DISTRIBUTED SYSTEMS

PHASE – III

REPORT

RIOT PUB SUB SYSTEM

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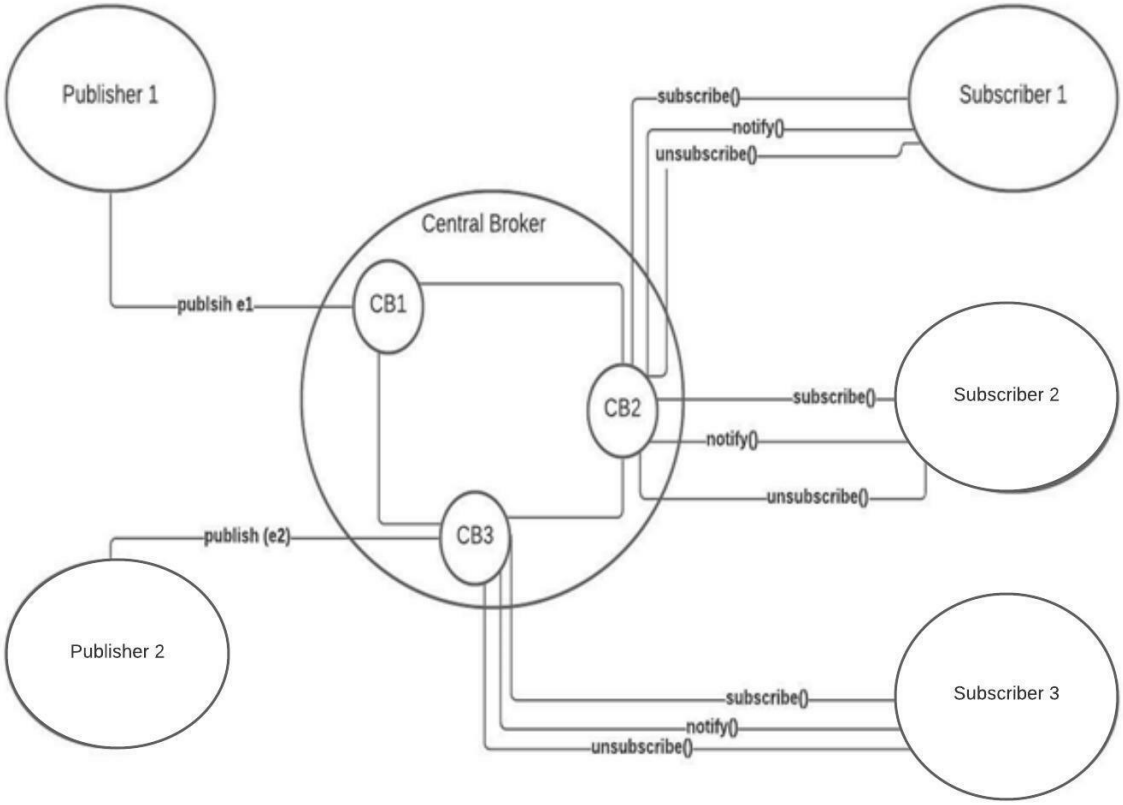
Riot Pub/Sub Diagrams:

1) **System Model:**



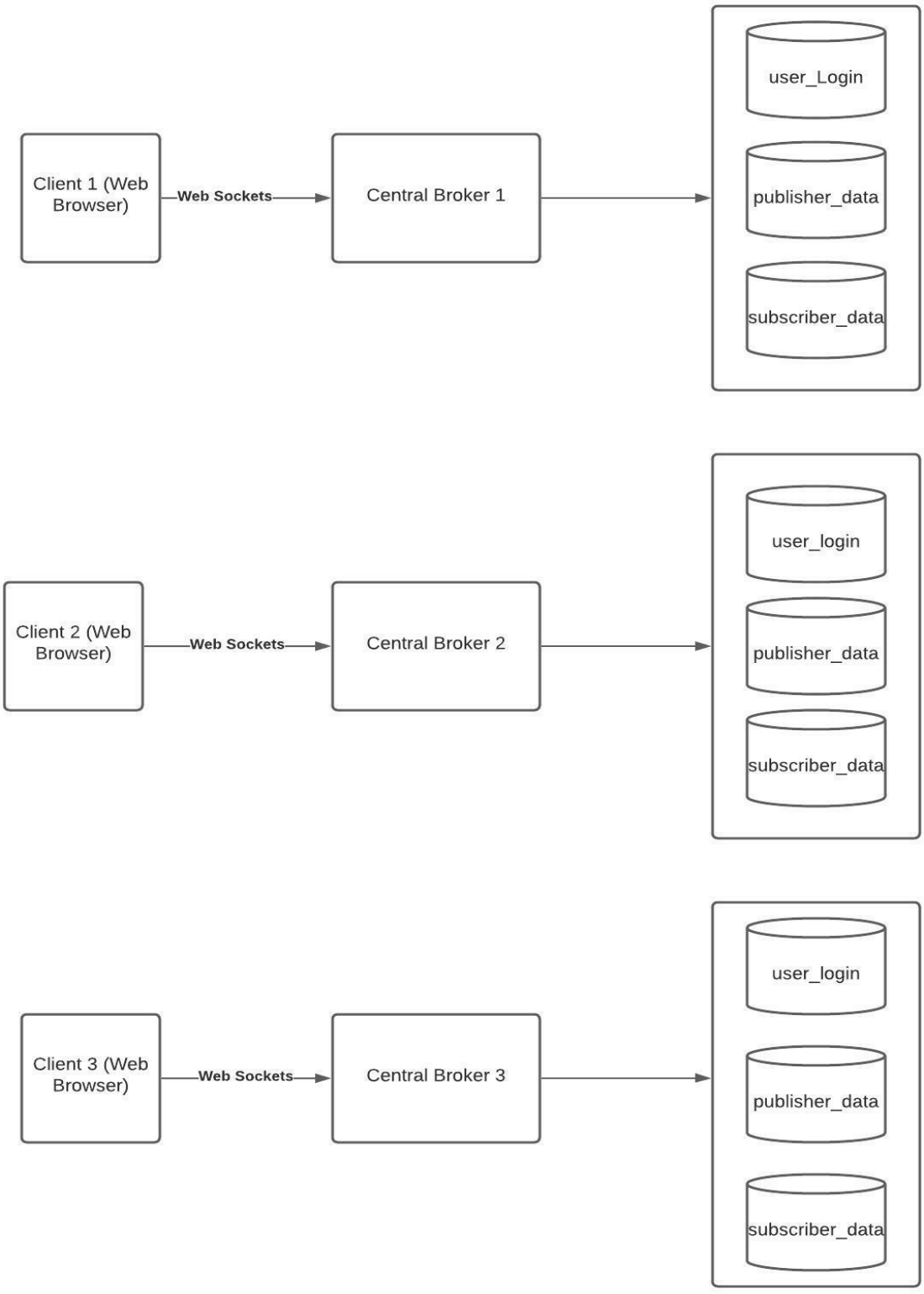
Block Diagram

CB: Central Brokers

Publisher 1: Youtube API

Publisher 2: Valorant API

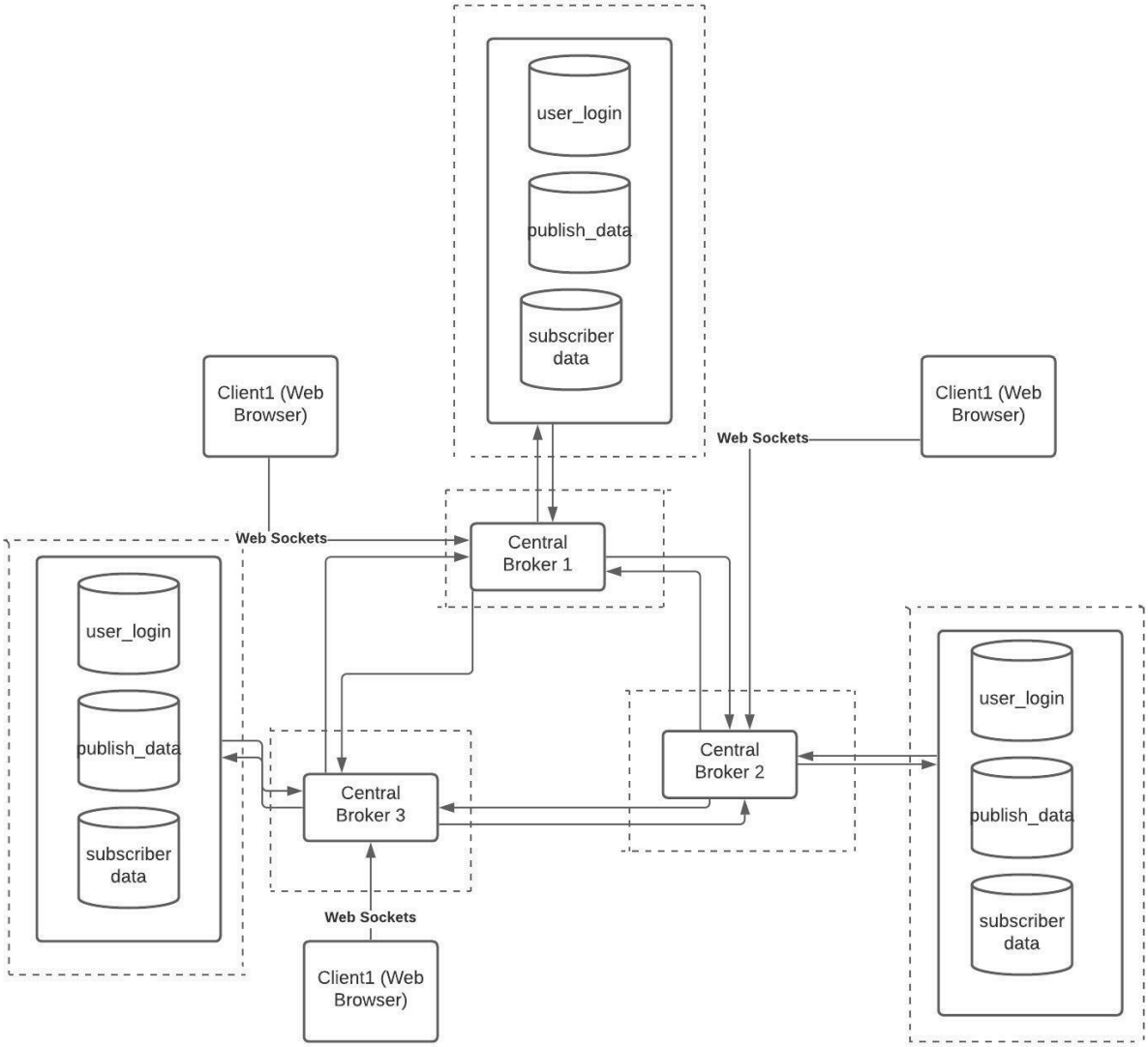
2) Central Broker Nodes Diagram:



Topics handled by Central Broker:

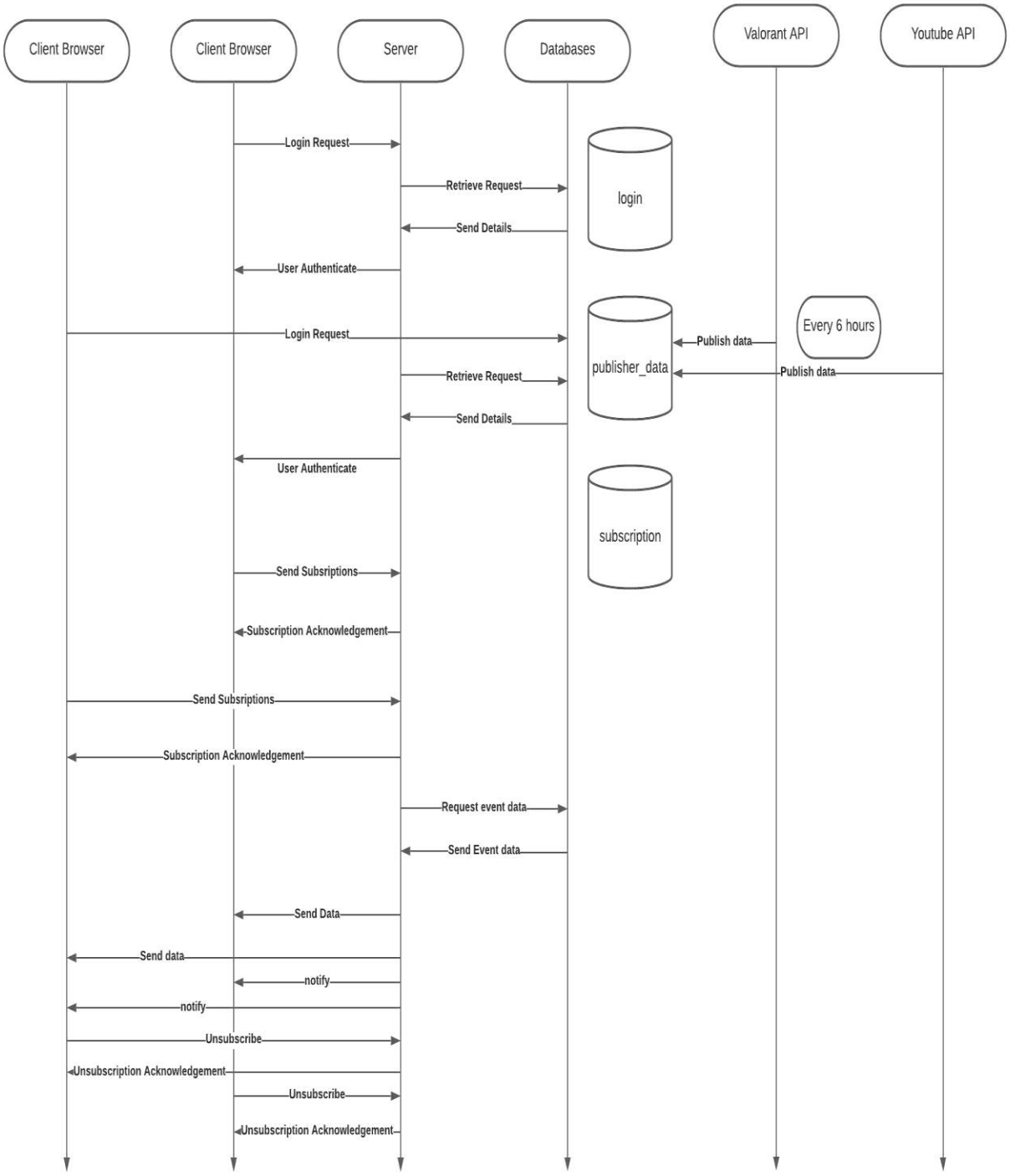
	Topic 1	Topic 2	Topic 3
Central Broker 1	SEN Tenz	TSM FTX WARDELL	100T Asuna
Central Broker 2	100T Hiko	Sen Sinatraa	SEN Sick
Central Broker 3	ShahZam	Scream	AverageJonas

3) **Docker Communication:**



Docker Communications

4) Sequence Diagram:



Project Description:

There are multiple online game news applications available on the internet. Riot PUB SUB system is implemented using a publisher-subscriber system where the game related data like Top global players are fetched and their corresponding Youtube channels data from Youtube API.

Riot PUB SUB system is using both Valorant API and Youtube API for extraction of global players and their corresponding Youtube channels information. Fetched data is then displayed on the user interface.

We have 3 databases in our system namely login, publisher_data and subscriptions.

- Login database is used to store the user login credentials.
- Publisher_data is used to store the data fetched from the API's.
- Subscription database is used to manage subscription.

Central Broker is divided into three central broker nodes which are interconnected with each other. Each central broker has their own set of databases in which all the data related to publisher events and subscribers are stored. These central brokers can directly communicate with each other.

If one subscriber of first central broker has subscribed for a particular topic for which it has publisher data, it sends notifications accordingly. If this central broker doesn't have access to this topic, then it broadcasts to all other central broker nodes and the broker node containing the topic data will send events data to the first central

broker, which eventually will be sent to the subscriber by the first central broker.

Programming Language and Frameworks:

- Python
- Flask
- MongoDB
- JQuery
- JavaScript
- Web Sockets

Contributions:

- **Prashant Kalyani: Central Brokers, Publisher, Docker Communication, Data Scraping (50 %)**
- **Siddhesh Chourasia: Publisher, Web UI, Central Broker, Report (50 %)**