COVID-19 in Australia

Data Engineer - Challenge

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The Challenge

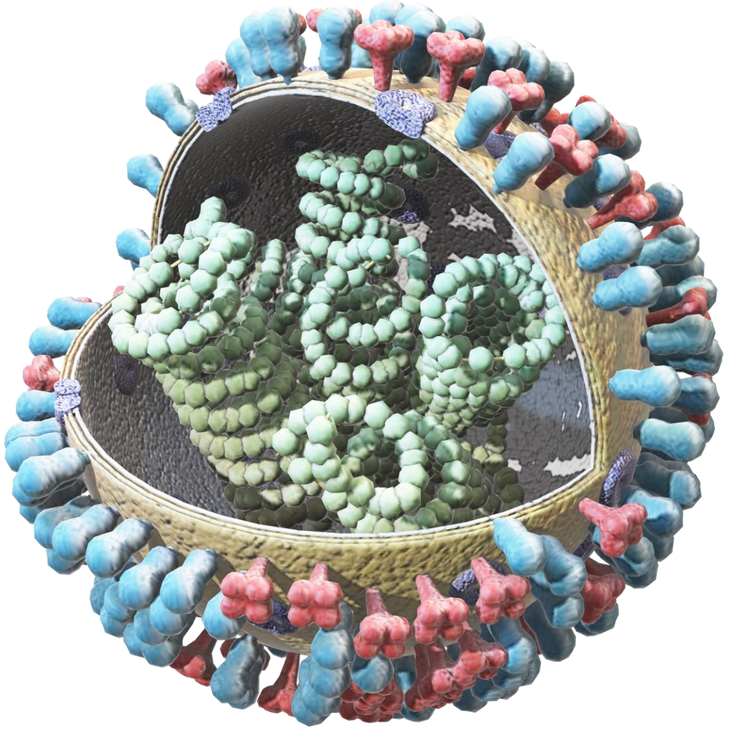
Challenge - Overview

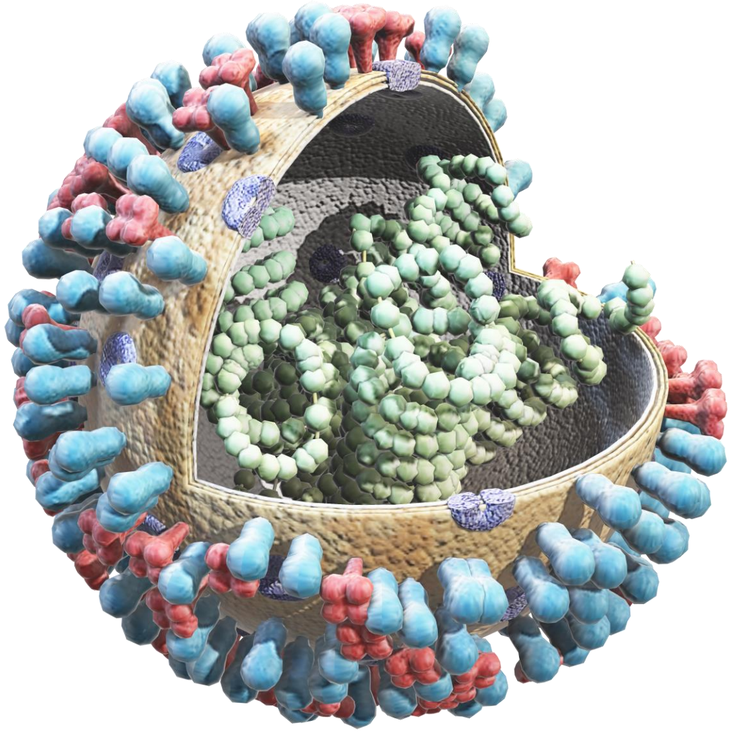
1. Start a new repository on Github for this challenge. Commit early and often, so we can see your thought process.
2. Using a language of your choice, build an opensource ETL or ELT application to:
    a. Connect to the COVID API `"https://api.covid19api.com/"`
    b. Retrieve data from the relevant API endpoint to give insights into the Australian Covid situation
    c. Be able to retrieve delta changes
    d. Be able to refresh all data periodically
    e. Store snapshots of the data
    f. Be able to explain your thought process for your design and choice of ETL vs ELT of solution as well as what elements you would need to still build to make the application production-ready.
3. Using a BI tool of your choice provide meaningful insights into the data

The Problem

Analyse the COVID-19 situation in Australia

1. Purpose of the dashboard?
    - High level overview of the COVID-19 virus across Australia
2. What are we measuring?
    - Number of cases and deaths over time across the different states
3. What decisions are we taking?
    - None, this is just analysis. We aren't going to forecast on this either
4. Future Plans?
    - More Sources? Yes
    - More Areas? Maybe
    - More Details? Possibly





The Problem

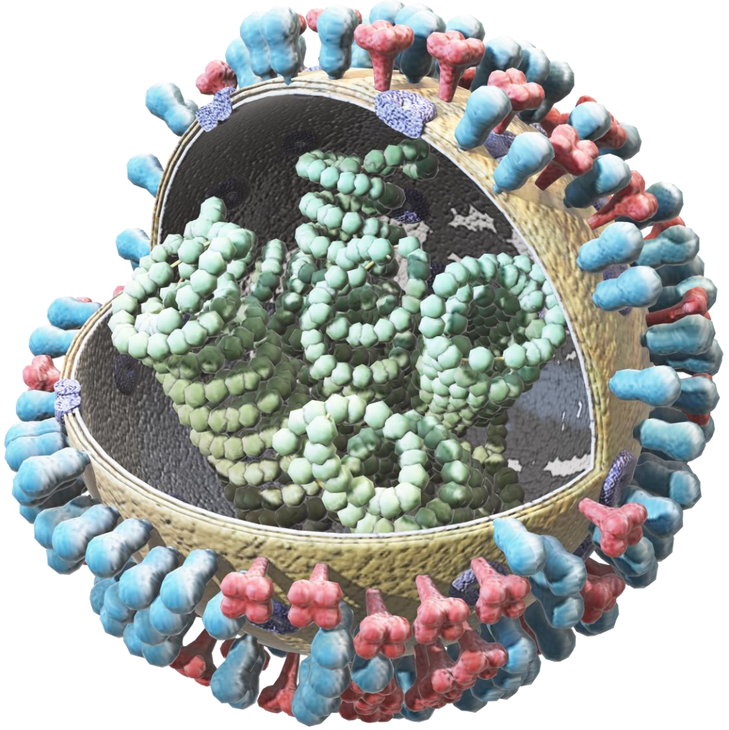
Technical Requirements

1. Using a language of your choice, build an opensource ETL or ELT application to:
   - Using the COVID API "https://api.covid19api.com/" , retrieve data from the relevant API endpoint to give insights into the Australian Covid situation
   - Be able to retrieve delta changes
   - Be able to refresh all data periodically
   - Store snapshots of the data
2. Using a BI tool of your choice provide meaningful insights into the data

The Design

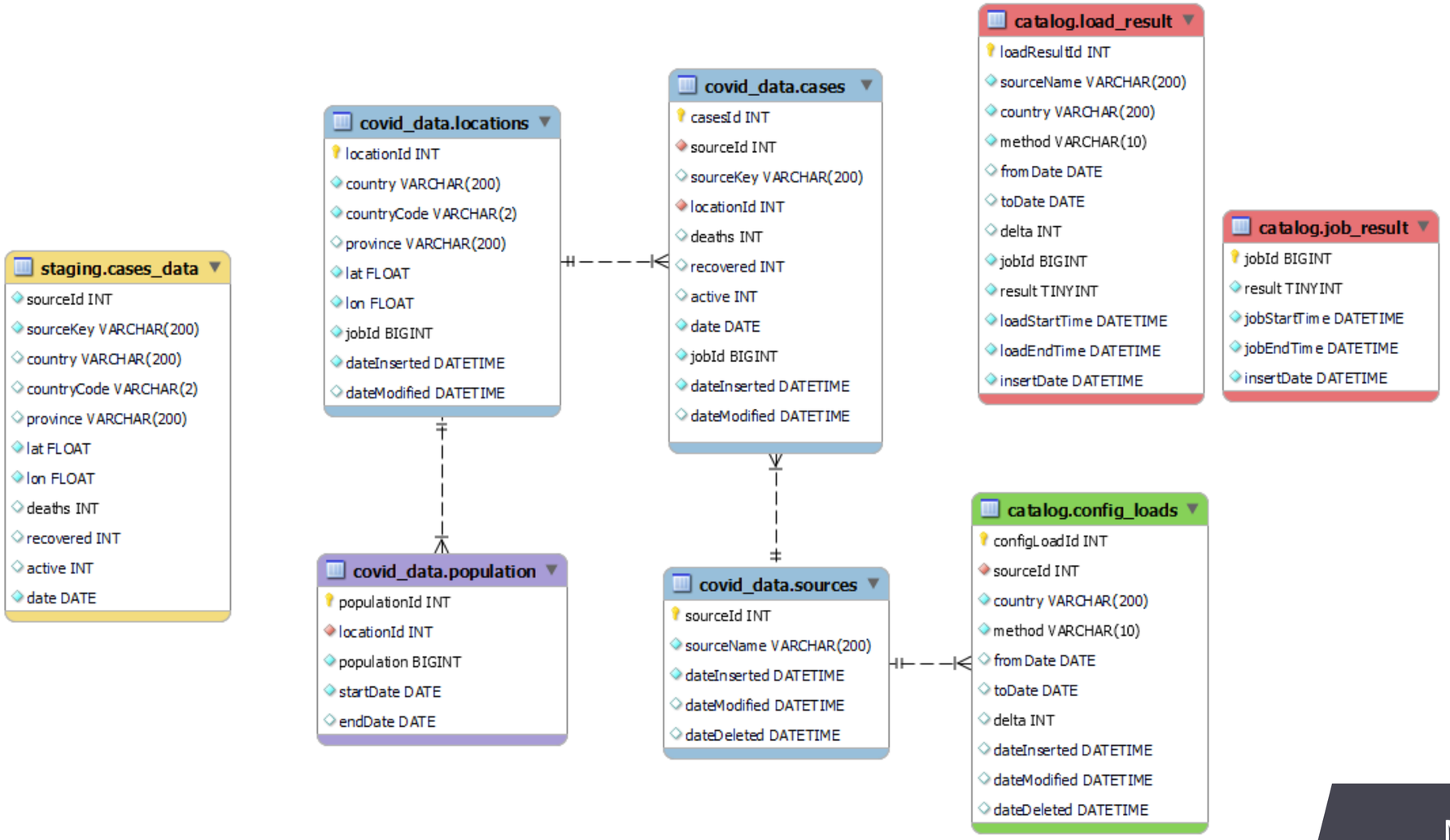
Design Choices

1. Language
    - Python
2. Database
    - MySQL
3. ETL vs ELT
4. Deployment Architecture
5. BI Tool



The Design

Database



The Design

Data Pipeline