

# Computer Networks pRj2

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## Program & Protocol Design

- All command's format

```
{
  "opcode" : "char",
  "length" : "unsigned long long"
}
```

- Types of Opcode

opcode	details
s	<b>Sign up</b> : send usr/pwd to register an account.
l	<b>Login</b> : send usr/pwd to login.
m	<b>Messaging</b> : send a message.
r	<b>Refresh</b> : update message history.
u	<b>Upload File</b> : Upload a file.
d	<b>Download file</b> : Download a file
a	<b>All user</b> : Show all user/ friend list/ black list of login account.
x	<b>Edit Friend / Black List</b>
!	<b>Server message</b>

### Sign up

#### Request

```
{
  "username" : "string",
  "password" : "string"
}
```

#### Response

```
{
  "status_code" : int,
  "state" : "string",
  "data" : {}
}
```

## Login

### Request

```
{
  "user_name" : "string",
  "password" : "string"
}
```

### Response

```
{
  "status_code" : int,
  "state" : "string",
  "data" : {}
}
```

## Message

### Request

```
{
  "target" : "int",
  "type" : "message/data",
  "message" : "string"
}
```

### Response

```
{
  "status_code" : int,
  "state" : "string",
  "data" : []
}
```

## Refresh

### Request

```
{
  "target" : "int",
  "start_from" : int,
  "end_to" : int,
}
```

## Response

```
{
  "status_code" : int,
  "state" : "string",
  "data" : {
    line_number: {
      "who" : int
      "type" : ""
      "message" : ""
    }
  }
}
```

## Upload File

### Request

```
{
  "target" : "int",
  "filename" : "string",
  "data" : base64(file),
}
```

### Response

```
{
  "status_code" : int,
  "state" : "string",
  "data" : {}
}
```

## Download File

### Request

```
{
  "target" : "int",
  "filename" : "string"
}
```

### Response

```
{
  "status_code" : int,
  "state" : "string",
  "data" : base64(file) (its string.)
}
```

## Show All User

## Request

```
{
  "target" : "string",
  // b: blak_list, f: friend_list, a: user_list.
}
```

## Response

```
{
  "status_code" : int,
  "state" : "string",
  "data" :
  [
    ["id1", "name1"],
    ["id2", "name2"]
  ]
}
```

## Edit Black / Friend List

### Request

```
{
  "op" : "string",
  // add / delete
  "target_list" : "string",
  // black / friend
  "target_id" : "int"
}
```

### Response

```
{
  "status_code" : int,
  "state" : "string",
  "data" : []
}
```

## User & Operator Guide

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## How2Run?

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## Bonus

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