Confluent Certified Developer for Apache Kafka Certification Examination

Introduction

This examination is based upon the most critical job activities that an Apache Kafka® Developer performs. The skills and knowledge certified by this examination represent a level of expertise where a Certified Developer can publish data to and subscribe to data from an Apache Kafka cluster. The individual taking this exam should understand the role of Kafka in the modern data distribution pipeline and be able to discuss core Kafka architectural concepts.

The test specification is intended to address the knowledge and skill areas that demonstrate proficiency as a Kafka Developer. The basic knowledge and skills required at this level should include all of the following areas and objective components below. The knowledge level can be defined as having:

Product Knowledge:

- A minimum of 6-12 months hands-on experience using Confluent products.
- Conceptual knowledge of building applications
- Understanding of network technologies as they relate to Confluent products
- Understanding of Kafka Producer and Consumer applications
- Understanding of Kafka Streams applications
- Capable of Developing KSQL queries
- Define Avro schemas for message data formats and register them in the Schema Registry
- Ability to Integrate Kafka with external data systems using Kafka Connect

General IT Knowledge:

- Working knowledge of Linux/Unix
- Understanding of network technologies
- Fluency in at least 1 modern programming language (e.g., Java, C#, Python, Go) (you will not be expected to code in the exam)
- Knowledge of the principles of distributed systems technology, fault tolerance and high availability
- Practical experience with stream processing, using a technology like Kafka Streams, Java Streams, Spark Streaming, etc.

These training courses or other equivalent methodologies may assist in exam preparation:

- Developing with Confluent (3-day Instructor led-training class)
  https://www.confluent.io/training/confluent-developer-training/

- https://www.confluent.io/resources/

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The skills and knowledge measured by this examination are determined from an understanding of the jobs of current Kafka Developers and from resources available at the web sites:

- https://confluent.io
- https://kafka.apache.org

Note: This examination blueprint includes weighting, test objectives, and example content. Example topics and concepts are included to clarify the test objectives; they should not be construed as a comprehensive listing of all of the content of this examination.

The table below lists the domains measured by this examination and the extent to which they are represented.

Domain	% Of Examination
1.0 Application Design	**40 %**
2.0 Development	**30 %**
3.0 Deployment/Testing/Monitoring	**30 %**
Total	**100.00%**

Response Limits

The examinee selects, from four (4) or more response options, the option(s) that best completes the statement or answers the question. Distracters or wrong answers are response options that examinees with incomplete knowledge or skill would likely choose but are generally plausible responses fitting into the content area defined by the test objective.

Test item formats used in this examination are (see sample question below):

Multiple-choice: The examinee selects one option that best answers the question or completes a statement. The option can be embedded in a graphic where the examinee "points and clicks" on their selection choice to complete the test item.

Multiple-response: The examinee selects more than one option that best answers the question or completes a statement.

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Sample Directions: Read the statement or question and from the response options, select only the option(s) that represent the most correct or best answer(s) given the information.

Sample Question:

Which of the following secure communications is supported between the Confluent REST proxy and REST clients?

  a. SSL (HTTPS)
  b. MD5
  c. SCRAM
  d. Kerberos

Content Guidelines

- **NOTE:** Confluent's certification exam questions may cover:
    - Apache Kafka
    - Other Apache ecosystem projects that are either required, or likely to be used, within a production Kafka environment. Examples are:
        - Apache Zookeeper
    - Confluent Community License components. Examples are:
        - ksqlDB
        - Confluent Schema Registry
        - Kafka REST proxy
- Confluent's certification exam questions will NOT cover features or components that are exclusively available under either Confluent Enterprise License, or exclusively part of Confluent Cloud

In each of the exam knowledge domains, questions may cover:

Domain 1.0   Application Design – 40% of exam

- Kafka's command line tools
- Pub/Sub and Streaming
- Overall Apache Kafka architecture and design
- Apache Kafka APIs, configuration and metrics
- Message metadata
- Systems metrics

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- Kafka message key selection (choices and factors)
- Message schema management

Domain 2.0 Development – 30% of exam

- Kafka Clients: Producer and Consumer, concepts and functions
- Client troubleshooting/debugging
- Performance, throughput, latency, scaling
- Message order and delivery guarantees
- Serialization/Deserialization
- Producer partition selection
- Consumer offset management
- Consumer Groups, partition assignments, partition rebalances
- Data retention strategies and implications
- Topic co-partitioning

Domain 3.0   Deployment/Testing – 30% of exam

- Application deployment choices
- Securing your data
- Monitoring and troubleshooting clients
- Client tuning
- Kafka Streams features and use cases
  - Essential component parts of Kafka Streams applications
- Confluent KSQL/ksqlDB features and use cases
  - Essential elements of KSQL/ksqlDB environment