Swinburne University of Technology

COS20019 Cloud Computing Architecture

Module 10 Guided Lab - Automating Infrastructure Deployment with AWS CloudFormation

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Saturday 28th October, 2023

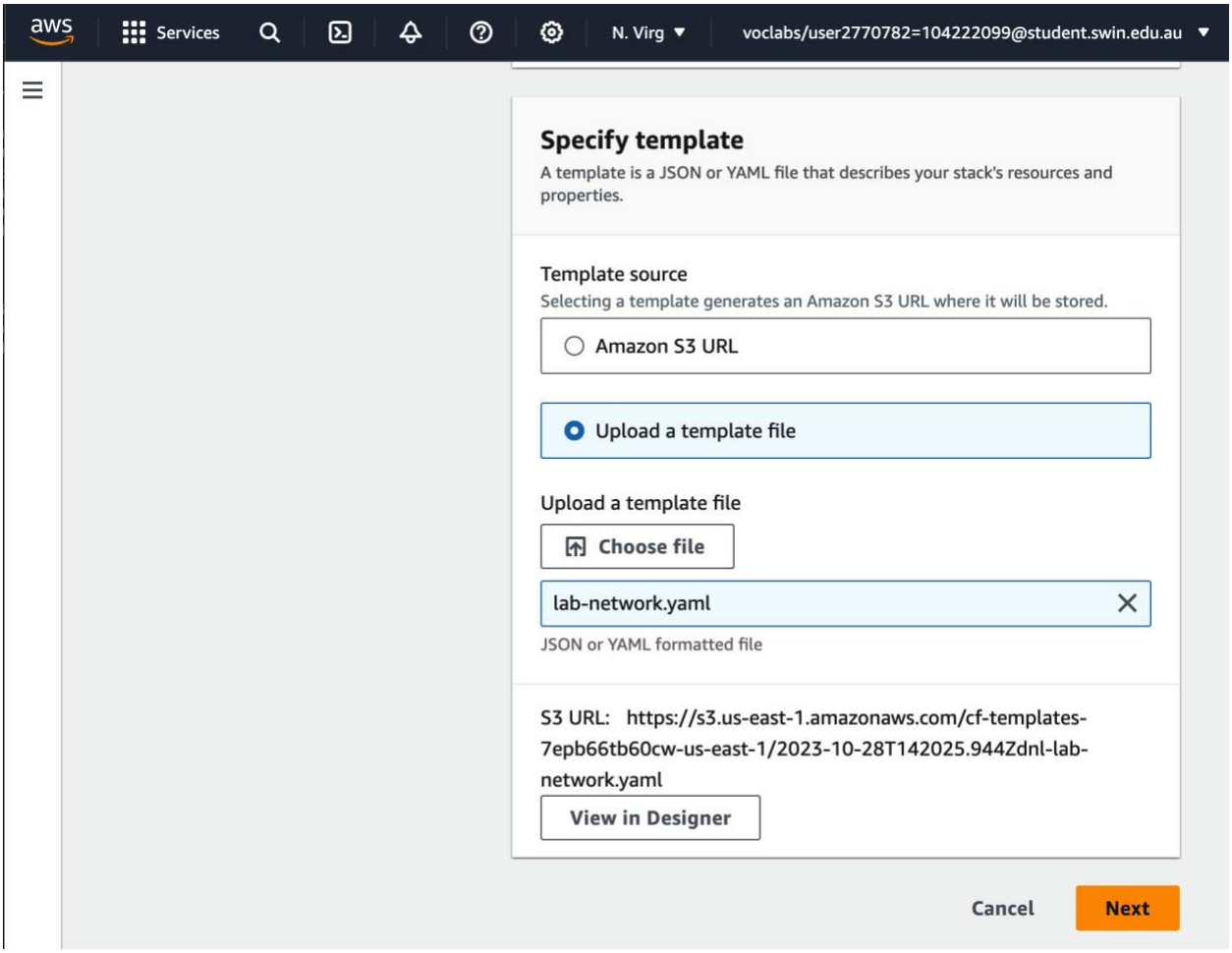
Task 1: Deploying a networking layer

In the **AWS Management Console**, from the **Services** menu, choose **CloudFormation**.

Choose **Create stack** and configure these settings.

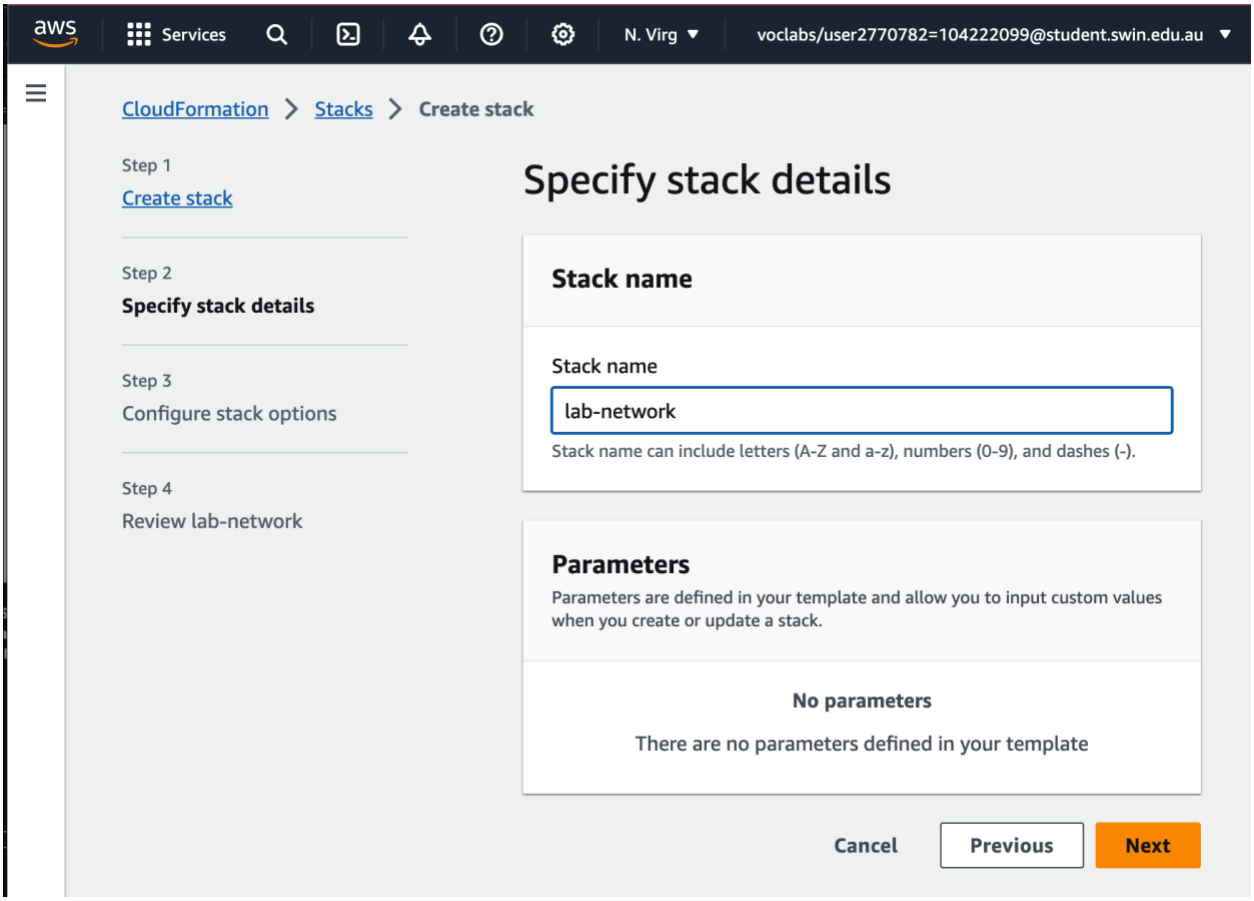
Step 1: Specify template

- **Template source: Upload a template file**
- **Upload a template file:** Click **Choose file** then select the **lab-network.yaml** file that you downloaded.
- Choose **Next**



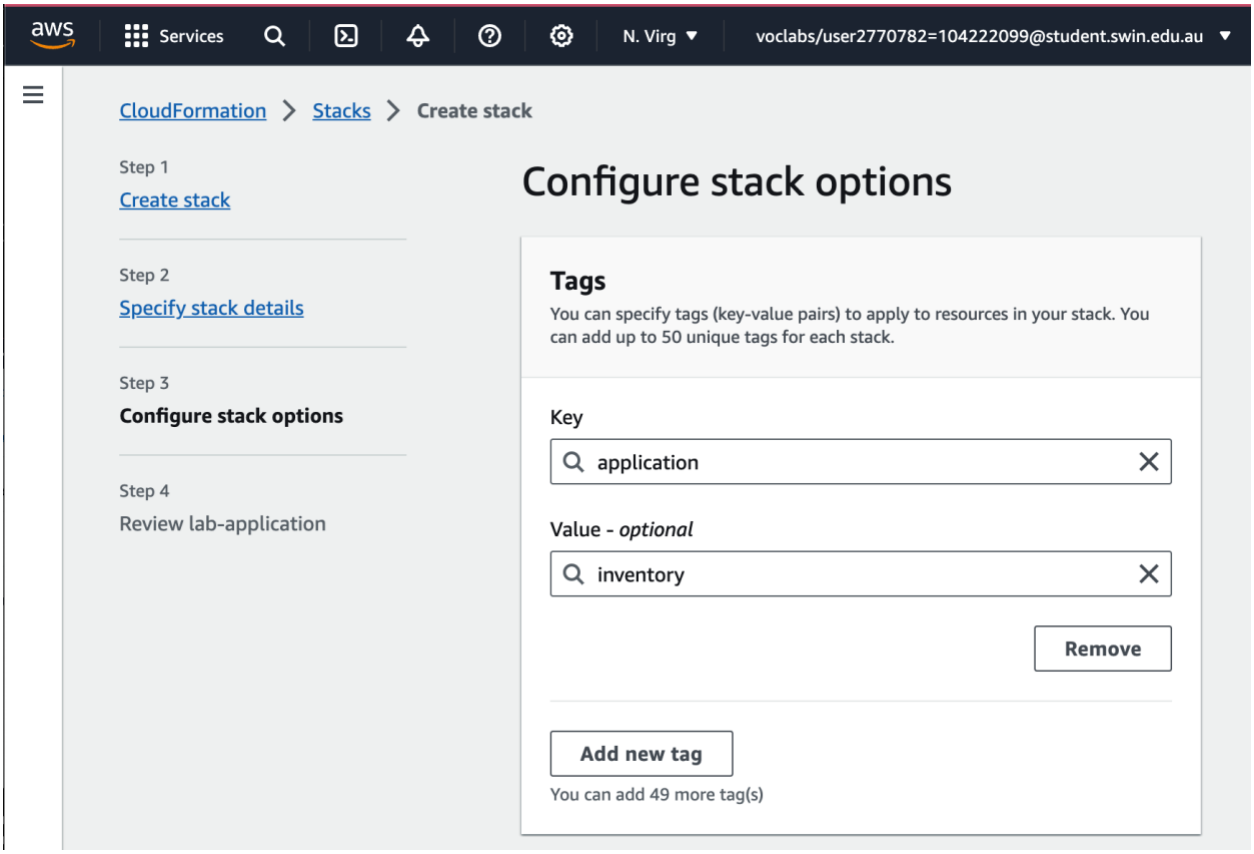
Step 2: Create Stack

- **Stack name:** lab-network
- Choose **Next**



Step 3: Configure stack options

- In the **Tags** section, enter these values.
  - **Key:** application
  - **Value:** inventory
- Choose **Next**



Step 4: Review lab-network

- Choose **Create stack**

Choose the **Stack info** tab.
Wait for the **Status** to change to CREATE_COMPLETE.

Choose the **Resources** tab.

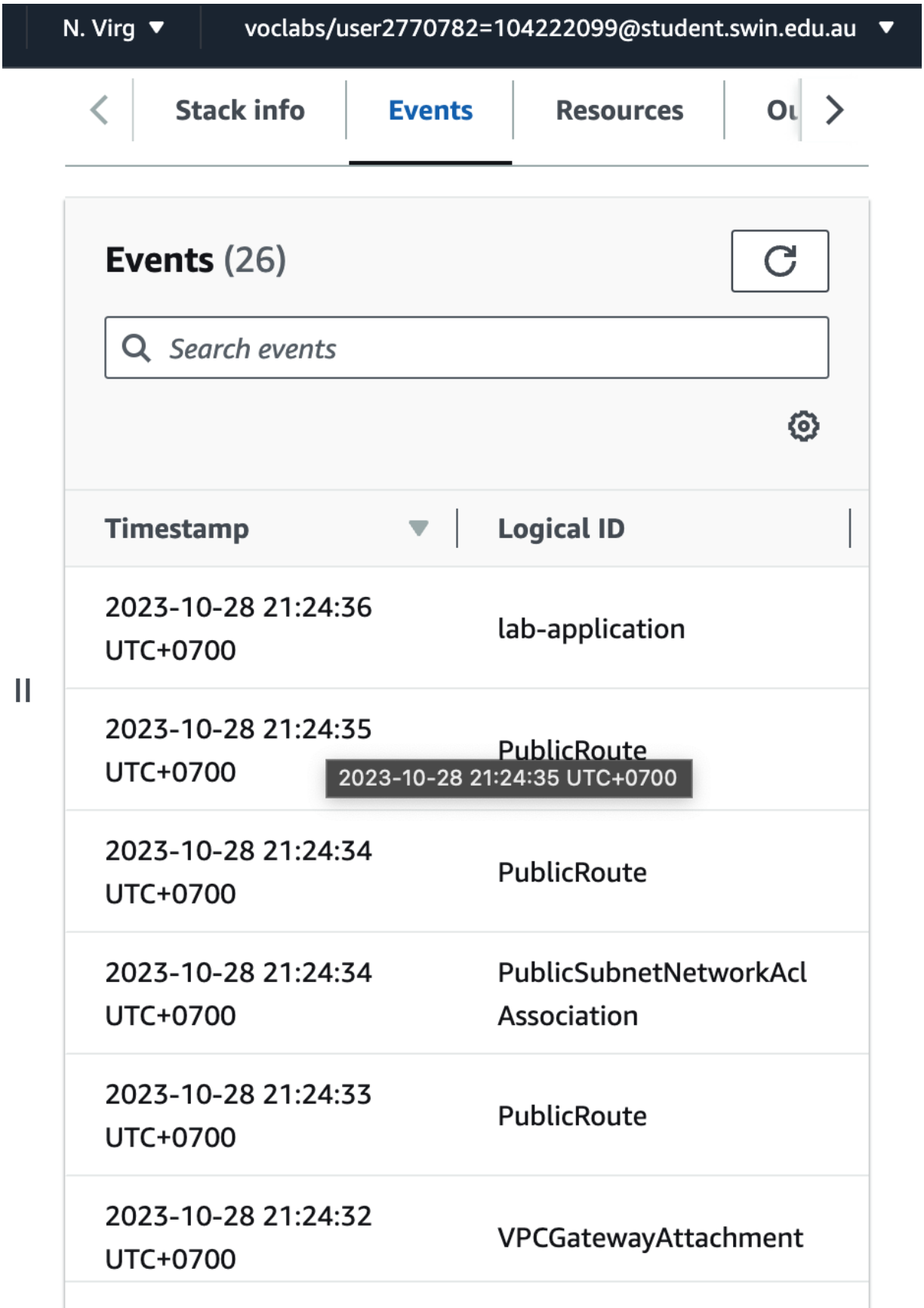
Resources (8)

Search resources

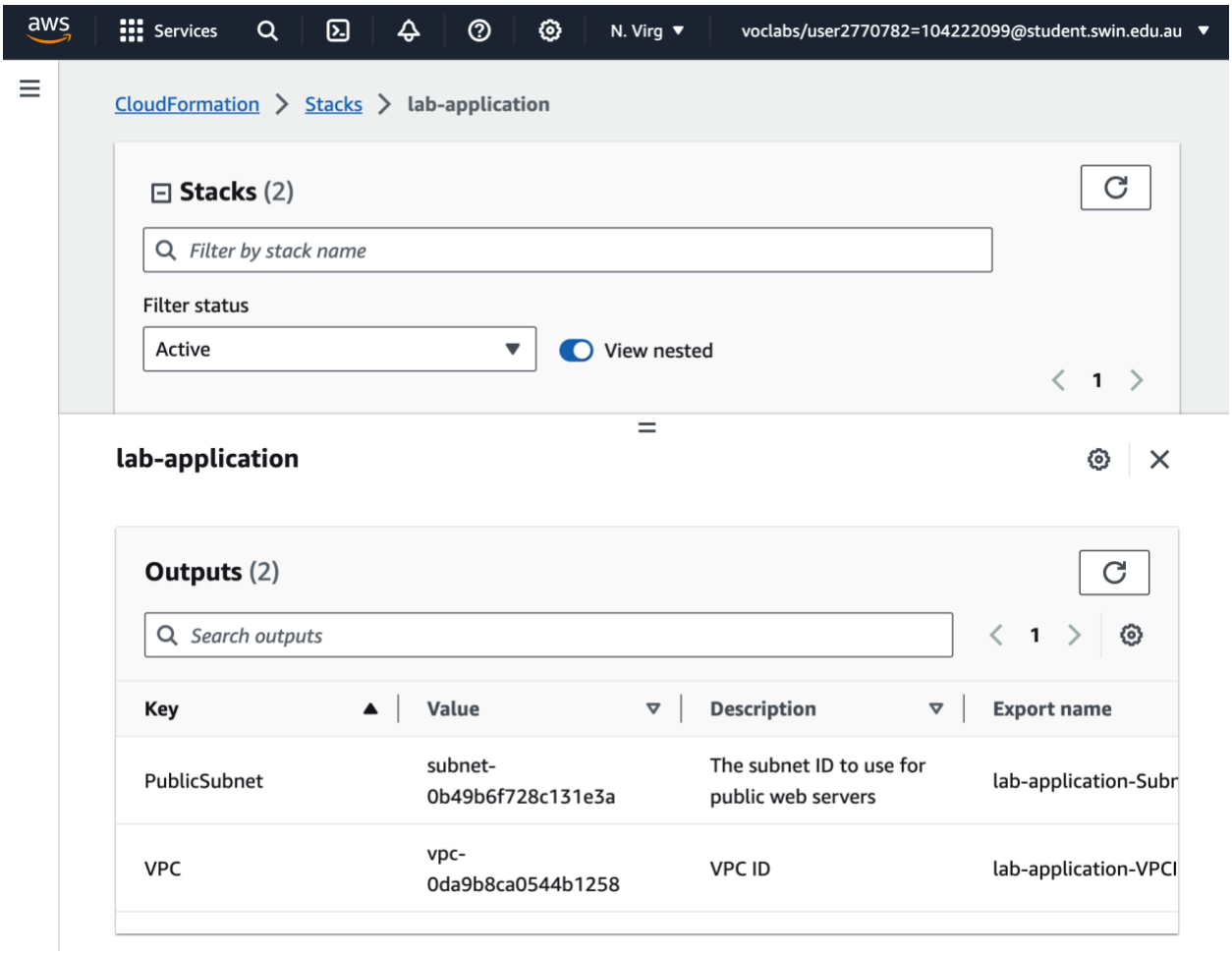
1

Logical ID	Physical ID
InternetGateway	igw-082325a59af1d0fd4
PublicRoute	rtb-0312a30248706ef19|0.0.0.0/0
PublicRouteTable	rtb-0312a30248706ef19
PublicSubnet	subnet-0b49b6f728c131e3a
PublicSubnetNetworkAcl Association	aclassoc-048762295c16aaa68
PublicSubnetRouteTable Association	rtbassoc-06d2601d4ce288f35

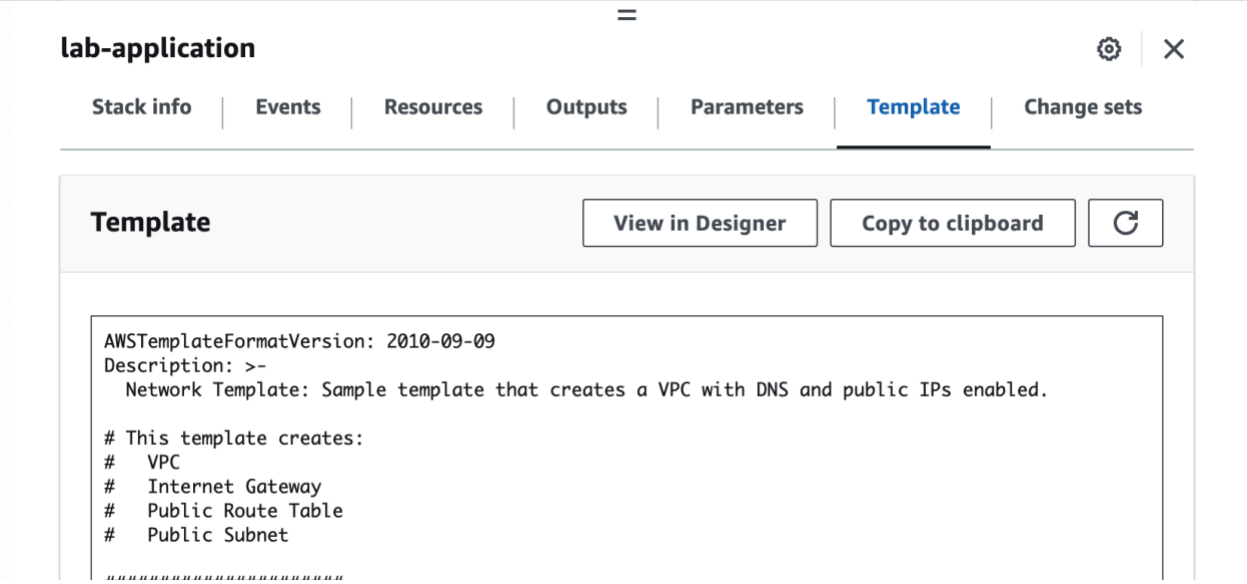
Choose the **Events** tab and scroll through the events log.


N. Virg
voclabs/user2770782=104222099@student.swin.edu.au
Stack info
Events
Resources
Ou
Events (26)
Search events
Timestamp
Logical ID
2023-10-28 21:24:36 UTC+0700
lab-application
2023-10-28 21:24:35 UTC+0700
PublicRoute
2023-10-28 21:24:35 UTC+0700
2023-10-28 21:24:34 UTC+0700
PublicRoute
2023-10-28 21:24:34 UTC+0700
PublicSubnetNetworkAcl Association
2023-10-28 21:24:33 UTC+0700
PublicRoute
2023-10-28 21:24:32 UTC+0700
VPCGatewayAttachment

Choose the **Outputs** tab.



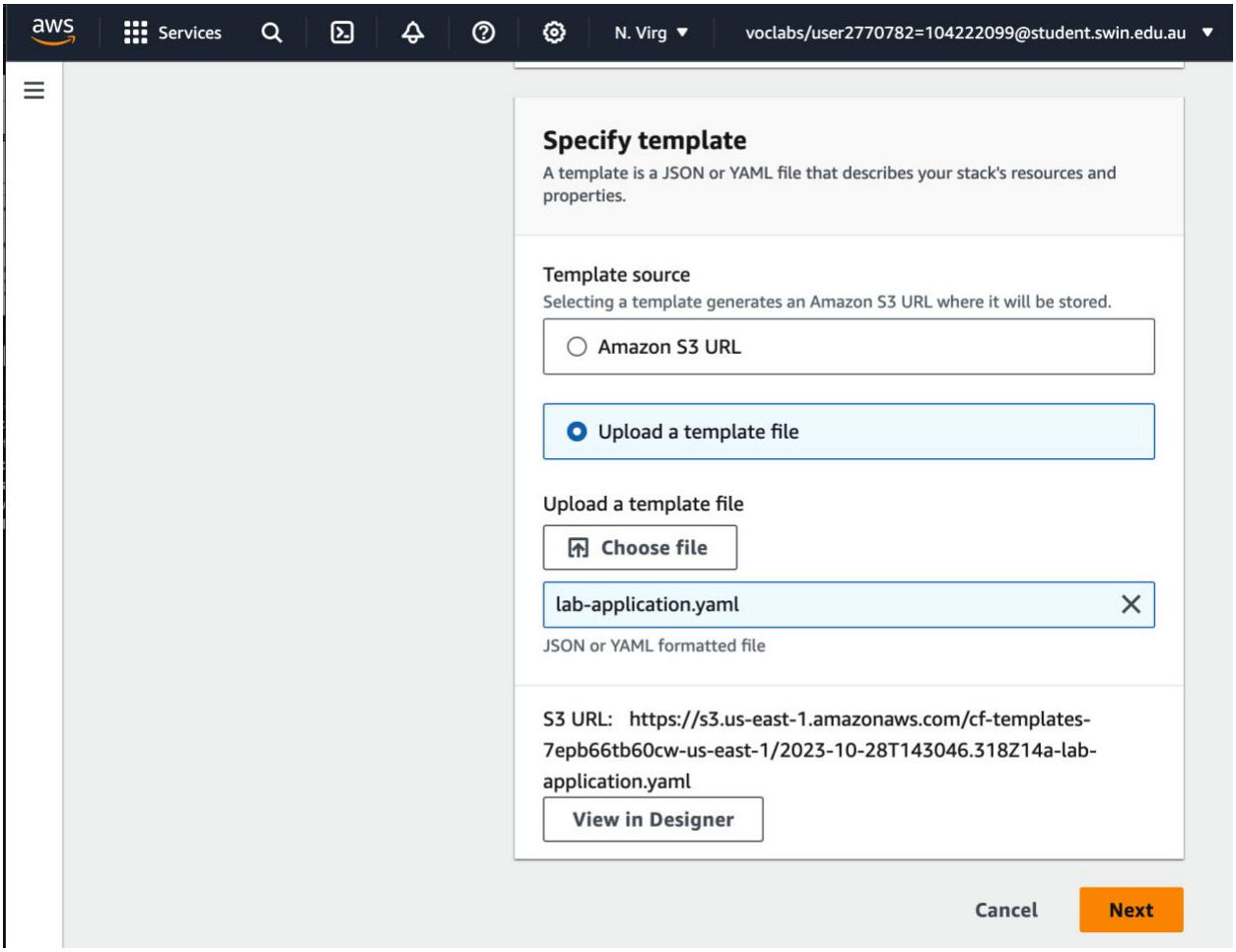
Choose the **Template** tab.



Task 2: Deploying an application layer

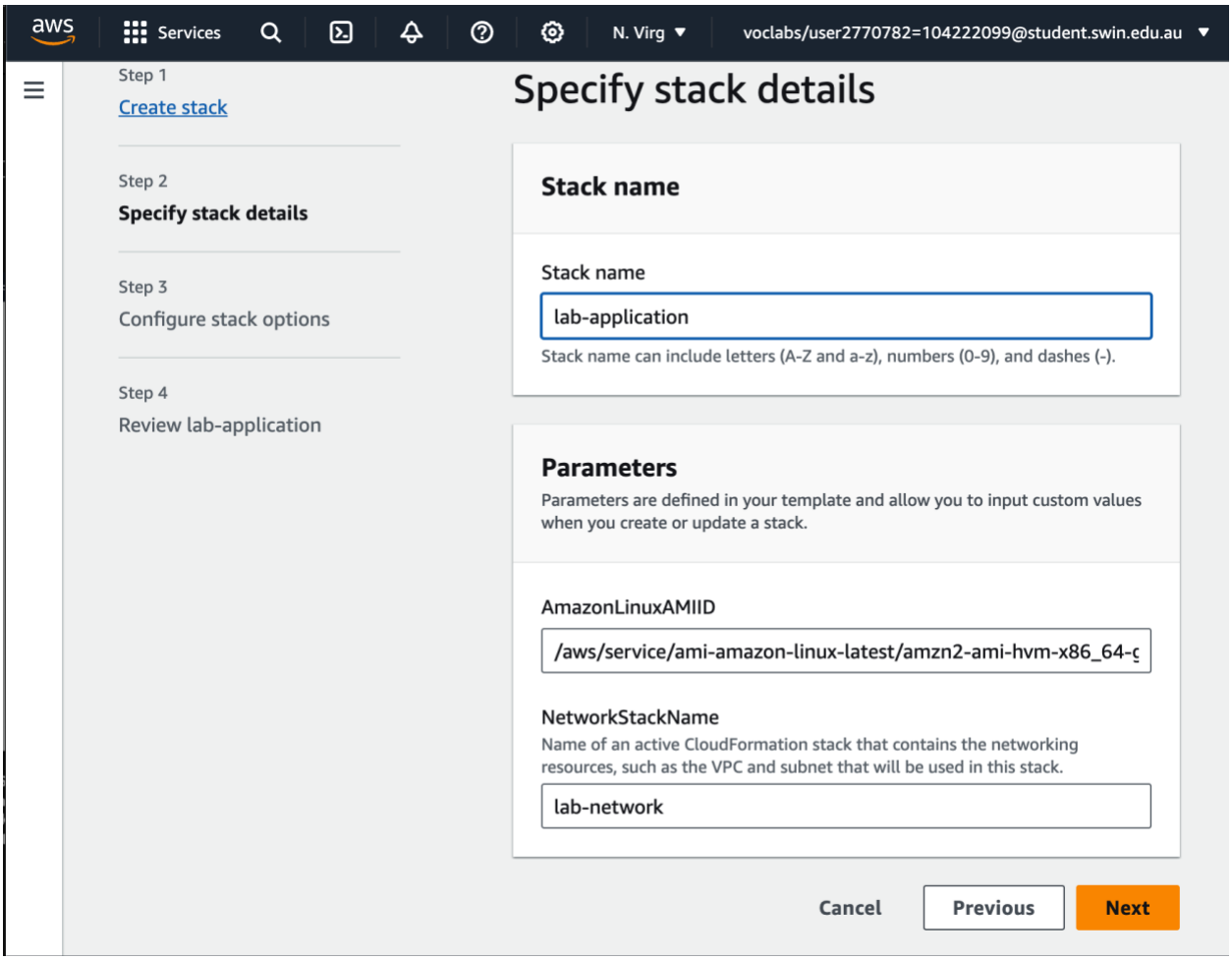
In the left navigation pane, choose **Stacks**.
Select **Create stack > With new resources (standard)**, and then configure these settings.
Step 1: Specify template

- **Template source: Upload a template file**
- **Upload a template file:** Click **Choose file** then select the **lab-application.yaml** file that you downloaded.
- Choose **Next**



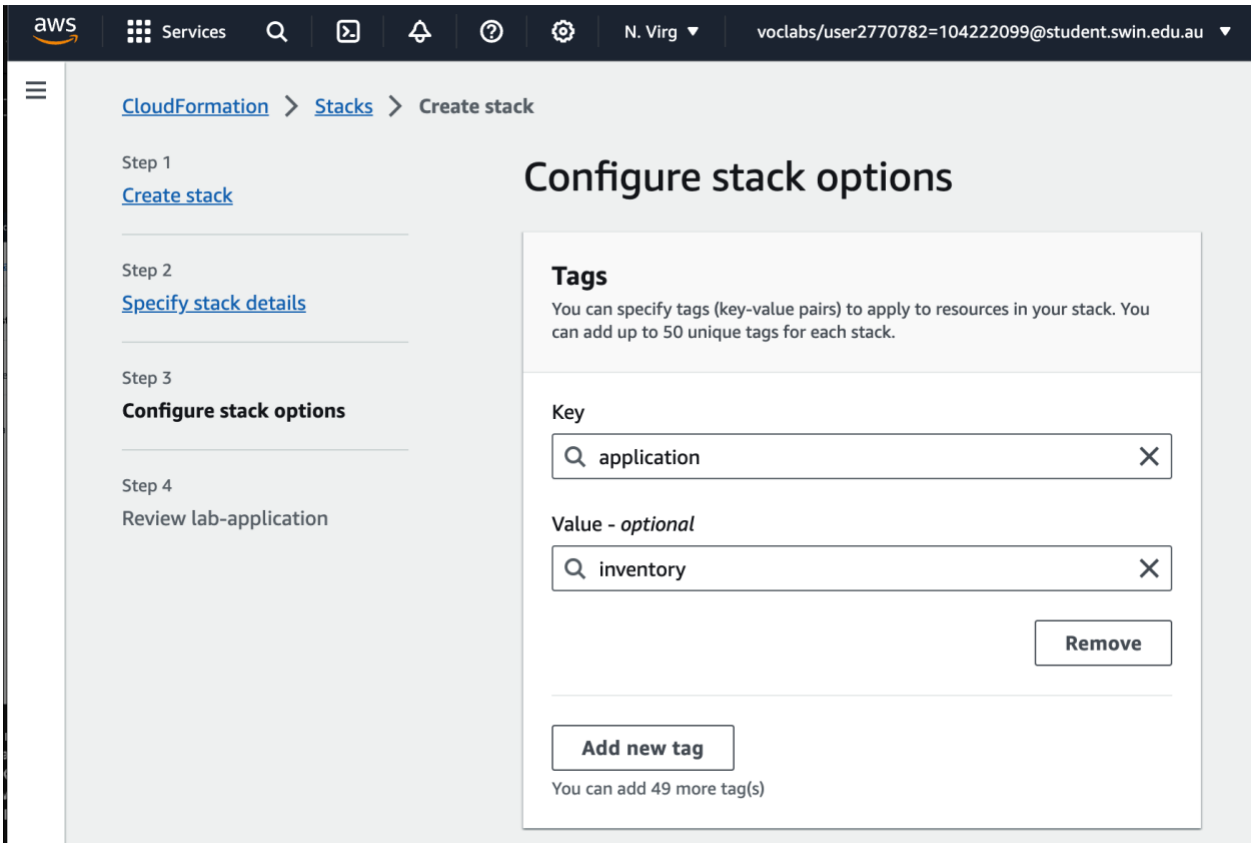
Step 2: Create Stack

- **Stack name:** lab-application
- **NetworkStackName:** lab-network
- Choose **Next**



Step 3: Configure stack options

- In the **Tags** section, enter these values.
  - **Key:** application
  - **Value:** inventory
- Choose **Next**

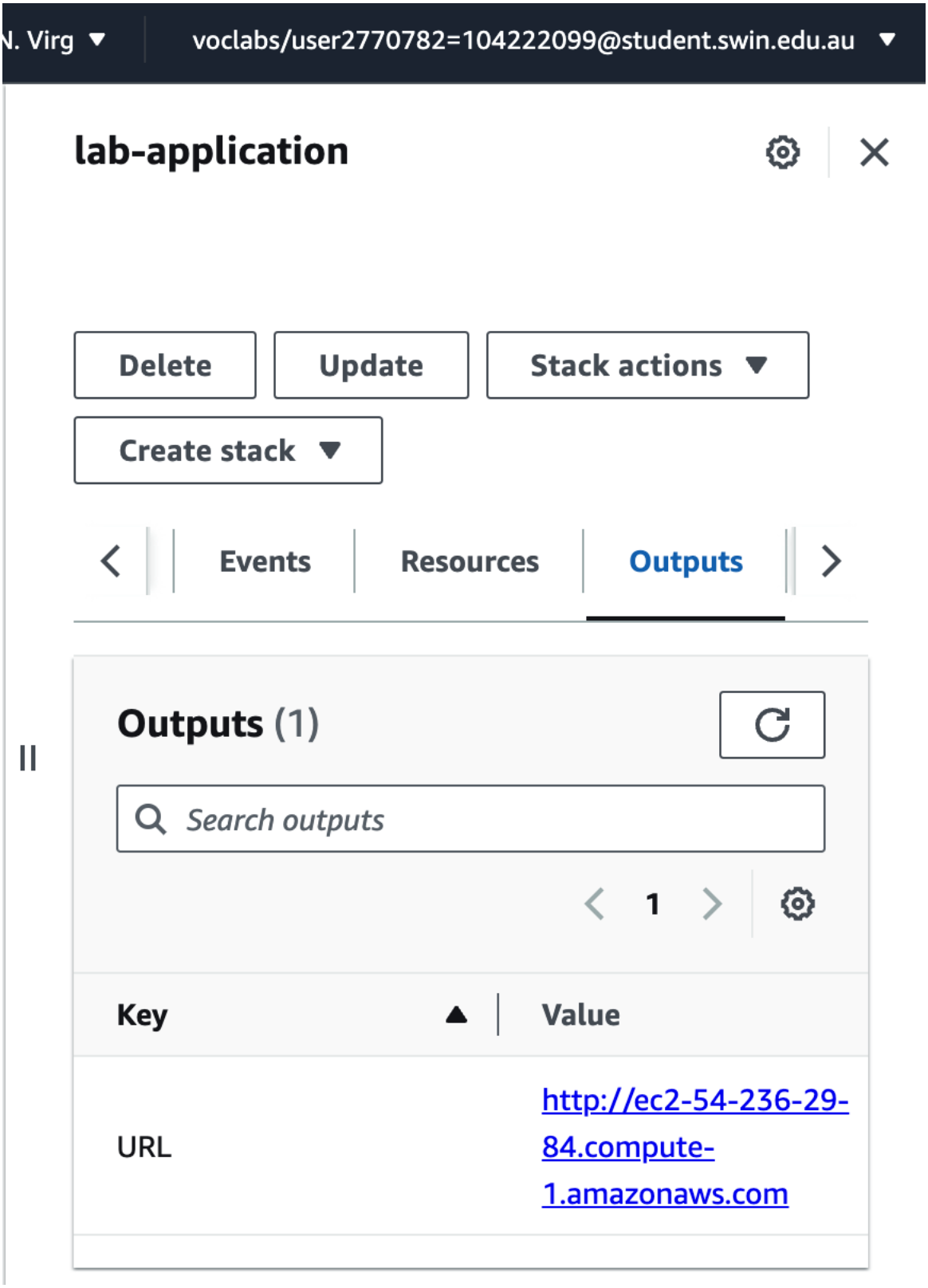


Step 4: Review lab-application

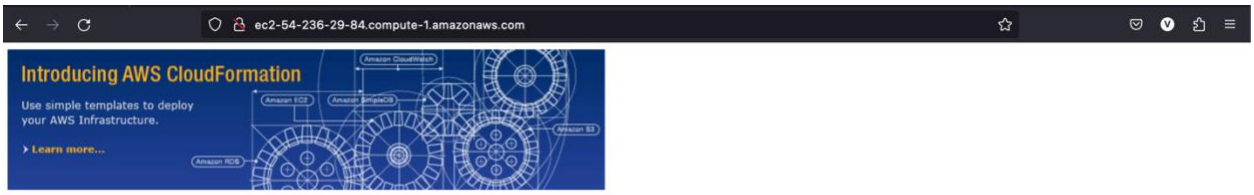
- Choose **Create stack**

In the **Stack info** tab, wait for the **Status** to change to CREATE_COMPLETE.

Choose the **Outputs** tab.



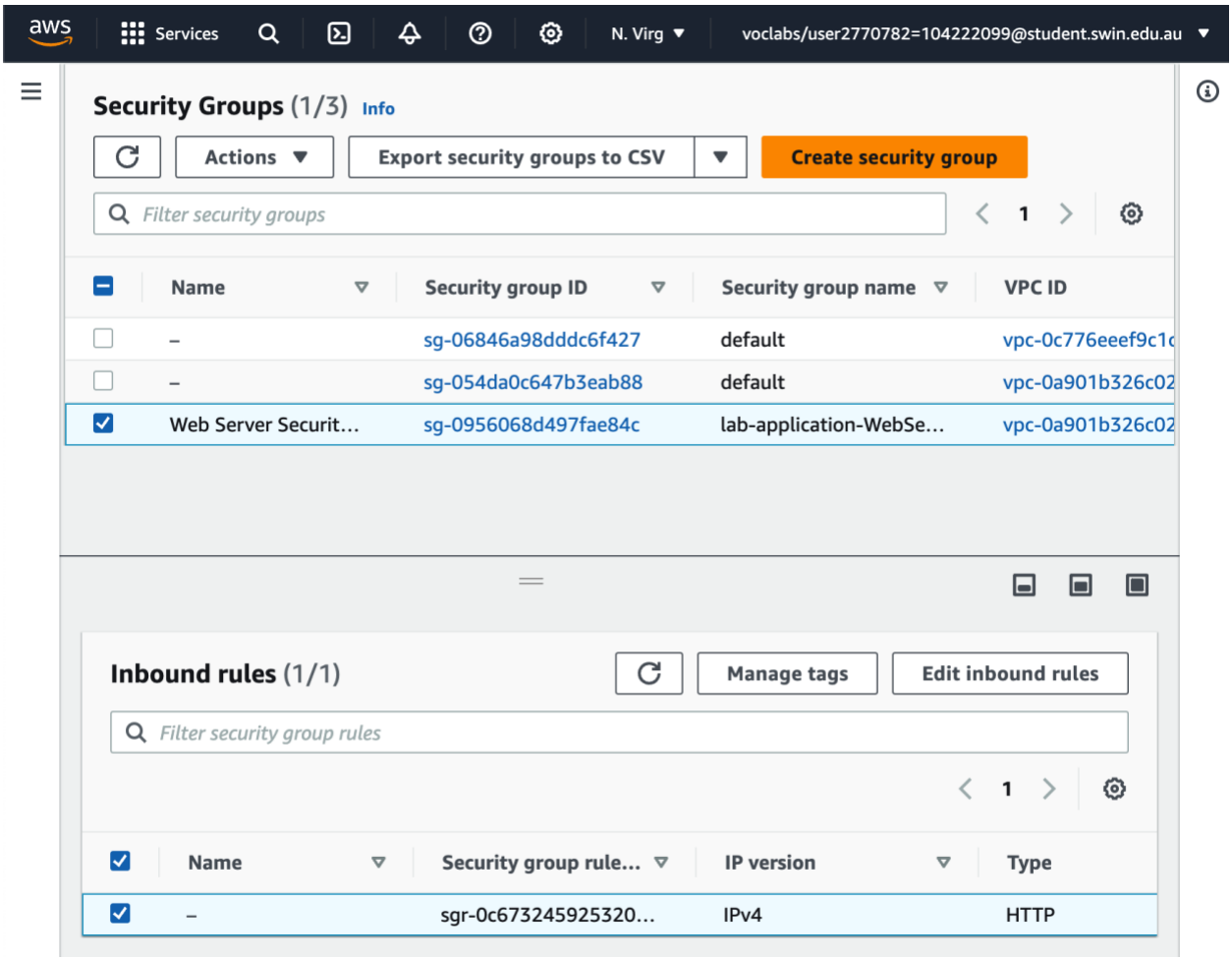
Copy the **URL** that is displayed, open a new web browser tab, paste the URL, and press ENTER.



Congratulations, you have successfully launched the AWS CloudFormation sample.

Task 3: Updating a Stack

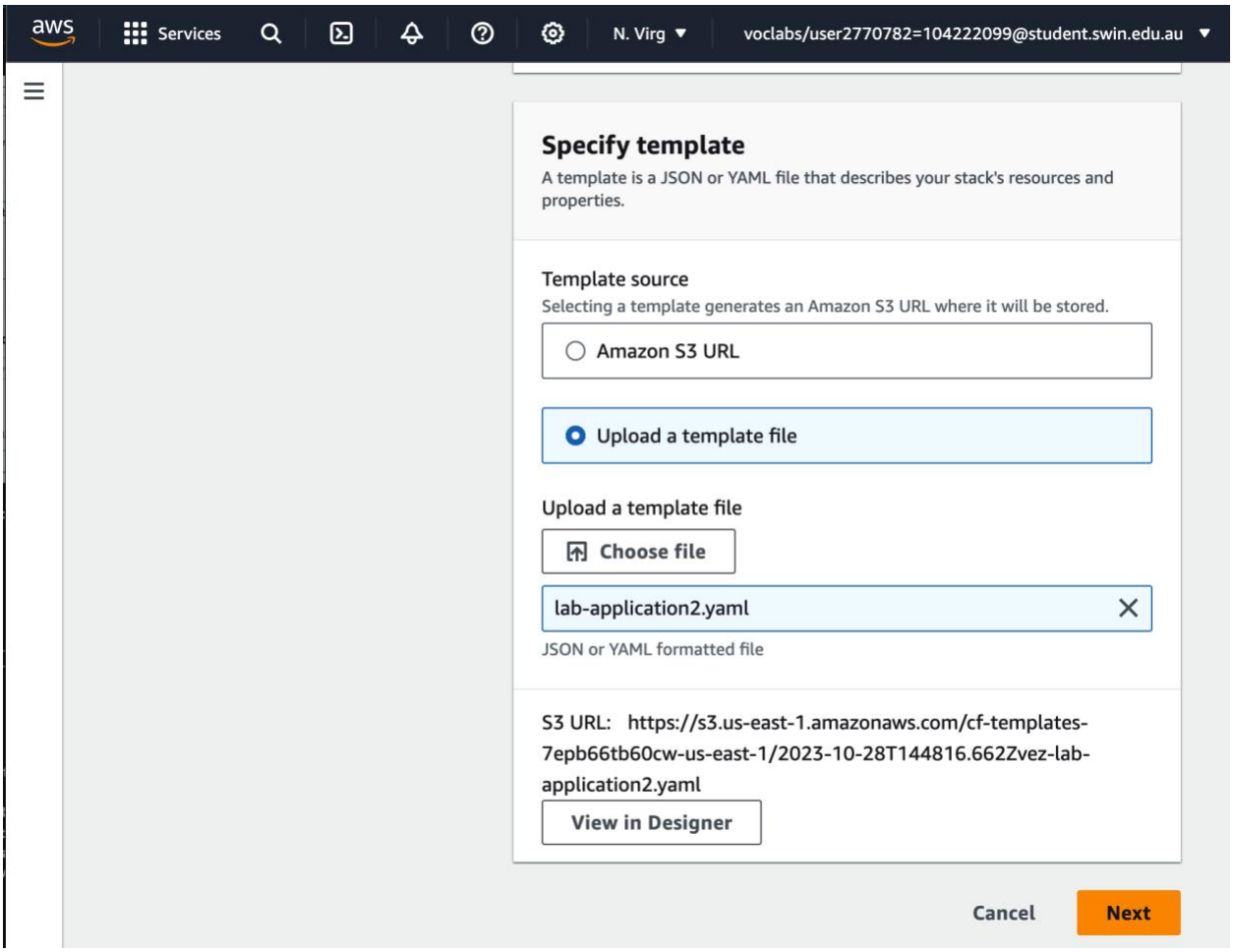
In the **AWS Management Console**, from the **Services** menu, choose **EC2**.
In the left navigation pane, choose **Security Groups**.
Select the check box for **lab-application-WebServerSecurityGroup...**.
Choose the **Inbound rules** tab.



From the **Services** menu, choose **CloudFormation**.

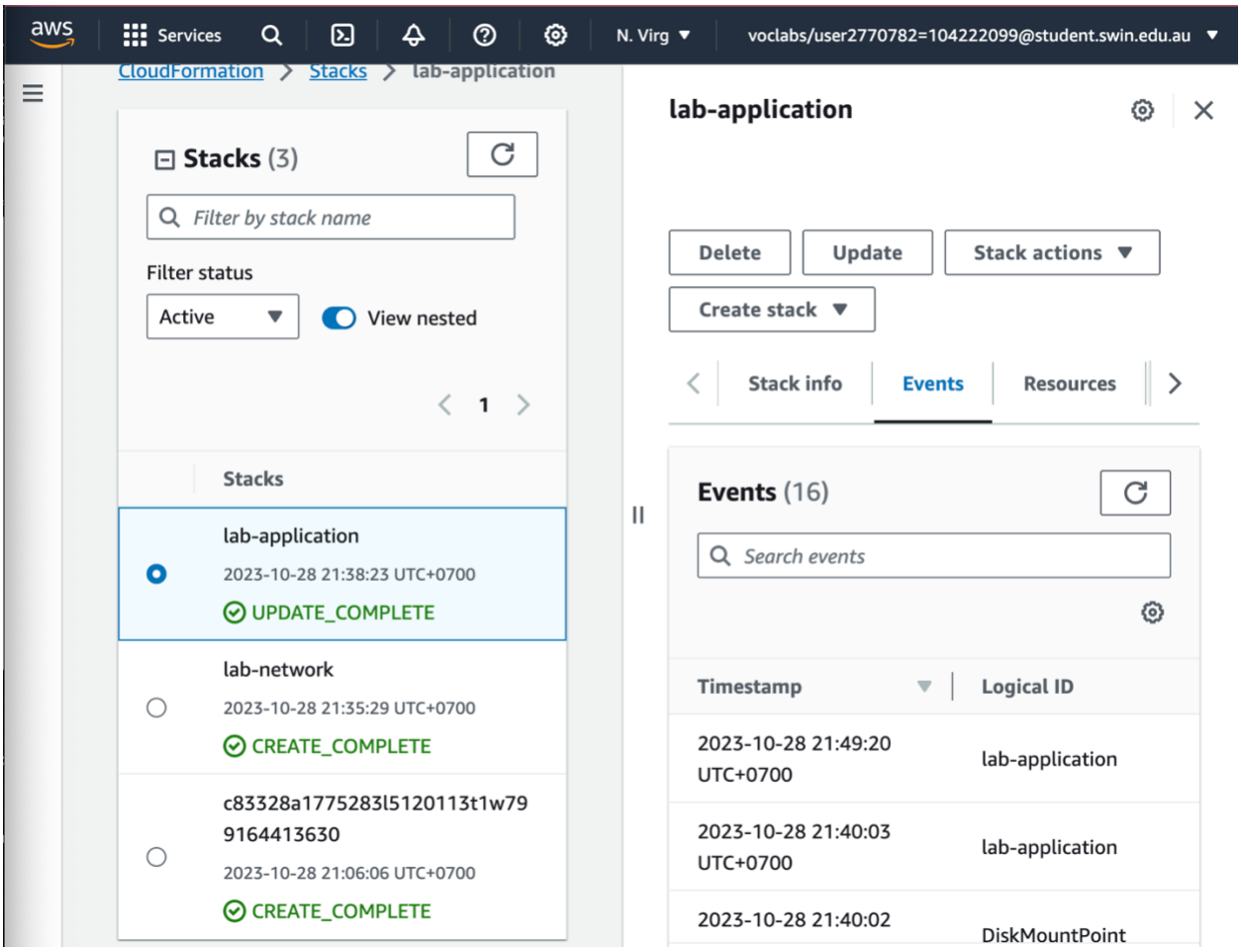
In the **Stacks** list of the **AWS CloudFormation console**, select **lab-application**.
Choose **Update** and configure these settings.

- Select **Replace current template**
- **Template source: Upload a template file**
- **Upload a template file:** Click **Choose file** then select the **lab-application2.yaml** file that you downloaded.

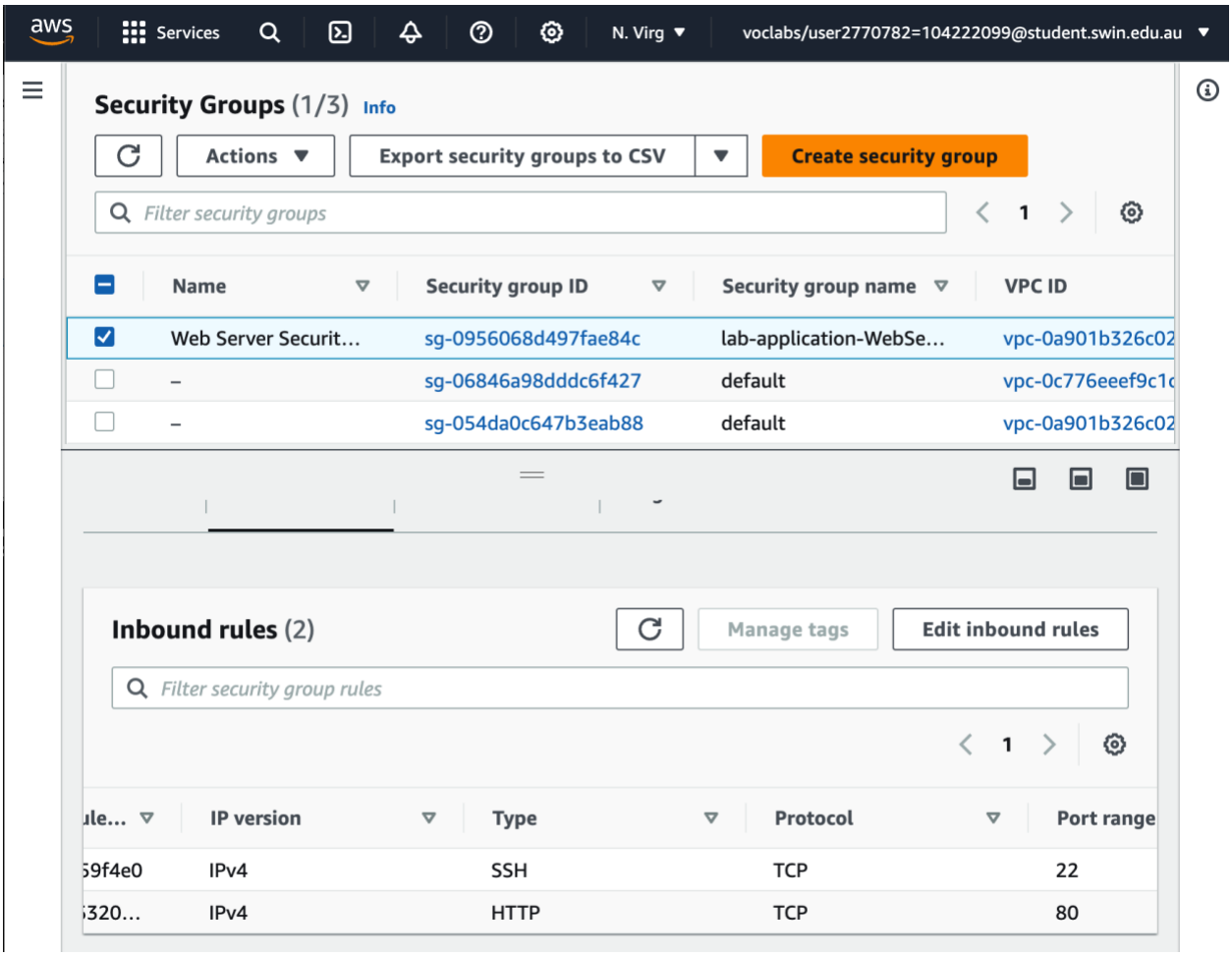


Choose **Next** in each of the next *three* screens to advance to the **Review lab-application** page.
Choose **Update stack**

In the **Stack info** tab, wait for the **Status** to change to UPDATE_COMPLETE.

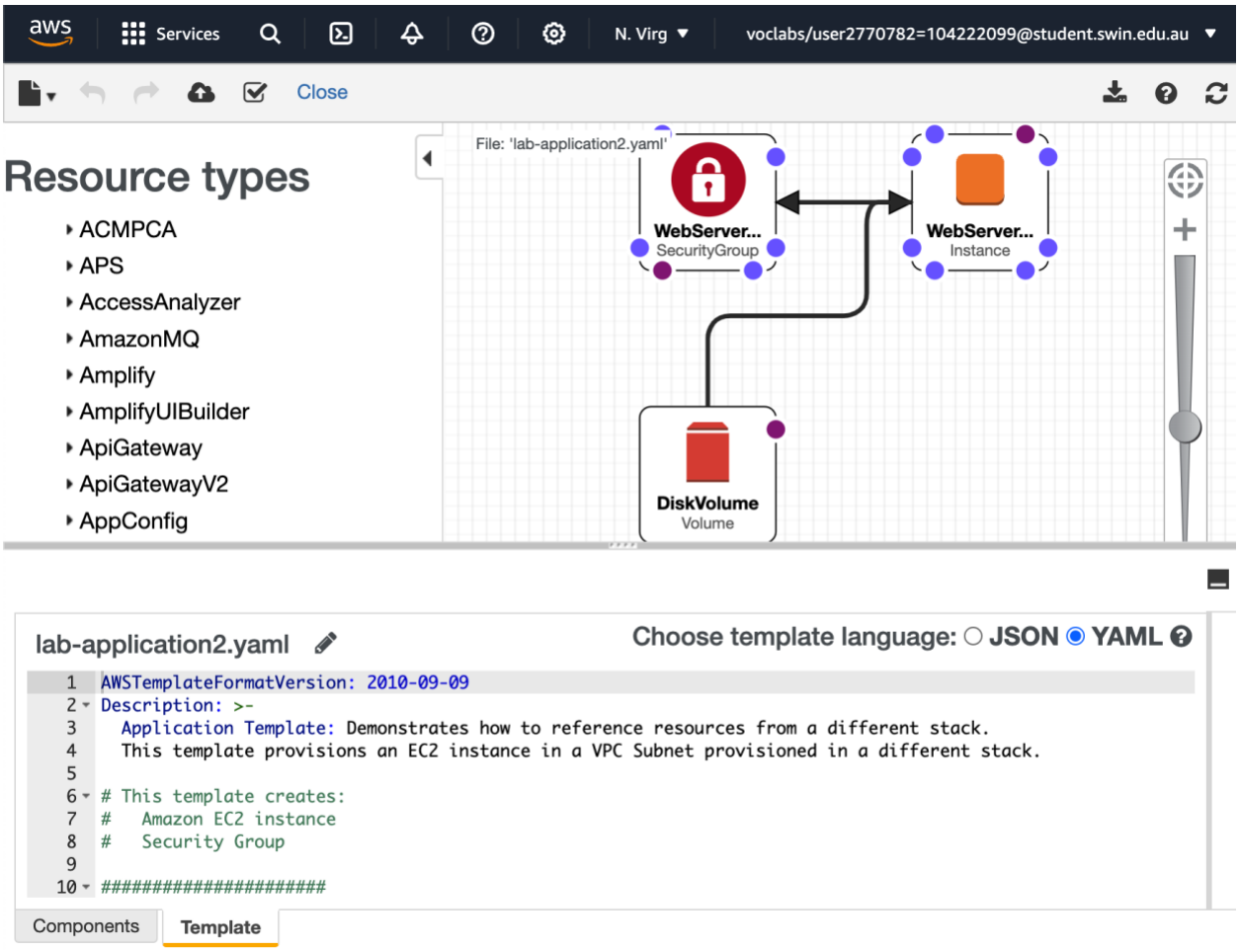


Return to the **Amazon EC2 console** and from the left navigation pane, choose **Security Groups**.
In the **Security Groups** list, select **lab-application-WebServerSecurityGroup**.
The **Inbound rules** tab should display an additional rule that allows *SSH* traffic over *TCP port 22*.



Task 4: Exploring templates with AWS CloudFormation Designer

From the **Services** menu, choose **CloudFormation**.
In the left navigation pane, choose **Designer**.
Choose the **File** menu, select **Open > Local file**, and select the **lab-application2.yaml** template that you downloaded previously.

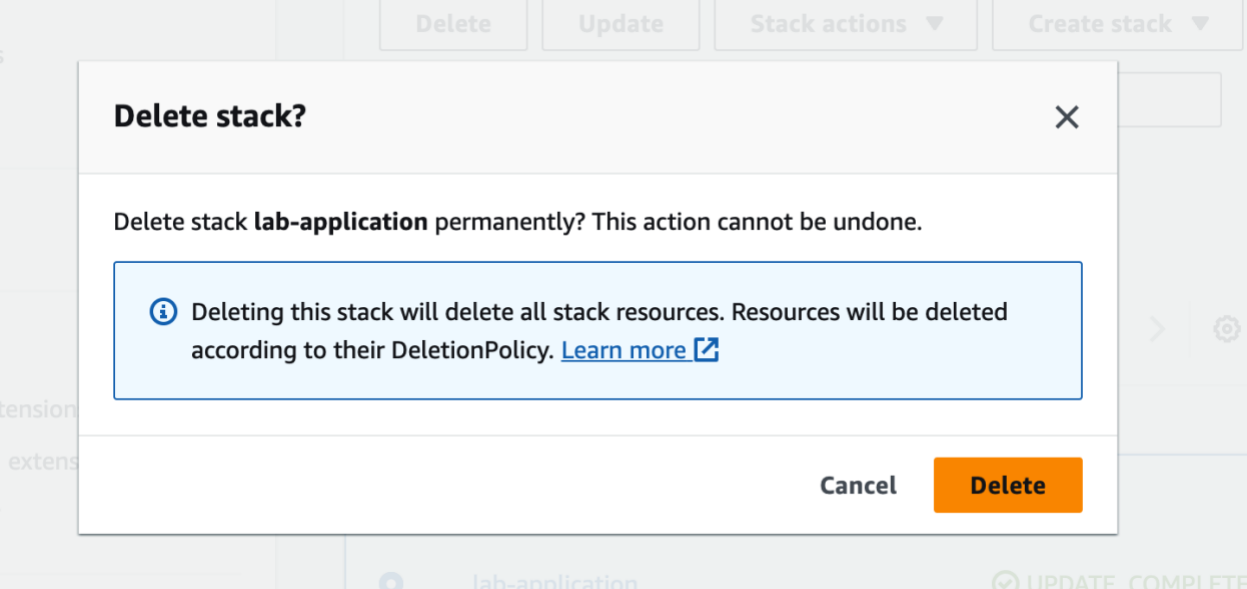


Experiment with the features of the Designer.

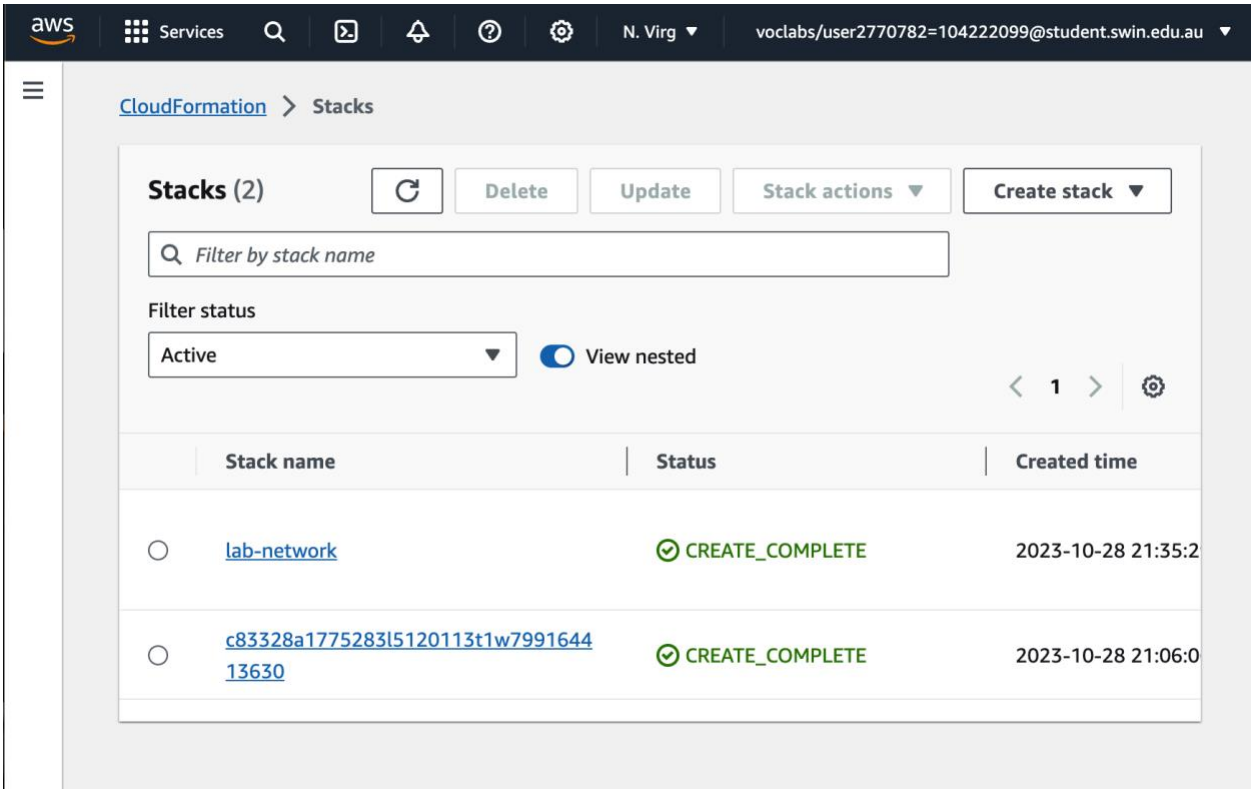
Task 5: Deleting the stack

Return to the main **AWS CloudFormation console** by choosing the Close link at the top of the Designer page (choose **Leave page** if prompted).

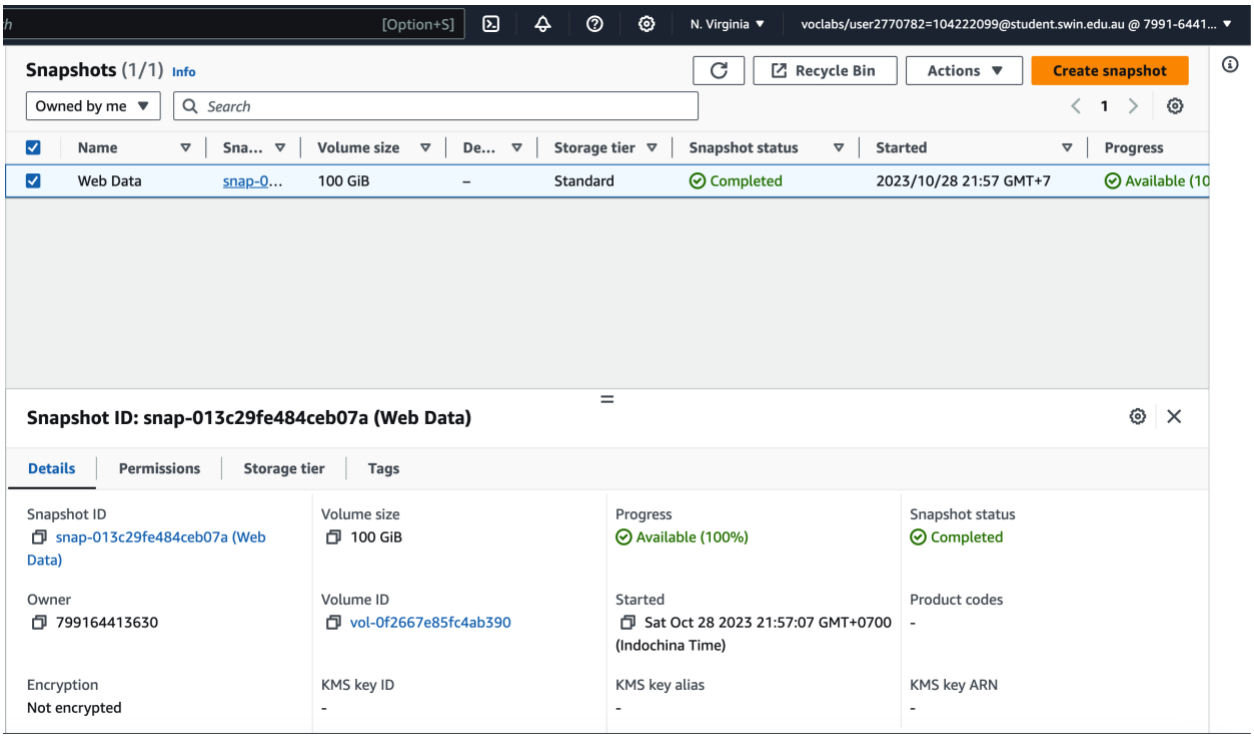
In the list of stacks, choose the **lab-application** link.
Choose **Delete**
Choose **Delete stack**



Wait for the stack to be deleted. It will disappear from the stacks list.



From the **Services** menu, choose **EC2**.
In the left navigation pane, choose **Snapshots**.
You should see a snapshot with a **Started** time in the last few minutes.



Submit the lab.

ENDLAB.