

APPLICATION DEVELOPMENT ON CLOUD

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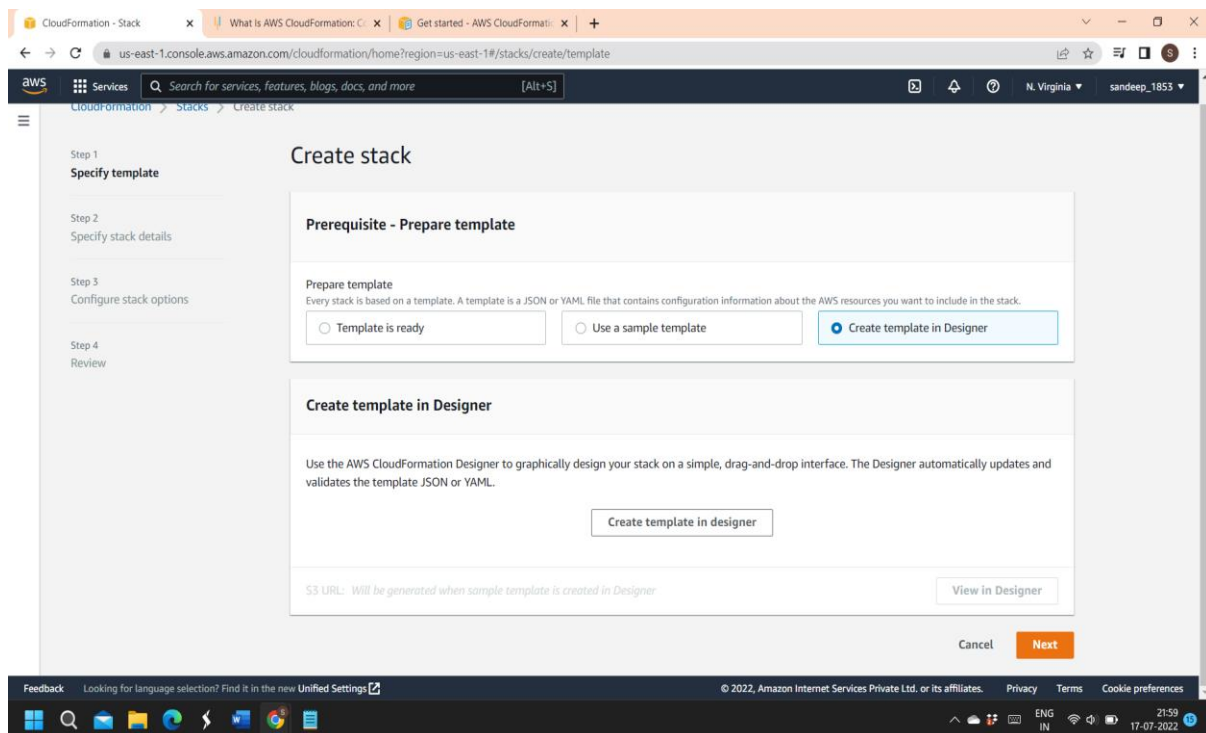
SECTION:01

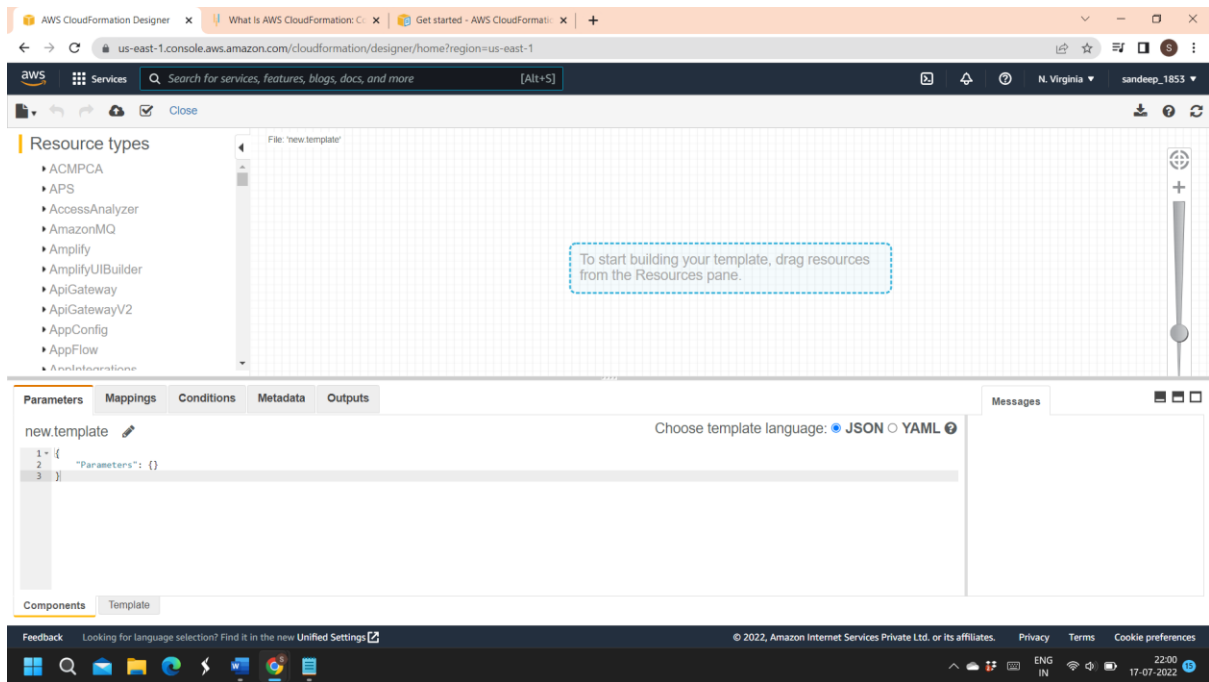
ASSIGNMENT 2: Assume a company is running with the AWS services in their main branch. They are now opening the new branch for the increased customers. Due to this, they need to create new set of AWS services which are similar to the existing main branch is having. Luckily, they Create Cloud formation template which can act as a Infrastructure as Code. Now, you are the administrator for the new branch, who need to create the AWS services. Create those services and show the output.

Ans:

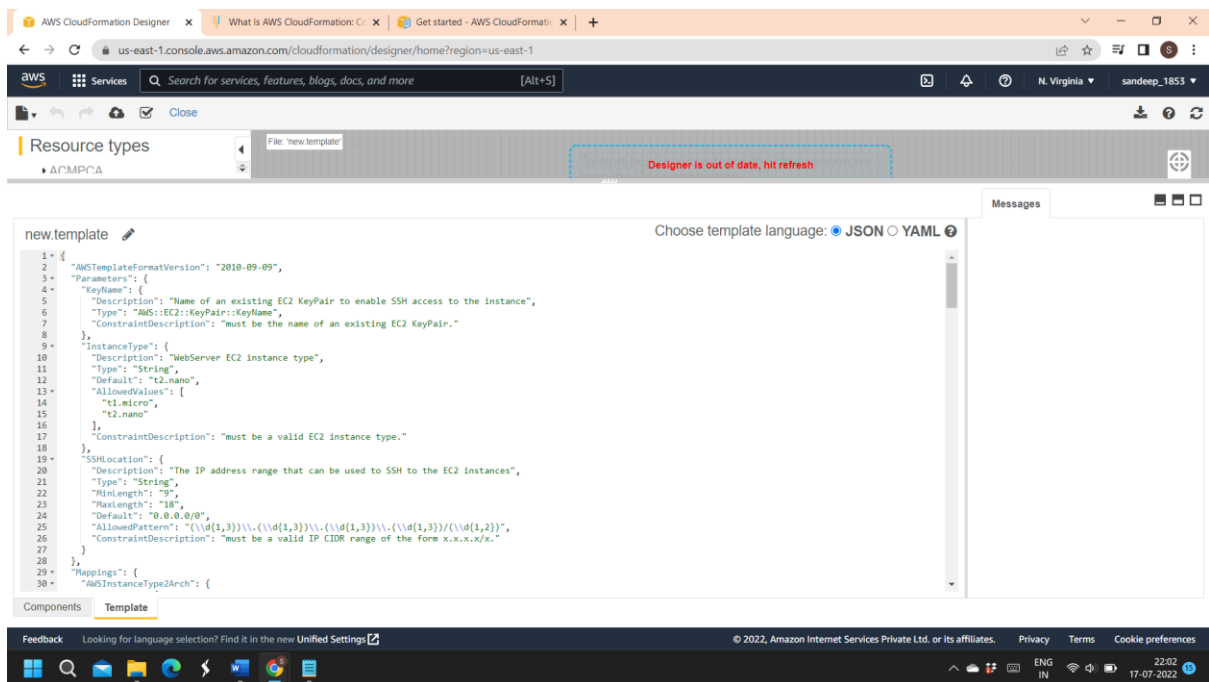
AWS CloudFormation simplifies provisioning and management on AWS. I can create templates for the service or application architectures you want and have AWS CloudFormation use those templates for quick and reliable provisioning of the services or applications (called “stacks”)

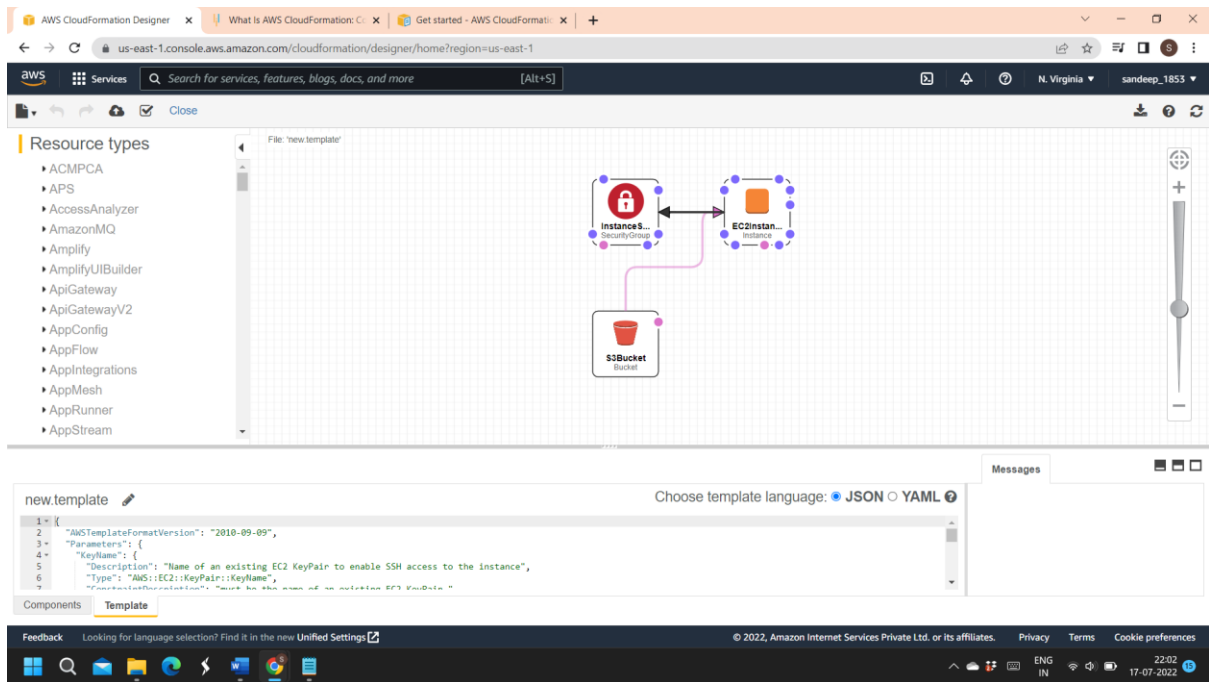
Step 1: Create Stack and choose the option Create template in Designer.



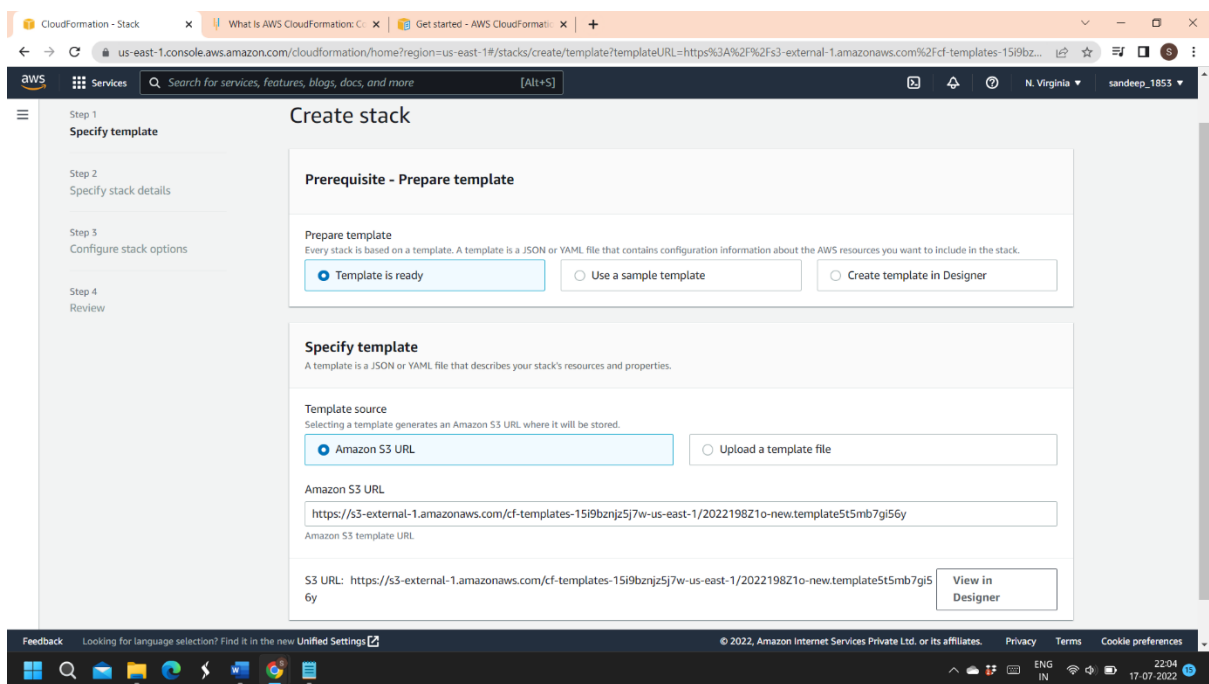


Step 2: Paste the JSON code in “Template” tab i.e..





Step 3: Create a stack that at top left button and already file location is updated-->next-->S3-EC2-SecurityGroup(stack name)



→ I had created keypair already from ec2 instances i.e.” projectkey”

The screenshot shows the 'Specify template' step in the AWS CloudFormation console. The left sidebar indicates the current step is 'Specify template', with other steps being 'Specify stack details', 'Configure stack options', and 'Review'. The main content area is titled 'Specify template' and contains the following fields:

- Stack name:** A text input field containing 'S3-EC2-SecurityGroup'. Below it, a note states: 'Stack name can include letters (A-Z and a-z), numbers (0-9), and dashes (-)'.
- Parameters:** A section titled 'Parameters are defined in your template and allow you to input custom values when you create or update a stack.' containing three fields:
 - InstanceType:** A dropdown menu with 'WebServer EC2 instance type' selected and 't2.nano' chosen.
 - KeyName:** A dropdown menu with the description 'Name of an existing EC2 KeyPair to enable SSH access to the instance' and 'projectkey' chosen.
 - SSHLocation:** A text input field with the description 'The IP address range that can be used to SSH to the EC2 instances' and '0.0.0.0/0' entered.

The bottom of the console shows a 'Feedback' bar, a copyright notice '© 2022, Amazon Internet Services Private Ltd. or its affiliates.', and links for 'Privacy', 'Terms', and 'Cookie preferences'. A file named 'projectkey.pem' is shown in the bottom bar with a 'Show all' button.

The screenshot shows the 'Configure stack options' step in the AWS CloudFormation console. The left sidebar indicates the current step is 'Configure stack options', with other steps being 'Specify template', 'Specify stack details', and 'Review'. The main content area is titled 'Configure stack options' and contains the following sections:

- Tags:** A section titled 'You can specify tags (key-value pairs) to apply to resources in your stack. You can add up to 50 unique tags for each stack. [Learn more](#)'. It features a table with one row: 'name' in the 'name' column and 'CloudFormation' in the 'value' column. There is an 'Add tag' button and a 'Remove' button next to the row.
- Permissions:** A section titled 'Choose an IAM role to explicitly define how CloudFormation can create, modify, or delete resources in the stack. If you don't choose a role, CloudFormation uses permissions based on your user credentials. [Learn more](#)'. It includes a sub-section 'IAM role - optional' with the text 'Choose the IAM role for CloudFormation to use for all operations performed on the stack.' and a dropdown menu with 'iamRoleName' selected. There is a 'Remove' button next to the dropdown.

The bottom of the console shows a 'Feedback' bar, a copyright notice '© 2022, Amazon Internet Services Private Ltd. or its affiliates.', and links for 'Privacy', 'Terms', and 'Cookie preferences'. A file named 'projectkey.pem' is shown in the bottom bar with a 'Show all' button.

Click ->Create Stack

CloudFormation - Stacks (1)

Filter by stack name

Active View nested

S3-EC2-SecurityGroup
2022-07-17 22:16:37 UTC+0530
CREATE_IN_PROGRESS

S3-EC2-SecurityGroup

Delete Update Stack actions Create stack

Stack info Events Resources Outputs Parameters Template Change sets

Events (1)

Search events

Timestamp	Logical ID	Status	Status reason
2022-07-17 22:16:37 UTC+0530	S3-EC2-SecurityGroup	CREATE_IN_PROGRESS	User Initiated

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projectkey.pem Show all

CloudFormation - Stacks (1)

Filter by stack name

Active View nested

S3-EC2-SecurityGroup
2022-07-17 22:16:37 UTC+0530
CREATE_COMPLETE

S3-EC2-SecurityGroup

Delete Update Stack actions Create stack

Stack info Events Resources Outputs Parameters Template Change sets

Events (11)

Search events

Timestamp	Logical ID	Status	Status reason
2022-07-17 22:17:34 UTC+0530	S3-EC2-SecurityGroup	CREATE_COMPLETE	-
2022-07-17 22:17:32 UTC+0530	S3Bucket	CREATE_COMPLETE	-
2022-07-17 22:17:10 UTC+0530	S3Bucket	CREATE_IN_PROGRESS	Resource creation initiated
2022-07-17 22:17:10 UTC+0530	S3Bucket	CREATE_IN_PROGRESS	-
2022-07-17 22:17:08 UTC+0530	EC2Instance	CREATE_COMPLETE	-
2022-07-17 22:16:52 UTC+0530	EC2Instance	CREATE_IN_PROGRESS	Resource creation initiated
2022-07-17 22:16:50 UTC+0530	EC2Instance	CREATE_IN_PROGRESS	-
2022-07-17 22:16:48 UTC+0530	InstanceSecurityGroup	CREATE_COMPLETE	-
2022-07-17 22:16:47 UTC+0530	InstanceSecurityGroup	CREATE_IN_PROGRESS	Resource creation initiated
2022-07-17 22:16:42 UTC+0530	InstanceSecurityGroup	CREATE_IN_PROGRESS	-
2022-07-17 22:16:37 UTC+0530	S3-EC2-SecurityGroup	CREATE_IN_PROGRESS	User Initiated

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projectkey.pem Show all

Step 4: Check EC2, S3 bucket and Security group created or not..

The image displays two screenshots of the AWS Management Console, specifically the EC2 Management Console, used to verify the creation of resources.

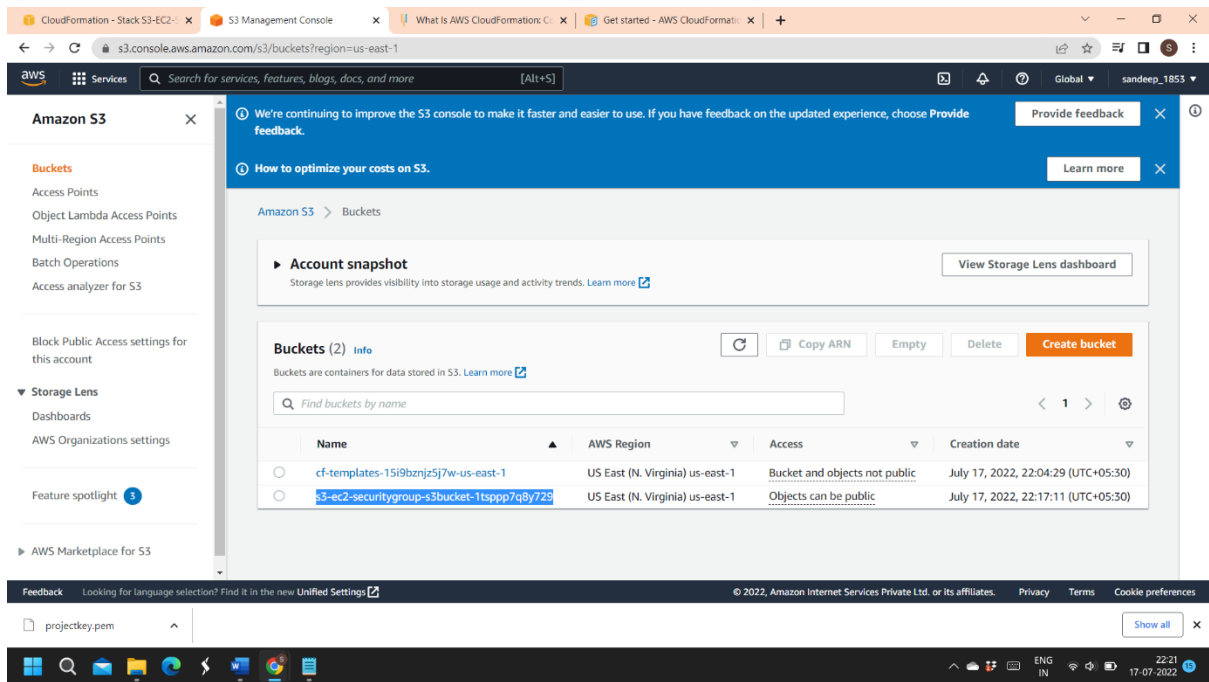
Top Screenshot: EC2 Instances

The top screenshot shows the "Instances (1) Info" page. The instance state is "running". The instance ID is `i-073f9bd23d68de413`. The instance type is `t2.nano`. The status check shows "2/2 checks passed". The alarm status is "No alarms". The availability zone is `us-east-1c`. The public IPv4 DNS is `ec2-54-164-35-8.comp...`. The public IP is `54.164.3...`.

Bottom Screenshot: Security Groups

The bottom screenshot shows the "Security Groups (1/2) Info" page. The security group ID is `sg-097136dafcbf8603f`. The security group name is `S3-EC2-SecurityGroup...`. The VPC ID is `vpc-09f78254f5a9e0752`. The description is "Enable SSH access via ...". The owner is `854909286809`. The inbound rules are `1 Permission ent...`.

The bottom screenshot also shows the "Details" tab for the security group `sg-097136dafcbf8603f - S3-EC2-SecurityGroup-InstanceSecurityGroup-1453CBKILKPI`. The details section includes a message: "You can now check network connectivity with Reachability Analyzer" and a button to "Run Reachability Analyzer".



Outputs:

