

# Dell Data Engineering Optimize 2023

## Certification Description



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### Certification Overview

This certification will benefit practicing or aspiring data engineers, data scientists, data stewards, or anyone who is responsible for managing or processing data sets.

### Certification Requirements

To complete the requirements for this certification you must:

1. Have a sufficient knowledgebase/skill set through hands-on product experience and/or by consuming the Recommended Training.
2. Pass the [Dell Data Scientist and Data Engineering Optimize 2023 Exam](#)

Note: These details reflect certification requirements as of February 3, 2024.

The Proven Professional Program periodically updates certification requirements. \*Please check the [Proven Professional CertTracker](#) website regularly for the latest information and for other options to meet the Associate level requirement.

**Dell Technologies Partners:** Achieving a certification validates capability; however, it does not imply authorization to deliver services. Services Delivery Competencies provide partners with the ability to deliver services under their own brand or co-deliver with Dell Technologies. Tiered partners are eligible to obtain services delivery competencies upon completing the specific requirements outlined in the [enablement matrix](#). Only partners that have met these requirements should be delivering their own services in lieu of Dell Technologies Services

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## Dell Data Engineering Optimize 2023

### Exam Description



#### Overview

This exam focuses on the role of a data engineer in successful analytic projects and the various tools and techniques including SQL, NoSQL, the Hadoop ecosystem, Apache Spark, data governance, streaming and IoT data processing, Python, and building data pipelines.

Dell Technologies provides free practice tests to assess your knowledge in preparation for the exam. Practice tests allow you to become familiar with the topics and question types you will find on the proctored exam. Your results on a practice test offer one indication of how prepared you are for the proctored exam and can highlight topics on which you need to study and train further. A passing score on the practice test does not guarantee a passing score on the certification exam.

#### Exam Topics

Topics likely to be covered on this exam include:

##### **The Role of the Data Engineer (5%)**

- Describe the skills of a data engineer
- Describe the role of a data engineer in a data analytics project

##### **Data Warehousing with SQL and NoSQL (17%)**

- Describe characteristics and performance considerations of a relational database
- Describe relational database schemas and normalization techniques
- Describe use cases and features of various NoSQL tools

##### **Extract-Transform-Load (ETL) Offload with Hadoop and Spark (18%)**

- Describe ETL, ELT, and related schedulers
- Describe the Hadoop ecosystem, HDFS, and data ingestion tools
- Describe Apache Spark and its architecture

##### **Data Governance, Security and Privacy for Big Data (20%)**

- Describe data governance, key roles, and related models
- Describe metadata and Master Data Management
- Describe security considerations with Hadoop and the Cloud
- Describe the uses of Apache Atlas, Ranger, and Knox
- Describe privacy regulations and ethics

#### Duration

90 Minutes  
(60 Questions)

**Pass Score:** 63%

#### Practice Test

Exam – [D-DS-OP-23](#)

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### Processing Streaming and IoT Data (20%)

- Describe uses and application of IoT tools
- Describe the Apache Storm system and topology
- Describe the Apache Kafka queueing system and architecture
- Describe Apache Spark - Streaming processing and architecture
- Describe Apache Flink and its architecture
- Describe Pravega and its storage architecture
- Describe EdgeX Foundry and its architecture

### Building Data Pipelines with Python (20%)

- Describe Python, reasons to use, and its libraries
- Describe the use of lists, dictionaries, tuples, sets, and strings
- Describe the use of Apache Airflow
- Describe data pipeline best practices

The percentages after each topic above reflects the approximate distribution of the total question set across the exam.

### Recommended Training

The following curriculum is recommended for candidates preparing to take this exam.

Please choose one of the options below.

### Option 1: Please complete the following courses

Course Title	Course Number	Mode	Available
Introduction to Data Engineering	ES731OCMIDENG	On-demand	3/25/20
Data Warehousing with SQL and NoSQL - On-Demand Course	ES732OCMDATAW	On-demand	3/25/20
ETL Offload with Hadoop and Spark - On-Demand Course	ES732OCMETLHS	On-demand	3/25/20
Data Governance, Security and Privacy for Big Data - On-Demand Course	ES732OCMDGSPR	On-demand	3/25/20
Processing Streaming and IoT Data - On-Demand Course	ES732OCMPSIOT	On-demand	3/25/20
Building Data Pipelines with Python - On-Demand Course	ES732OCMBDPPY	On-demand	3/25/20

### Option 2: Please complete the following courses

Course Title	Course Number	Mode	Available
Introduction to Data Engineering	ES731OCMIDENG	On-demand	3/25/20
Data Engineering Workshop	ES722OCMDEWRK	Virtual Classroom	8/17/20

Note: These exam description details reflect contents as of February 3, 2024.

The Proven Professional Program periodically updates exams to reflect technical currency and relevance. Please check the Proven Professional website regularly for the latest information.

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