Cluster and Schema Linking

Transfer data between clusters across regions

# Objectives

Learn more about cluster and schema linking and gain practical experience using these techniques.

# Labs

## Cluster Linking

Create a cluster link between your basic cluster and your dedicated cluster.

* Your dedicated cluster is only visible through your linked VPC, so you must activate your Proxy (Dynamic SOCKS 5 Proxy or other solution).
* Prepare your source cluster details
  + Go to your basic cluster and create a “My Account” API Key and secret.
  + Note down the Cluster ID from the Identification panel
  + Note down the Bootstrap server from the Endpoints panel
* Access the cluster linking panel by clicking on the left-hand navigation entry below the Home Symbol.
* Click on “+ Create cluster link”
* We want to link between a basic cluster and your dedicated cluster. Although both clusters are in the same organisation, you must choose “in another org” for your source cluster for this exercise.
  + Enter your source information and press continue
  + Choose your dedicated cluster in the “Create cluster link” page
  + Pick a configuration of your choice. You can enable auto-mirroring for all topics, or specific topics, and add a prefix if you prefer.
  + Name the link.
  + Once the link is running, you can pick topics to mirror. If you choose auto-mirroring, all topics captured by your filter will eventually be mirrored, but it will take a few minutes for the link to appear.
  + Since your basic cluster still runs one or more datagen generators, you should have some data being mirrored. Verify with a consumer (UI or otherwise) that this is the case.
* Stop and delete the link again.
  + In the link configuration panel, disable the automatic mirroring.
  + In the target cluster, remove all mirrored topics.
  + You can now remove the cluster link.

## Schema Linking

Create a schema link between two environments. You might have to create an additional environment and set another (Essentials)

* Follow the instructions in the [Quickstart](https://docs.confluent.io/cloud/current/sr/schema-linking.html#quick-start). You will need the confluent CLI for this exercise.
* Use curl or a similar command to investigate schemas, subjects and contexts of source and destination schema registry.
* Once you have completed the labs with the cluster and schema linking labs, you can delete your dedicated cluster. You will no longer need this cluster for the rest of the bootcamp - and it constantly uses credits from your account.

# References

[Cluster Linking Overview](https://docs.confluent.io/cloud/current/multi-cloud/overview.html)

[Schema Linking](https://docs.confluent.io/cloud/current/sr/schema-linking.html#schema-linking-on-ccloud)

# Expected Outcomes

Create and maintain a cluster link between two clusters within your organisation.

Create and test a schema link between the schema registries of two environments.

# Check your understanding

This colour marks advanced questions.

* What is a schema context?
* How do you access the schema of a particular context?
* What is the purpose of an automatic topic mirroring?
* When would you not use automatic topic mirroring?

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