

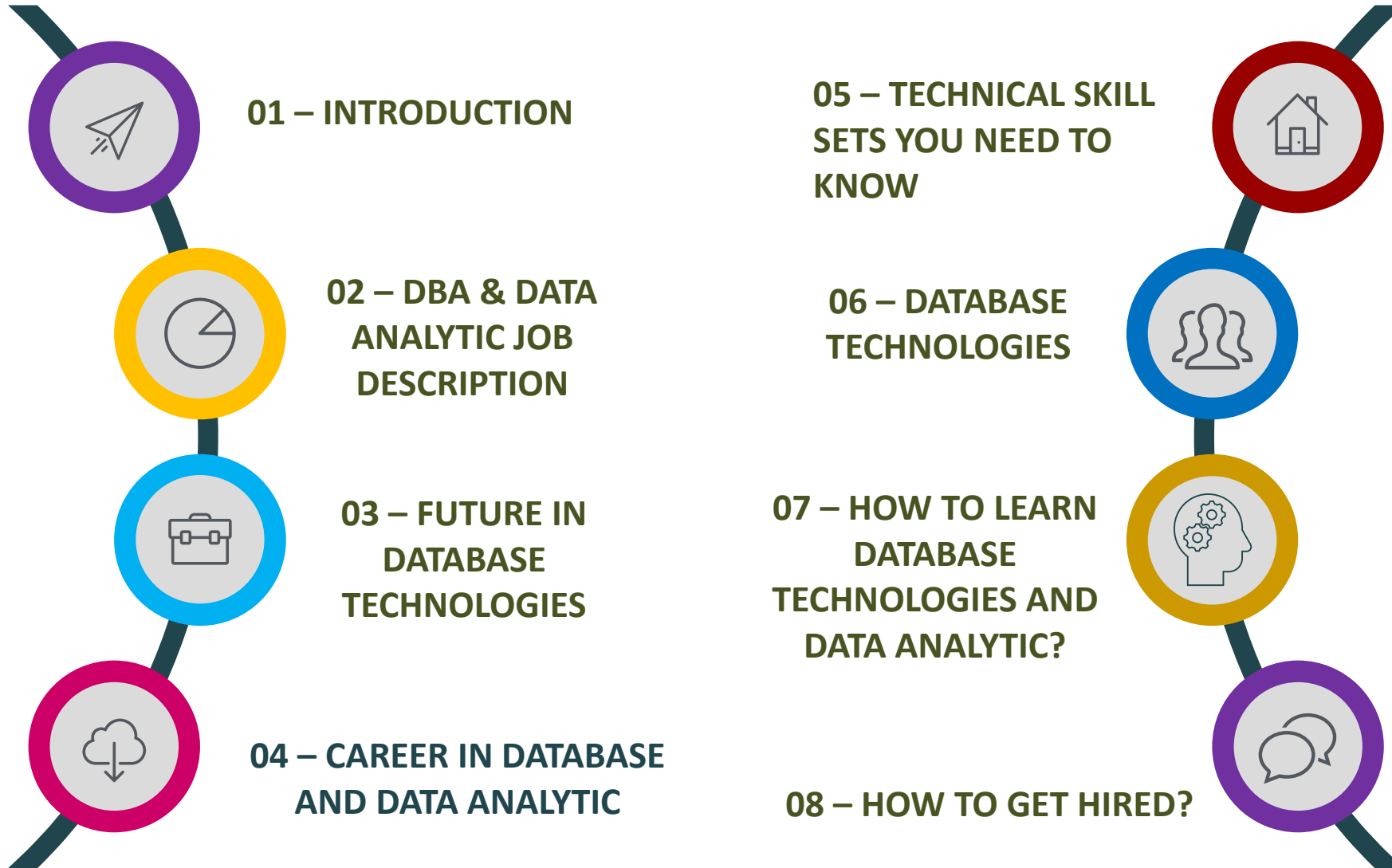
KNOWLEDGE SHARING PROGRAMME

DATABASE DISCOVERIES AND INDUSTRIAL PERSPECTIVE IN DATA UNIVERSE

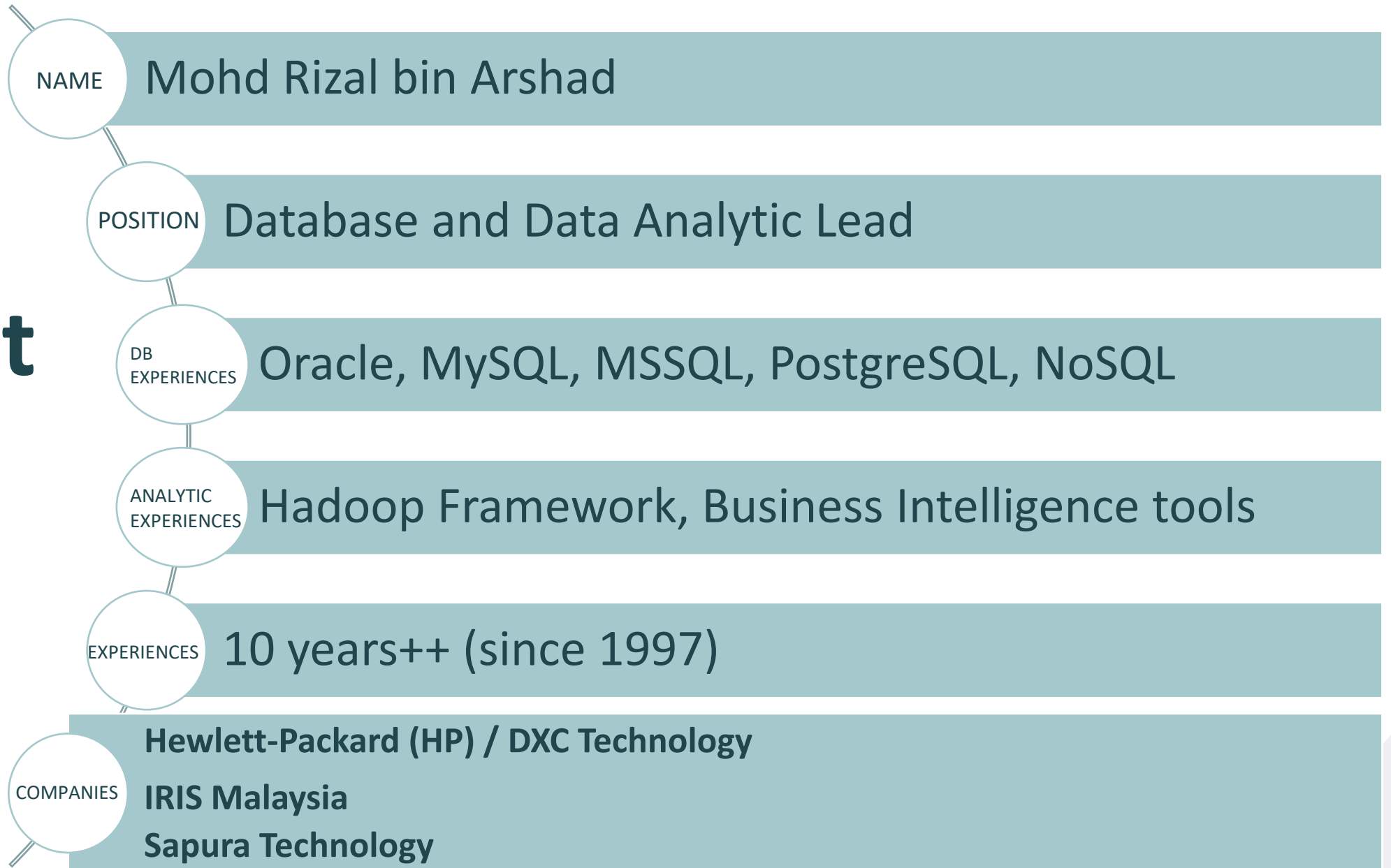
MOHD RIZAL BIN ARSHAD
DATABASE LEAD,
SAPURA TECHNOLOGY

05 June 2024
Dewan Seminar, FTMK











TALK OUTLINES



About Me



Database Administrator Job Scope

-  Supervise operation team and provide support to the team - (25 team members)
-  Supervise project team regarding database migrations.
-  Ensure all the technical projects are delivered on time.
-  Work on project allocation and resources.
-  Responsible for the installation, configuration, maintenance, and administration of databases for all technologies such as single instance, RAC, Data Guard on Oracle versions 11g, 12c, 19c and MySQL.
-  Back up, restore and recover database using RMAN.
-  Ensure that database availability, reliability, and security expectations are met.
-  Tuning databases and SQL statements to improve the performance based on applications.
-  Install patches for databases.
-  Create Entity Relationship Diagram (ERD) for new application development.

Data Analytic Lead Job Scope



Lead implementation of BI solution with Oracle Data Warehouse.



Lead implementation of ETL using Oracle ODI from Oracle DB to Data Lake

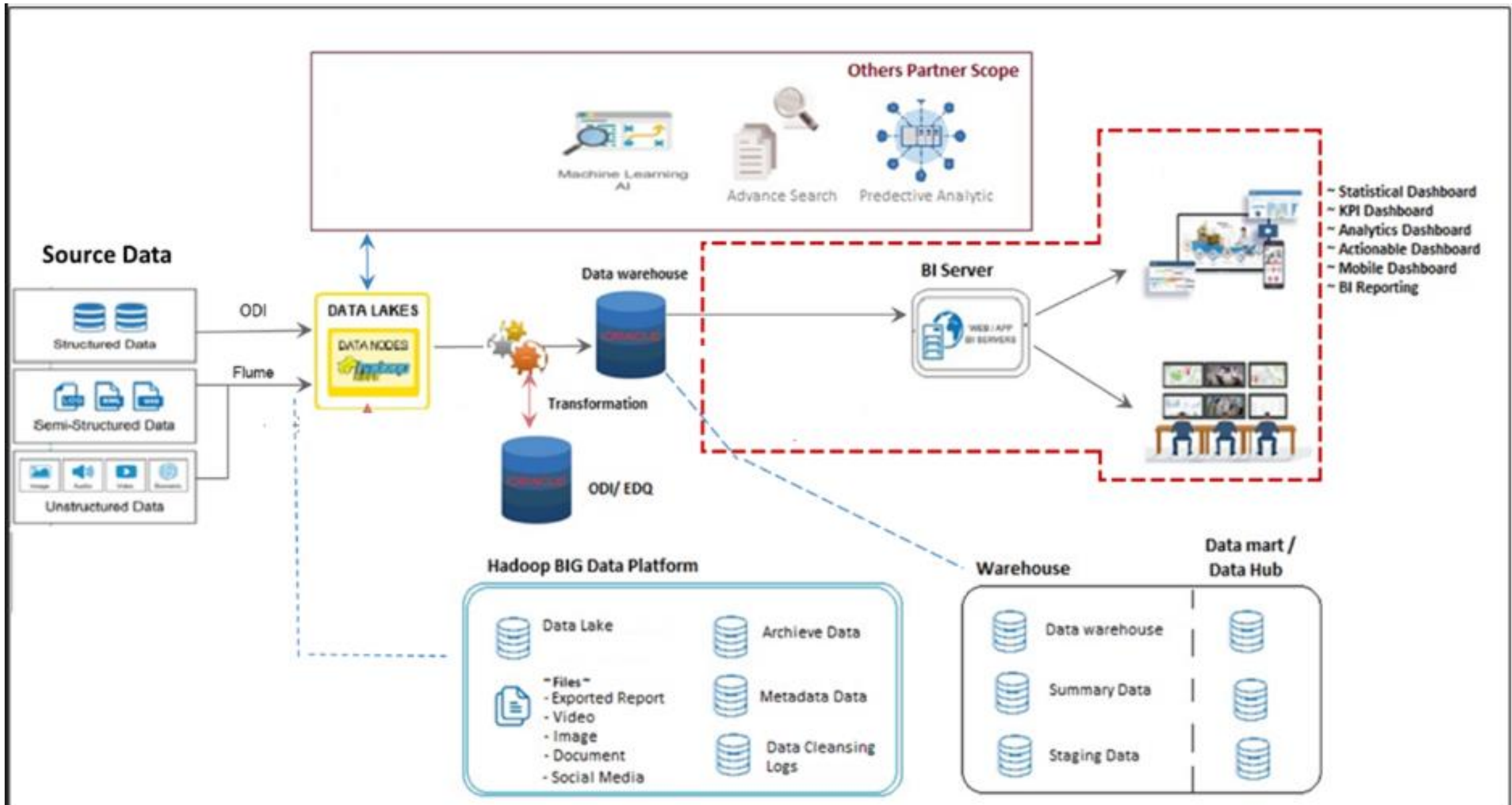


Lead implementation of Data Lake using Hadoop Framework.



Design the data pipeline for data analytic solution.

Data Analytic - Data Pipeline



Future in Database Technology?

Cloud-Native Databases

These databases are designed specifically for the cloud environment, offering scalability, elasticity, and automated management.

Focus on Data Quality and Governance

Ensuring data accuracy and consistency will be crucial for deriving valuable insights from data.

Real-Time Data Processing

Data will increasingly be processed and analyzed in real-time to enable faster decision-making.



Focus on Data Security and Privacy

With growing regulations and the increasing value of data, data management systems will need to provide robust security features and access controls.

Rise of Specialized Databases

Different data types will be handled by specialized databases, such as graph databases for complex relationships and time-series databases for sensor data.

Integration with Internet of Things (IoT):

As more devices become connected, data management systems will need to handle the influx of data from these sources.

Career in Database and Data Analytic

Database
Administrator

Data Analyst

Data Engineer

Data Scientist

Machine Learning/
AI Engineer

Data Modeler /
Designer

Data Governance
Specialist

Data Architect

Data Solution /
Solution Architect

Master Data
Management
Specialist / Analyst

Data Visualization
Developer

Business
Intelligence (BI)
Specialist

Cloud
Infrastructure
Engineer

Big Data
Developer/
Engineer

Technical Skill Sets that you need to know

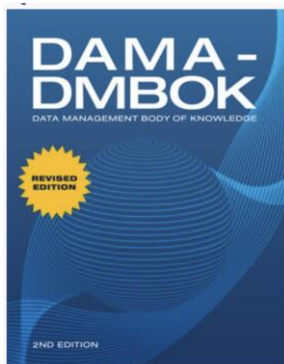


- **DBA**
- **Data Engineer**
- **Data Analyst**
- **Data Architect**

Data Management

DAMA – DMBOK: Data Management Body of knowledge

DAMA stands for **Data Management Association**. It's a global non-profit organization focused on promoting best practices and knowledge sharing in data management.

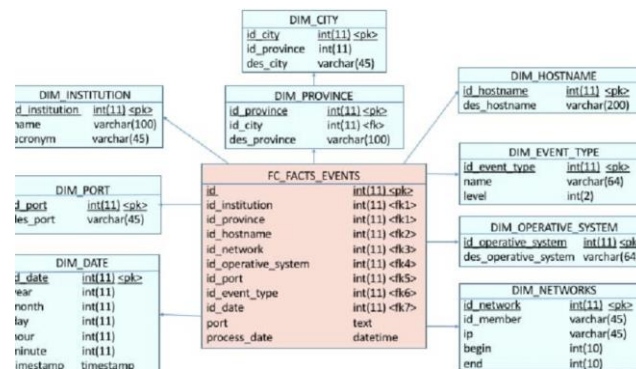


Data Modelling

Entity-Relationship (ER) Data Modelling Technique

Data Warehouse Modelling Technique (*Dimension Modelling (Dim/ Fact table) / Data Vault Modeling*)

Data Modelling Tools (ERwin Data Modeler, ER/Studio, Draw.io, Lucidchart)



Database

RDBMS - Oracle, MSSQL, MySQL, PostgreSQL

NoSQL - MongoDB, Cassandra

ORACLE



Extract, Transform, Load (ETL) Tools

Talend

Pentaho

Informatica



Business Intelligence (BI)

Power Bi

Tableau

Alteryx

Kibana



Grafana



Data Processing Framework

Spark

Hadoop Components

Cloudera Cluster

Databricks



Cloud Computing

Cloud Tools for Data Analytic Components

AWS data services (Glue, Redshift, QuickSight, SageMaker, Kinesis, QLDB, AWS CDP)

Azure services (Azure Synapse Analytics, Azure Data Factory, Azure Analysis Services, Databricks)

GCP services (BigQuery, Cloud Dataflow, Cloud SQL, Data Catalog, Cloud Datalab)

Cloud Infrastructure (Azure, AWS, GCP)



Top Data Engineering Tools to Learn

Big Data Processing Frameworks



Apache Kafka Apache Hadoop Apache Spark

Data Integration and Workflow Management



Apache NiFi

Apache Airflow

Informatica

Talend

Database and Data Storage



SQL

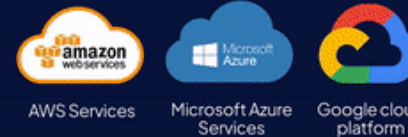
AWS

NoSQL

Azure

Snowflake

Cloud-Based Data Services



AWS Services

Microsoft Azure Services

Google cloud platform

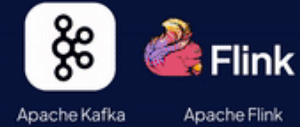
Data Analysis and Visualization



Power BI

Tableau

Real-Time Data Streaming



Apache Kafka

Apache Flink

ETL (Extract, Transform, Load) Tools



Talend

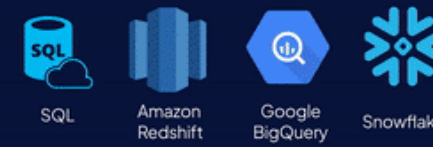
Informatica

Azure Data Factory

Apache NiFi

AWS Glue Logo

Data Warehousing and Querying Languages



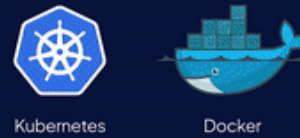
SQL

Amazon Redshift

Google BigQuery

Snowflake

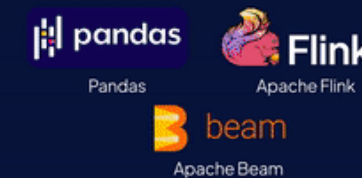
Containerization and Orchestration Tools



Kubernetes

Docker

Data Processing Libraries and Frameworks



Pandas

Apache Flink

Apache Beam

Version Control and Automation

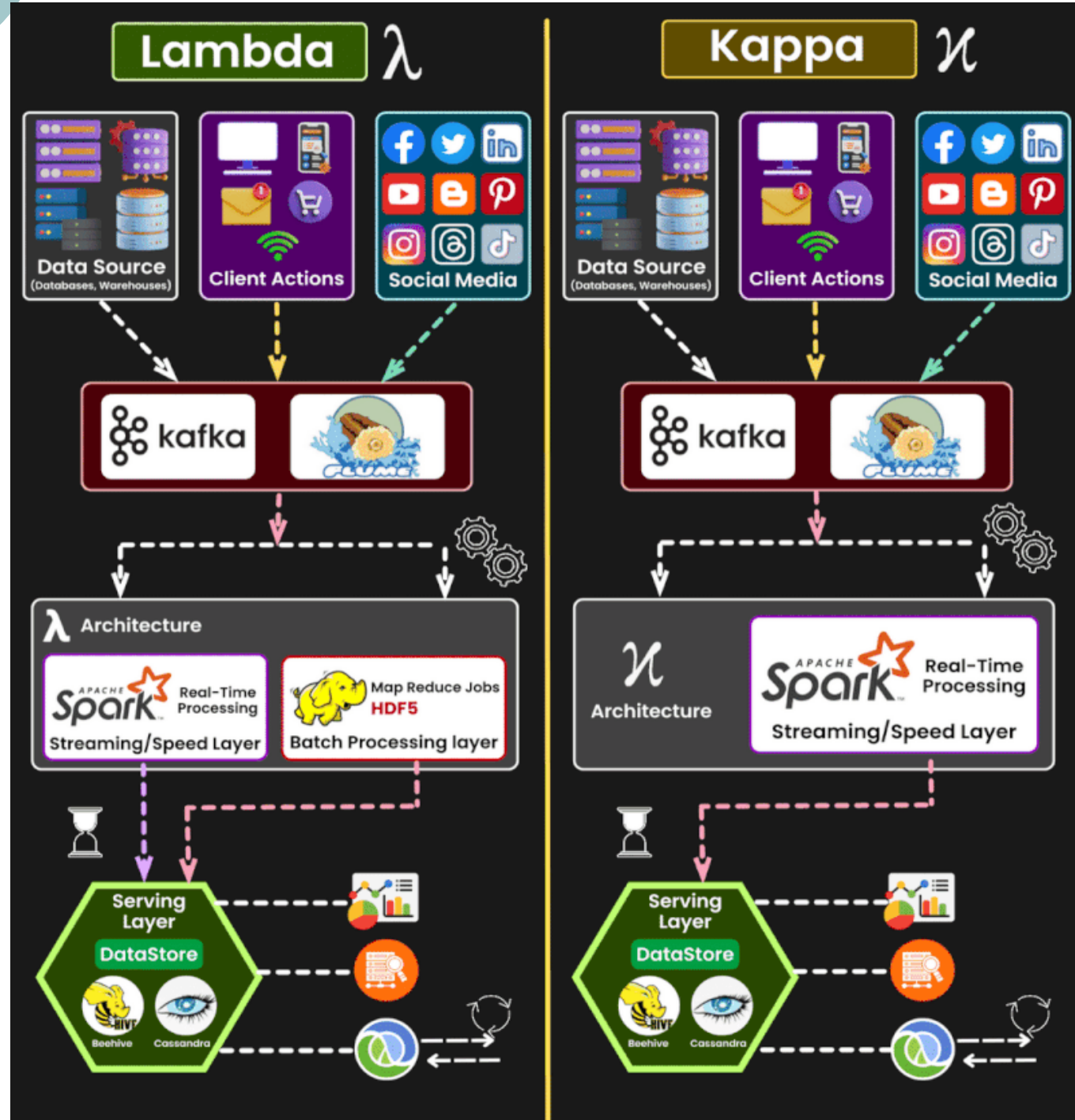


Git

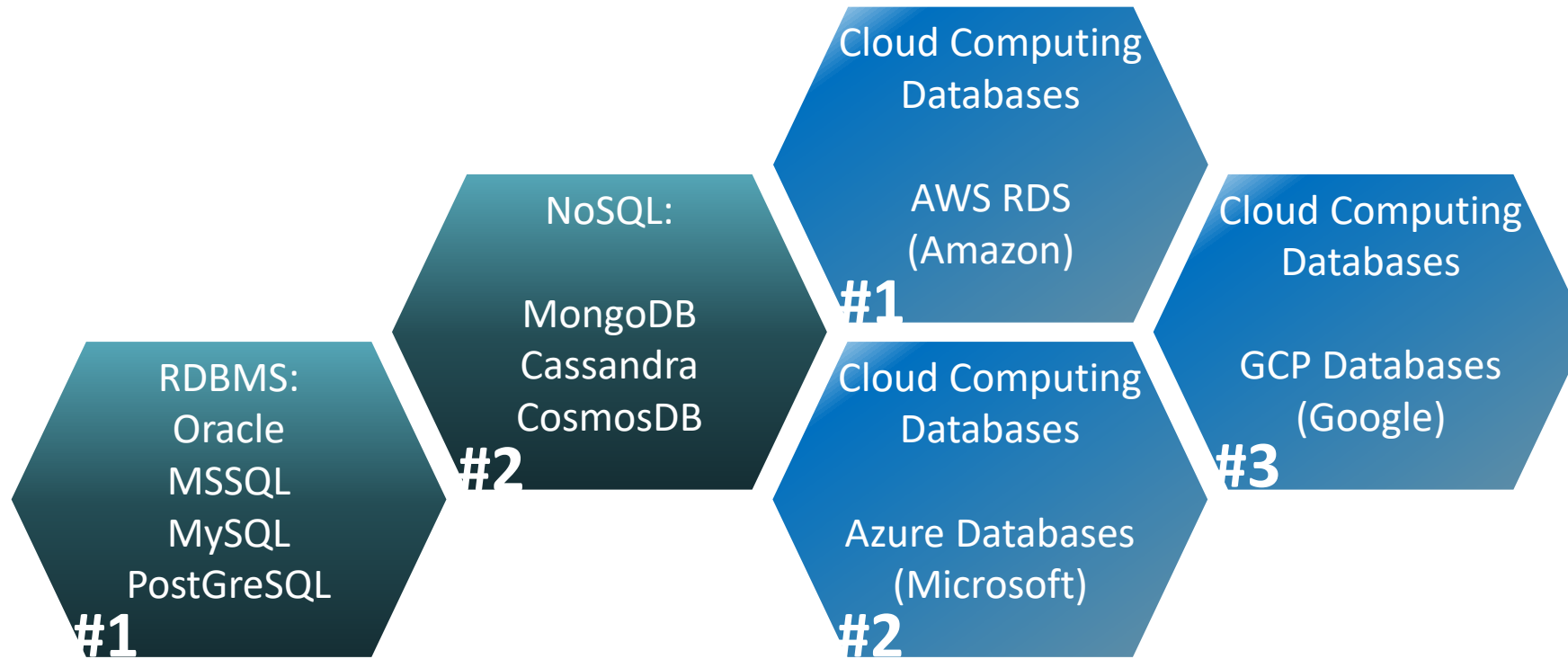
Jenkins



Sample Big Data Architecture



Top Database Technologies



How to learn database technologies and Data Analytic?

Using Virtual Box

Sandbox or free services (AWS, Azure, GCP)

Courses at Udemy

How to GET HIRED?

Database Administrator

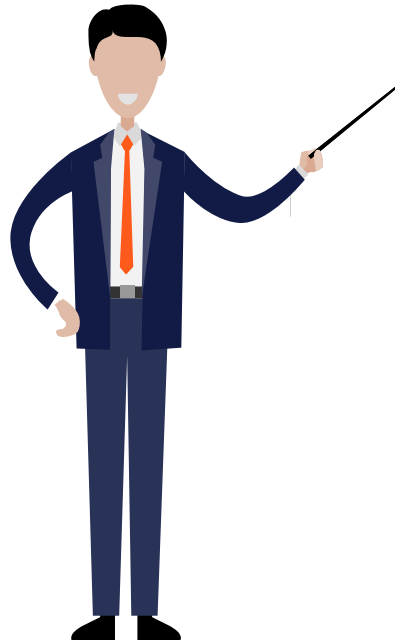
01

Data Engineer

03

Data Analyst

05



02

Data Scientist

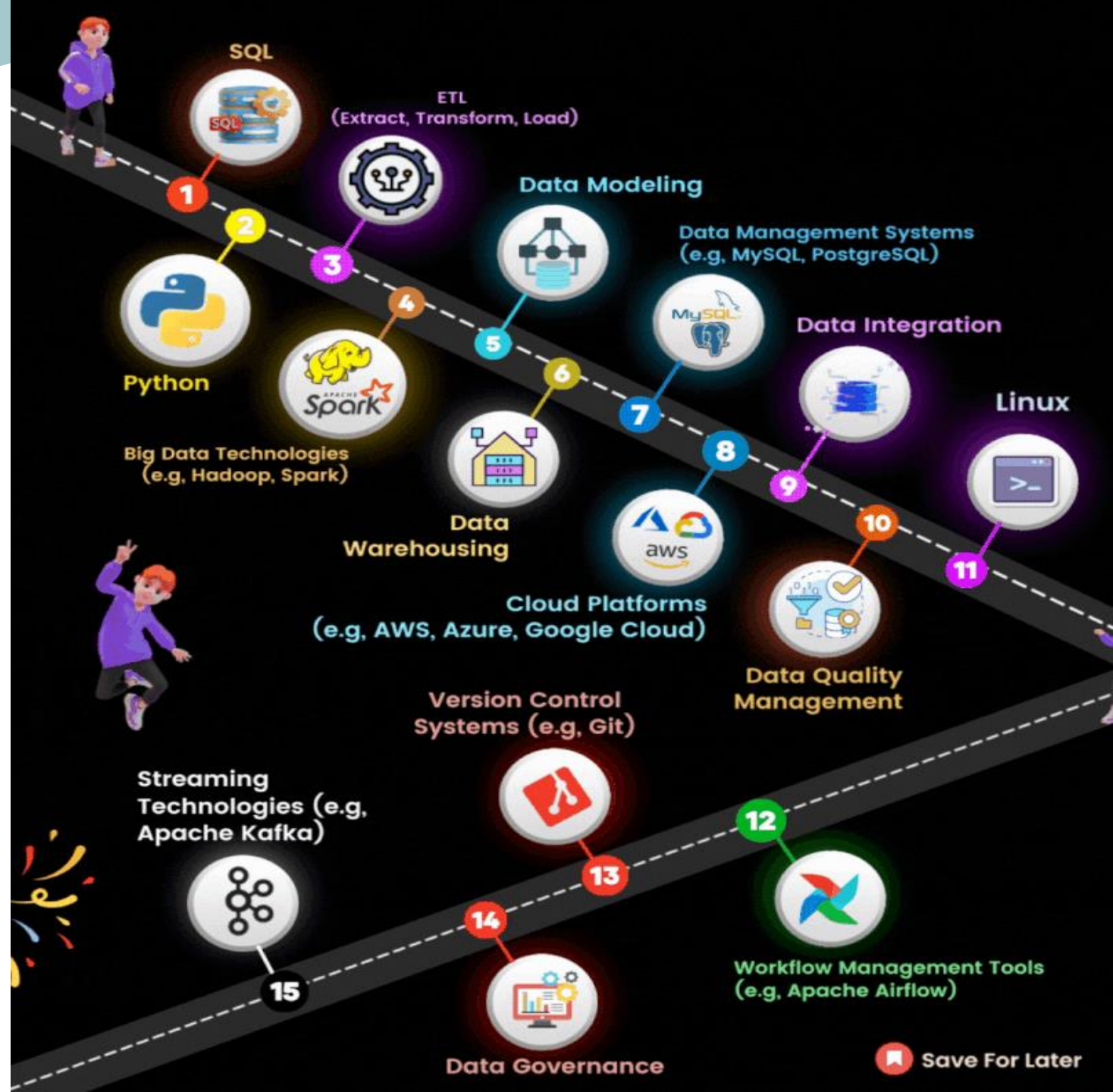
04

AI/ML Engineer

06

Big Data Engineer

Roadmap to Data Engineering



JOIN OUR PYTHON WITH CHATGPT WEBINAR

Speaker:

Dr. Sai Chong Yeh
David Chong Teak Wei

Here are the details:



Date: 21st June, 2024 (Friday)



Time: 8:30 pm - 10:00 pm



Venue: Zoom Online



Sounds intriguing?

Register for **FREE** now or scan the Code:

<https://www.ever-technologies.com/previewpythonwithchatgpt>

We would be delighted if you could join us for this time around.



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DR SAI CHONG YEH
CEO of Ever AI Technologies



DAVID CHONG TEAK WEI
Head Of AI

SPEAKERS



Date
24th May & 21st June 2024



Time
8.30 pm - 10 pm



Platform
Zoom Online



Contact Us
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Thank You!

-Q & A-