



IN BIGDATA

Programming

A lot of customization is required on daily basis to deal with the unstructured data.

Example:

- R, Python, Java, C++, Ruby, SQL, Hive, SAS, SPSS, MATLAB, Weka, Julia, Scala

Data Warehouse






Experience with relational and non-relational database systems.

Examples of non-relational database:

- Mysql, Oracle, DB2.

Examples of non-relational database:

- NoSql, Hbase, HDFS, MongoDB, CouchDB, Cassandra, Teradeta, etc.

HADOOP ON-PREMISE 	HADOOP IN THE CLOUD 	STREAMING / IN-MEMORY 	NewSQL DATABASES 	GRAPH DBs 	MPP DBs 	CLOUD EDW 
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NoSQL DATABASES



- **NoSQL**, stand for "not only SQL," is an alternative to traditional relational **databases** in which data is placed in tables and data schema is carefully designed before the **database** is built.
- **NoSQL databases** are especially useful for working with large sets of distributed data.

Big Data & Artificial Intelligence Landscape -INFRASTRUCTURE-

- **Data integration** is the combination of technical and business processes used to combine **data** from disparate sources into meaningful and valuable information.
- A complete **data integration** solution delivers trusted **data** from various sources.

DATA INTEGRATION



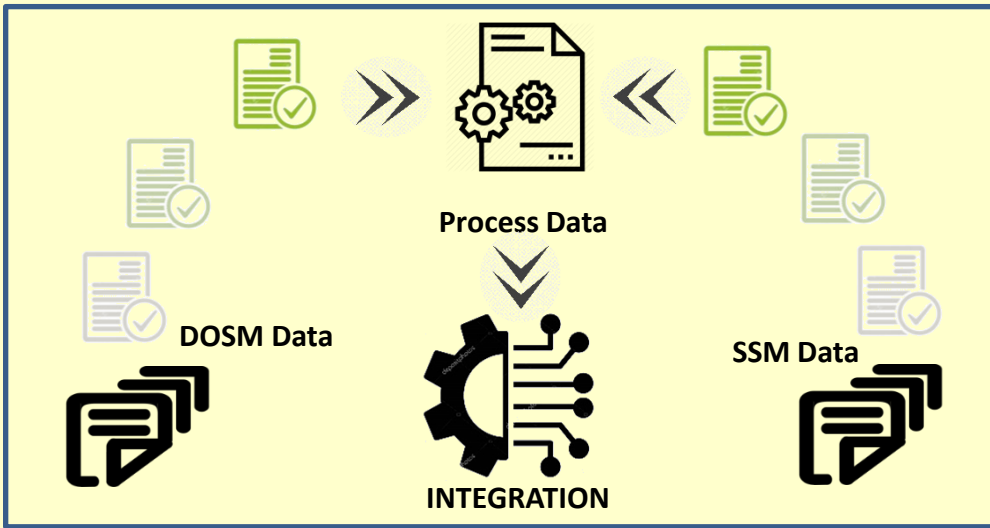
STORAGE 	CLUSTER SVCS 	APP DEV 	CROWD-SOURCING 	HARDWARE 	GPU DBs 	DATA TRANSFORMATION 	DATA GOVERNANCE 	MGMT / MONITORING 
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Source: <https://www.datamart.com/big-data/big-data-technologies.html>





REAL TIME BUSINESS STATUS (RTBS)



Integrate Companies Commission of Malaysia (CCM) data to DOSM environment

Enable the organization to have direct access of business entities information

Allow DOSM to get latest data of business entities through middleware

STATISTICAL CLASSIFICATION (BizCode@Stats)



Hardcopy



BizCode@Stats



Expected User



i Middleware

Middleware is a software that links two separate applications or is commonly used to illustrate different products that function as a glue between two separate applications.

Integration middleware is the alternate term used for middleware as the purpose of middleware is mainly integration. Integration middleware represents software systems that offer runtime services for communications, integration application execution, monitoring and operations.

Data Integration:

Integrates business data resources, such as databases and files, over business and operational intelligence systems

Source: <https://www.techopedia.com/definition/28054/integration-middleware>

