# Server Requests

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# 1 Classes and Methods

## 1.1 class WebServer

Will have double ended queue under the hood

void push front(Request val) : adds request to the front of the queue
void push back() : adds request to the back of the queue
void pop front() : remove request from the front of the queue
void pop back() : remove request from the back of the queue
Request front() : returns the front request within the queue
Request back() : returns the back request within the queue
bool empty() : returns true if queue is empty, otherwise false
int size() : returns the size of the queue

## 1.2 class Request

Will have a filename, a start time, and a done time

Request(string, int) : sets pirvate variables
void setStartTime(steady clock::time point) : to set when request entered the queue
steady clock::time point getStartTime() : returns start time
steady clock::time point getDoneTime() : retunrs when queue is done being "handled"
string getFileName() : returns the filename
int getID() : returns the ID of the request
void setDoneTime() : this sets the done time to the current time, that way we can compare start time
with current time

# 2 Design decisions

Simply put, I will be acting as a queue, handling requests by removing from the front. If my oldest
request has been waiting for longer than 1 second, then I will act as a stack, handling requests by
removing from the back. I am checking if my back request has been waiting for **longer than 1 second**,
rather than 30 seconds for test purposes and convenience.
Every time I want to remove from front, I check if the back has been waiting longer than 1 second. I
read the file and output its contents, then remove from front or back (depending on the wait)

# 3 Results



```
Object: 13
Entry time: 1186244156 ms
Exit time: 1186246444 ms
Elapsed time: 2 s

+++++++++++++++++++++++ ELAPSED > 1 SEC ++++++++++++++++=+++++++

REMOVED FROM THE BACK (pop_back() STACK MODE)
```

```
Object: 9
Entry time: 1186244156 ms
Exit time: 1186245892 ms
Elapsed time: 1 s

REMOVED FROM THE FRONT (pop_front() QUEUE MODE)
```