CrateDB

CrateDB for Python Developers

An Evening of Python Coding

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CrateDB is a **hyper-fast open source database** for **real-time analytics** and **hybrid search**.
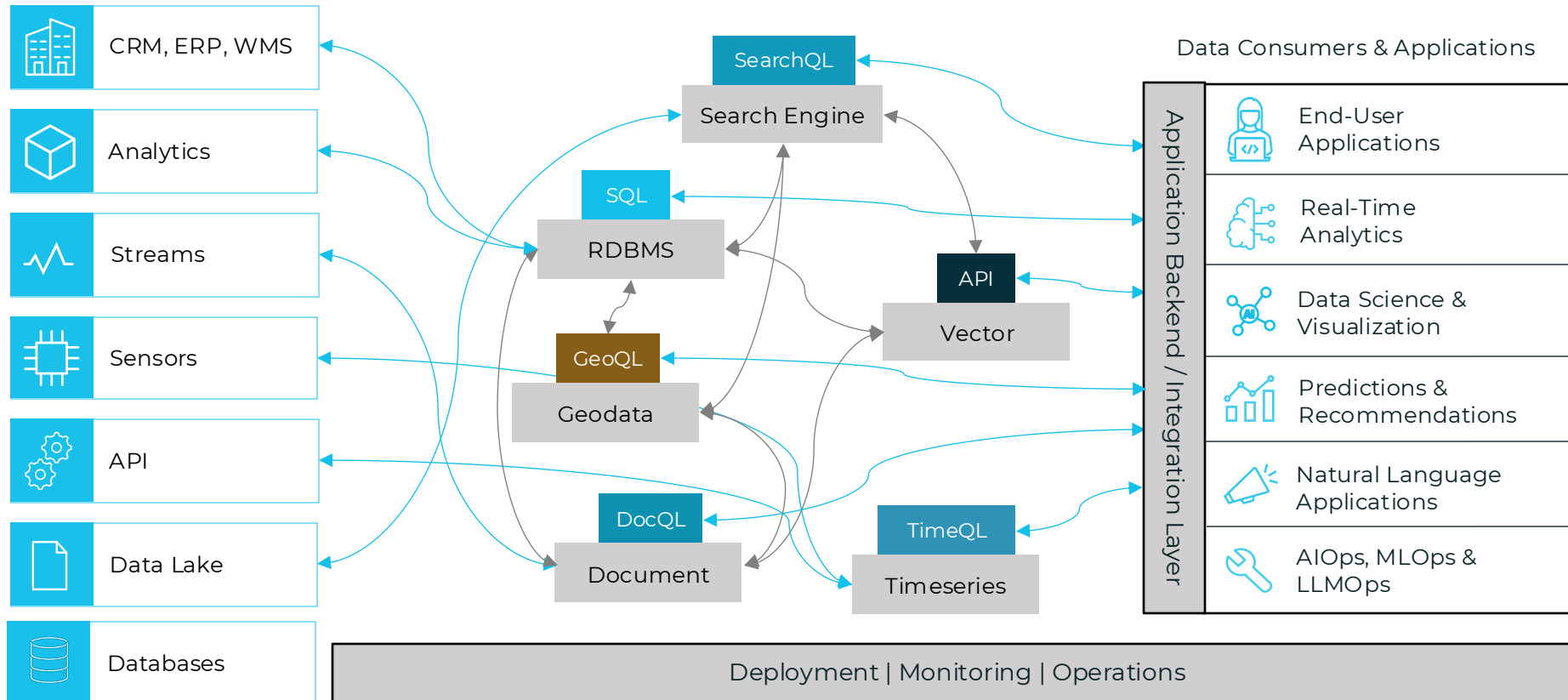
CrateDB

What is CrateDB?

- Store structured, semi-structured, unstructured data

- **Dynamic, flexible schemas**

- **Advanced Indexing**

- Standard SQL query interface, Postgres wire compatible

- High volume concurrent reads and writes

CrateDB

Today's Data Challenge

Taking advantage of data is complex, time consuming and costly

CRM, ERP, WMS

Analytics

Streams

Sensors

API

Data Lake

Databases

SearchQL

Search Engine

SQL

RDBMS

GeoQL

Geodata

API

Vector

DocQL

Document

TimeQL

Timeseries

Data Consumers & Applications

Application Backend / Integration Layer

End-User Applications

Real-Time Analytics

Data Science & Visualization

Predictions & Recommendations

Natural Language Applications

AIOps, MLOps & LLMOps

Deployment | Monitoring | Operations
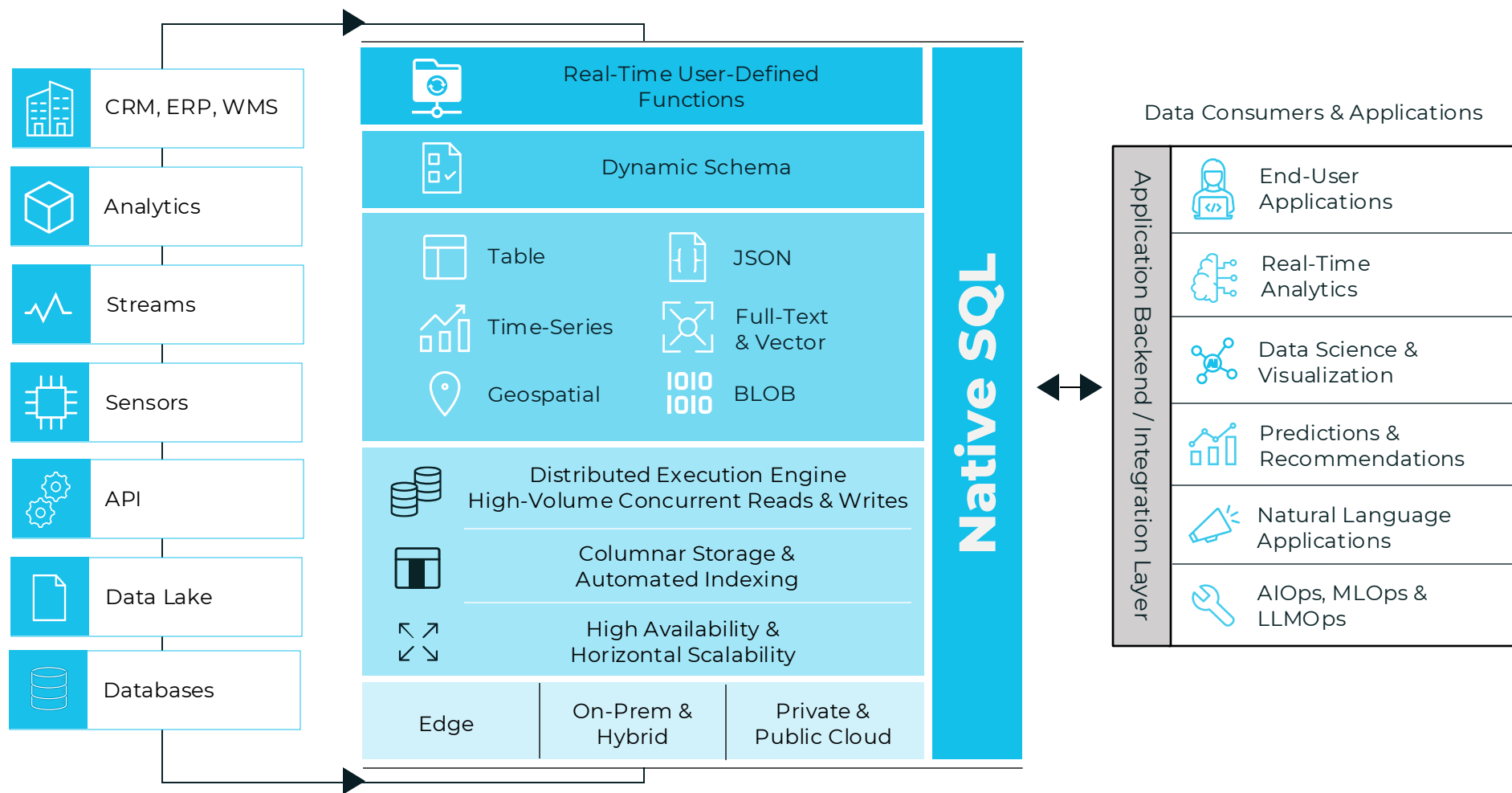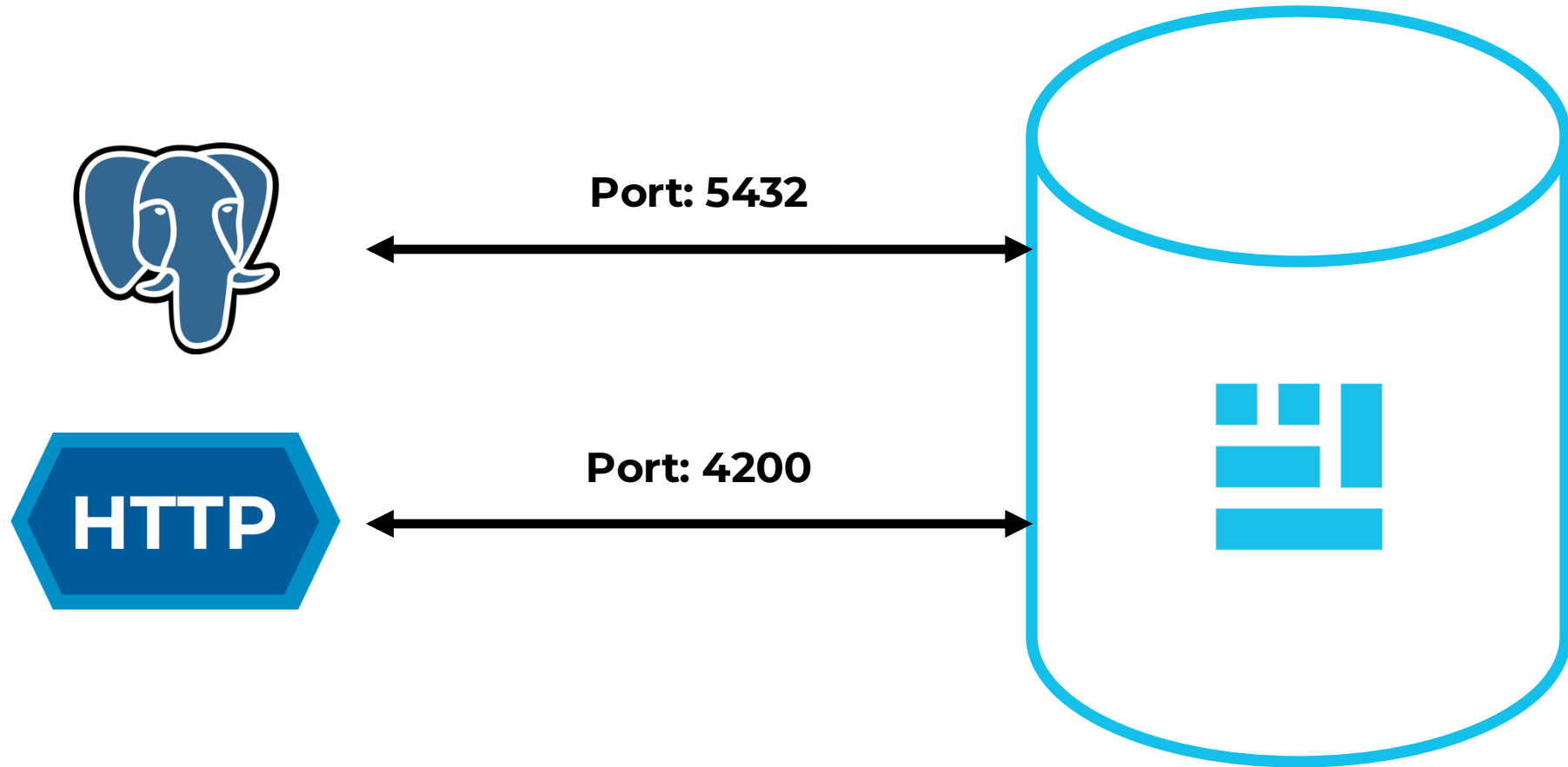
Efforts

People:

Time:

Money:

How CrateDB solves these Challenges

Unified representation of all types of data – natively supported, accessible via SQL, indexed for you
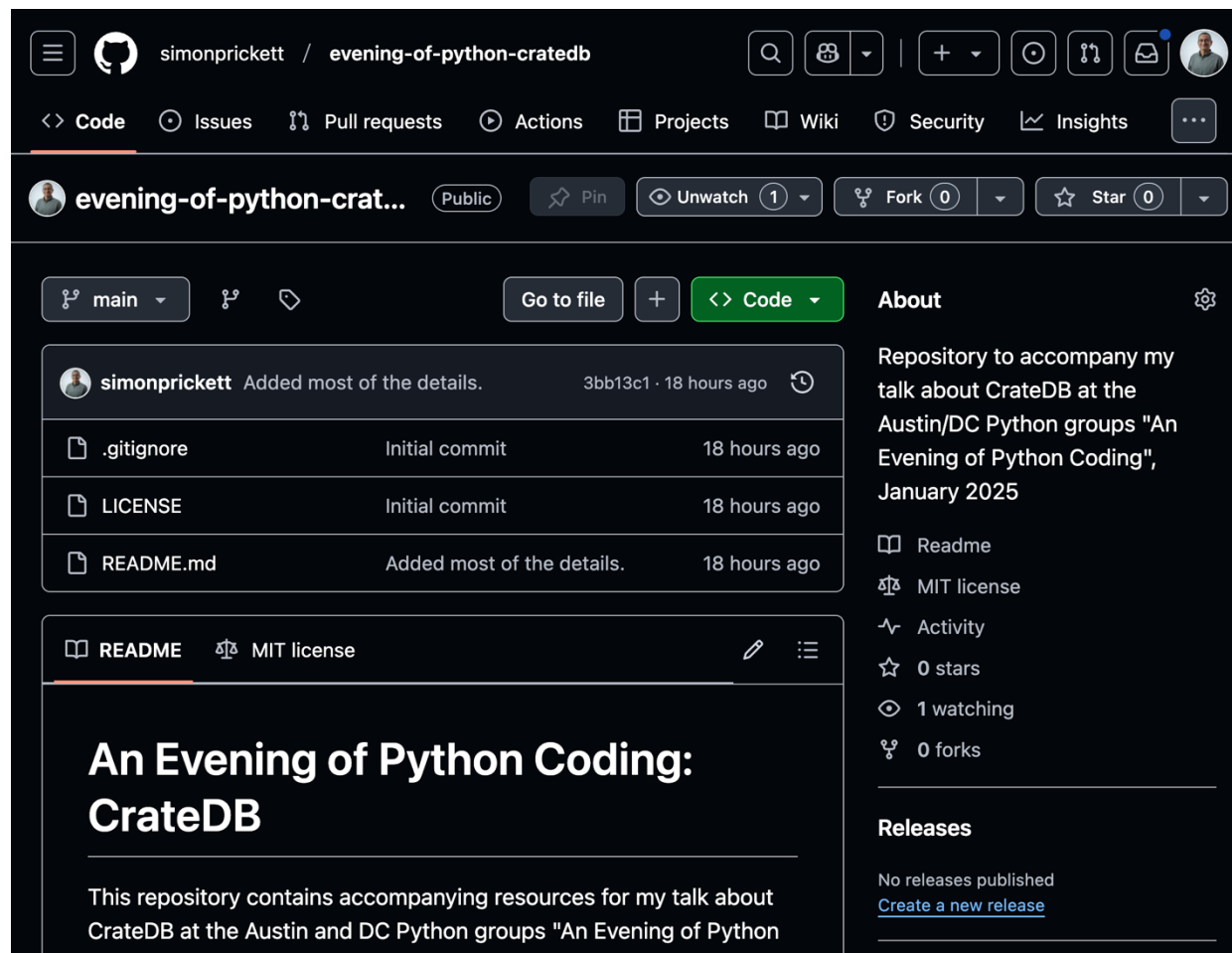
Data Sources (left column)
- CRM, ERP, WMS
- Analytics
- Streams
- Sensors
- API
- Data Lake
- Databases

Native SQL (center)

Real-Time User-Defined Functions

Dynamic Schema

- Table
- JSON
- Time-Series
- Full-Text & Vector
- Geospatial
- BLOB

Distributed Execution Engine
High-Volume Concurrent Reads & Writes

Columnar Storage & Automated Indexing

High Availability & Horizontal Scalability

| Edge | On-Prem & Hybrid | Private & Public Cloud |

Data Consumers & Applications

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CrateDB

Client Interfaces

Port: 5432

Port: 4200

HTTP

Examples and Resources: GitHub Repository

github.com/simonprickett/evening-of-python-cratedb

Chicago City Data: Jupyter / SQLAlchemy Examples
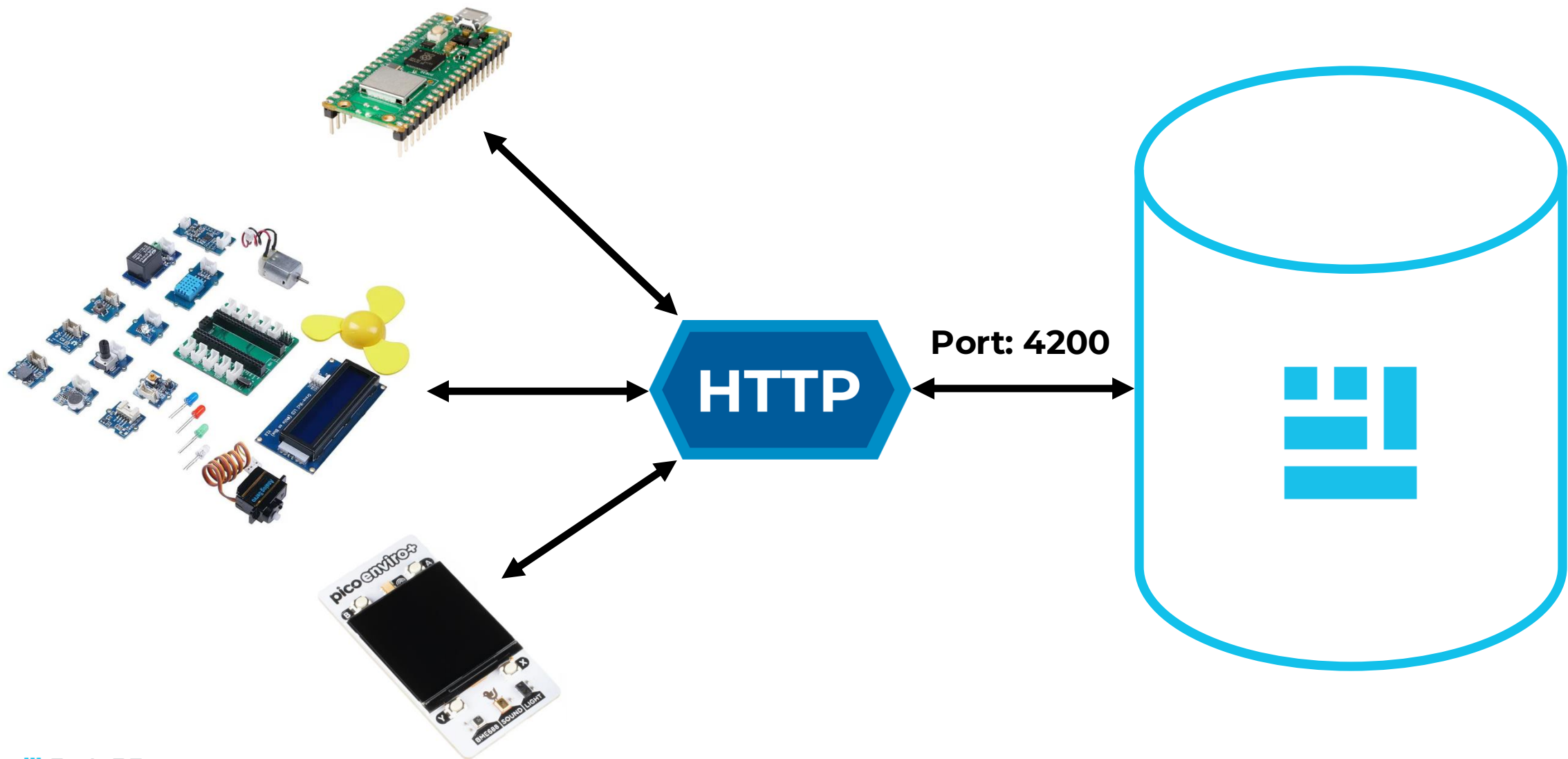
Offshore Wind Farms Data: Python/Flask Example

Collecting Sensor Data with MicroPython

Port: 4200

CrateDB

cratedb.com/academy