

Project 4 Part 1

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All Requirements Completed.

TO RUN:

- open 1st terminal as Server
`dotnet fsi --langversion:preview myServer.fsx`
- open 2nd terminal as Client
`dotnet fsi --langversion:preview myClient.fsx`

The commands format is as follows:

```
option+", "Ppst", "username", "pass", "dest_username", "tweetContent", "query#", "+a  
t+", "register"
```

Eg: Registering 2 users and tweeting from them

```
reg, ,user1,123, , , , ,
```

```
reg, ,user2,123, , , , ,
```

```
send, ,user1,123, ,tweet11 @Gators , , ,
```

```
send, ,user2,123, ,tweet22 #UFL , , ,
```

```
querying, ,user2,123, , , , ,
```

```
connect, ,user1,123, , , , ,
```

```
disconnect, ,user1,123, , , , ,
```

```
fsx -- dotnet - dotnet fsi --langversion:preview myServer.fsx -- 80x24
[DEBUG][12/2/2021 4:21:29 AM][Thread 0010][akka://RemoteFSharp/system/UnhandledMessageForwarder] Started (Akka.Event.LoggingBus+UnhandledMessageForwarder)
-----
Twitter Server is running...
-----
[message received] reg, ,user1,123, , , , ,
[Register] username:user1 password: 123
[Result]: Register success username: user1 password: 123
[message received] reg, ,user2,123, , , , ,
[Register] username:user2 password: 123
[Result]: Register success username: user2 password: 123
[message received] send, ,user1,123, ,tweet11 @Gators, , , ,
[send] username:user1 password: 123 tweet_content: tweet11 @Gators
[Result]: [success] sent twitter: [132828925183447450]tweet11 @Gators
[message received] send, ,user2,123, ,tweet22 #UFL, , , ,
[send] username:user2 password: 123 tweet_content: tweet22 #UFL
[Result]: [success] sent twitter: [132828925239436680]tweet22 #UFL
-----
emoteFSharp/system/log1-DefaultLogger
[DEBUG][12/2/2021 4:21:31 AM][Thread 0001][EventStream] subscribing [akka://RemoteFSharp/system/log1-DefaultLogger#325372802] to channel Akka.Event.Error
[DEBUG][12/2/2021 4:21:31 AM][Thread 0001][EventStream(RemoteFSharp)] Logger 1
[DefaultLogger] started
[DEBUG][12/2/2021 4:21:31 AM][Thread 0018][akka://RemoteFSharp/system] now subscribing
emoteFSharp/system/UnhandledMessageForwarder
[DEBUG][12/2/2021 4:21:31 AM][Thread 0001][EventStream] subscribing [akka://RemoteFSharp/system/UnhandledMessageForwarder#460675871] to channel Akka.Event.UnhandledMessage
[DEBUG][12/2/2021 4:21:31 AM][Thread 0001][EventStream(RemoteFSharp)] Standard
removed
[DEBUG][12/2/2021 4:21:31 AM][Thread 0001][EventStream] unsubscribing [akka://RemoteFSharp/system/log1-DefaultLogger#325372802] from all channels
[DEBUG][12/2/2021 4:21:31 AM][Thread 0010][akka://RemoteFSharp/system/UnhandledMessageForwarder] Started (Akka.Event.LoggingBus+UnhandledMessageForwarder)
-----
Please enter the function you want to use...
-----
reg, ,user1,123, , , , ,
[Reply]Register success username: user1 password: 123
reg, ,user2,123, , , , ,
[Reply]Register success username: user2 password: 123
send, ,user1,123, ,tweet11 @Gators, , , ,
[Reply][success] sent twitter: [132828925183447450]tweet11 @Gators
send, ,user2,123, ,tweet22 #UFL, , , ,
[Reply][success] sent twitter: [132828925239436680]tweet22 #UFL
```

```
querying, ,user2,123, , , , ,
[Reply][success] queryTweetsSubscribed
[132828925239436680]tweet22 #UFL
```

```
message received] querying, ,user2,123, , , , ,
querying] username:user2 password: 123
Result]: [success] queryTweetsSubscribed
132828925239436680]tweet22 #UFL
```

To Test:

- open a server terminal
- open the testClient as
dotnet fsi --langversion:preview testClient.fsx 100
where 100 is the number of users.

Sample Result for testing 125 users.

```
The time of register 125 users is 649.677000
The time of send 10 tweets is 1954.204100
The time of Zipf subscribe 125 users is 273.174900
The time of query 125 users is 162.883300
The time of query 125 hashtag is 141.263800
The time of query 125 mention is 148.516200
The time of 125 random operations is 161.078600
Total Result: 649.677000 1954.204100 273.174900 162.883300 141.263800 148.516200 161.078600
[DEBUG][12/2/2021 4:11:08 AM][Thread 0014][EventStream] subscribing [akka://all-systems/] to channel Akka.Event.Debug
```

Sample Result for testing 200 users.

```
The time of register 200 users is 763.130000
The time of send 10 tweets is 2991.520500
The time of Zipf subscribe 200 users is 457.945600
The time of query 200 users is 322.741700
The time of query 200 hashtag is 206.442400
The time of query 200 mention is 163.271100
The time of 200 random operations is 216.726200
Total Result: 763.130000 2991.520500 457.945600 322.741700 206.442400 163.271100
216.726200
```