

## Objectives

- Backend: Data stores
  - PostgreSQL in practice

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## Review

- What data storage/search mechanisms have we talked about so far?
  - How do we access them?
  - What can we do with them?
  - What are their relative strengths and limitations?
- What is a REST API?
  - How do we use it?

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## Comparing Relational Databases and Elasticsearch

Operation	SQL	Elasticsearch
Interface	SQL interactive interface	REST API
Connectors	JDBC, ODBC, ...	Clients for many programming languages

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## CRUD Operations Comparison

Operation	SQL	Elasticsearch
Create	INSERT INTO	
Read	SELECT	
Update	UPDATE	
Delete	DELETE FROM	

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## CRUD Operations Comparison

Operation	SQL	Elasticsearch
Create	INSERT INTO	PUT
Read	SELECT	GET
Update	UPDATE	PUT
Delete	DELETE FROM	DELETE

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## Review: Docker and SQL

- Docker:
  - What is a container? What is an image?
  - How do I
    - Build an image (what options are available?)
    - Run a container (what options are available?)
- SQL: How do I
  - Query for information (what options are available?)
  - Insert information?
  - Update information?
  - Delete information?

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## In Class Exercise

- How PostgreSQL's Docker image works

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