# Git repo url

<https://github.com/xinyicheng1998/cs6650/tree/main/hw1>

# Client Design

## Client1

**Main1**: serves as an entry point for testing the performance of HTTP requests to specified server addresses.

**ClientThread**: implements the Runnable interface, simulating a client's behavior by initiating a sequence of HTTP POST and GET requests to a specified server address.

**CallAPIs**: facilitates interaction with an external web service, providing methods to perform HTTP POST and GET requests.

A screenshot of a computer

Description automatically generated

## Client2

**Main2**: start the program, using different params of threadGroupSize, numThreadGroups, delay (seconds), and IPAddr.

**RequestLog**: log entry capturing details of a client's interaction with an API, including the start time, request type (such as POST or GET), latency, and the resulting response code

**ClientThread**: a runnable implementation that simulates a client's interaction with a server by making a series of API calls. For each call, it logs the request type, timing, and response code, storing these logs both locally for the thread and in a shared collection for all threads.

**WriteCSV**: provides utility functions to write a list of RequestLog entries to a CSV file.

**CallAPIs**: provides utility functions for interacting with external web services using HTTP POST and GET methods

**Statistics**: provides utility functions to calculate and display statistical metrics about the response times of a series of web service requests.

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# Client 1

See in ./client

## ­Screenshots

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Figure 1: java\_aws\_10\_10\_2

A screenshot of a computer

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Figure 2: java\_aws\_10\_20\_2

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Figure 3: java\_aws\_10\_30\_2

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Figure 4: go\_aws\_10\_10\_2

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Figure 5: go\_aws\_10\_20\_2

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Figure 6: go\_aws\_10\_30\_2

## Plot

x-axis: numThreadGroups

y-axis: throughput = numOfRequests per second

# Client2

See in ./client2

## Screenshot

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Figure 7: java\_aws\_10\_10\_2\_client2

A screenshot of a computer

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Figure 8: java\_aws\_10\_20\_2\_client2

A screenshot of a computer

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Figure 9: java\_aws\_10\_30\_2\_client2

A screenshot of a computer

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Figure 10: go\_aws\_10\_10\_2\_client2

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Figure 11: go\_aws\_10\_20\_2\_client2

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Figure 12: go\_aws\_10\_30\_2\_client2.jpg

## Plot

x-axis: numThreadGroups

y-axis: throughput = numOfRequests per second

# Comparison of client1 and client2

A screenshot of a data

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Within 5% degradation.

# Plot of average throughput of requests for the period

* x-axis values: unit is seconds, from 0 to test wall time, with intervals of one second
* y-axis values: unit is throughput/second, showing the number of requests completed in each second of the test
* plot generate file: ./get\_plot.py

A screen shot of a graph

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