

# Data Engineer VS Data Architect VS Big Data Engineer





#### Data Engineer

Data engineers design and build the infrastructure to store, process, and analyse large datasets. They are responsible for building efficient and scalable systems for storing, processing, and analysing data, and for integrating data from a variety of sources.



#### Typical Tasks

- Building a data pipeline to ingest data from multiple sources and store it in a data warehouse
- Writing SQL queries to extract and transform data for analysis
- Developing scripts to automate data processing tasks





## Skillset Required

- Programming skills (e.g. Python, Java, Scala)
- SQL and database design experience
- ETL and big data technology experience (e.g. Hadoop, Spark)



#### Data Architect

Data architects design and implement the data infrastructure for an organization. They are responsible for defining the structure of an organization's data and for ensuring that it is stored and accessed efficiently.



#### Typical Tasks

- Designing a logical data model to represent the data needs of an organization
- Mapping the logical data model to a physical database design
- Implementing data governance policies to ensure data quality and security



## Skillset Required

- Database design and data modeling skills
- Data architecture tools experience (e.g. ER diagrams)
- Data governance familiarity
- Data integration and management tools experience





## Big Data Engineer

Big data engineers design and build scalable systems for storing and processing large datasets.

They work with technologies like Hadoop and Spark to build systems that can handle large volumes of data.





#### Typical Tasks

- Setting up a Hadoop cluster to process large volumes of data
- Writing Spark jobs to perform distributed data processing tasks
- Tuning the performance of a big data system to ensure it can handle large volumes of data efficiently



## Skillset Required

- Programming skills (e.g. Java, Scala)
- Big data technology experience (e.g. Hadoop, Spark)
- Distributed systems familiarity
- ETL and data processing experience



#### Summary

In general, it is helpful for all of these roles to have strong analytical and problem-solving skills, as well as the ability to communicate effectively with both technical and nontechnical stakeholders.



#### Note

These descriptions are intended to provide a general overview of each role.

The specific responsibilities and requirements for these positions may vary depending on the organization and industry in which they are located.

It is always a good idea to clarify the specific duties and expectations of a role with the employer before accepting a position.



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