Course: Artificial Intelligence and Machine Learning Code: 20CS51I

WEEK- 2 Cloud Computing

- **Introduction to Containers**
- **Cloud Native application development**
- **Explore AI (ML and DL) services across public cloud platforms**
  - **- Getting to know cloud platform**
  - **- Creating an account**

Session No. 5

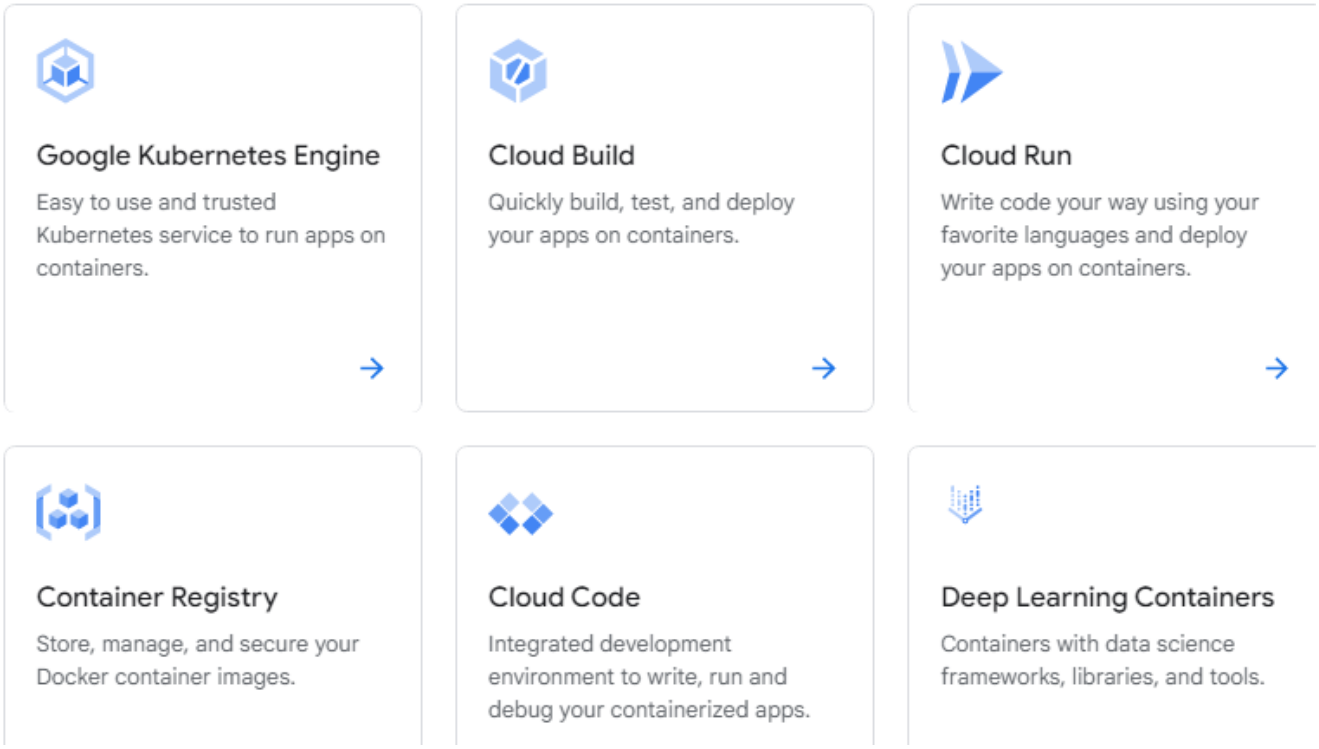
What are Containers?

Containers are packages of software that contain all of the necessary elements to run in any environment. In this way, containers virtualize the operating system and run anywhere, from a private data center to the public cloud or even on a developer's personal laptop. From Gmail to YouTube to Search, everything at Google runs in containers. Containerization allows our development teams to move fast, deploy software efficiently, and operate at an unprecedented scale. We've learned a lot about running containerized workloads and we've shared this knowledge with the community along the way.

What are containers used for?

Containers are a form of operating system virtualization. A single container might be used to run anything from a small microservice or software process to a larger application. Inside a container are all the necessary executables, binary code, libraries, and configuration files.

Containers offer a logical packaging mechanism in which applications can be abstracted from the environment in which they actually run. This decoupling allows container-based applications to be deployed easily and consistently, regardless of whether the target environment is a private data center, the public cloud, or even a developer's personal laptop.



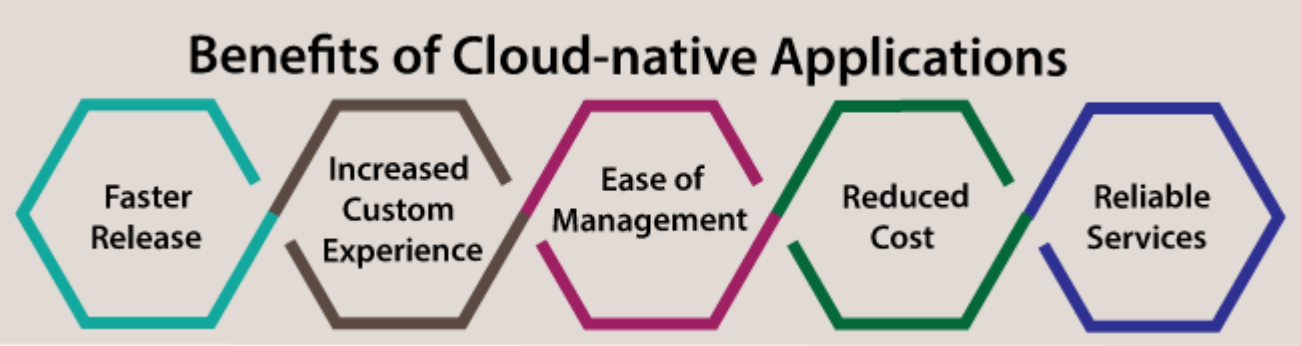
Cloud-Native Applications

The Cloud-Native applications are a group of independent, small, loosely-coupled services. Cloud-native applications are created for delivering well-identified business value, as an ability to incorporate the feedback of users for extended improvements. In other words, cloud-native applications improvement is a way for speeding-up how we create applications users wish at the pace an enterprise requires.

If an application is Cloud-native, specifically, it's created for facilitating automated management and consistent development experience across hybrid, public, and private clouds. Enterprises use cloud computing for increasing the availability and scalability of applications. These aspects are accomplished through on-demand and self-service provisioning of various resources. It is also automating the lifecycle of an application to production from development.

The development of Cloud-native applications is an approach for quickly updating and building applications while reducing risk and improving quality. More specifically, it is a way to run and build fault-tolerant, scalable, and responsive applications anywhere inside the hybrid, public, and private clouds.

Cloud-native applications



- **Faster release:** Faster deployment displays responsiveness and agility, which are essential to remain connected in today's changing business world rapidly. If we require explaining faster deployment, we require explaining DevOps because it provides collaboration and finds the way for quick delivery. The Cloud-native applications are often the outcome of any successful DevOps as operations, development. Testing groups can efficiently and easily coordinate for each release, even when they are within geographically distinct places.
- **Increased customer experience:** It is necessary to build a business model, i.e., **customer-centric**. Constant incremental developments are crucial to the applications for improving customer satisfaction. These iterations and changes can be easily carried out. Thus, it provides us a competitive edge needed to be customer-friendly and more engaging.
- **Ease of management:** Various cloud automation comes with advanced and comprehensive ecosystems that make framework management easy. Constantly, the cloud is evolving to contain even the complex application over its own.
- **Reduced cost:** The cloud provides **Containerization**. The containerization process is supported via Container-orchestration open-source systems such as **Kubernetes**. Kubernetes currently is an industry-standard to manage resources on any cloud. Containerization permits us to build Cloud-native abilities like compute time (pay-per-use) and server-less in milliseconds. It will add flexibility in the price to deploy and build applications.
- **Reliable services:** We can use the architecture of micro-services which can isolate and identify the failure impact to minimize the downtime using Cloud-native applications. With Containerization and micro-services, our applications can be made to become self-heal and fault-tolerant. Also, it improves customer-experience as the customers can like a highly reliable achievement.

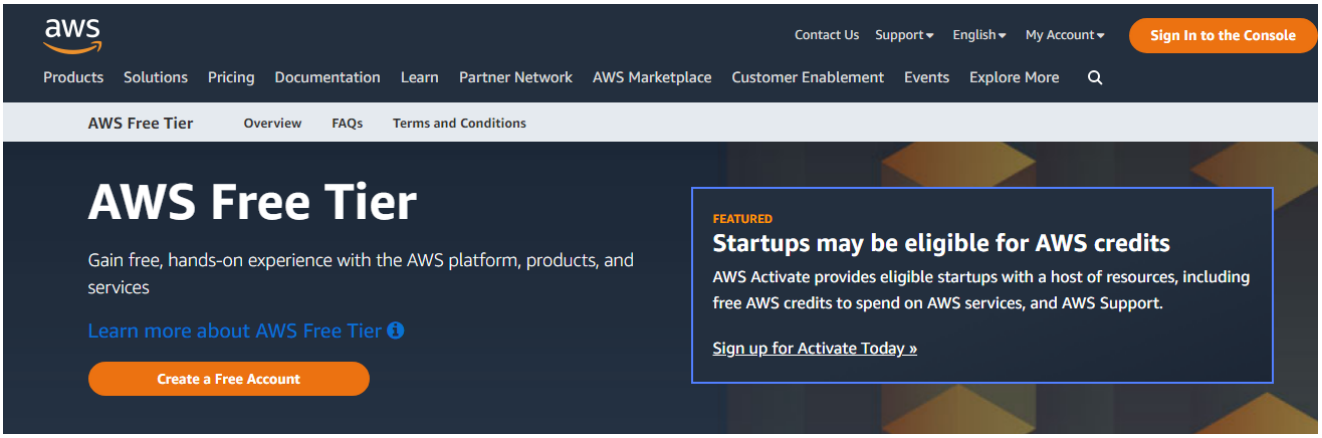
Explore AI (ML and DL) services across public cloud platforms

Getting to know cloud platforms

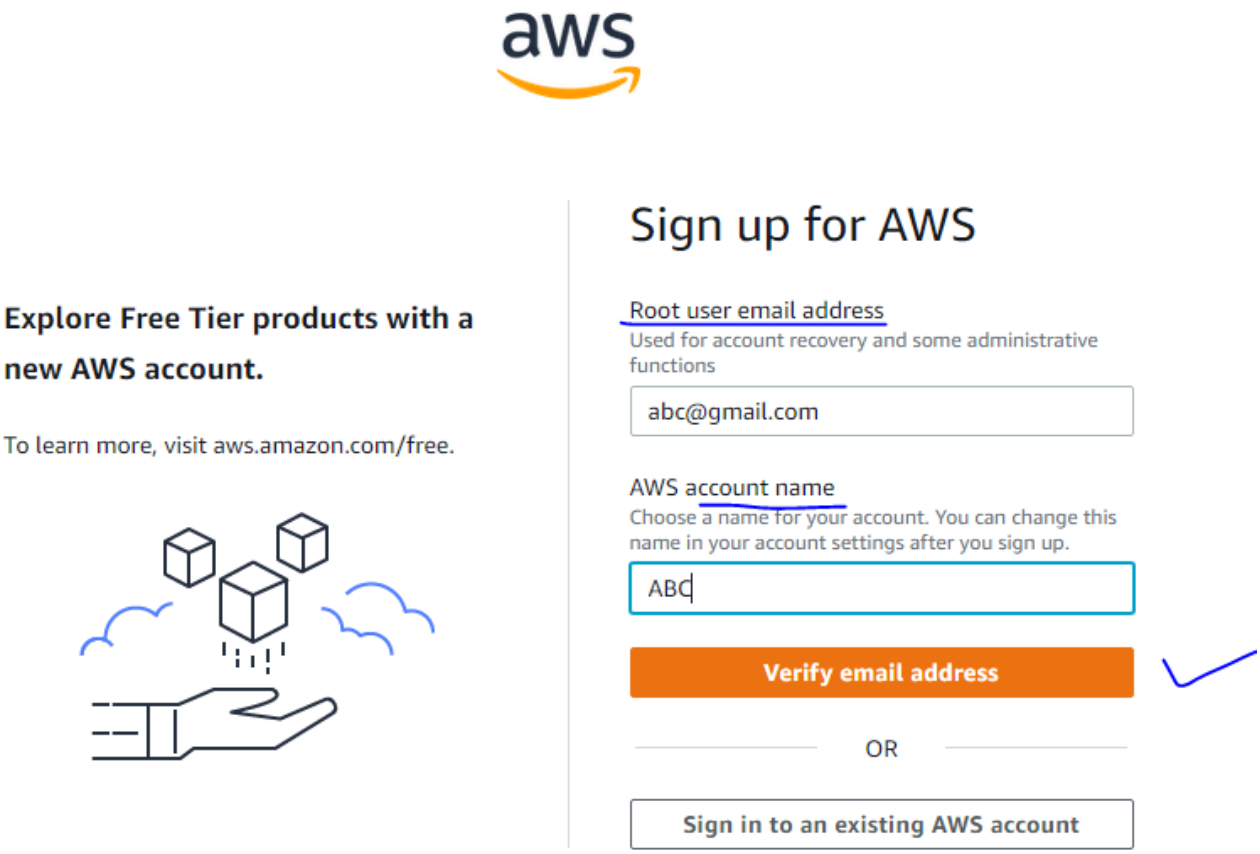

vmware
Google
amazon web services
Microsoft Azure
salesforce
Top 10 Cloud Platforms
heroku
redhat
IBM
ORACLE
rackspace
the open cloud company
scmGalaxy
www.scmGalaxy.com
aws
Azure
Google Cloud Platform
Alibaba Cloud
ORACLE
Cloud Infrastructure
IBM Cloud
kyndryl
Tencent Cloud
OVHcloud
DigitalOcean
linode

Creating an account AWS ACCOUNT

1.Select Amazon Web Series (AWS) as Free Tier Cloud Account by typing the URL as https://aws.amazon.com/account/signup



2.Click on "Create a free Account "and it will navigate to next Page



3.Enter Email ID of your choice for Root User AWS Account. It will send the Verification CODE for the Email ID which is mentioned above.

Explore Free Tier products with a new AWS account.

To learn more, visit aws.amazon.com/free.

Sign up for AWS

Confirm you are you

Making sure you are secure -- it's what we do.

We sent an email with a verification code to **abc@gmail.com**. (not you?)

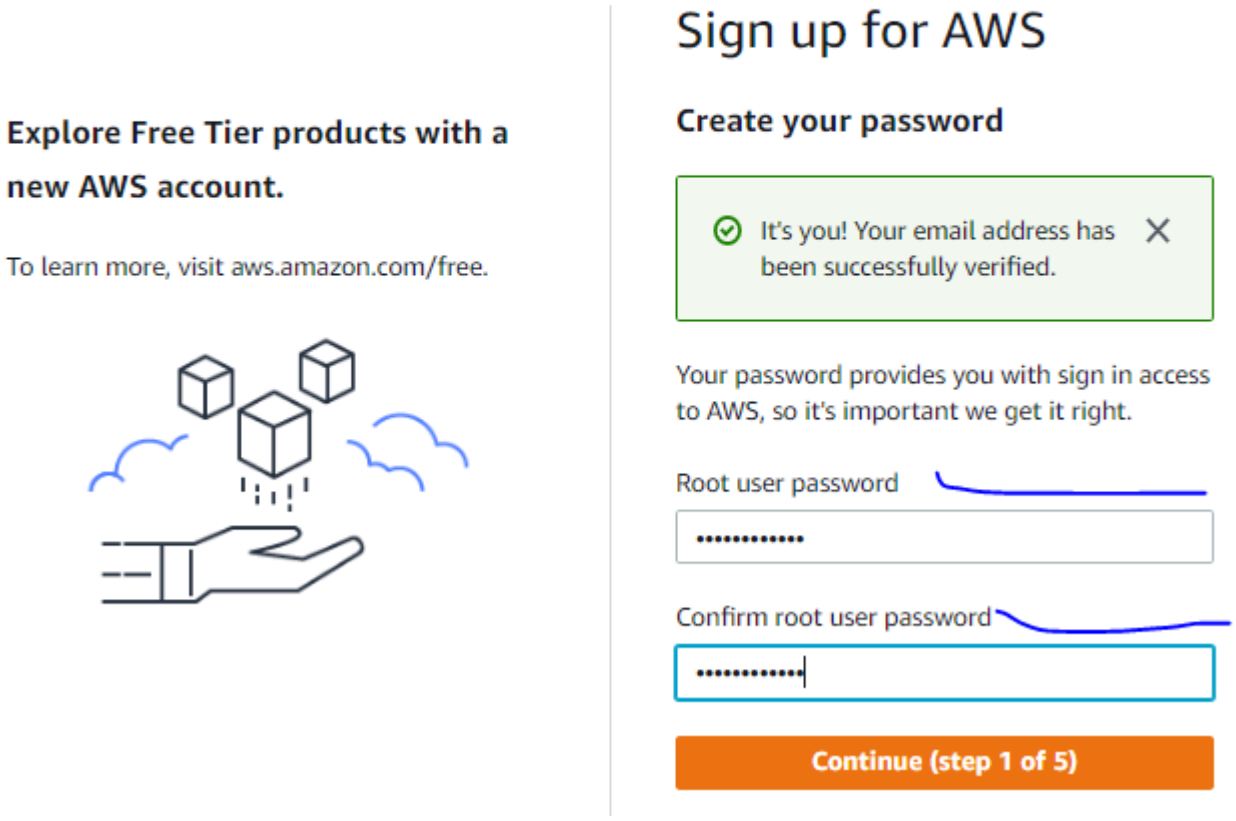
Enter it below to confirm your email.

Verification code

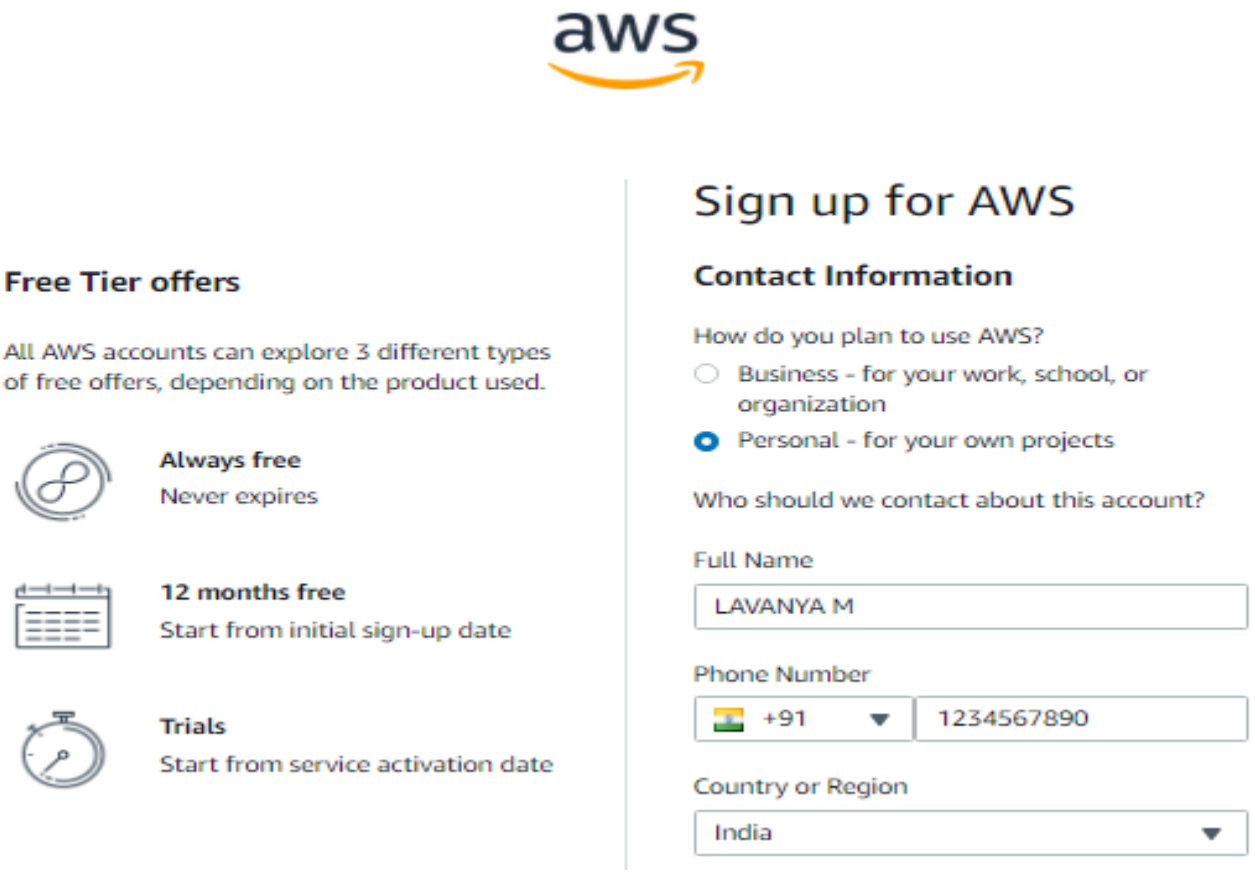
123456

Verify

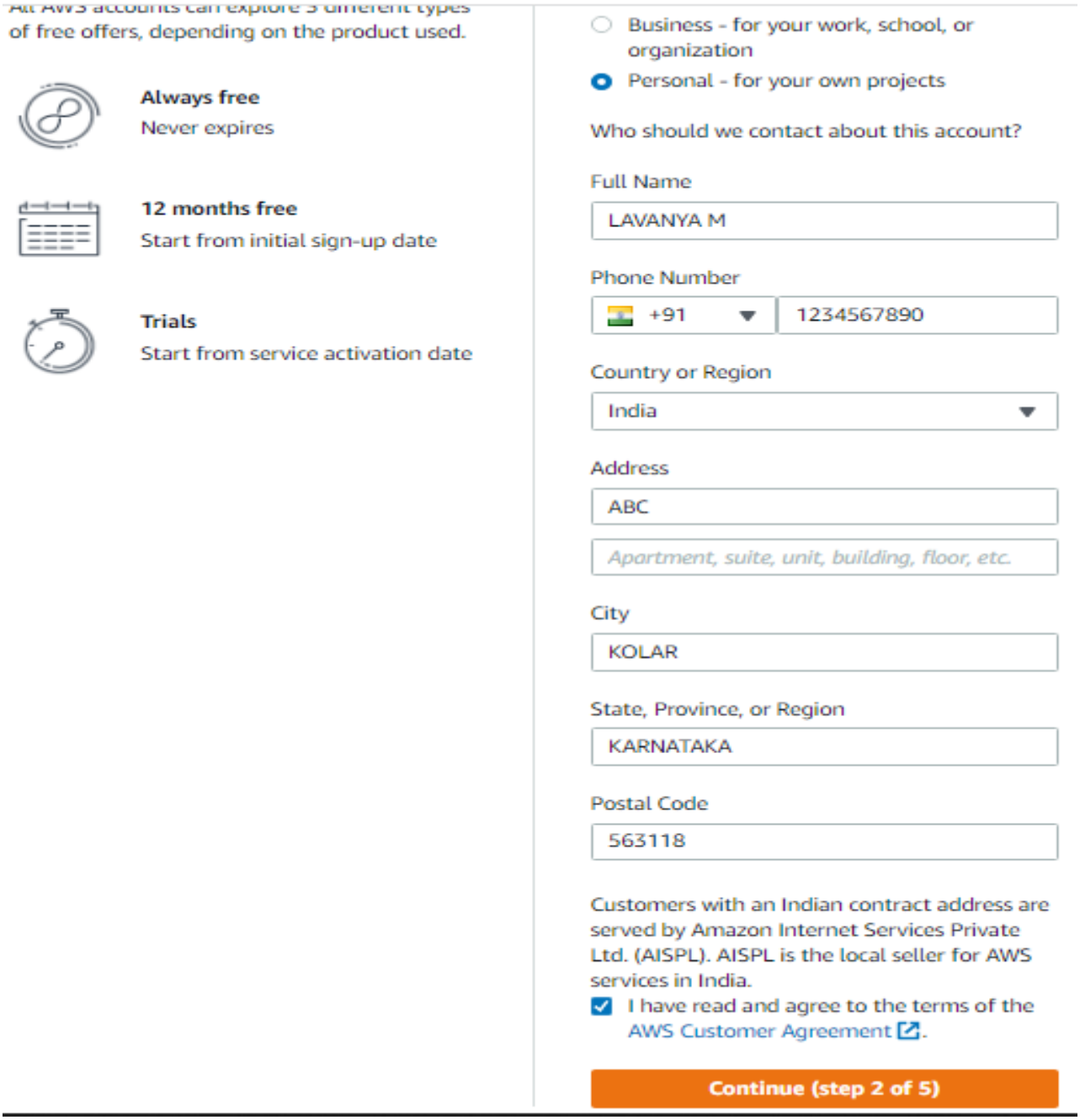
Resend code



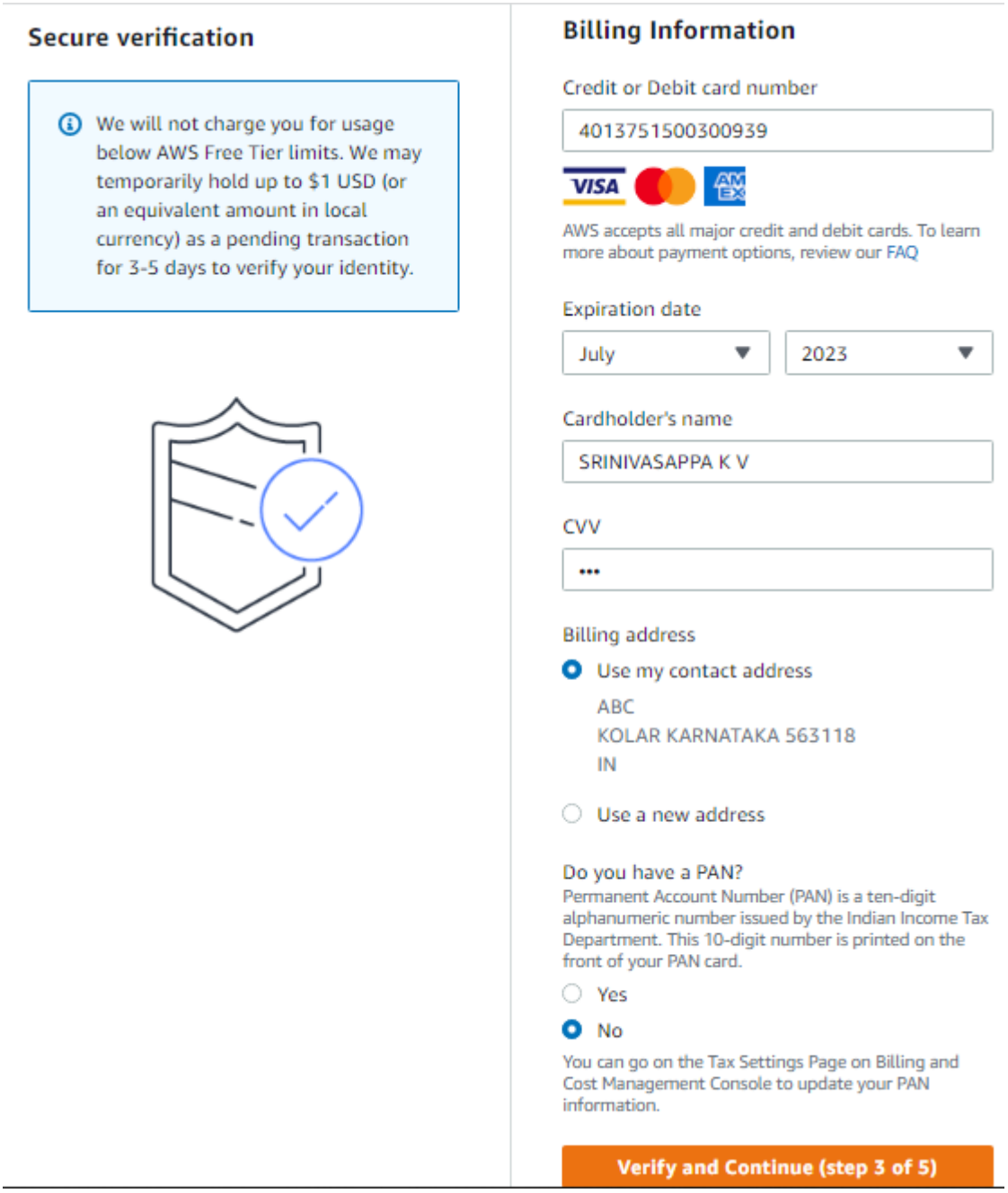
4.After Successful verification of email it will as Password for Root User AWS Account.



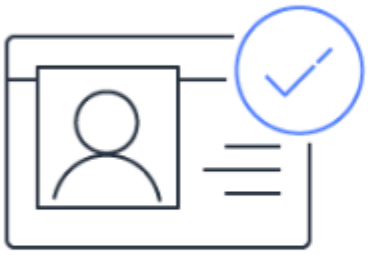
5.Enter Full Name and Phone Number select Country/region as India.

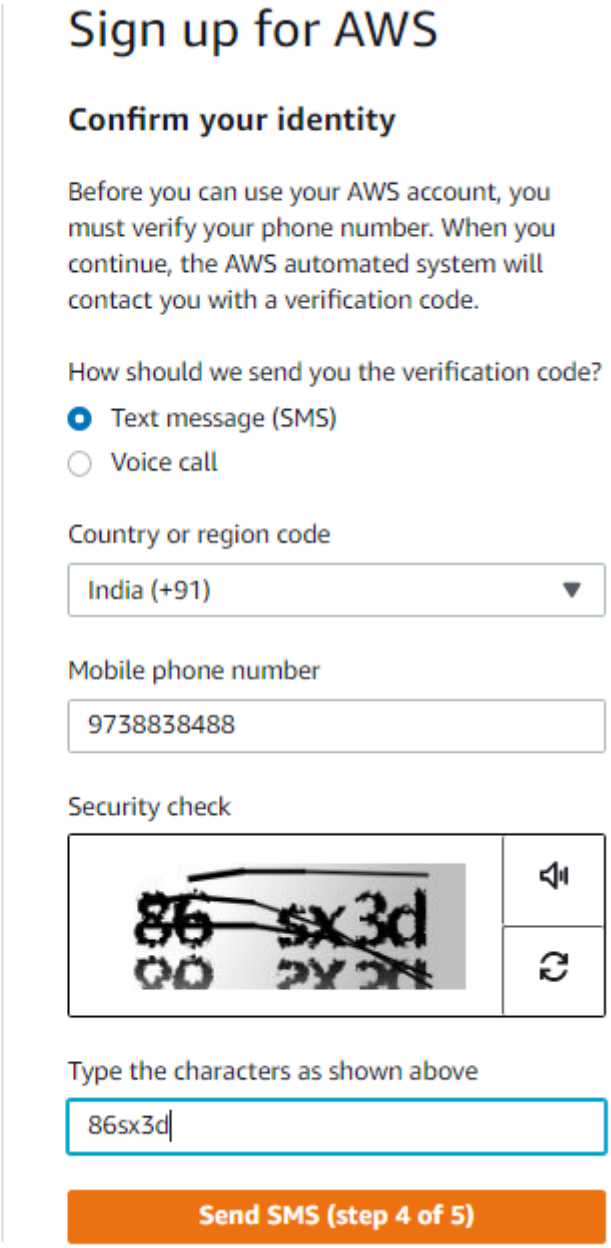


6.Enter Address as City, State and Pin Code

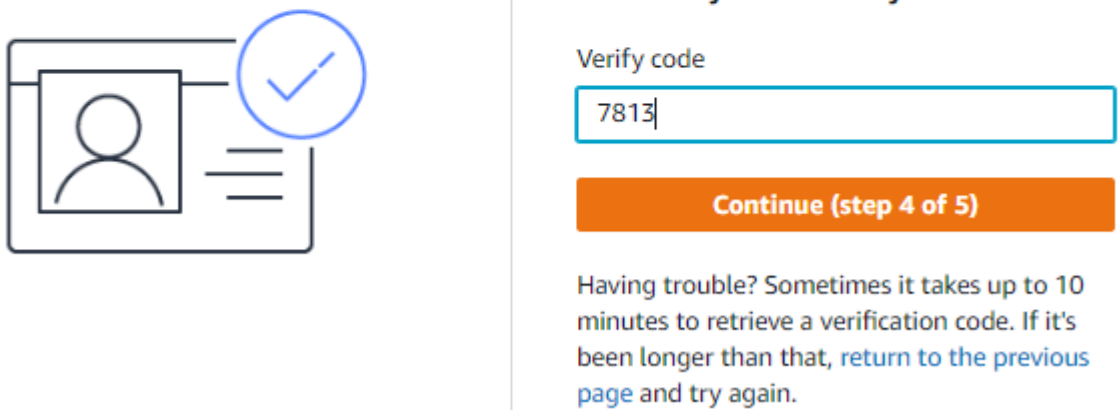


7.Enter Billing Information like Credit/Debit Card details like Number, Expiry date, Card Holder Name, CVV. It is mandatory to create Free Tier account

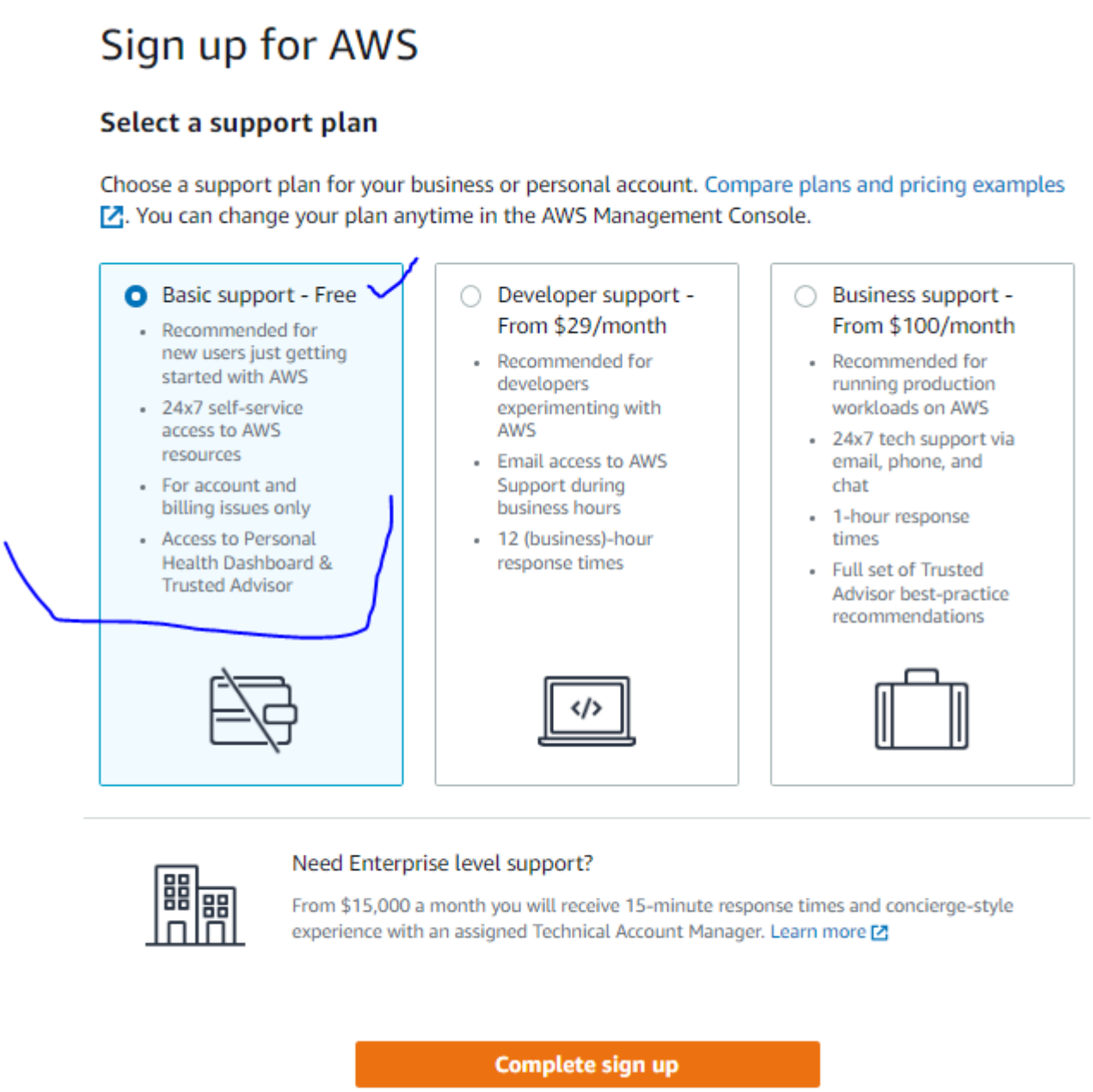




8.Confirm your Identity through SMS by giving Original Mobile number.



9.You will receive Verification Code and enter the same



10.Always select basic Support- free from the above three options

Congratulations

Thank you for signing up for AWS.

We are activating your account, which should only take a few minutes. You will receive an email when this is complete.

Go to the AWS Management Console

Sign up for another account or contact sales.