

Project Goal

 Create an interactive web-application that utilizes machine learning to predict stock prices based on historical prices for NASDAQ 100 stocks.

Project Dependencies



HTML/CSS/ BOOTSTRAP



PYTHON PANDAS



MONGODB



JAVASCRIPT



SCIKIT-LEA RN



AWS

MACHINE LEARNING WALKTHROUGH

Key Endpoints







TWITTER API



MONGODB

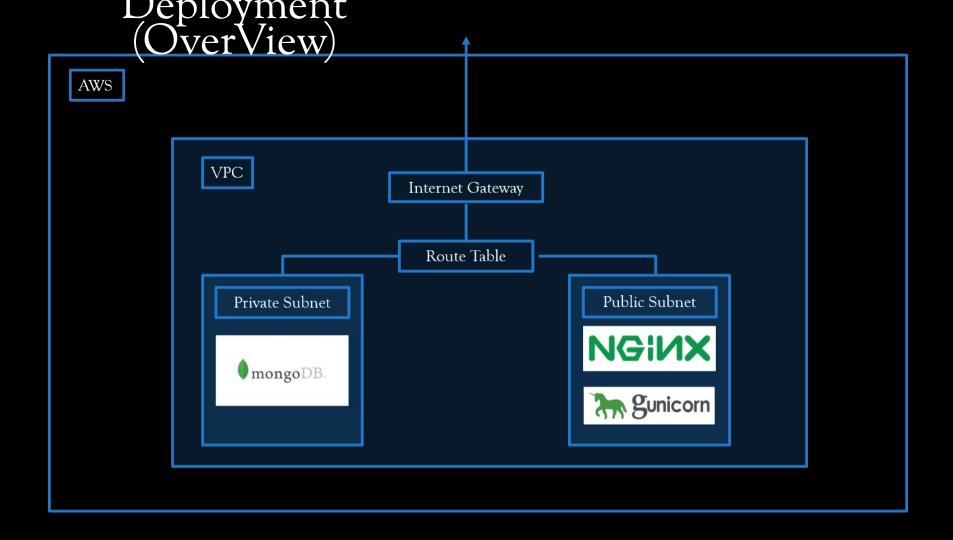
ETL to MongoDB

```
# Set variable for current date to gather specific date range
current_date = date.today()
print(f"Current_date is: {current_date}")
# Set variables for six months range using relativedelta -6 months
six_months = current_date + relativedelta(months=-6)
print(f"Six month range date is: {six_months}")
# Set variable for one year range using relativedelta -12 months
one_year = current_date + relativedelta(months=-12)
print(f"One year range date is: {one_year}")
```

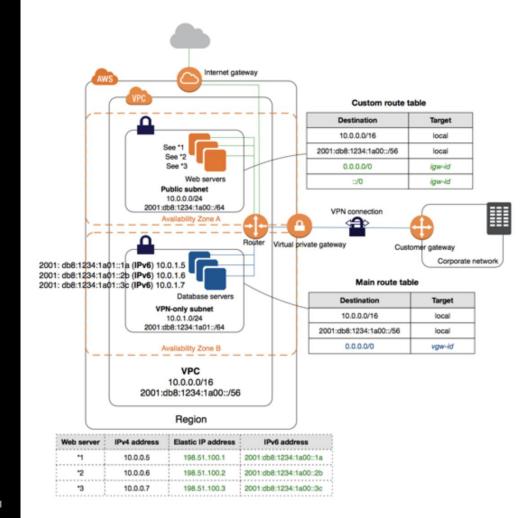
```
# Note: reverse needs to =False since ojects are already in descending order
# *this is key for it to work*
reversing_order = sorted(historical_data, key=lambda x: x['date'], reverse=False)
```

FLASK

```
@app.route('/all')
def read_all():
   users = mongo.db.six months.find()
   output = {'All': []}
    # cycle through users
    for user in users:
        symbol = user['symbol']
        historical = user['historical']
        predictions = user['prediction']
        # put symbol in symbol
        out_one = {'symbol': symbol, 'historical': [], 'prediction': []}
        # cycle through historical to extract data
        for h in historical:
            # append formatted data to output
            out_one['historical'].append(h)
        # cycle through predictions to extract data
        for p in predictions:
            # append formatted data to output
            out one['prediction'].append(p)
        output['All'].append(out one)
    # print(output)
    return output
```



Deployment (IP address)

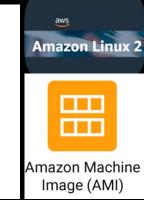


MongoDB on



SSH + KeyPair + IP address







MongoDump

MongoRestore





https://uci-project3. herokuapp.com/

LIVE DEMO

https://uci-project3.herokuapp.com/

POSTMORTEM



Decision for AWS



API vs. MongoDB



Twitter Sentiment Trap

</Questions?>