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Getting Started with Confluent Kafka CLI: Setting Up Your Environment

Learn How to Use the Confluent CLI to Set Up a Cloud Environment, Create Clusters, and Authenticate for Seamless Kafka Integration

3 min read · Draft



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Introduction

Managing Kafka environments efficiently is critical for leveraging its full potential in real-time data streaming. The Confluent CLI simplifies this process by allowing users to interact with Confluent Cloud from the command line. In this article, we'll walk you through logging in, creating environments, setting up Kafka clusters, and generating API keys — all essential steps to prepare your environment for data streaming.

Working with the Confluent CLI

1. Log In to Confluent CLI

After installing the Confluent CLI, the first step is to log in to the Confluent Cloud:

```
confluent login --save
```

- **What it does:** This command authenticates you with the Confluent Cloud.
- **Tip:** Use the `--save` flag to store your credentials locally for future sessions.

If you're logging in for the first time, you'll need to provide your username and password. Once authenticated, the CLI will display your logged-in user details.

2. Create a Cloud Environment

A cloud environment acts as a container for your Kafka resources. Create a new environment using:

```
confluent environment create <environment-name>
```

- Replace `<environment-name>` with your desired name, e.g.,
`KafkaCloudEnvironment`.
- Example Output:

```
{  
  "id": "env-7QXWY2",  
  "name": "KafkaCloudEnvironment",  
  ...  
}
```

Note: Each environment has a unique ID (e.g., `env-7QXWY2`) that you'll use in subsequent steps.

3. Set the Active Environment

Switch to the environment you just created:

```
confluent environment use <environment-id>
```

- Replace `<environment-id>` with the ID from the previous step.
- Example Output:

```
Using environment env-7QXWY2
```

4. Create a Kafka Cluster

With the environment set, the next step is to create a Kafka cluster:

```
confluent kafka cluster create <cluster-name> --cloud <provider> --region <regi
```

- Replace `<cluster-name>` with your cluster name, e.g., `DemoKafkaCluster`.
- Replace `<provider>` with your cloud provider, e.g., `AWS`, `GCP`, or `Azure`.
- Replace `<region>` with the region, e.g., `us-west-2`.

Example Command:

```
confluent kafka cluster create DemoKafkaCluster --cloud AWS --region us-west-2
```

Example Output:

```
{
  "id": "lkc-abc123",
  "name": "DemoKafkaCluster",
  ...
}
```

Tip: The cluster ID (e.g., `lkc-abc123`) is unique and will be needed for future configurations.

5. Set the Active Kafka Cluster

Use the following command to specify your active Kafka cluster:

```
confluent kafka cluster use <cluster-id>
```

- Replace `<cluster-id>` with the ID of your cluster.
- Example Output:

```
Set Kafka cluster lkc-abc123 as the active cluster for the current environment.
```

6. Generate API Key and Secret

To authenticate with your Kafka cluster programmatically, generate an API key and secret:

```
confluent api-key create --resource <cluster-id> --description "<description>"
```

- Replace `<cluster-id>` with your Kafka cluster ID.
- Add a description, e.g., "MyKafkaCredentials".

Example Command:

```
confluent api-key create --resource lkc-abc123 --description "MyKafkaCredential"
```

Example Output:

```
{  
  "api_key": "API123XYZ",  
  "api_secret": "SECRET123XYZ",  
  ...  
}
```

Store your API key and secret securely, as they are your credentials to connect to the cluster.

7. Use the API Key with Your Kafka Cluster

Finally, associate the API key with your Kafka cluster:

```
confluent api-key use <api-key> --resource <cluster-id>
```

- Replace `<api-key>` with the generated key, and `<cluster-id>` with your Kafka cluster ID.
- Example Output:

```
Using API key API123XYZ with resource lkc-abc123
```

Recap of Steps

1. **Login:** Authenticate to the Confluent Cloud with `confluent login`.
2. **Environment:** Create a cloud environment with `confluent environment create` and set it as active.
3. **Cluster:** Create and activate a Kafka cluster.
4. **API Credentials:** Generate and associate API keys for secure access to your cluster.

These steps ensure your Kafka environment is ready for action.

Tips for Success

- **Secure Your API Keys:** Treat your API keys and secrets like passwords; store them securely.
- **Explore the Documentation:** Use `confluent --help` to explore more CLI commands and options.
- **Start Small:** Test your setup with a basic Kafka topic before moving to complex operations.

Next Steps

In the next article, we'll dive into creating topics, producing messages, and consuming them using the Confluent CLI. Stay tuned for hands-on examples and best practices!

Conclusion

The Confluent CLI provides a powerful interface to manage your Kafka environment effortlessly. From logging in to creating clusters and securing access with API keys, the CLI simplifies every step of the process. With your environment ready, you can now explore Kafka's capabilities to the fullest.

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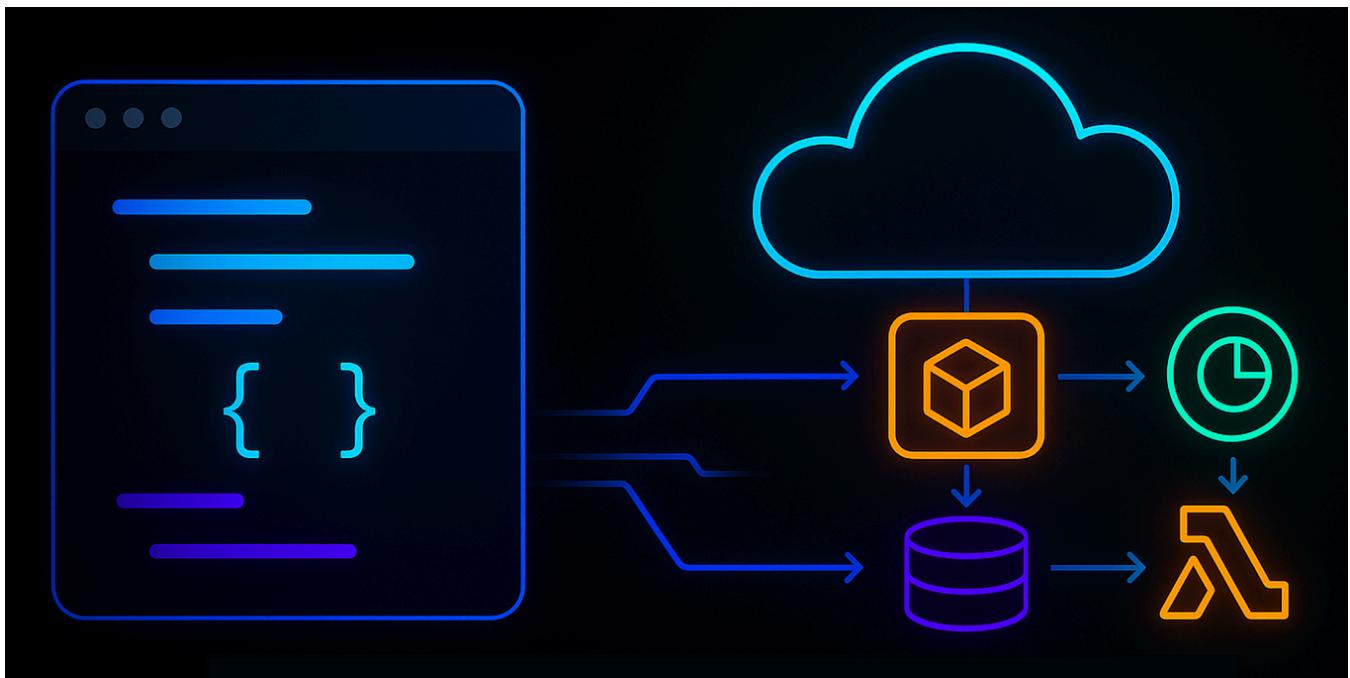
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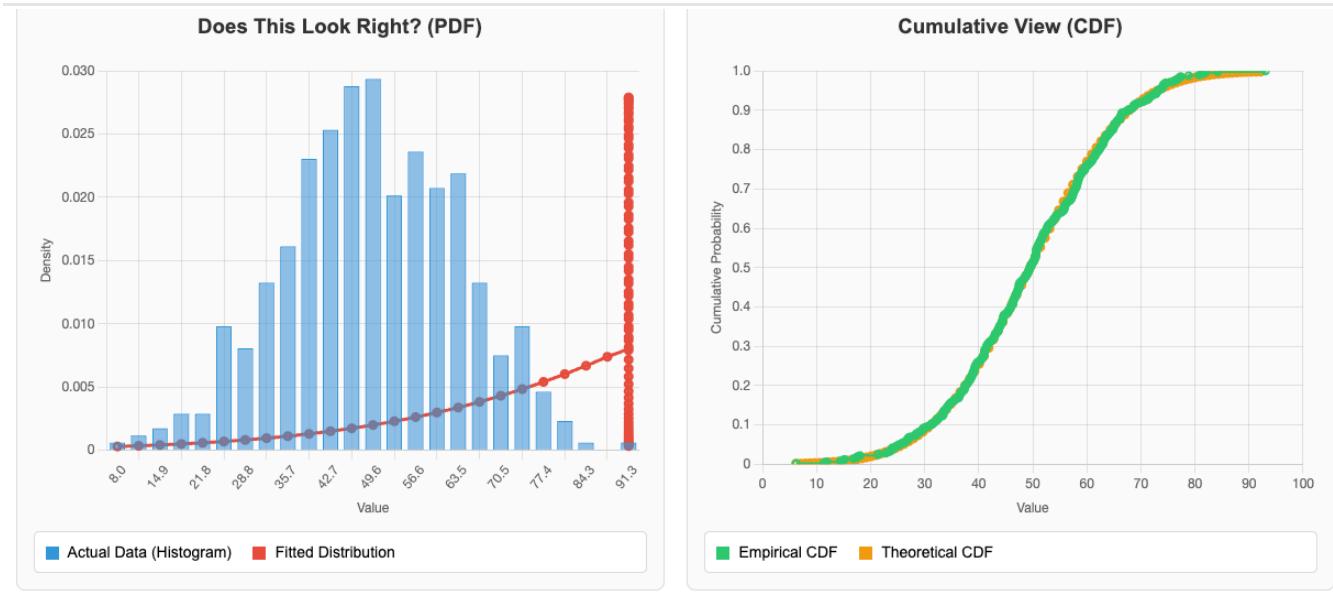
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Interpretation Tips:

- **Left Chart (PDF):** If the red line follows the blue bars closely, you have a good fit
- **Right Chart (CDF):** The closer the two lines are, the better the fit
- **I look for systematic deviations:** Consistent gaps suggest the wrong distribution type

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