Innopolis University
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Distributed Systems: Project 2

Distributed File System (DFS)

Trang Nguyen (BS18-DS-01)
Marko Pezer (BS18-SE-01)

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Introduction

Programming language: **Python**

Communication protocol used: **TCP IPv4**

GitHub repository: https://github.com/tracy2811/dfs/

Download Source Code

Option 1: GitHub

```
git clone -b latest https://github.com/tracy2811/dfs.git
```

Option 2: Public docker image

https://hub.docker.com/r/tracy2811/dfs

Launching Naming Server & Storage Servers

Naming Server

To start naming server run `naming.py` with `NAMING_PORT` as argument:

```
# From source code
python naming.py NAMING_PORT

# From Docker image
docker run --network=host
tracy2811/dfs:latest python naming.py
NAMING_PORT
```

Storage Servers

To start storage server run `storage.py` with three arguments (`NAMING_ADDR`, `NAMING_PORT`, `STORAGE_PORT`):

```
# From source code
python storage.py NAMING_ADDR NAMING_PORT
STORAGE_PORT

# From Docker image
docker run --network=host
tracy2811/dfs:latest python storage.py
NAMING_ADDR NAMING_PORT STORAGE_PORT
```

Client Usage

Start client run `client.py` with two arguments (`NAMING_ADDR`, `NAMING_PORT`):

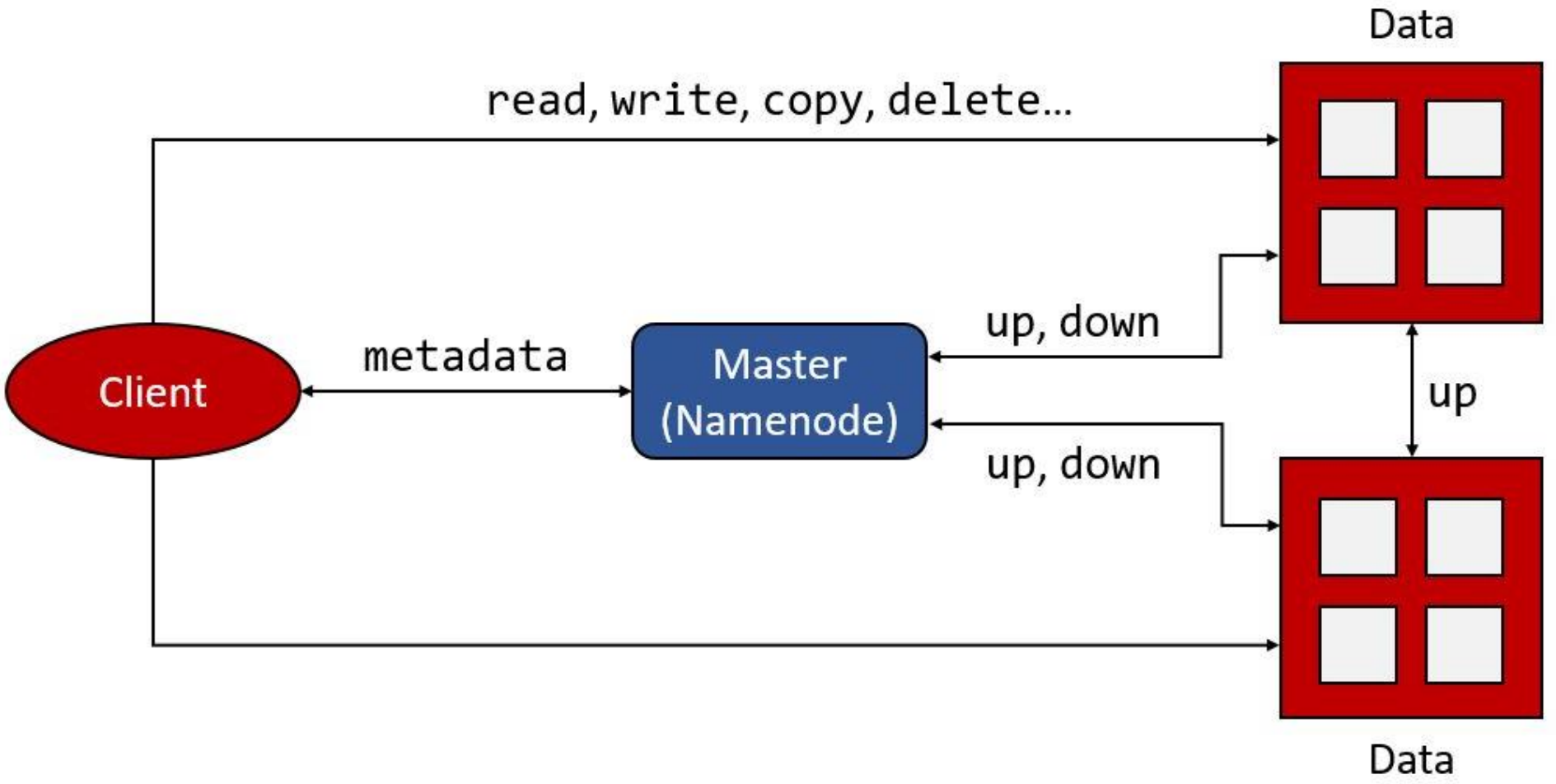
```
# From source code
python client.py NAMING_ADDR
NAMING_PORT

# From Docker image
docker run -it --network=host
tracy2811/dfs:latest python
client.py NAMING_ADDR NAMING_PORT
```

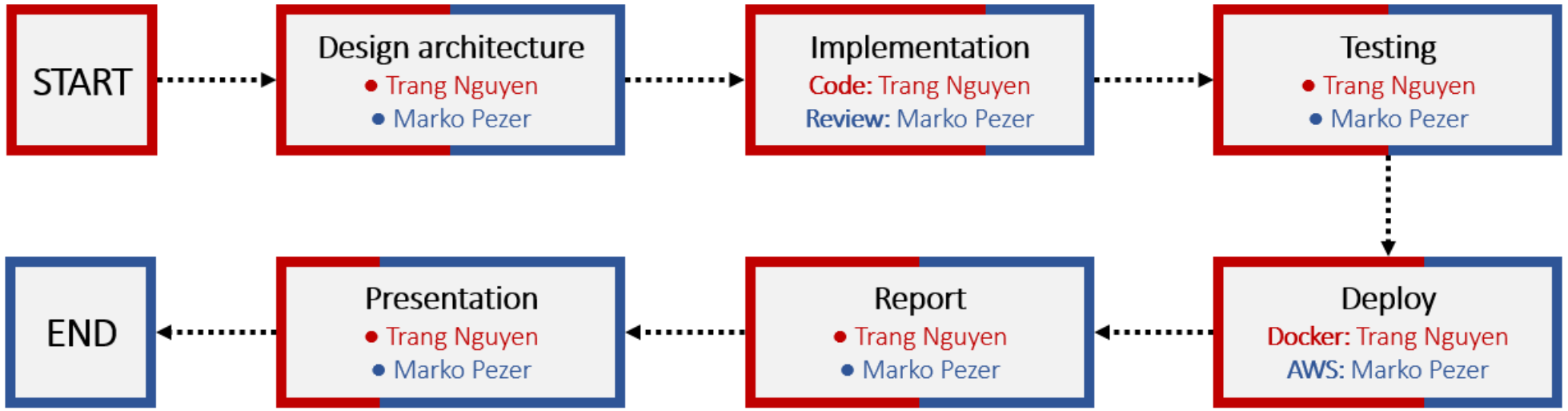
Note: For the new system, `init` command is recommended.

Command	Description
`init`	Initialize client storage on the new system, can be used to format the system
`touch files...`	Create new empty files
`get file`	Download a file from DFS to client side
`put src dst`	Upload file from client side to DFS
`info file`	Get file's information (mode, size, modification time)
`cp src dst`	Create a copy of a file *src* to *dst*
`mv src dst`	Move a file from *src* to *dst*, an be used to rename a file
`rm targets...`	Delete files or directories
`cd dir`	Change current working directory
`ls dir`	List files and directories
`mkdir dirs...`	Make new directories
`help`	Show help
`exit`	Quit interactive shell

Architectural Diagram



Contribution of Each Team Member



Demo

Link to the Demo GIF:
https://raw.githubusercontent.com/tracy2811/dfs/latest/diagrams/demo-latest.gif

Do you have any questions?

THANK YOU FOR YOUR ATTENTION!