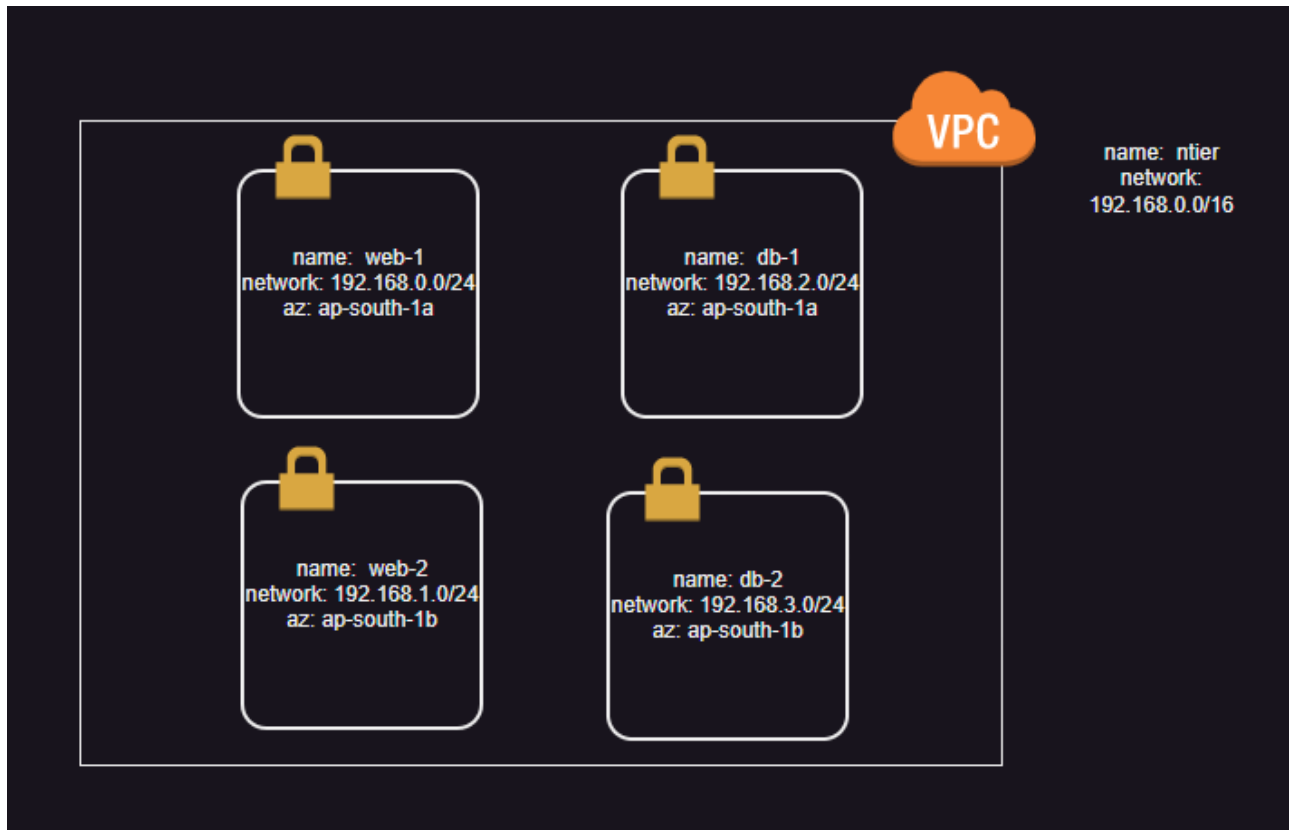


## AWS Cloudformation

- Template: This is where we define what are the resources to be created.
- Stack: Execution of Template requires stack to be created. Stack belongs to a region.
- Each Template will have
  - Resources: Here we define the resources to be created.
  - Parameters: The values that be passed externally

### Activity: Create a ntier network

- Overview

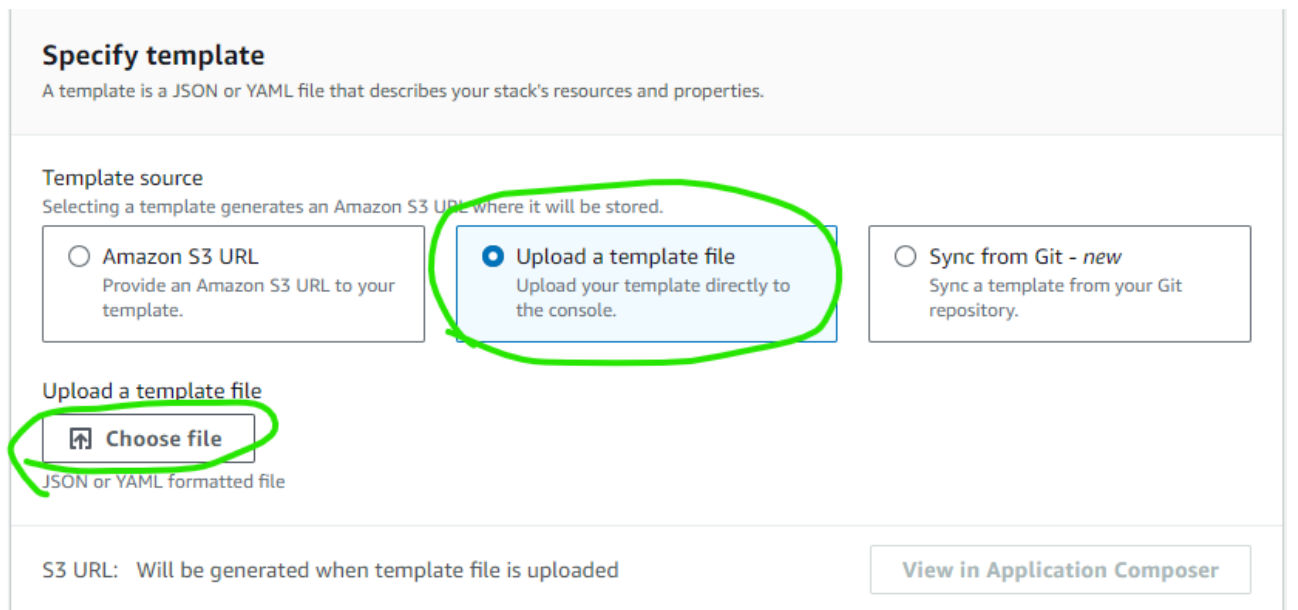
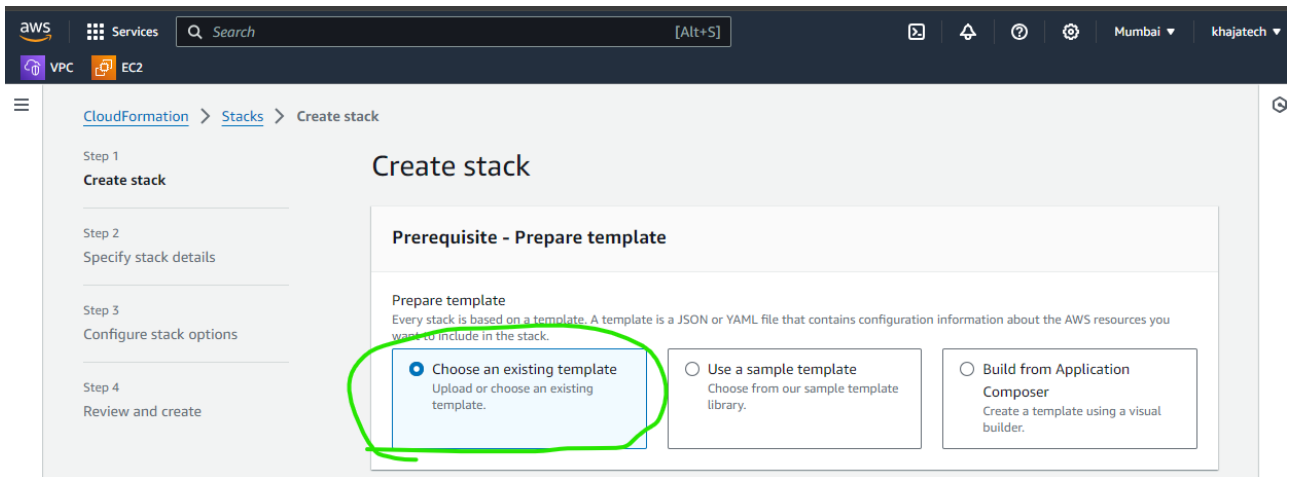
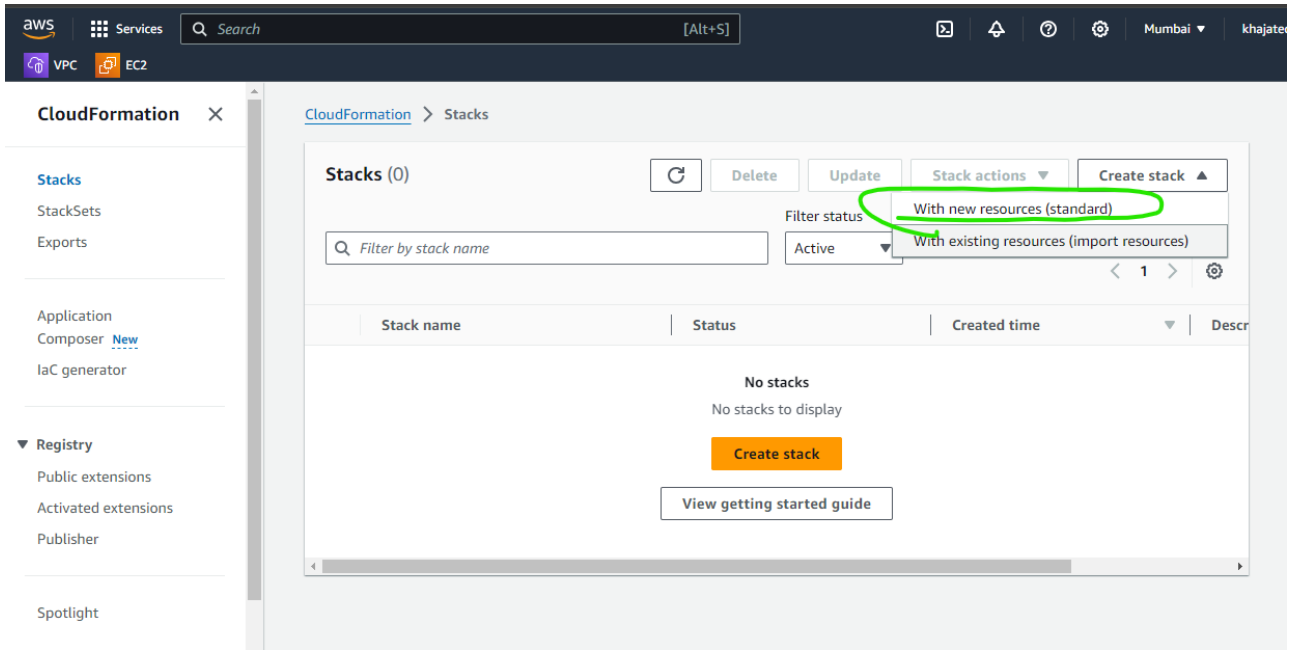


- Manual creation: Watch classroom video

### Cloud formation:

- Create a new folder with a file called as `main.json`
- cf takes file as an input
- [Refer Here](#) for cf anatomy
- [Refer Here](#) for resources

- [Refer Here](#) for the changes done, lets create a stack



### Specify template

A template is a JSON or YAML file that describes your stack's resources and properties.

**Template source**  
Selecting a template generates an Amazon S3 URL where it will be stored.

Amazon S3 URL  
Provide an Amazon S3 URL to your template.

Upload a template file  
Upload your template directly to the console.

Sync from Git - new  
Sync a template from your Git repository.

**Upload a template file**

main.json

JSON or YAML formatted file

S3 URL: <https://s3.ap-south-1.amazonaws.com/cf-templates-lchwfsx5erye-ap-south-1/2024-05-16T035044.785Zffr-main.json>

CloudFormation > Stacks > Create stack

Step 1  
[Create stack](#)

Step 2  
**Specify stack details**

Step 3  
Configure stack options

Step 4  
Review and create

### Specify stack details

**Provide a stack name**

Stack name  
ntier-stack  
Stack name must be 1 to 128 characters, start with a letter, and only contain alphanumeric characters. Character count: 11/128.

**Parameters**  
Parameters are defined in your template and allow you to input custom values when you create or update a stack.

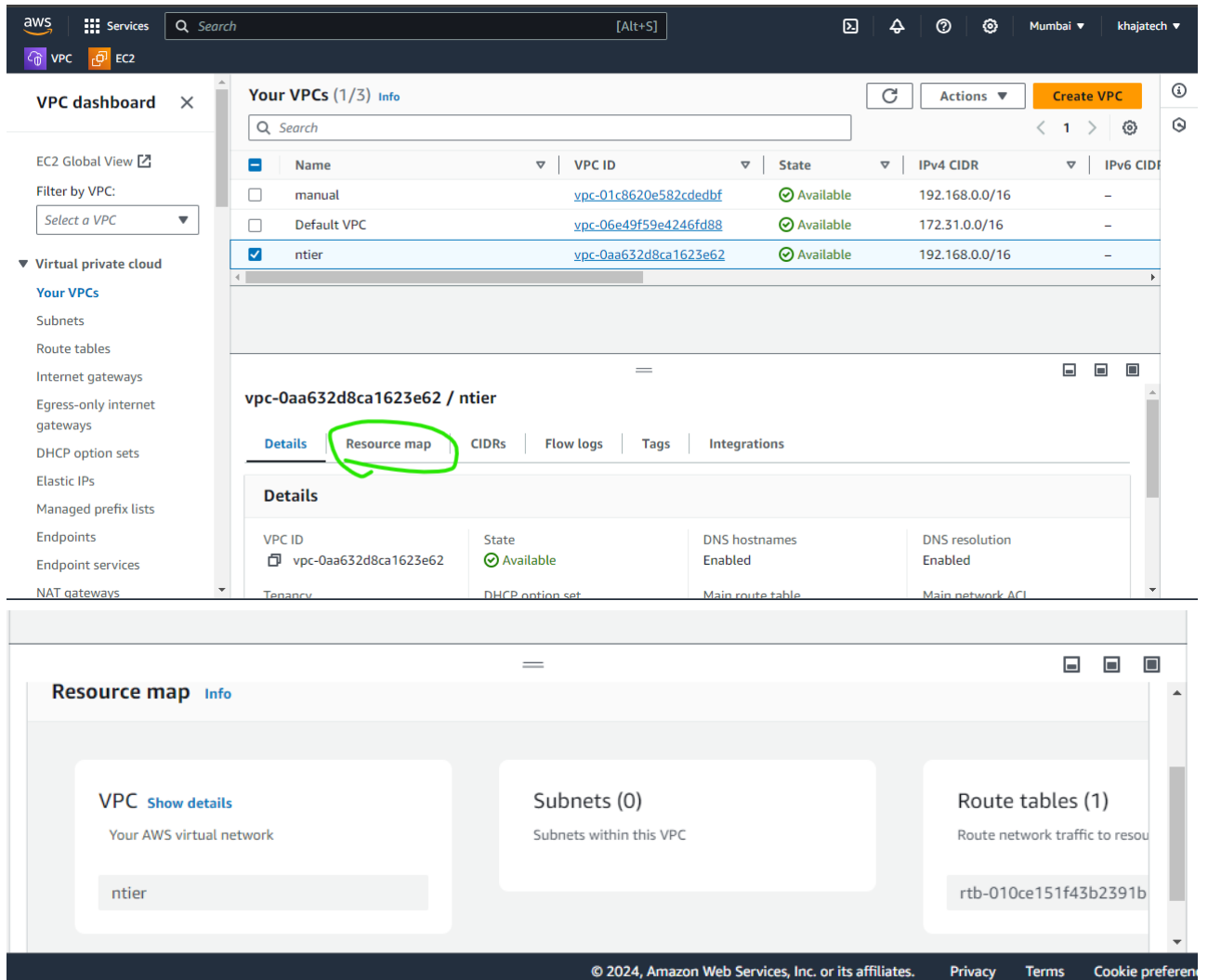
**No parameters**  
There are no parameters defined in your template

- Now continue with next till you create stack

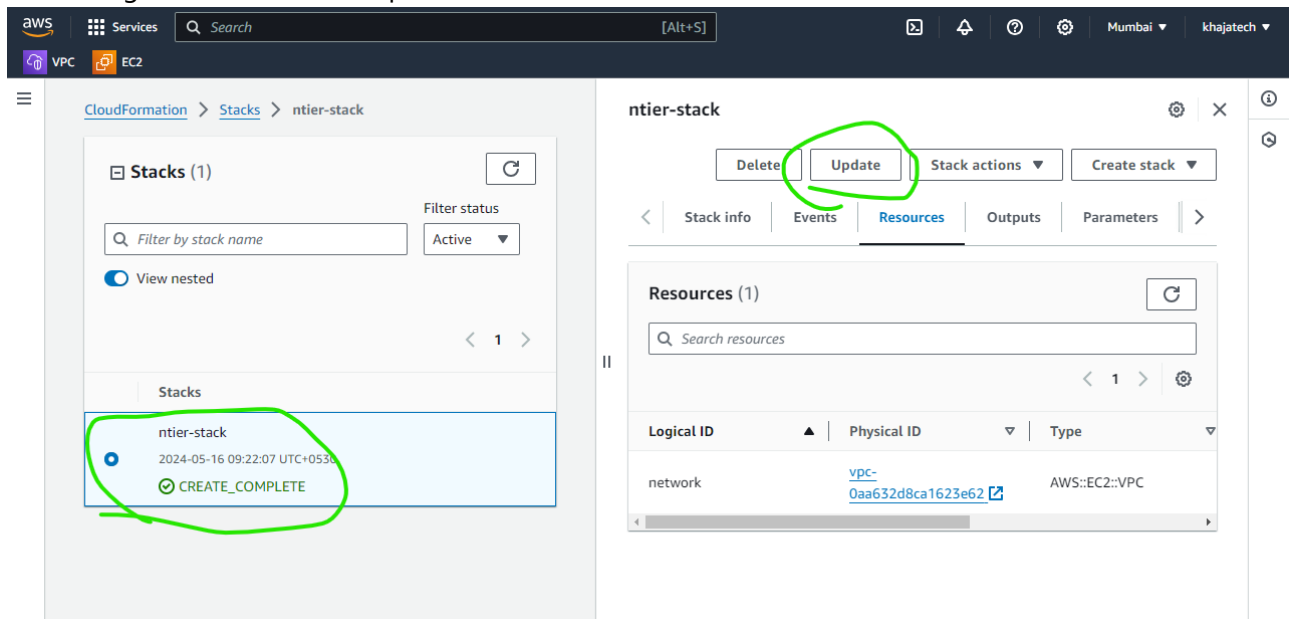
The screenshot shows the AWS CloudFormation console. On the left, the 'Stacks (1)' list shows 'ntier-stack' with a status of 'CREATE\_IN\_PROGRESS'. On the right, the 'Events (1)' tab is selected, showing a single event with the status 'CREATE\_IN\_PROGRESS'.

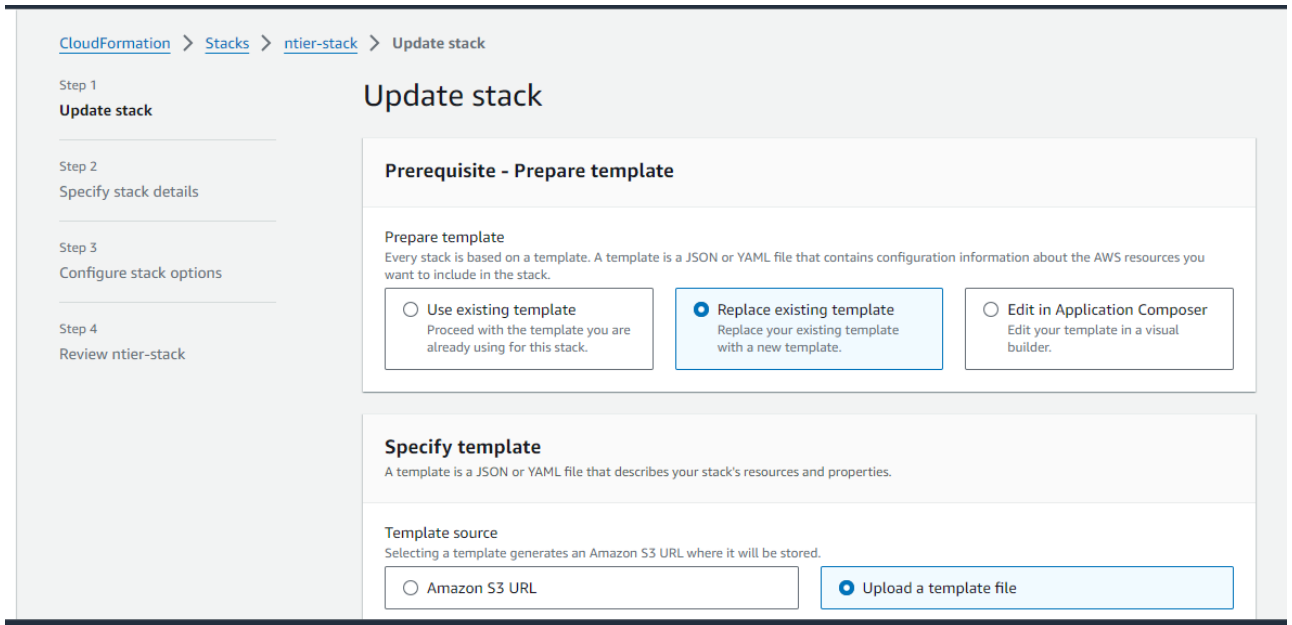
The screenshot shows the AWS CloudFormation console. On the left, the 'Stacks (1)' list shows 'ntier-stack' with a status of 'CREATE\_COMPLETE'. On the right, the 'Resources' tab is selected and circled in green. The 'Events (5)' list shows three events with 'CREATE\_COMPLETE' status and two events with 'CREATE\_IN\_PROGRESS' status.

The screenshot shows the AWS CloudFormation console. On the left, the 'Stacks (1)' list shows 'ntier-stack' with a status of 'CREATE\_COMPLETE'. On the right, the 'Resources (1)' tab is selected and circled in green. The resource list shows a 'network' resource with a physical ID of 'vpc-0aa632d8ca1623e62' circled in green.

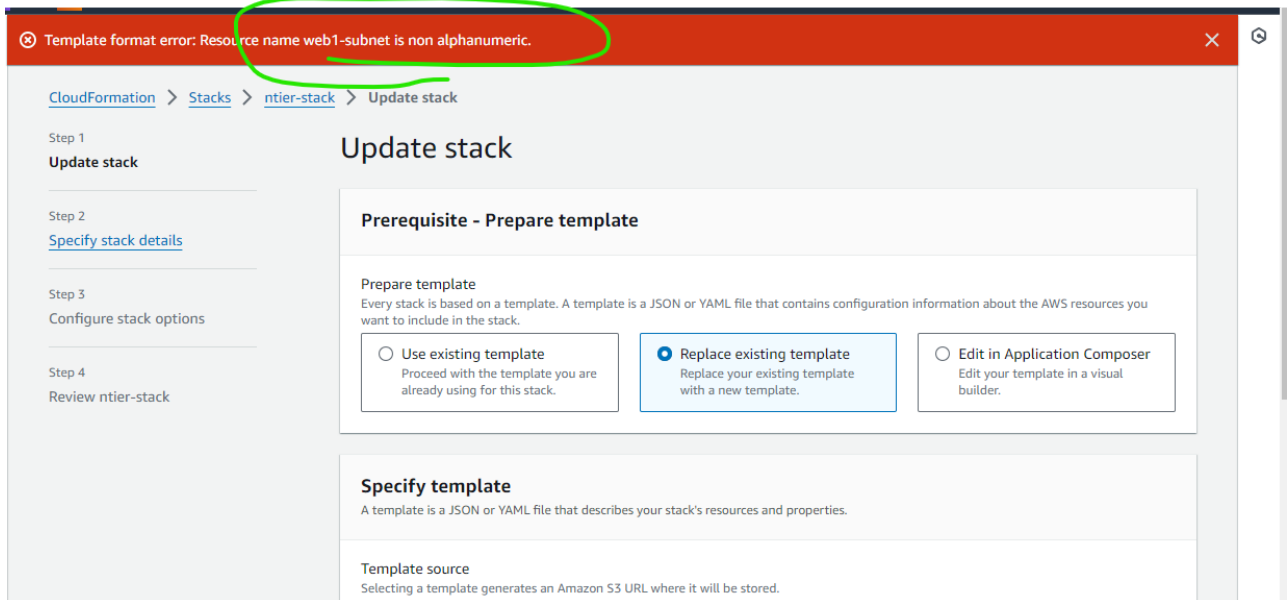


- NOW lets add 4 subnets and update the stack. [Refer Here](#) for the changes
- Now navigate to cf stack and update

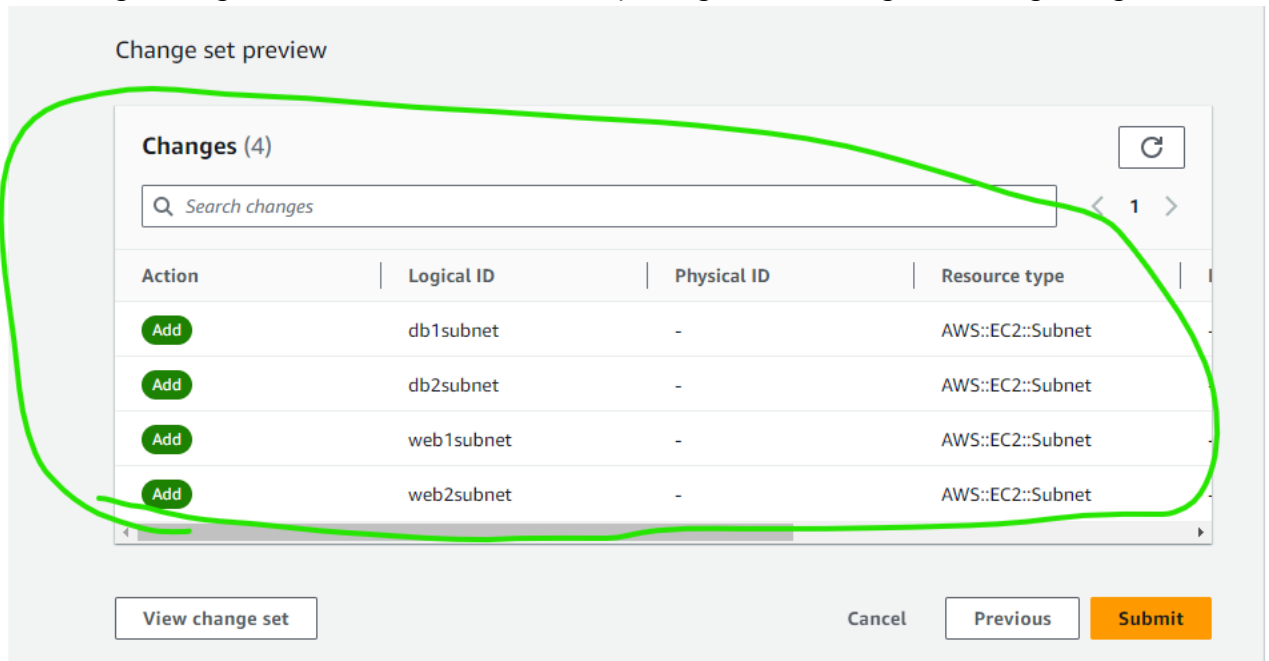




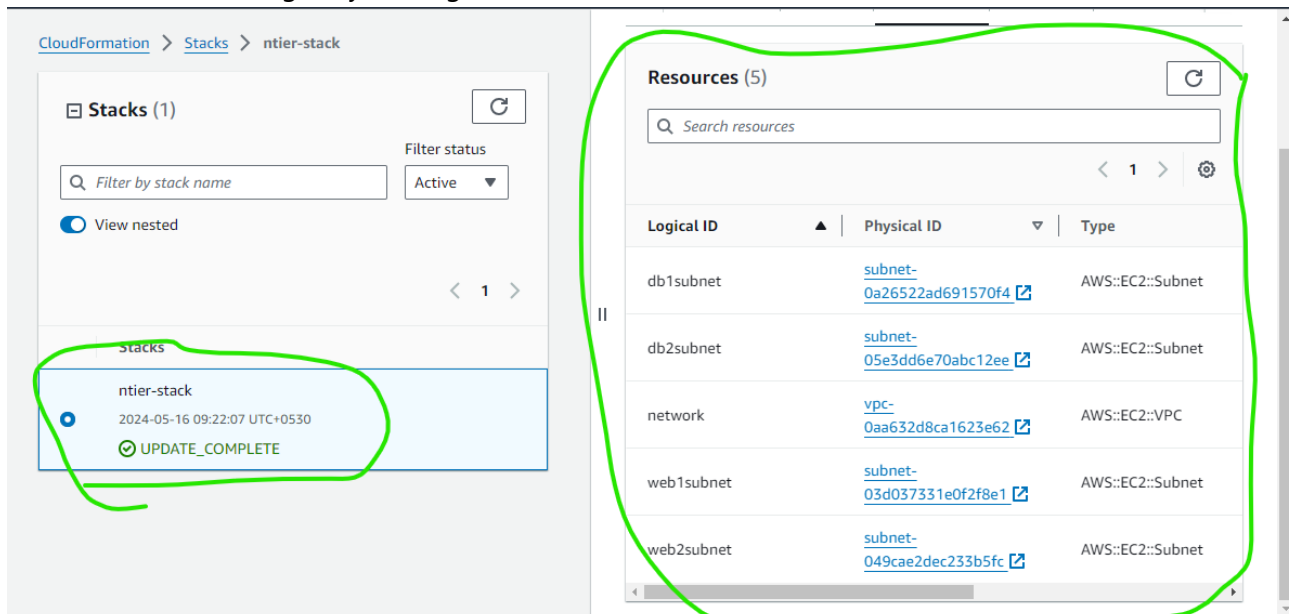
- We got error with naming conventions of logical ids



- After fixing naming convention [Refer Here](#) and reupdating the stack we got following changeset



- Now execute the changes by clicking on submit



The screenshot shows the AWS VPC dashboard. A table lists VPCs, with 'ntier' selected. Below the table, the 'Subnets (4)' section is highlighted, showing subnets 'ap-south-1a' (web1, db1) and 'ap-south-1b' (db2, web2).

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR
Default VPC	vpc-06e49f59e4246fd88	Available	172.31.0.0/16	-
ntier	vpc-0aa632d8ca1623e62	Available	192.168.0.0/16	-

Subnets (4)  
Subnets within this VPC

- ap-south-1a
  - web1
  - db1
- ap-south-1b
  - db2
  - web2

- refer classroom video for using vs code extension
- For every property in AWS documentation it gives the values
  - Requires Replacement: This means when we update the stack by changing the property the resource will be recreated.
  - No Interruption: This means no need for recreation.