Course 2 (Week 2)

Data Acquisition and Cleaning

Lecture 1: Data Acquisition: Understanding data sources, using SQL and APIs.

What’s the most random fact you know?

Skills Covered

- Identifying and working with different data types and sources.
- Converting and handling different **data formats** (CSV, JSON, XML, SQL) in Python.
- Understanding **basic SQL syntax** and structure for database creation, table management, and data retrieval.
- Learning to retrieve and manipulate data from **external APIs** using Python.
- Familiarity with practical applications of data acquisition in real-world scenarios.
- Applying data acquisition techniques to manage and analyze data from various sources.

Objectives for today

- Different types of data (structured, semi-structured, unstructured) and data sources.
- Explain how to work with various data formats, including CSV, JSON, XML, and SQL.
- Fundamentals of SQLite and mySQL
- Data acquisition with APIs and acquire real-time data.

Learning Outcomes

- Have a solid understanding of different types of data and the sources from which they can be acquired.
- Be able to create, manage, and retrieve data from databases using SQL.
- Understand how to interact with APIs using Python and acquire data in JSON format.
- Be proficient in converting data from APIs into DataFrames for analysis in Python.
- Be familiar with key data formats (CSV, JSON, XML) and know how to handle them within Python.
- Gain hands-on experience in using SQL and APIs to collect and manipulate data in a structured manner.

Data Sources, Types, and Methods of Acquiring Data

Sections

Section 1

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Let’s go to the JN

Basics of SQL for Data Acquisition

Sections

Section 1

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Using APIs for Data Acquisition

Sections

Section 1

Section 2

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Section 5

Create a small script to gather weather data

Key highlights

That’s a wrap

Any Questions?

Bibliography

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