

# Computer System & Network Administration

Lab07. Web Application

# We want to create something a little bit like Redis

## \* TRY REDIS \*

> TUTORIAL

Redis is in the family of databases called key-value stores.

The essence of a key-value store is the ability to store some data, called a value, inside a key. This data can later be retrieved only if we know the exact key used to store it.

Often Redis it is called a data structure server because it has outer key-value shell, but each value can contain a complex data structure, such as a string, a list, a hashes, or ordered data structures called sorted sets as well as probabilistic data structures like hyperloglog.

As a first example, we can use the command `SET` to store the value "fido" at key "server:name".

```
SET server:name "fido"
```

Redis will store our data permanently, so we can later ask "What is the value stored at key server:name?" and Redis will reply with "fido".

```
GET server:name => "fido"
```

There is a command in order to test if a give key exists or not:

```
EXISTS server:name => 1  
EXISTS server:blabla => 0
```

Tip: You can click the commands above to automatically execute them. The text after the arrow (=>) shows the expected output.

Type `NEXT` to continue the tutorial.

> SET foo bar

OK

> GET foo

"bar"



# Lab Requirements

- You need to create a simple Web Application
- No front-end is required, just need to make sure Web API works
- Listen on port 80 in your VM, no SSL required
  - You can listen 0.0.0.0, but we will use 127.0.0.1 to judge the application

# Lab Requirements (cont.)

- POST /set/<KEY>
  - POST body: value=<VALUE> (use application/x-www-form-urlencoded)
  - No other parameters
  - If successful, return string "OK"
  - If key exists, overwrite existing value with new value
- GET /get/<KEY>
  - No other parameters
  - Should return value for this key
  - If no key entry, return string "key not found!"
- Key/Value may include some special characters(using urlencode)

# Lab Requirements (cont.)

- Treat every key and value as string should be fine
  - The maximum length of key/value is 256
- We may try to break your application, like
  - Long key
  - Long value
  - Key with no value(should store empty string)
  - ...etc
- Make sure your application don't break!

# Lab Requirements (cont.)

- Limitation
  - No limitation on Programming Language
  - No limitation on Database
  - Use nginx as reverse proxy(not necessary)
  - Just make sure request won't timeout when we judge your application
- Deadline: 5/5 (Wed.) 23:55
  - After midterm, so you got plenty of time to complete this lab

# Judge Timetable

- 5/1 22:00
- 5/2 14:00
- 5/2 22:00
- 5/3 14:00
- 5/3 22:00
- 5/4 14:00
- 5/4 22:00
- 5/5 14:00
- 5/5 22:00
- 5/5 23:59

Questions?