

## Cache Experiment

Request	Latency without cache	Latency with cache
Buy	0.00671554297000057	0.0054915354999957346
look up	0.0061507888100004494	0.0056360412399999405
search	0.004612945700000637	0.004498006089997944

### Buy without cache

```
Welcome to Bazar.come

Store services:
1. Buy
2. Lookup
3. Search

Please enter the index of the service to proceed it:1

please enter the number of the book you want to buy:5

latency :
0.00671554297000057

THe Purchase is Done !
```

### Buy with cache

```
Welcome to Bazar.come

Store services:
1. Buy
2. Lookup
3. Search

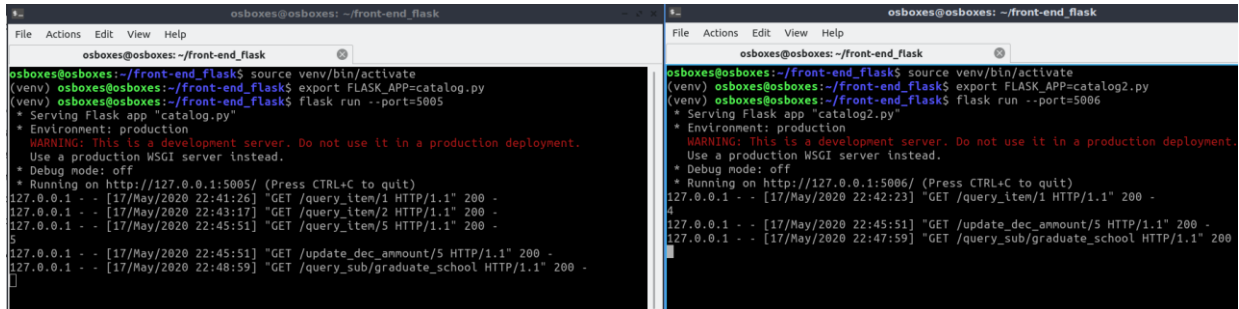
Please enter the index of the service to proceed it:1

please enter the number of the book you want to buy:5

latency :
0.0054915354999957346

THe Purchase is Done !
```

## Monitoring load balancing on catalog servers



The image displays two side-by-side terminal windows, both titled 'osboxes@osboxes: ~/front-end\_flask'. The left window shows the execution of 'flask run --port=5005' for the 'catalog.py' application. The right window shows 'flask run --port=5006' for the 'catalog2.py' application. Both terminals output a warning about using a development server in production and show a series of HTTP GET requests from 127.0.0.1 to various endpoints, all returning a 200 status code.

```
osboxes@osboxes:~/front-end_flask$ source venv/bin/activate
(osvenv) osboxes@osboxes:~/front-end_flask$ export FLASK_APP=catalog.py
(osvenv) osboxes@osboxes:~/front-end_flask$ flask run --port=5005
* Serving Flask app "catalog.py"
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: off
* Running on http://127.0.0.1:5005/ (Press CTRL+C to quit)
127.0.0.1 - - [17/May/2020 22:41:26] "GET /query_tten/1 HTTP/1.1" 200 -
127.0.0.1 - - [17/May/2020 22:43:17] "GET /query_tten/2 HTTP/1.1" 200 -
127.0.0.1 - - [17/May/2020 22:45:51] "GET /query_tten/5 HTTP/1.1" 200 -
127.0.0.1 - - [17/May/2020 22:45:51] "GET /update_dec_amount/5 HTTP/1.1" 200 -
127.0.0.1 - - [17/May/2020 22:48:59] "GET /query_sub/graduate_school HTTP/1.1" 200 -

osboxes@osboxes:~/front-end_flask$ source venv/bin/activate
(osvenv) osboxes@osboxes:~/front-end_flask$ export FLASK_APP=catalog2.py
(osvenv) osboxes@osboxes:~/front-end_flask$ flask run --port=5006
* Serving Flask app "catalog2.py"
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: off
* Running on http://127.0.0.1:5006/ (Press CTRL+C to quit)
127.0.0.1 - - [17/May/2020 22:42:23] "GET /query_tten/1 HTTP/1.1" 200 -
127.0.0.1 - - [17/May/2020 22:45:51] "GET /update_dec_amount/5 HTTP/1.1" 200 -
127.0.0.1 - - [17/May/2020 22:47:59] "GET /query_sub/graduate_school HTTP/1.1" 200 -
```