# Time-Series Forecasting With TimescaleDB and Prophet

This project combines the robust storage capabilities of TimescaleDB with the predictive power of Prophet for effective time-series forecasting. By leveraging TimescaleDB, users can efficiently store and manage large time-series datasets, while Prophet allows for accurate forecasting with its intuitive and powerful modeling capabilities.

## Installation

* Setting Up TimescaleDB
* Install PostgreSQL and create a database.
* Create a Timescale Instance.
* Create a table named sales and convert it into Hypertable. For more details go through this [TimescaleDB tutorial](https://docs.timescale.com/use-timescale/latest/hypertables/).
* Populate the table with the given data. For more details, check out the [documentation](https://docs.timescale.com/use-timescale/latest/write-data/insert/) for adding data into hyper tables.

## Setting Up Python Environment

* Ensure Python 3.8 or newer is installed on your system.
* Navigate to the project directory and install the required Python libraries.

## Usage

## Preparing Your Dataset

* Import your time-series data into TimescaleDB. Ensure your data is in a suitable format for time-series analysis.
* Create a hypertable for your dataset using TimescaleDB to enable efficient querying.

## Forecasting with Prophet

* Use the provided Python scripts to extract data from TimescaleDB.
* Run the sales prediction scripts to make predictions on your time-series data.
* Visualize the data using Plotly to aggregate for different Time zones.