**Assessment Week 6 Answers**

**Q-1 ) What is Cloud Computing. Explain with at least with 5 lines?**

* Cloud computing is a technology to access and use the computing resourses such as storage database, networking etc..
* Instead of maintaining or owing physical hardware it is more efficient to pay and get renting it.
* Therefore users can leverage the scalability and flexibility for their work and also cost efficient for the owners
* These cloud services are provided by the third party providers like AWS, Microsoft Azure, google cloud etc..
* It is a great innovation we can do deployment of applications and services and many more.

**Q-2 ) What is AWS? Explain in at least 5 lines.**

* AWS means Amazon Web Services and it is widely used cloud computing platform provided by th amazon.
* It also provides 200+ services such as IAM, EC2, S3, RDS, ML (Computing resources) ect…
* And these services are provided as pay-as-you-go. Can make use of every one form learner to business organizations.
* And AWS is in top 3 positions as a global cloud leader and mainly known for its security and extensive data centers world wide.

**Q-3 ) What is the objective of IAM?**

* IAM means Identity and Access Management it helps to access the AWS services and resources.
* Mainly it helps to control who can do what in AWS environments by dividing groups and users.
* And for those users it can give the access the computing resources and control the environment.
* It has to ensure that users and system only necessary resources permission should be given.

**Q-4 ) What do you mean by EC2? Write at least 5 lines.**

* Amazon EC2 manes Amazon Elastic Compute Cloud it is a web service provided by AWS.
* EC2 is helps to access the virtual machine in the server known as Instances
* And can easily deployed globally across the multiple regions.
* Also, users have feasibility to chose what kind of computing features for the virtual machine such as compute-optimized

**Q-5 ) How to deploy Spring Boot project in AWS Cloud? Write all steps with all the commands.**

1. **Create RDB Instance (database for storage)**

* In RDB create a tabase by given the configuration for the required project
* Details like username password schema name etc..
* Open data base and connect the database to the cloud

1. **Set up EC2**

* In amazon consale search for EC2 and configure you features like networking, storage, and script
* In the key pair bar create a KEY PAIR .pem file and save it In th epem folder
* Launch Instance then check the server is running

1. **Install and Run Putty application (**windows is <10**)**

* If the windows is <10 then run putty gen and convert .pem ext to .ppk and then run the .ppk extension
* linux kurnul will conncect to EC2 instance **“ssh -i your-key.pem ec2-user@your-instance-ip”** using this command
* if the windows is >= 10 then direct enter this command to your command prompt instance “**ssh -i (path of .pem file) ec2-user@(instance IP adddress)”**EC2 instance will connect

1. **Install Java on EC2 Instance**

* “**sudo yum install java-17”**
* Above command will install java 17 version in the virtual machine
* In the Application run the maven install copy the path and save the jat file in pem folder and the use this command
* **“ scp -i (path of .pem file) (path of .jar file) ec2-user@(instance IP adddress):/home/ec2-user/”**

1. **Setup Amazon S3 (simple, storage, service)**

* create a bucket which allows people to strore the objects
* give the permissions and in properties give the static web history link is generated

finally, every thing is deployed in AWS cloud.

**Q-6 ) How to connect with EC2 instance?**

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**Q-7 ) What is EBS Volume?**

* EBS (Elastic Block Store) Volume is a scalable and persistent block storage service provided by AWS for EC2 instances.
* It offers durable and high-performance storage that persists independently of EC2 instances, supporting features like encryption, snapshots, and various performance types.

**Q- 8 ) What is RDS?**

* RDS (Relational Database Service) is a managed database service by AWS that simplifies the setup, operation, and scaling of relational databases.
* It supports various database engines such as MySQL, PostgreSQL, Oracle, SQL Server, and MariaDB, providing features like automated backups, patch management, and high availability.

**Q-9 ) What is S3?**

* S3 (Simple Storage Service) is an object storage service by AWS, offering scalable and secure storage for objects such as files, images, and videos.
* It provides a simple web interface for storage management, features low-latency access, and supports data transfer acceleration.

**Q-10 ) What is REST API?**

* REST API (Representational State Transfer Application Programming Interface) is a set of architectural principles for designing networked applications.
* It uses standard HTTP methods (GET, POST, PUT, DELETE) to enable communication between clients and servers.
* RESTful APIs are widely used for building web services and integrations due to their simplicity and scalability.