select specific dimensions to budget against. For example, you can select the specific service "EC2" to budget against.

Configure threshold alerts for 80% actual and 95% forecasted > Review > Create Budget

Alert #1		Alert #2	
<div>Set alert threshold</div> <div> <div>Threshold</div> <div>When should this alert be triggered?</div> <div>80</div> </div> <div> <div>Trigger</div> <div>How should this alert be triggered?</div> <div>Actual</div> </div>		<div>Set alert threshold</div> <div> <div>Threshold</div> <div>When should this alert be triggered?</div> <div>95</div> </div> <div> <div>Trigger</div> <div>How should this alert be triggered?</div> <div>Forecasted</div> </div>	

Onboard Students

For each student take the following successive steps

Step 1: Create Student Instance

AWS Console > Lightsail for Research > Create Virtual Computer

Region: US East (Ohio) [us-east-2]

Application: Ubuntu

Name virtual computer: `{duke netID}-{machine type}-{size}` eg: kh495-gpu-xl

Step 2: Add Cost Control

Lightsail for Research > Cost Control > Create Rule > Select student instance > Apply rule:

Stop virtual computer settings [Info](#)

Specify when to stop your virtual computer. When it's stopped, the virtual computer will shut down an utilization every 5 minutes.

Action metric

CPU Utilization

Initiate action when CPU utilization is

less than or equal to

Percent

1%

Time period

15 minutes

[i](#) We'll stop your virtual computer when CPU utilization is 1% or lower for a period of 15 minutes

Step 3: Get Instance ARN

AWS Console > Launch AWS Cloud Shell > Run the command:

```
$ aws lightsail get-instance --instance-name <student-instance-name>
```

Copy the student instance ARN for use later

```
{
  "instance": {
    "name": "admin-gpu",
    "arn": "arn:aws:lightsail:us-east-2:381492212823:Instance/650a5fb3-e5e9-49eb-8621-27c404f00d32",
    "supportCode": "891377217297/i-00a93736e7cb4c2eb",
    "createdAt": "2024-03-26T14:31:58.773000+00:00",
    "location": {
      "availabilityZone": "us-east-2a",
      "regionName": "us-east-2"
    },
    "resourceType": "Instance",
  }
}
```

Step 4: Configure Student IAM

AWS Console > IAM > Users > Create User

User Name: `{duke netID}`

- ☒ Provide user access to the AWS Management Console - *optional*
If you're providing console access to a person, it's a [best practice](#) to manage their access in IAM Identity Center.

Do you want to provide console access to a person?
We recommend that you use Identity Center to provide console access to a person. With Identity Center, you can centrally manage user access to their AWS accounts and cloud applications. To do so, you must be signed in to the Identity Center console using the credentials of the management account in AWS Organizations. If you aren't the management account owner, contact the owner to perform this task.

Console password

- ☒ Autogenerated password
You can view the password after you create the user.

- ☐ Custom password
Enter a custom password for the user.

- Must be at least 8 characters long
- Must include at least three of the following mix of character types: uppercase letters (A-Z), lowercase letters (a-z), numbers (0-9), and symbols ! @ # \$ % ^ & * () _ + - (hyphen) = [] { } | ' "

- ☐ Show password

- ☒ Users must create a new password at next sign-in - Recommended
Users automatically get the [IAMUserChangePassword](#) policy to allow them to change their own password.

Add student to course group:

Permissions options

☒ Add user to group
Add user to an existing group, or create a new group. We recommend using groups to manage user permissions by job function.

☐ Copy permissions
Copy all group memberships, attached managed policies, and inline policies from an existing user.

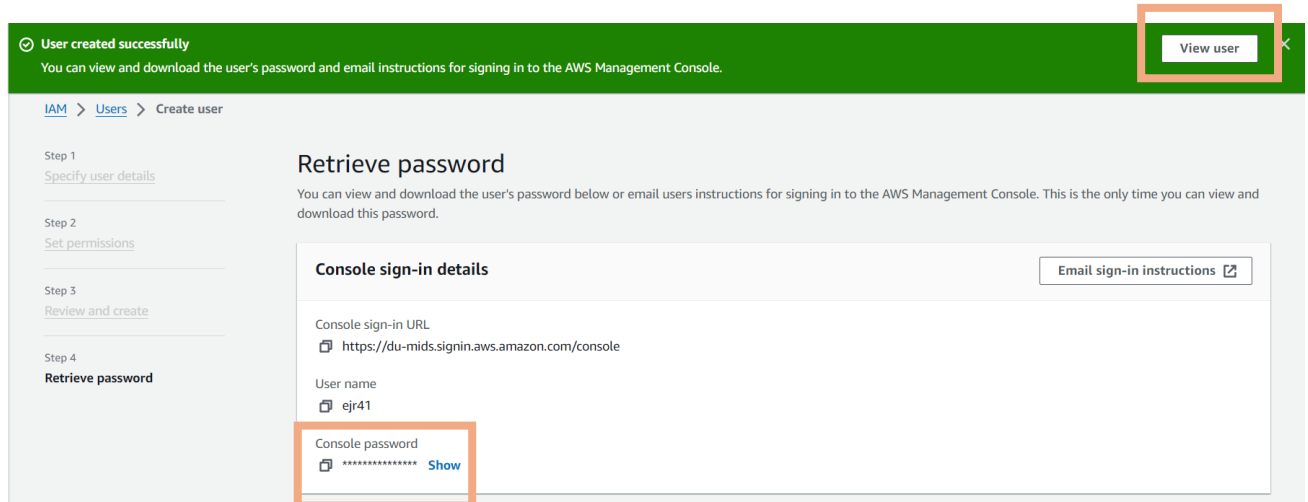
☐ Attach policies directly
Attach a managed policy directly to a user. As a best practice, we recommend attaching policies to a group instead. Then, add the user to the appropriate group.

User groups (1/1)

1

<input checked="" type="checkbox"/>	Group name	Users	Attached policies	Created
<input checked="" type="checkbox"/>	lfr-ids721-sp24	2	lfr-student-access	2024-03-26 (2 hours ago)

Copy and store student's unique onetime password for use later > View User



User created successfully
You can view and download the user's password and email instructions for signing in to the AWS Management Console.

[IAM](#) > [Users](#) > Create user

Step 1
[Specify user details](#)

Step 2
[Set permissions](#)

Step 3
[Review and create](#)

Step 4
Retrieve password

Retrieve password

You can view and download the user's password below or email users instructions for signing in to the AWS Management Console. This is the only time you can view and download this password.

Console sign-in details [Email sign-in instructions](#)

Console sign-in URL
https://du-mids.signin.aws.amazon.com/console

User name
ejr41

Console password
***** [Show](#)

Add Permissions > Create Inline Policy > JSON Editor

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "VisualEditor1",
      "Effect": "Allow",
      "Action": "lightsail:*",
      "Resource": [
        "arn:aws:lightsail:us-east-2:###:Instance/###"
      ]
    }
  ]
}
```

Note: Replace `arn:aws:lightsail:us-east-2:###:Instance/###` with the student ARN

Policy name should be of the format: `lfr-{duke netID}-access`

Step 5: Onboard Student

Send student the 'For Students' docs and their unique onetime password

Step 6: Forgotten Passwords

Refer to "[Managing passwords for IAM users](#)" to reset passwords for IAM User Roles

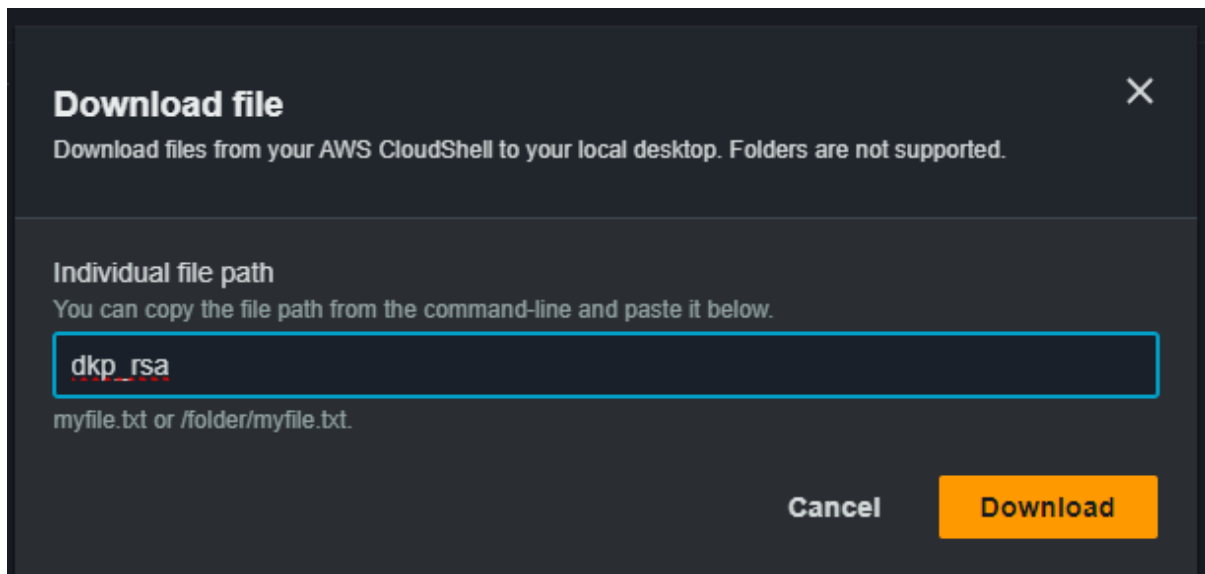
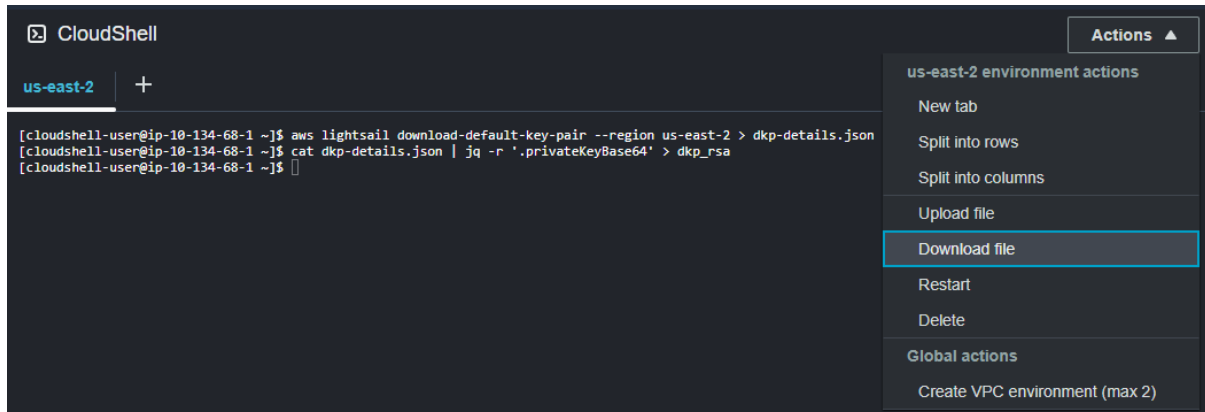
SSH Access

Step 1: Retrieve the SSH Key Pair

AWS Console > Launch AWS CloudShell

```
$ aws lightsail download-default-key-pair --region us-east-2 > dkp-details.json  
$ cat dkp-details.json | jq -r '.privateKeyBase64' > dkp_rsa
```

Step 2: Download dkp_rsa



Step 3: Send to student

Only distribute to students who request SSH access