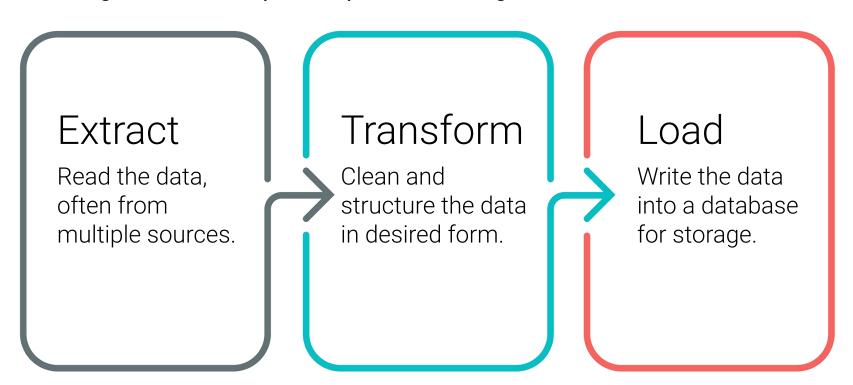


## **ETL**

Data integration is an important part of working with data.



2

## **Extract**

Data may come from disparate sources, such as:

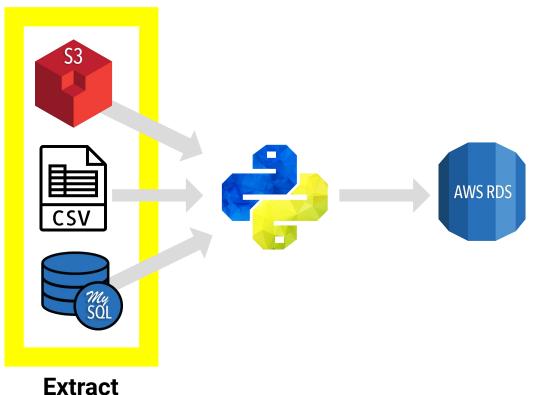
CSV files

JSON files

HTML tables

SQL databases

Spreadsheets



## **Transform**

Transform the data to suit business needs.

This may include:

**Data Cleaning** 

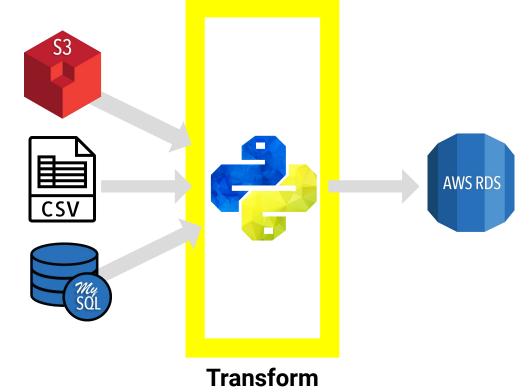
Summarization

Selection

Joining

Filtering

Aggregating





**Note:** We will use Python and pandas for transformation, which can also be done with SQL or a specialized ETL tool.

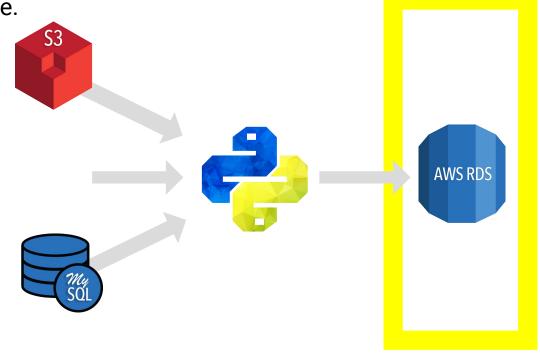
## Load

Load the data into a final database that can be used for future analysis or business use.

Can be a relational or non-relational database

Can be local or in the cloud

Can be a data lake or data warehouse



Load

