



techventive.io
US Engineering Studio

Cohort enrolling now

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DATA ENGINEERING BOOTCAMP

Data *Engineering*

6 weeks · Intermediate · live + recorded

A hands-on data engineering curriculum covering Spark, Airflow, Kafka, Snowflake, dbt, and the production realities of late-arriving data, backfills, and SLA-bound delivery — delivered by senior US engineers who maintain pipelines used by thousands of analysts daily.

10

CORE MODULES

35+

PRACTICAL SKILLS

5+

PROJECT TRACKS

1:1

CAREER SUPPORT

The *production stack* you'll master

Each tool taught with the workflows and failure modes practitioners actually meet on the job.

01

Python

DE-grade Python

02

SQL

Snowflake / PostgreSQL

03
Spark
PySpark + SQL

04
Airflow
Workflow orchestration

05
Kafka
Streaming backbone

06
Snowflake
Cloud data warehouse

07
dbt
Transformation layer

08
AWS Glue
Serverless ETL

09
Docker
Pipeline packaging

10
Terraform
Infra-as-code

Foundation *modules*

First half of the curriculum – core fundamentals and the most common day-to-day skills.

01

Data Engineering Foundations

What a data engineer does, OLTP vs. OLAP, batch vs. streaming, the modern data stack, role of the DE.

02

Python for DE

Production Python — modules, packaging, typing, testing with pytest, logging, error handling, idempotency patterns.

03

Advanced SQL

Window functions, recursive CTEs, query plans, partition pruning, materialized views, time-travel queries.

04

Apache Spark

PySpark fundamentals, DataFrames, lazy evaluation, partitioning, shuffle, broadcast joins, debugging OOM.

05

Apache Airflow

DAG authoring, operators, sensors, XComs, scheduling, retries, SLAs, dynamic DAGs, Airflow on K8s.

Software Engineers

Move from app dev into data infra and pipelines.

Data Analysts

Level up from queries to building the pipelines that feed them.

DevOps Engineers

Add data infrastructure to your platform toolbox.

Career Switchers

Enter one of the highest-paid IC tracks in tech.

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Advanced *modules*

Second half – production patterns, real-world operations, and the senior-level depth.

06

Streaming with Kafka

Topics, partitions, consumer groups, exactly-once semantics, schema registry, KStreams, debugging lag.

07

Snowflake Architecture

Storage / compute separation, warehouses, RBAC, Snowpipe, streams & tasks, performance tuning.

08

dbt Transformation Layer

Models, sources, tests, snapshots, macros, exposures, dbt Cloud vs. dbt Core, CI/CD with dbt.

09

Data Modeling

Star vs. snowflake schemas, slowly changing dimensions, fact granularity, partition design, late-arriving data.

Production & Reliability

Data quality (Great Expectations), monitoring, alerting, SLAs, on-call for data, postmortem writing.

🔑 Hands-on project outcomes

- Build a production-grade Airflow DAG with retries, SLAs, and alerts.
- Write performant PySpark jobs that handle 100M+ row datasets.
- Design and ship a star-schema warehouse in Snowflake.
- Stream events through Kafka with exactly-once semantics.
- Build a dbt project with tests, docs, and CI/CD.
- Diagnose and fix Spark OOM and shuffle issues.
- Handle late-arriving data and backfills without data loss.
- Monitor data SLAs and respond to data incidents.

🎓 Course learnings

- The full modern data stack — ingestion, transformation, serving.
- Production data engineering vs. notebook prototyping.
- Batch and streaming architectures and when to use each.
- Data quality, contracts, and SLAs at scale.
- On-call for data — what breaks and how to fix it.
- Cloud-native DE on AWS (Glue, EMR, MWAA, Kinesis).

Career readiness, *built in.*

techventive.io turns this curriculum into job-ready positioning — project explanation, résumé and LinkedIn rewrites, GitHub portfolio polish, technical interview preparation, and placement-focused guidance through to the offer letter.

Data Engineer
Analytics Engineer
ML Platform Engineer
Streaming Engineer
Warehouse Engineer
Senior DE / Tech Lead

	Software Engineers
	Data Analysts
	DevOps Engineers
	Career Switchers

Start your Data Engineering journey with techventive.io.

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