AWS Academy Learner Lab

Educator Guide

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Purpose

This document provides educators with instructions for using AWS Academy Learner Labs.

AWS Academy Learner Labs offer a **long-running lab environment** that is suitable for student projects over a period designated by the educator. AWS Academy educators can create Learner Lab classes and add learners. Academy Learner Labs are independent from other AWS Academy courses, and educators can use this environment with their learners.

Each learner in a Learner Lab class has a **$100 USD AWS platform credit** to use for the duration of the class. Within this class, learners have access to a restricted set of AWS services (see the **Resources** area of the AWS Academy Portal for the list) for educator-designed project work, lab exercises, or practice. Not all AWS documentation walkthroughs or sample labs that operate in an AWS production account will work in the Learner Lab environment. Services that students deploy are available until the end date designated by the educator or when the credit has exceeded $100 USD.

Each session lasts for 4 hours by default, although students can extend a session to run longer by choosing **Start Lab** to reset the session timer. At the end of each session, any resources that a learner created will persist. However, Amazon Elastic Compute Cloud (Amazon EC2) instances are automatically shut down. Other resources, such as Amazon Relational Database Service (Amazon RDS) instances, continue running. Keep in mind that some AWS features can incur charges between sessions (for example, a load balancer or NAT gateway). Learners might want to delete those types of resources at the end of a session and then re-create them as needed.

Learners have access to this environment for the duration of the class that they are enrolled in. When the class ends, learner access to the Learner Lab environment also ends.
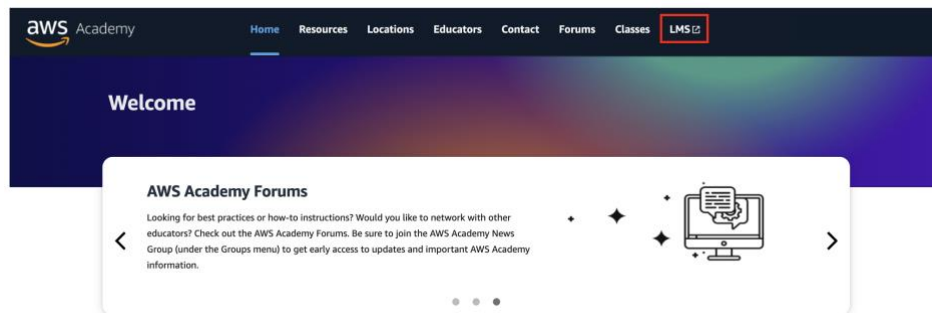
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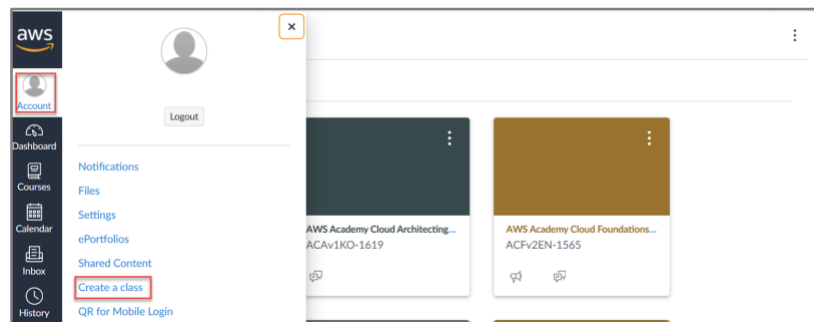
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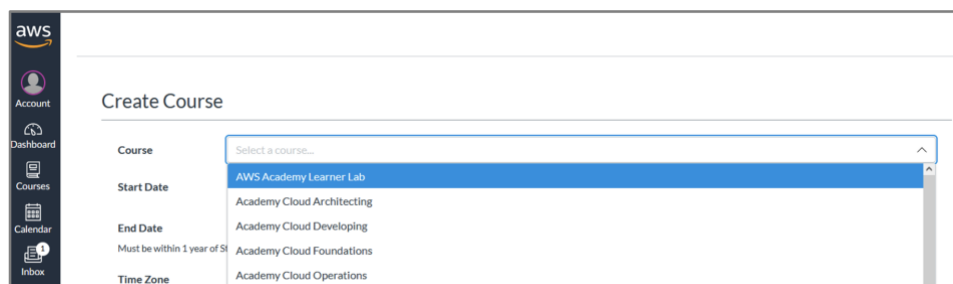## How to create and access a Learner Lab

Note:

- These instructions are also available in Canvas in the Educator Getting Started with AWS Academy course. In the **Guides: Working with Students (optional)** section, see **How to Create and Delete a Class**.

- You must complete the Educator Getting Started with AWS Academy course in the AWS Academy LMS before you are able to create a class or Learner Lab.

1. Log in to the AWS Academy Portal and navigate to the LMS.

2. In the navigation pane, choose **Account** > **Create a class**.

3. For **Course**, choose **AWS Academy Learner Lab** and fill in the remaining fields. You are notified by email when the course is available to teach.

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How to add students to a Learner Lab

Note: These instructions are also available in Canvas in the Educator Getting Started with AWS Academy course. In the **Guides: Working with Students (optional)** section, see **How to Add Students to the AWS Academy LMS (Canvas)**.

1. From the **Dashboard**, locate the Learner Lab course that you created.
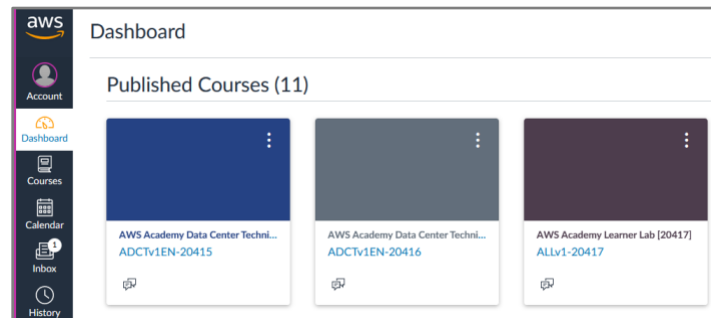
2. In the navigation menu, choose **People**.
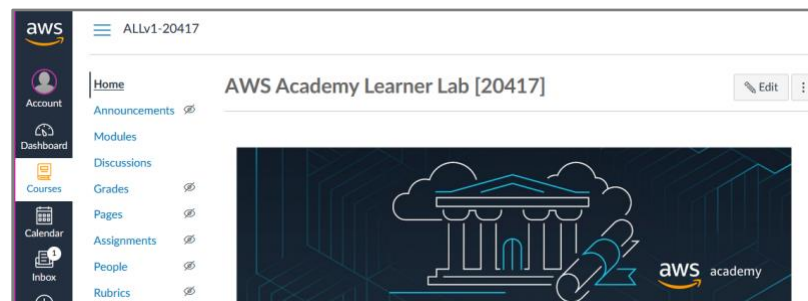
3. Choose **+ People** in the upper-right corner of the page.

4. Provide a comma-separated list of student email addresses, and choose **Next**.

5. Fill in the names of students as needed, and then choose **Next**.

6. Confirm the information, and then choose **Add Users**.
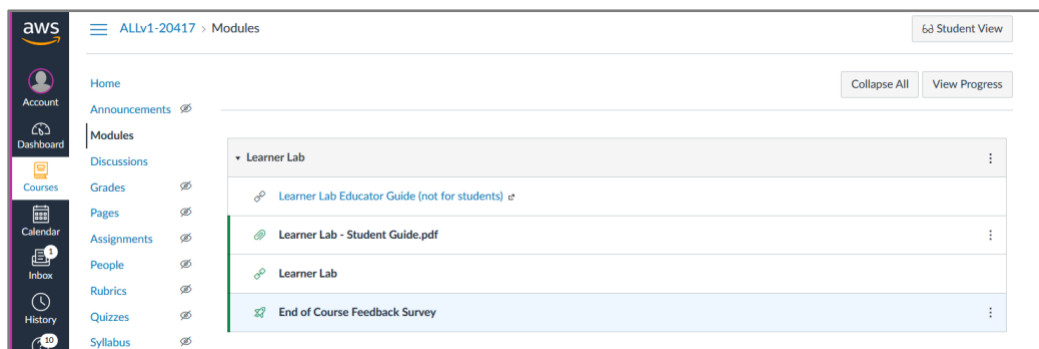
How to track spending and activity in a Learner Lab

Note: These instructions are also available in Canvas in the Educator Getting Started with AWS Academy course. In the **Guides: Managing Lab Exercises (optional)** section, see **How to View a Student's Lab Cost** and **How to View a Student's Lab Time**.

1. In the navigation pane, choose **Courses**, and then choose **Modules**.

2. Choose the link for the Learner Lab that you want to track spending or activity for.
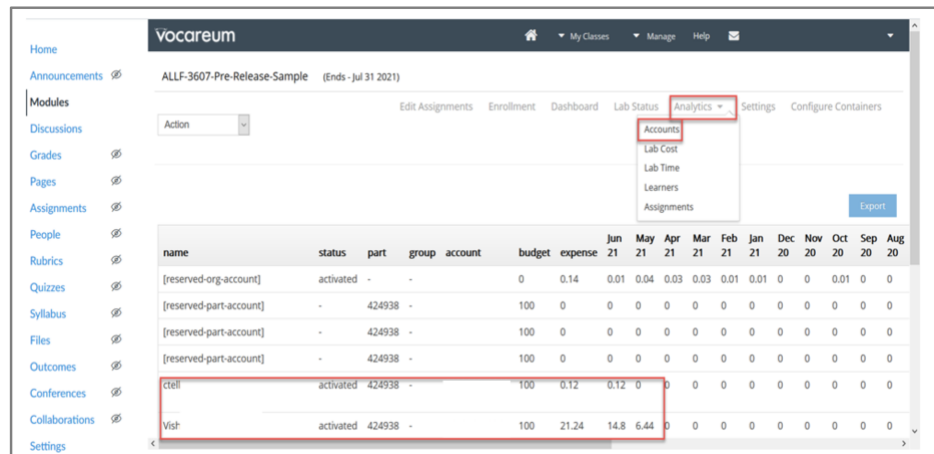
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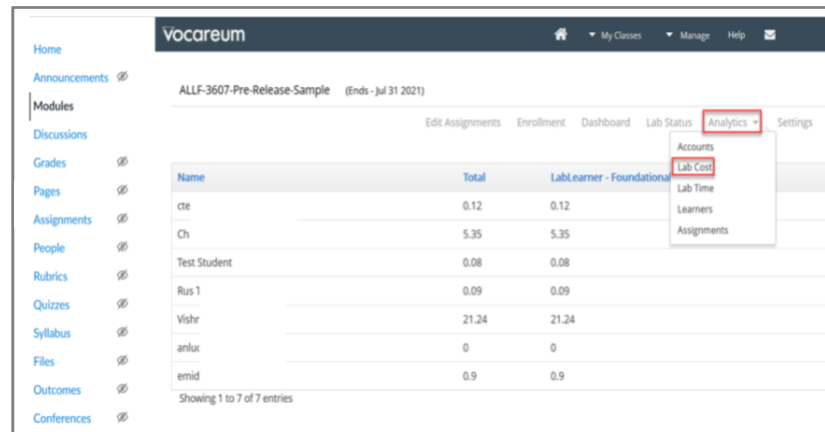**Educator Guide**

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3. Choose **Analytics**, and then choose the option for the report you want to see.

   - For an overview of spending by student per month, choose **Accounts**.

   - For a report of spending by student, choose **Lab Cost**.
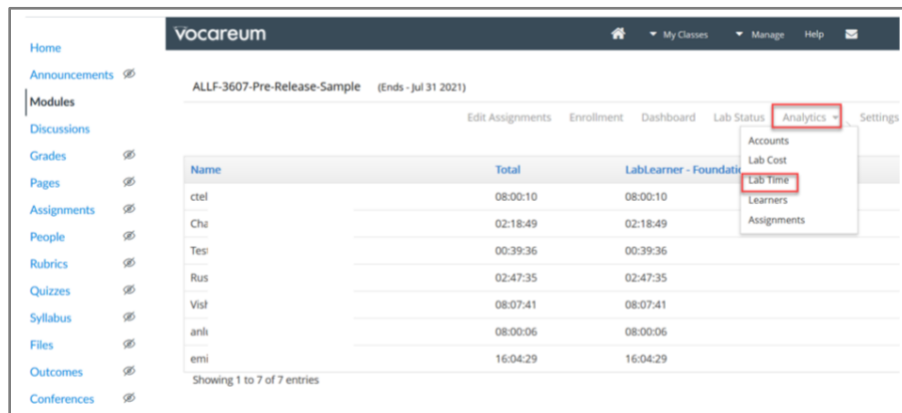
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- For a report of the time that a student used the lab environment, choose **Lab Time**. **Note:** If a student exits the lab environment without choosing **End Lab**, it might appear that the student spent more time using the environment than they actively did.

How to view the spend summary for an individual student

Note: These instructions are also available in Canvas in the Educator Getting Started with AWS Academy course. In the **Guides: Managing Lab Exercises (optional)** section, see **How to View a Student's Lab Cost**.

1. In the navigation pane, choose **Courses**, and then choose **Modules**.
2. Choose the link for the Learner Lab that you want to track spending for.
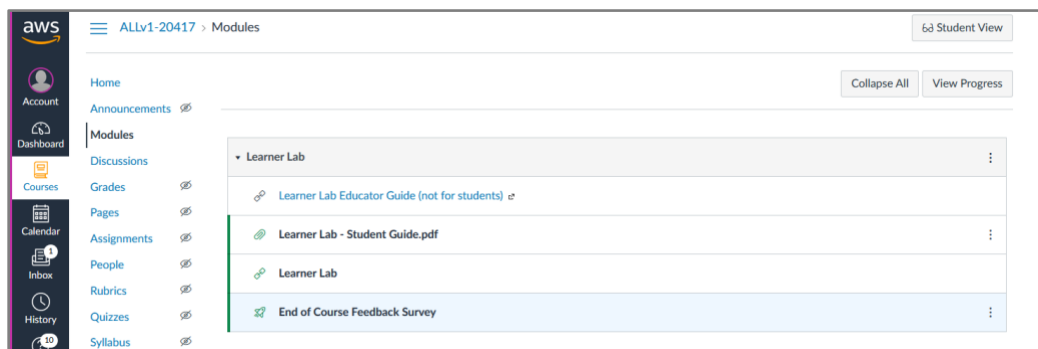
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3. From the dropdown menu, select the student who you want to track spending for.

4. Choose **Cost**.
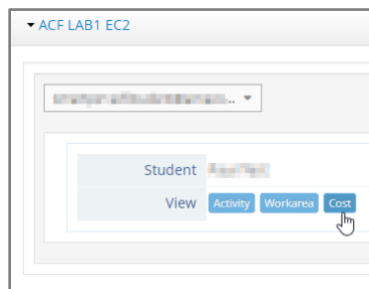
A detailed description is displayed of the services used and their costs.

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How to view and troubleshoot a student's lab workarea

You can log in to the AWS Management Console with a student's lab environment account while they are completing a lab exercise. This allows you to see everything that the student has configured so you can help them to troubleshoot.

Note: These instructions are also available in Canvas in the Educator Getting Started with AWS Academy course. In the **Guides: Managing Lab Exercises (optional)** section, see **How to Troubleshoot a Student's Lab Workarea**.

1. In the navigation pane, choose **Courses**, and then choose **Modules**.

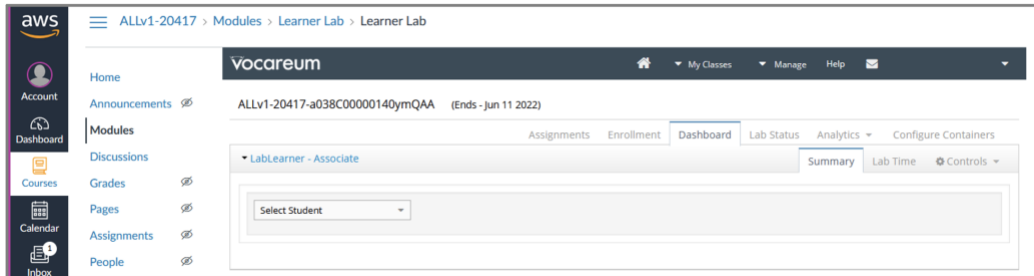2. Choose the link for the Learner Lab that you want to troubleshoot.
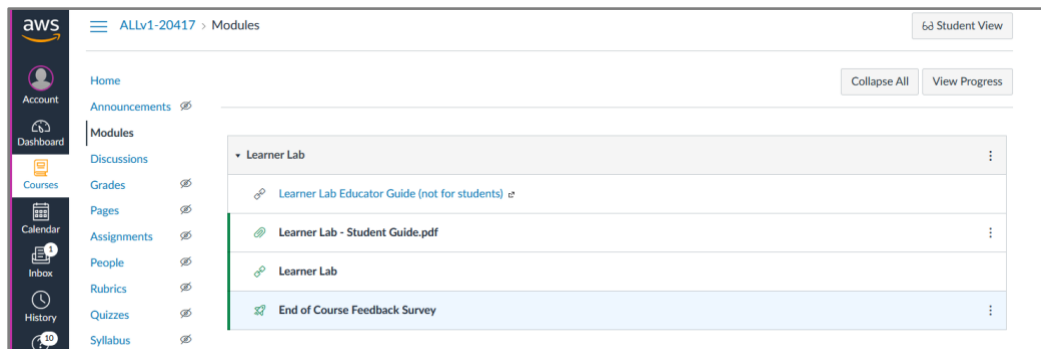
3. From the dropdown menu, select the student whose lab workarea you want to access.
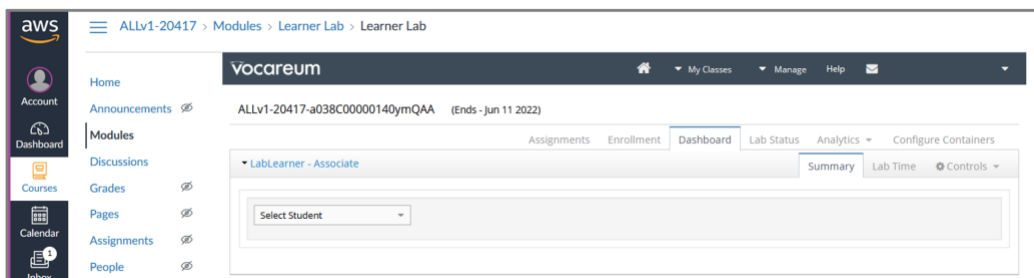
4. Choose **Workarea**.
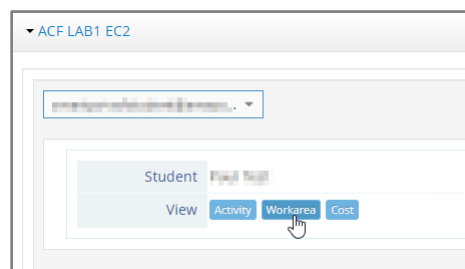
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5. To open the AWS Management Console, choose **AWS**.
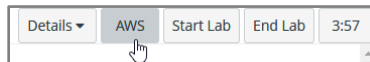
You are logged in to the console and can see everything that the student has configured.

6. When you are finished viewing the student's lab workarea, choose **Modules** in the navigation menu to return to the course as a teacher.

How to view a Learner Lab in Student View

In a Canvas course, you can switch to Student View to navigate the course as a student.

Note: These instructions are also available in Canvas in the Educator Getting Started with AWS Academy course. In the **Guides: Working with Students (optional)** section, see **How to View a Course as a Student**.

1. To switch to Student View, from a course's home page, choose **Student View** in the upper-right corner. A purple border appears around the page to indicate that you are in Student View.

2. In the navigation menu, choose **Modules**, and then choose the link for the Learner Lab that you want to view.

You are now in the lab environment as the student. **Note:** If this is the first time that you have used the Student View, you might need to refresh the page to see and accept the terms and conditions.

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3. To start the lab, choose **Start Lab**.
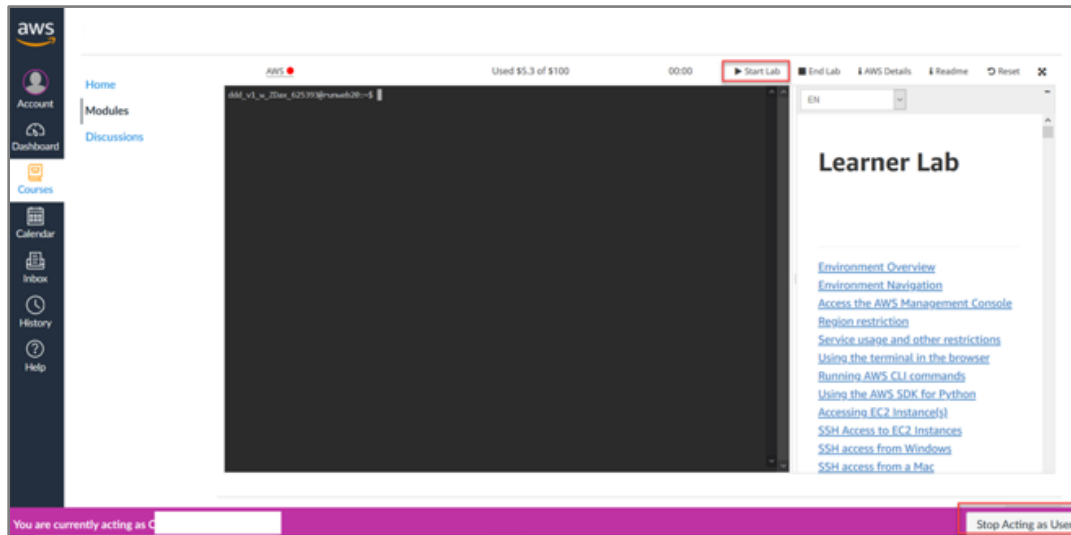
4. To access the AWS Management Console, after the lab starts, choose **AWS**.
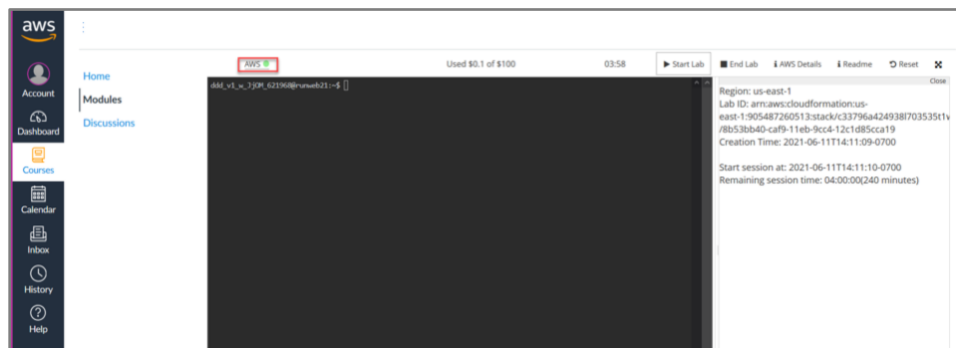
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You are transparently logged in to a temporary AWS account, which you can use as long as the lab session timer is active.
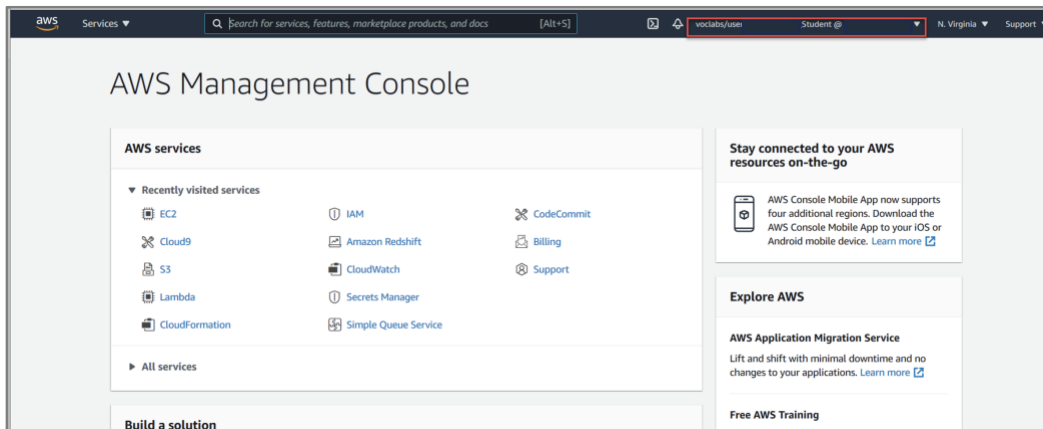
5. To see the lab instructions, return to the LMS and choose **Readme**.
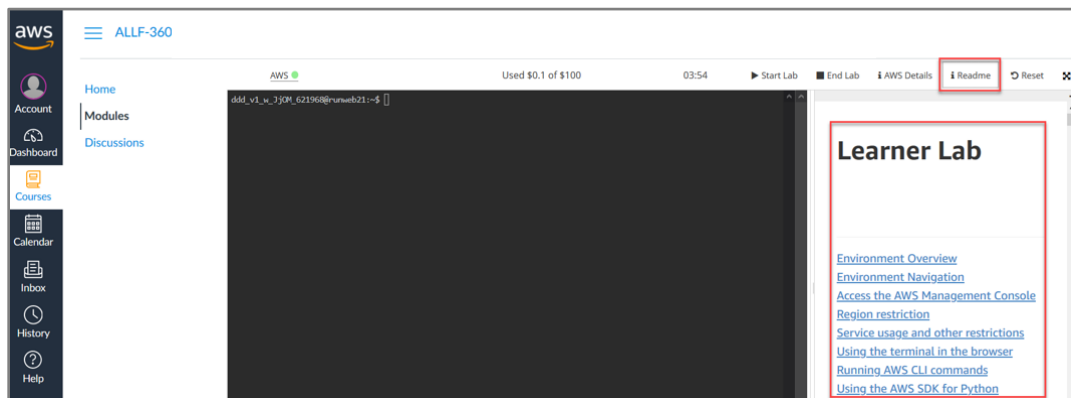
6. To monitor spending, see the area at the top of the lab instructions. **Note:** This information is provided by the AWS Budgets service and might be delayed by up to 8 hours. This is an approximate view of spending.
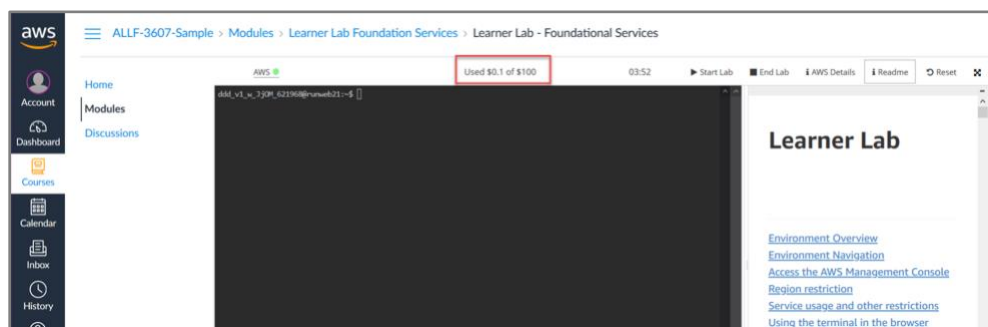
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7. To monitor your remaining session time, see the area at the top of the lab instructions. **Note:** If you are actively working and need more time, choose **Start Lab** again to reset your session timer.
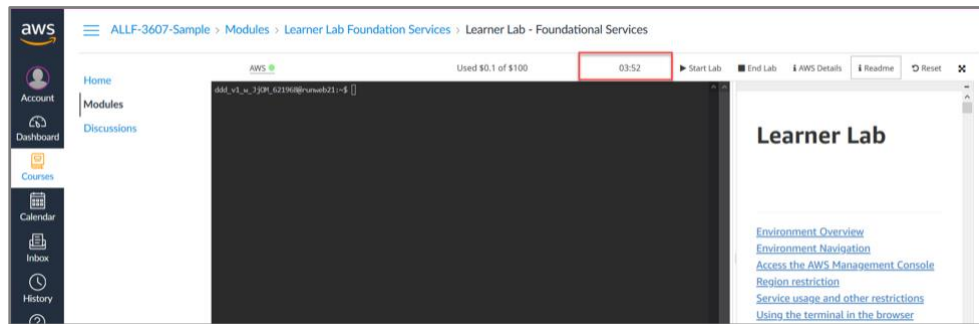
8. To delete all resources that you have configured in a lab and start with a fresh AWS account, choose **Reset**. **Important: All work will be lost and cannot be recovered.**
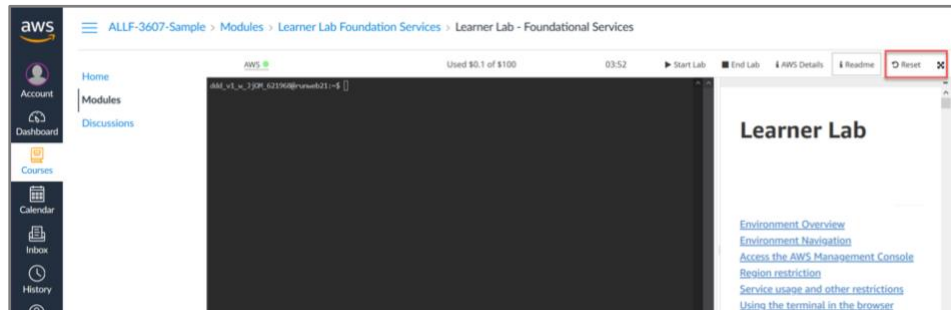
9. When you are finished with the session, choose **End Lab**.

   Any running Amazon Elastic Compute Cloud (Amazon EC2) instances will be stopped. If you return and restart the lab, any stopped EC2 instances will restart and any other resources that you configured will still be available.

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How to effectively use the Academy Learner Labs

The Academy Learner Lab course provide acces to the AWS Academy Learner Labs – Compliance and Security Module. This module is designed to help educators and learners gain knowledge of compliance and security responsibilities that should be followed when using AWS services through the AWS Academy Learner Labs. Educators and learners have access to lecture materials, and to one optional online knowledge check.

Module objectives

Upon completion of this module, learner will be able to do the following:

- Identify features and compliance guidelines of the AWS Academy Learner Labs.
- Identify the AWS shared responsibility model.
- Identify a set of the AWS security best practices.
- Recognize AWS Academy Learner Labs compliance and security best practices.
- Identify where to find AWS security resources.

Duration

Approximately 20 minutes. The module is designed to be reviewed before using the AWS Academy Learner Labs. It is highly recommended educators require learners to review the module content and complete the module assessment before starting the AWS Academy Learner Labs.

Intended audience

This compliance module is intended for learners attending AWS Academy member institutions who want to use AWS Academy Learner Labs for projects over a period designated by the educator. AWS Academy encourage educators and learners to review this module to learn how to effectively use the AWS Academy Learner Labs.

Learner prerequisites

This module does not have any prerequisites. However, prior to working in the AWS Academy Learner Labs, learners are recommended to complete this module, and complete the AWS Academy Cloud Foundations course.

Delivery methods

Learning materials are provided to support synchronous, asynchronous and independent learning. The educator can determine the preferred delivery method for this module.

Educator prerequisites

This module does not have any prerequisites for educators. However, prior to facilitating an AWS Academy Learner Labs, educators are recommended to complete this module, complete the AWS Academy Cloud Foundations course, and pass the AWS Certified Cloud Practitioner exam.

Learner resources

- Lecture slides and one optional module knowledge check.

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Module sections

This section lists the topics covered in this module.

Section 1: AWS Academy Learner Labs overview

- o AWS Academy Learner Labs environment features
- o AWS Academy Learner Labs compliance information

Section 2: AWS Shared Responsibility Model

- o Shared responsibility model
- o Responsibility for security in the cloud
- o Responsibility for security of the cloud

Section 3: AWS Security Best Practices

- o Using VPCs to secure resources
- o Protecting Compute resources
- o Protecting Storage resources

Section 4: AWS Academy Learner Labs best practices

- o Best practices to avoid permissions errors
- o Best practices to preserve Lab budget

Section 5: Additional resources

- o AWS documentation
- o AWS security training.