Cloud Computing & IoT **Workshop**

1. Study about two major platforms which are used in large scale cloud computing: Apache Hadoop and MapReduce.

Answer:

**Apache Hadoop** is an open source, Java-based software platform that manages data processing and storage for big data applications. Hadoop works by distributing large data sets and analytics jobs across nodes in a computing cluster, breaking them down into smaller workloads that can be run in parallel. Hadoop can process structured and unstructured data and scale up reliably from a single server to thousands of machines.

For more: <https://databricks.com/glossary/hadoop>

MapReduce is a processing technique and a program model for distributed computing based on java. The MapReduce algorithm contains two important tasks, namely Map and Reduce. Map takes a set of data and converts it into another set of data, where individual elements are broken down into tuples (key/value pairs). Secondly, reduce task, which takes the output from a map as an input and combines those data tuples into a smaller set of tuples. As the sequence of the name MapReduce implies, the reduce task is always performed after the map job.

For more:

<https://www.tutorialspoint.com/hadoop/hadoop_mapreduce.htm>

1. If you are going to build your own cloud service, what type of service would you offer to clients who are active user of famous cloud service providers like Google and Apple.

Answer:

* Only pay how much is used.
* Cost effective.
* Self-service through web.
* Near-limitless Scalability.
* Automatic update services.

1. As the world is stepping in the 5G world, what will be the relationship between cloud computing and 5G? Try to be analytical.

Answer: 5G offers faster speeds, lower latency, better synchronization and more capacity. Cloudification prepares for 5G’s 10X less latency, 100X faster speed, and 1000X more capacity, laying the foundation for revolutionary customer experiences, business efficiencies, and products and services.

For more: <https://www.westagilelabs.com/blog/how-5g-will-impact-on-cloud-computing-and-solutions/>

1. What are the possible solutions or preventive measures to avoid fire damage to a datacenter?

Answer:

* Use fire resistant construction
* Keep data center and IT room separate.
* Install Fire alarms and suppression system.
* Design multiple power rooms.
* Schedule regular inspections.

1. If there was no concept of cloud computing, then what our world would be now in terms of data and internet?

Answer:

* Storage costs would be high.
* More chance of data breach.
* Limit in storage and data of companies.
* Not able to access data in required time.
* Had to carry storage device wherever we go.
* Less collaboration among companies.
* Huge loss in case of disaster or no prevention of loss.