

Data Engineering

**Complete
Roadmap
&
Resources**



□ **Programming Language(Python)**

□ **<https://www.w3schools.com/python/>**

□ **Data Structure**

□ **<https://www.geeksforgeeks.org/data-structures/>**

□ **Database Management**

□ **<https://www.javatpoint.com/dbms-tutorial>**

□ **SQL**

□ **<https://www.w3schools.com/sql>**

□ **Big Data Fundamentals :**

□ <https://cognitiveclass.ai/learn/big-data>

□ <https://www.edx.org/course/big-data-fundamentals>

□ **Cluster Computing (Hadoop and Spark) :**

□ <https://www.tutorialspoint.com/hadoop/index.htm>

□ <https://www.youtube.com/watch?v=1vbXmCrkT3Y>

□ <https://www.youtube.com/watch?v=VmO0QgPCbZY>

□ **Data Processing :**

□ <https://www.bmc.com/blogs/batch-processing-stream-processing-real-time/>

□ <https://www.upsolver.com/blog/batch-stream-a-cheat-sheet>

□ **Data Warehousing Fundamentals:**

□ <https://www.guru99.com/data-warehousing.html>

□

https://www.tutorialspoint.com/dwh/dwh_data_warehousing.htm

□ <https://www.astera.com/type/blog/what-is-data-warehousing/>

□ **Data Transformation and Libraries:**

□ <https://www.youtube.com/watch?v=vmEHCJofslg>

□ <https://www.youtube.com/watch?v=QUT1VHiLmml>

□ <https://www.youtube.com/watch?v=yZTBMMdPOww>

□ Data Orchestration (Apache Airflow)

□ <https://www.youtube.com/watch?v=AHMm1wfGuHE>

□ <https://airflow.apache.org/>

□ <https://towardsdatascience.com/getting-started-with-apache-airflow-df1aa77d7b1b>

□ NoSQL Database

□ HBase - <https://www.youtube.com/watch?v=NOX6-nDtrFQ>

□ Cassandra - [https://www.youtube.com/watch?](https://www.youtube.com/watch?v=iDhljrJ7hG0&list=PL9ooVrP1hQOGJ4Yz9vbytkRmLaD6weg8k)

[v=iDhljrJ7hG0&list=PL9ooVrP1hQOGJ4Yz9vbytkRmLaD6weg8k](https://www.youtube.com/watch?v=iDhljrJ7hG0&list=PL9ooVrP1hQOGJ4Yz9vbytkRmLaD6weg8k)

□ MongoDB - <https://www.youtube.com/watch?v=pWbMrx5rVBE>

□ DynamoDB - https://www.youtube.com/watch?v=k0fcbRj_pZE

□ Real-Time Data Streaming

□ <https://www.youtube.com/watch?v=hyJZP-rgooc>

□ https://www.youtube.com/watch?v=rYbS5ihk_xg

□ Data Visualization

□ Tableau - <https://www.youtube.com/watch?v=aHaOlvR00So>

□ Data Studio - <https://www.youtube.com/watch?v=1qGsjsmmHiu8>

□ QuickSight - <https://www.youtube.com/watch?v=ENl72ltO2WU>

□ Looker - https://www.youtube.com/watch?v=x_Zy3KqLkPM

□ AWS Courses :

□ <https://www.youtube.com/watch?v=k1RI5locZE4>

□ <https://www.youtube.com/watch?v=ulprqHHWIng>

□ <https://www.youtube.com/watch?v=3hLmDS179YE>

□ Cloud vs On-premise?

□ <https://www.youtube.com/watch?v=DhYQTM1I5Z4>

□ https://www.youtube.com/watch?v=_nC7Op12Tw8

□ What is AWS?

□ <https://www.youtube.com/watch?v=wWeyzYzd17o>

□ AWS Database

□ <https://www.youtube.com/watch?v=hwnNbLXN4vA&t=0s>

□ <https://www.youtube.com/watch?v=TJxC-B9Q9tQ&t=0s>

□ AWS Compute

□ <https://www.youtube.com/watch?v=kMMybKqC2Y0>

□ <https://docs.aws.amazon.com/whitepapers/latest/aws-overview/compute-services.html>

□ AWS Datawarehouse

□ <https://www.youtube.com/watch?v=35wXL0Q1Dcc>

□ AWS Glue

□ <https://www.youtube.com/watch?v=pT5lAYTCYJ4>

□ AWS EMR

□ <https://www.youtube.com/watch?v=dU40df0Suoo>

□ AWS Kinesis

□ https://www.youtube.com/watch?v=rYbS5ihk_xg

□ Data Processing (Batch vs Real-Time)

□ <https://www.youtube.com/watch?v=A3Mvy8WMk04>

□ Data Lake

□ <https://www.youtube.com/watch?v=LxcH6z8TFpl>

□ https://www.youtube.com/watch?v=hsq4s_I9ZDM

□ Data Security

□ <https://www.youtube.com/watch?v=Ak0x2FtmxU8>

□ <https://www.youtube.com/watch?v=ZNEPaGFApX4>

□ <https://www.youtube.com/watch?v=KaigloLRuI8>

□ <https://www.insightsforprofessionals.com/it/leadership/data-compliance-standards>

□ Networking

□ [https://www.youtube.com/watch?](https://www.youtube.com/watch?v=_IOZ8_cPgu8&t=0s)

[v=_IOZ8_cPgu8&t=0s](https://www.youtube.com/watch?v=_IOZ8_cPgu8&t=0s)

□ <https://www.youtube.com/watch?v=hiKPPy584Mg>

□ <https://www.youtube.com/watch?v=b1gq9jTqInA>

□ DevOps

□ basics - [https://www.youtube.com/watch?v=_l94-](https://www.youtube.com/watch?v=_l94-tjlovg)

[tjlovg](https://www.youtube.com/watch?v=_l94-tjlovg)

□ Docker - [https://www.youtube.com/watch?](https://www.youtube.com/watch?v=fqMOX6JJhGo)

[v=fqMOX6JJhGo](https://www.youtube.com/watch?v=fqMOX6JJhGo)

□ CI/CD - [https://www.youtube.com/watch?](https://www.youtube.com/watch?v=m0a2CzgLNsc)

[v=m0a2CzgLNsc](https://www.youtube.com/watch?v=m0a2CzgLNsc)

□ <https://www.docker.com/>

□ Infrastructure as a code

□ [https://www.youtube.com/watch?](https://www.youtube.com/watch?v=BPJ1RuBRJLQ&t=0s)

[v=BPJ1RuBRJLQ&t=0s](https://www.youtube.com/watch?v=BPJ1RuBRJLQ&t=0s)

□ <https://www.youtube.com/watch?v=YHdZYw3hXwE>