Messaging System

Pedro Mendez Montejano
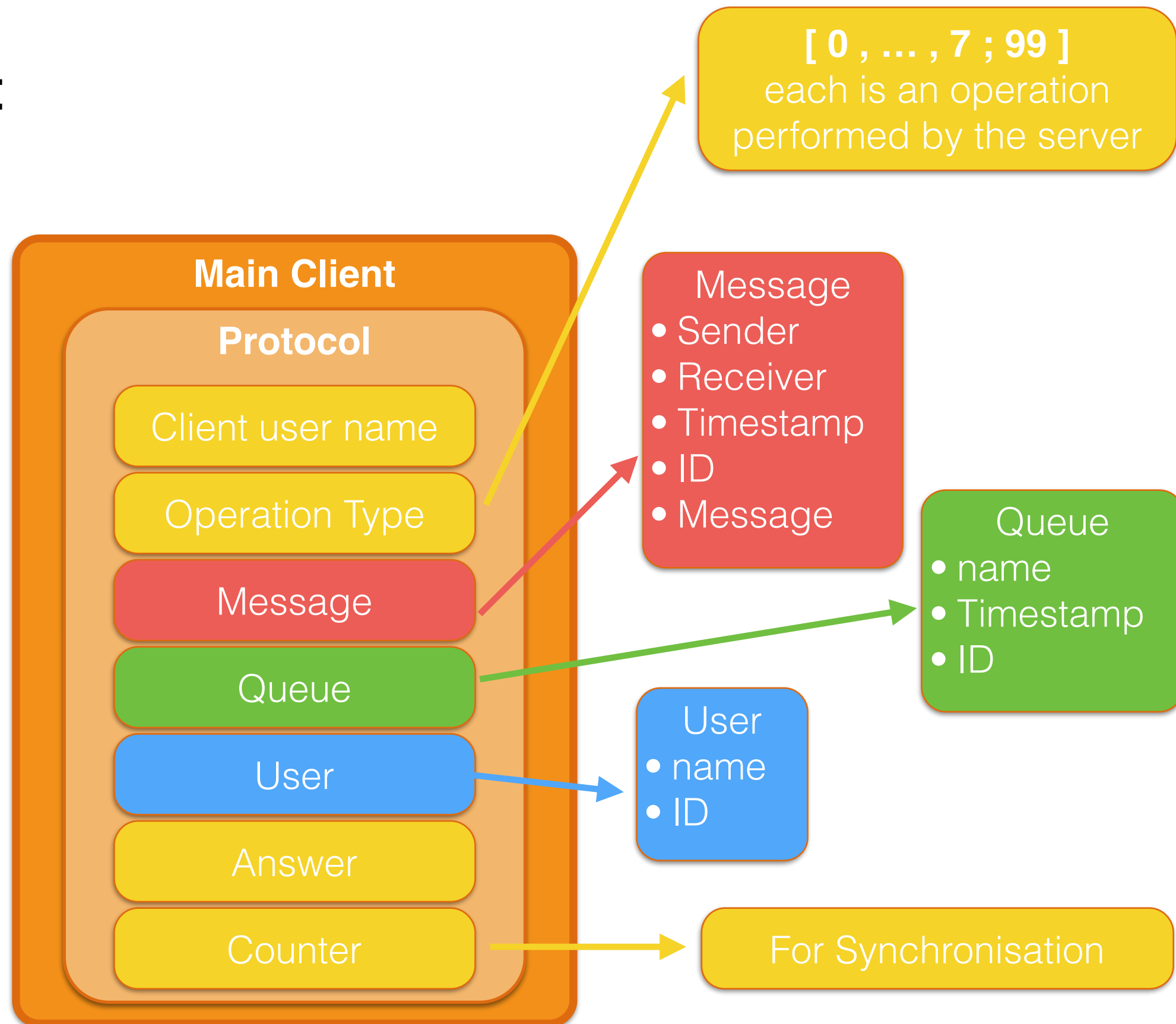
Advanced Systems Lab

01.10.2015

Middleware

Client

Main Client

Protocol

- Client user name
- Operation Type
- Message
- Queue
- User
- Answer
- Counter

[0 , … , 7 ; 99]
each is an operation performed by the server

Message
- Sender
- Receiver
- Timestamp
- ID
- Message

Queue
- name
- Timestamp
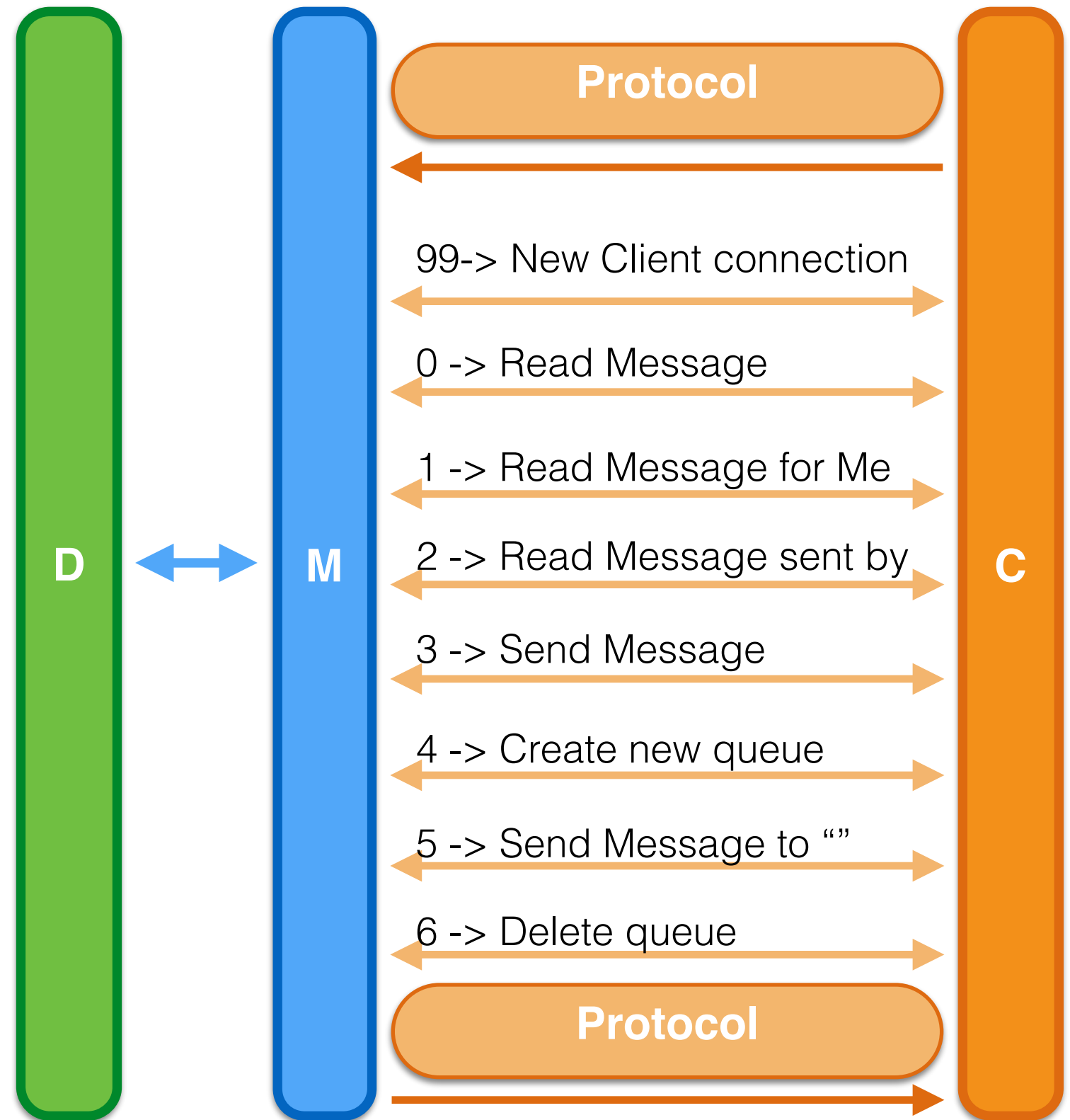- ID

User
- name
- ID

For Synchronisation
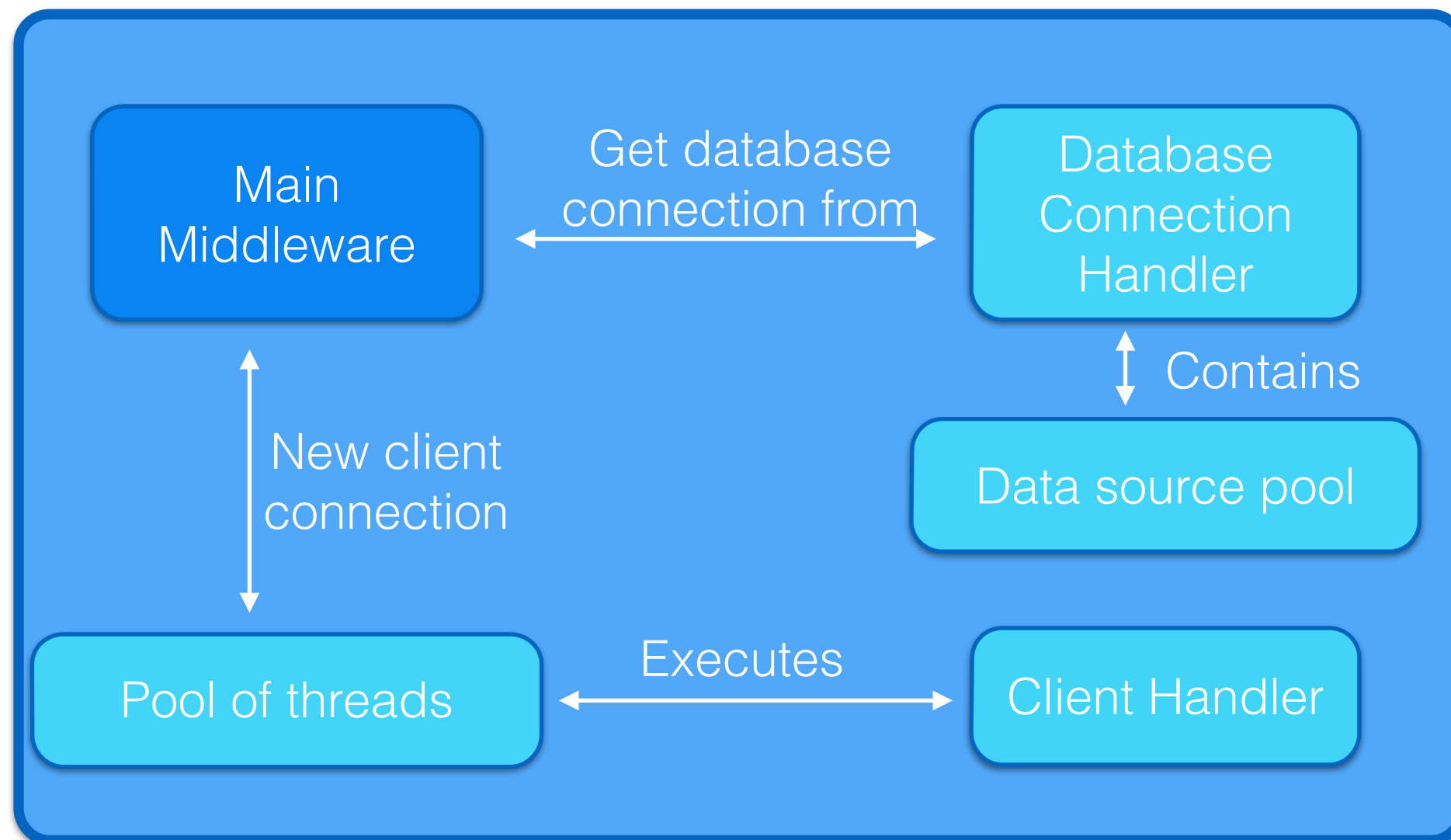
System Interaction

Granted Information in Middleware

- Database info — provided during initialisation
  - User
  - Password
  - Database
  - Address
  - # of connections for DB
- Listening Port
- # of supporting clients

Granted Information in Client

- Server address and port
- User name
- Duration of execution
- # of operation — optional
- Waiting time between operation — optional

D ⟷ **M**

C

Protocol

99-> New Client connection

0 -> Read Message

1 -> Read Message for Me

2 -> Read Message sent by

3 -> Send Message

4 -> Create new queue

5 -> Send Message to ""

6 -> Delete queue

Protocol

Database

Database Functions

- delete_messages_from_queue (queue_id)
- delete_queue(queue_name)
- delete_user(user_name)
- get_message(receiver_name)
- get_message_from(receiver_n, sender_n)
- get_queue_id(queue_name)
- get_user_id(user_name)
- insert_new_queue(name,id,tim estamp)
- insert_new_user(name,id)
- insert_new_message(messag e,sender,receiver,id,timestamp ,queue_id)

ER Diagram
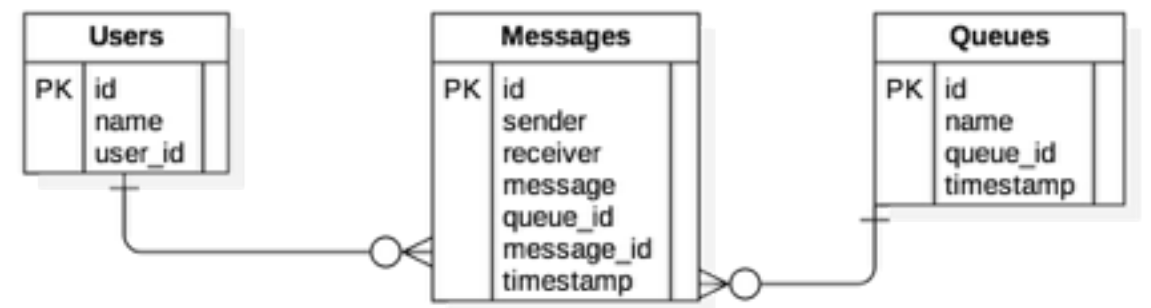
Index

- User.index_in_user_id
- Messages.index_in_queue_id
- Messages.index_in_message_id
- Messages.index_in_receiver
- Queues.index_in_queue_id