Custom Training

Day 2

**Big Data Fundamentals**

4 V’s of Big Data:

1. Volume: Scale of data
2. Variety: Forms of data
3. Velocity: Analysis of data flow
4. Veracity: Uncertainty of data

2 types of data processing:

1. Batch Processing: Processes data in batches. Example: Transaction in bank
2. Stream Processing: Processes stream data/ live data. Example: Cricket match

Stream analytics helps e-commerce business to get 360 degree data of the customers and improve their customer service.

Parallel and Distributive Processing:

All the tasks are divided into sub-tasks and processed in parallel.

Data Warehouse: Saves data as object. We can perform data modelling(create tables and views). Store structured data. Perform dimension modelling. It has fixed schema and follows ACID properties.

Data Lake: Supports all types of data(structured,semi-structured and un-structured). Flexible schema.

Lakehouse: Combines Data Warehouse and Data Lake. Follows ACID properties.

Data Security:

Authentication: We define who we are.

Authorization: We define what kind of data we have access to.

Cloud Fundamentals:

Private Cloud: Completely owned by an organization.

Public Cloud: Owned by cloud services or hosting provider.

Hybrid Cloud: Combines both private and public cloud.

Cloud Benefits:

1. High availability
2. Scalability
3. Global reach
4. Agility
5. Disaster recovery
6. Fault tolerance
7. Elasticity
8. Customer latency capabilities
9. Predictive cost considerations
10. Security

2 types of models are there:

1. Capital Expenditure (Capex): Up-front spending of money on physical infrastructure.
2. Operational Expenditure (Opex): Spend on products and services as needed, pay-as-you-go.

IaaS: Ex: Servers, Network firewalls, Data center plant

PaaS: Ex: OS, Dev Tools, DBMS, Business Analytics.

SaaS: Ex: Microsoft office, calendar

Serverless Computing: Cloud provider automatically provisions, scales, and manages the infrastructure required to run the code. Ex: Azure Functions, Azure Logic Apps

Azure Fundamentals:

Azure Subscription: Provides you with authenticated and authorized access to your Azure accounts.

Azure Resource Manager: Provides you the management layer to manage your Azure subscription.

Resource Group: Logical container to manage and aggregate resources in a single unit.