

Experiment No. 9

Title: Categorizing Amazon Web Services (AWS) and Implementing Cloud Entities Using Cloud Toolbox Support

Objective:

To categorize and implement various cloud entities offered by Amazon Web Services (AWS) using its Cloud Toolbox support, understanding the diverse services available for cloud computing.

Tools used:

- Amazon Web Services (AWS) Console
- Cloud Toolbox

Prerequisite:

- An AWS account with necessary permissions and access
- Basic understanding of cloud computing concepts

Theory:

Amazon Web Services (AWS) is a comprehensive cloud computing platform offering a wide range of



services. These services are categorized into various types, including compute, storage, databases, networking, and more, providing flexibility and scalability for diverse computing needs.

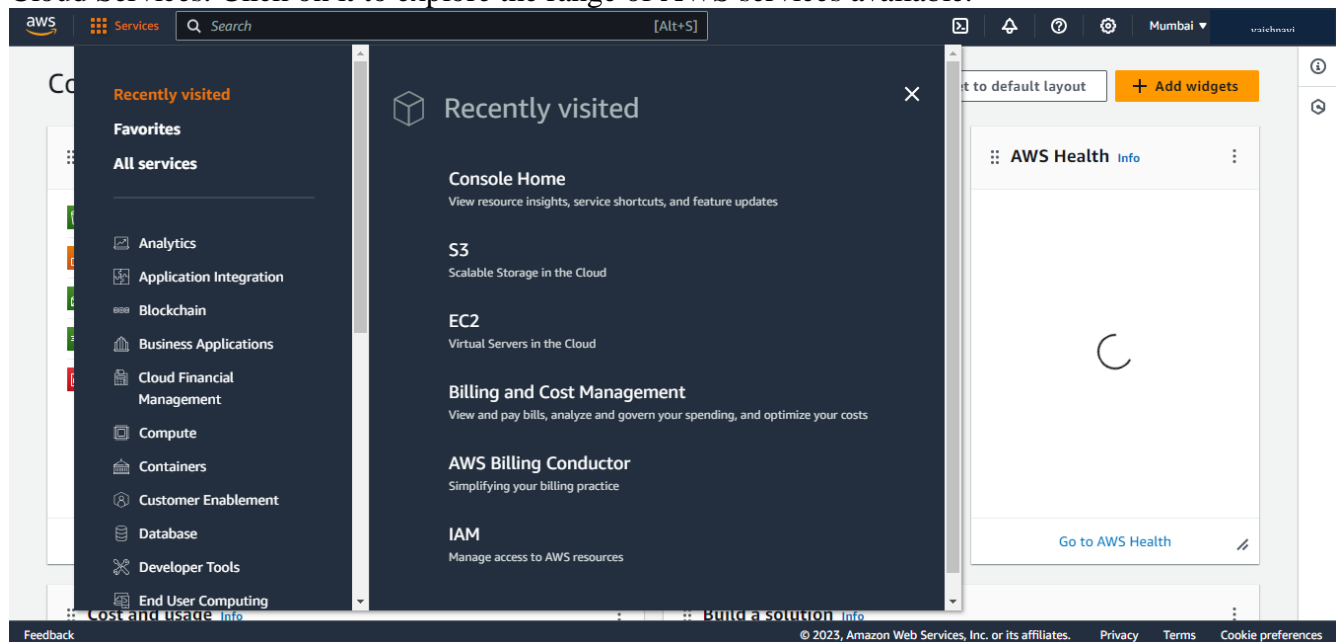
Steps to Categorize and Implement AWS Cloud Entities Using Cloud Toolbox Support:

Step 1: Access AWS Console

1. Visit the AWS Management Console: Open a web browser and go to <https://aws.amazon.com>
2. Login: Enter your credentials (username and password) to access the AWS Management Console.

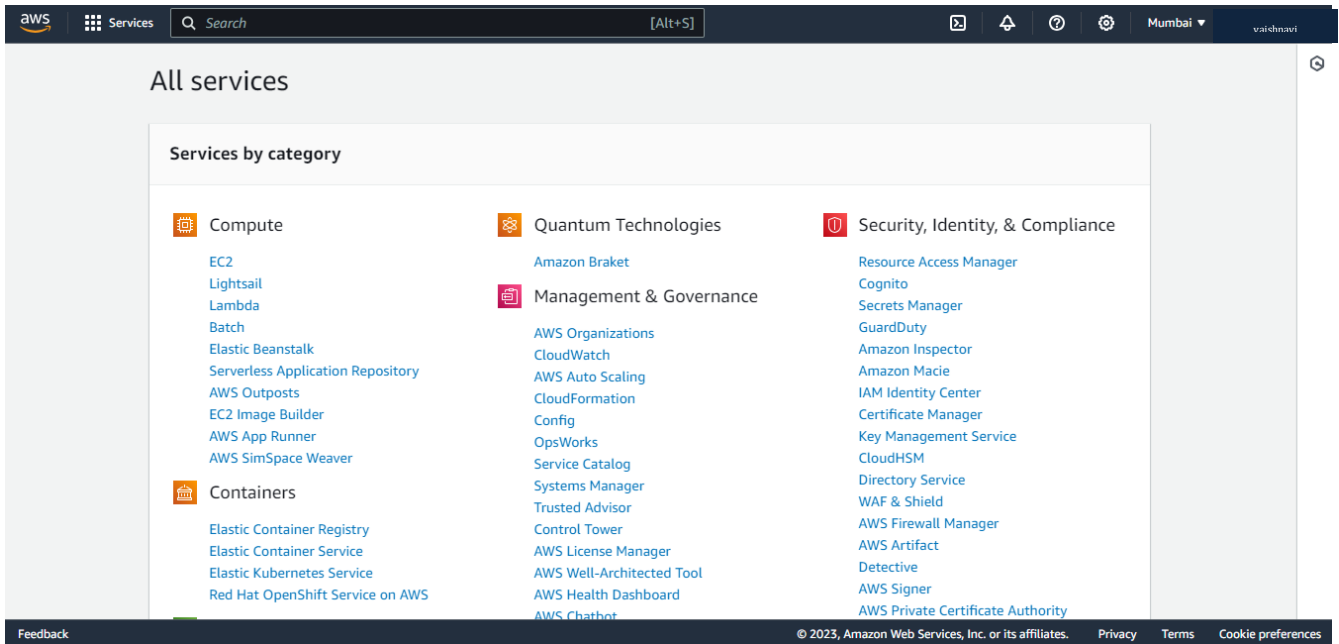
Step 2: Navigate to Cloud Toolbox

1. Explore Services: Once logged in, you'll land on the AWS Management Console dashboard. Look for the navigation menu on the top-left or top-right corner.
2. Locate Cloud Services: Find the section labeled "Services," which houses the Cloud Toolbox or Cloud Services. Click on it to explore the range of AWS services available.



Step 3: Categorize AWS Services

1. Understand Functional Categories: AWS services are grouped into categories based on their functions such as compute, storage, databases, networking, etc.
2. Explore Categories: Navigate through each category (e.g., Compute, Storage, Database) to see the services listed within them. Click on each service to learn more about its purpose and functionalities.

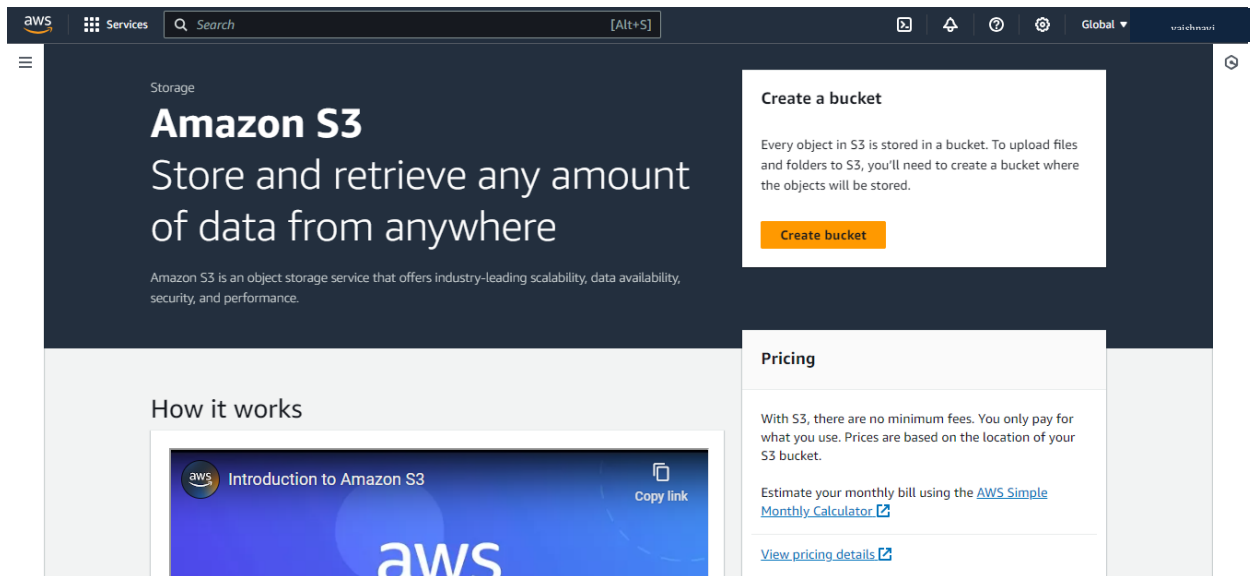


Step 4: Implement Cloud Entities

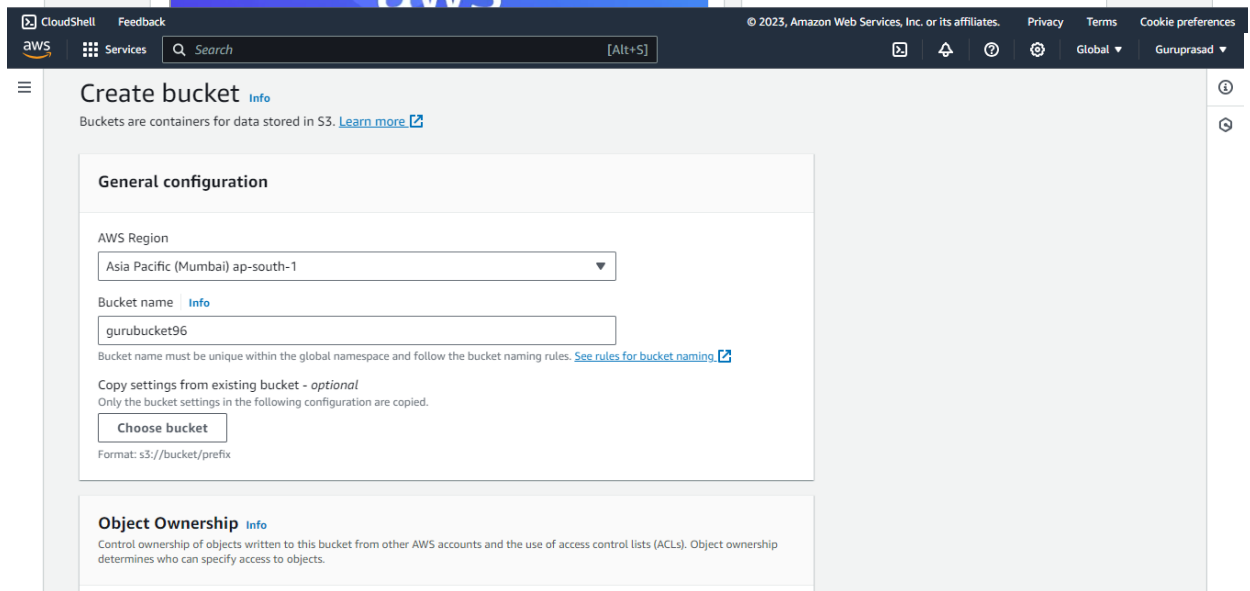
1. Choose Services for Use Case: Select a service (or multiple) based on your intended use case. For example, Amazon EC2 for compute or Amazon S3 for storage.
2. Access Service Interface: Click on the chosen service within the AWS Console to access its interface or wizard.
3. Create and Configure: Follow the service's interface or wizard to create and configure the cloud entity. This might involve specifying settings, such as instance type, storage options, security configurations, etc.

Step 5: Explore Integration and Management

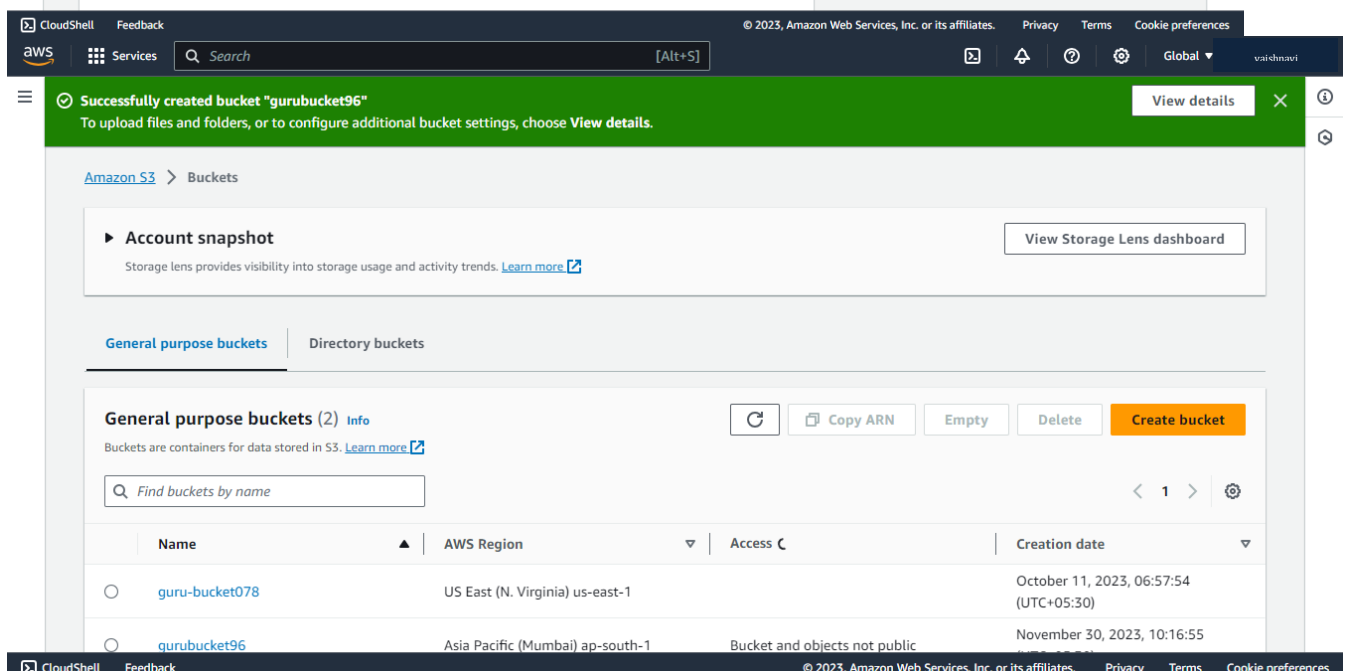
1. Understand Integration: Learn how different AWS services can work together by exploring their integration capabilities. For instance, how EC2 instances can connect to an RDS database or how S3 can be used with Lambda functions.
2. Management Options: Explore the management features within the AWS Console. Look for tools related to monitoring, scaling, and maintaining the created cloud entities. This includes services like CloudWatch for monitoring and Auto Scaling for scaling resources.



The screenshot shows the AWS S3 console interface. The main heading is "Amazon S3" with the subtext "Store and retrieve any amount of data from anywhere". A "Create a bucket" button is prominently displayed. Below this, there's a "How it works" section with an "Introduction to Amazon S3" video player. To the right, a "Pricing" section explains that there are no minimum fees and provides a link to the "AWS Simple Monthly Calculator". The top navigation bar includes the AWS logo, "Services", a search bar, and user information.



This screenshot shows the "Create bucket" configuration page. The "General configuration" section is active, showing the "AWS Region" set to "Asia Pacific (Mumbai) ap-south-1" and the "Bucket name" as "gurubucket96". A note states that the bucket name must be unique. There's an option to "Copy settings from existing bucket - optional" with a "Choose bucket" button. The "Object Ownership" section is also visible, explaining that it controls ownership of objects written to the bucket. The bottom navigation bar shows the user is logged in as "Guruprasad".



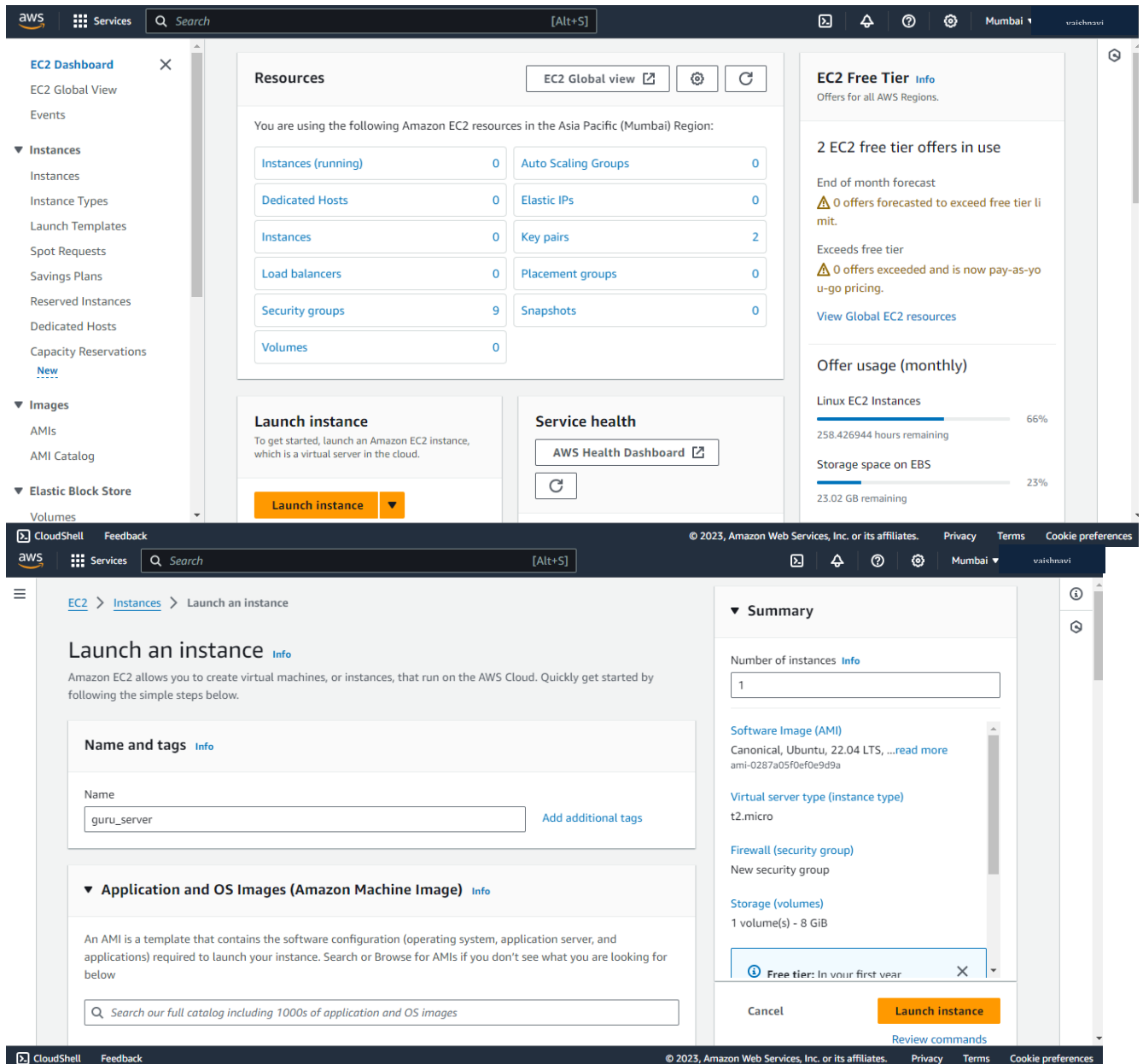
This screenshot shows the "Buckets" page in the AWS S3 console. A green banner at the top indicates "Successfully created bucket 'gurubucket96'". Below this, there's a section for "Account snapshot" and a "View Storage Lens dashboard" button. The "General purpose buckets" tab is selected, showing a list of buckets. The list includes "guru-bucket078" and "gurubucket96". The "gurubucket96" entry shows it was created on November 30, 2023, at 10:16:55 in the Asia Pacific (Mumbai) ap-south-1 region. The bottom navigation bar shows the user is logged in as "vaichnavi".

Step 6: Experiment with Cloud Services

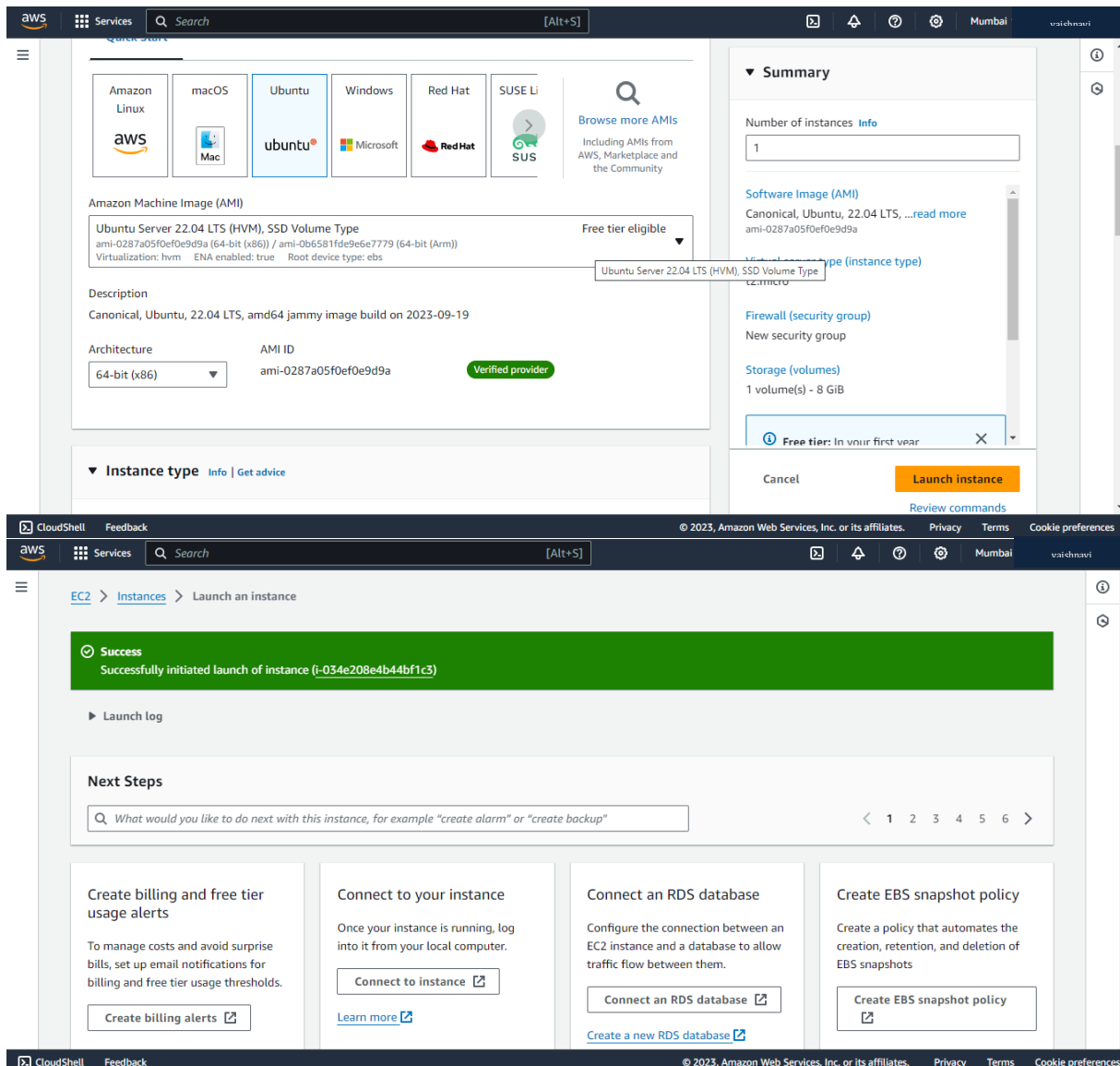
1. Hands-on Experimentation: Create test instances or resources within the AWS Console to gain

hands-on experience with different services.

2. Test Capabilities: Experiment with various functionalities and capabilities offered by the services. For instance, create a test EC2 instance, configure an S3 bucket, set up a simple database using RDS, etc.



The image displays two screenshots of the AWS Management Console. The top screenshot shows the 'EC2 Dashboard' for the Mumbai region. It provides a summary of resources: 0 running instances, 0 Auto Scaling Groups, 0 Dedicated Hosts, 0 Elastic IPs, 0 Instances, 2 Key pairs, 0 Load balancers, 0 Placement groups, 9 Security groups, and 0 Snapshots. It also shows the 'EC2 Free Tier' status, indicating that 0 offers are forecasted to exceed the free tier limit. The bottom screenshot shows the 'Launch an instance' wizard. The 'Name and tags' section has 'guru_server' entered. The 'Application and OS Images (Amazon Machine Image)' section shows 'Canonical, Ubuntu, 22.04 LTS' selected. The 'Virtual server type (instance type)' is 't2.micro'. The 'Firewall (security group)' is 'New security group'. The 'Storage (volumes)' section shows '1 volume(s) - 8 GiB'. The 'Free tier' option is selected for the first year. The 'Launch instance' button is highlighted.



The screenshot displays the AWS Management Console interface for launching an Amazon EC2 instance. The top navigation bar shows the AWS logo, a search bar, and the location 'Mumbai'. The main content area is divided into two panels. The left panel, titled 'Amazon Machine Image (AMI)', shows a list of AMIs with 'Ubuntu Server 22.04 LTS (HVM), SSD Volume Type' selected. The right panel, titled 'Summary', shows the configuration for the instance: 1 instance, Canonical Ubuntu 22.04 LTS AMI, Ubuntu Server 22.04 LTS (HVM) instance type, New security group, and 1 volume of 8 GiB. A 'Launch instance' button is visible. Below the summary, a 'Free tier' badge indicates the instance is eligible for the free tier. The bottom section shows a 'Success' message: 'Successfully initiated launch of instance (i-034e208e4b44bf1c3)'. Below this, there are 'Next Steps' and several recommended actions: 'Create billing and free tier usage alerts', 'Connect to your instance', 'Connect an RDS database', and 'Create EBS snapshot policy'.

Conclusion:

Successfully categorized Amazon Web Services (AWS) into different functional categories and implemented various cloud entities using the Cloud Toolbox support. This experiment demonstrated the diverse range of services offered by AWS, showcasing their functionalities and how they can be utilized to build and manage scalable cloud solutions for different applications and workloads.