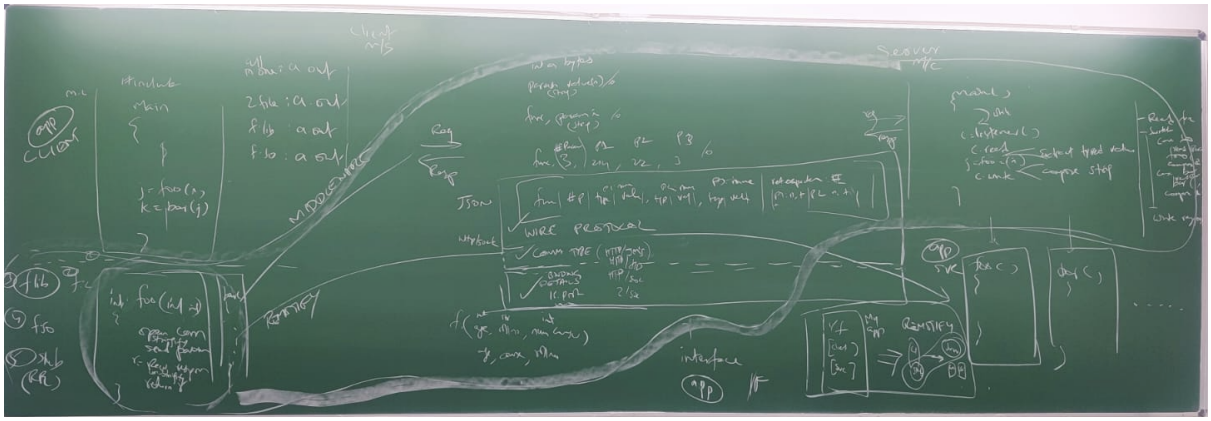
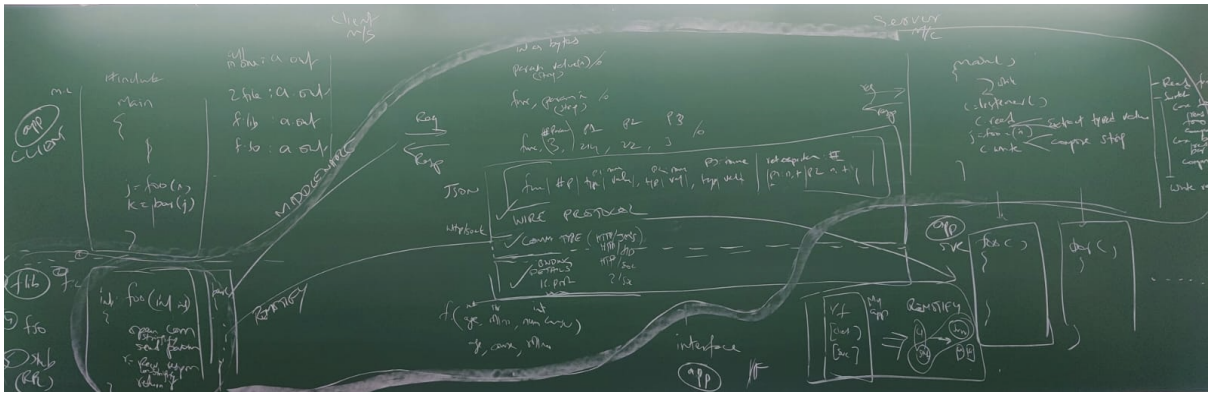
IAS - RPC (06/02)

Lecture Notes:





Assignment: RPC

Remote Procedure Call

- Build a Simple Middleware System. That allows dynamically adding a service into the system and allows accessing the service from a client program.
- Design a RPC protocol consisting of Server Stub and Client Stub, responsible to run any given function present in server machine as shared library on client side. Communication protocol should be **socket** only.
- **Flask or Any other library are not allowed.**

- Protocol should be able to adapt any generic function and these functions should be usable from client machine using import functions.

A Simple walk through:

- **You will be given following files**

  `Client.py`

  `server_precodeures.py`
  `contract.json`

- **You have to make following files**

  `code_generartor_client.py`

  - it will generate `rpc_client.py` based on contract provided to you

- `rpc_client.py`
  - Should contains client-side stub for every procedure defined in `contract.json`
- `code_generator_server.py`
  - will generate `rpc_server.py` based on contract provided to you

- `rpc_server.py`
  - Should contains server-side stub for every procedure defined in `contract.json`
  - Also generic listener which will listen the client stub request
  - Also function caller to call procedure residing in `server_precodeures.py`

Testing

- TA will run `code_generator_client.py` using following command.

```
python code_generator_client.py contract.json
```

  - This will generate the `rpc_client.py` which will have client side stubs for every procedures defined in `contract.json`

- TA will run `code_generator_server.py` using following command

```
python code_generator_server.py contract.json
```

  - This will generate the `rpc_server.py` which will have server side stubs for every procedures defined in contract.json

- TA will run following commands after that

```
Terminal 1
> python rpc_server.py

Terminal 2
> python client.py
```

Directory Structure

- All files will be put in same directory

- All files should be generated in same directory

client.py

- Will include `rpc_client.py` generated from `code_generator_client.py`

server.py

- it contains only procedure and its implementation which you will include in your `rpc_server.py` file auto generated from `code_generator_server.py`
- This will generate the `rpc_server.py` which will have client side stubs for every procedures defined in `contract.json`
- Also generic listener which will listen the client stub request
- Also function caller to call procedure residing in `server_precodeures.py`