

# Performance Testing Report: 50Vusers (Swap Space: 200Mb vs 2000Mb)

Tester: Yan Bareisha

Issue Link: <https://github.com/peviitor-ro/api/issues/443>


Baseline test: 2024-11-27 10:40:08


Verification test: 2024-11-21 09:51:46

## SUT:

### Raspberry Pi 4 Model B

- **CPU:** Arm Cortex-A72 @ 1.8GHz (Quad-core)
- **RAM:** 2GB LPDDR4 + 2GB Swap Memory
- **Storage:**
  - SD Card: 64GB
    - Partition 1: 512MB (/boot/firmware)
    - Partition 2: 58.9GB (Root /)
- **Network:** Wireless (Broadcom 43430)
- **OS:** Debian GNU/Linux 12 (Bookworm)

 **Raspberry Pi**  
**Connect** Beta



Personal

Devices

Add device

**PROD**

Last seen less than a minute ago

Screen sharing Remote shell

Connect via

**QACluj**

Last seen less than a minute ago

Screen sharing Remote shell

Connect via

**raspberrypi 400**

Last seen less than a minute ago

Screen sharing Remote shell

Connect via

Target Server Name: QACluj

Dockerized 2 containers:

```
QACluj remote shell - Raspberry Pi Connect - Google Chrome
connect.raspberrypi.com/devices/1204adf8-8fe4-444a-be57-35838693f568/remote-shell-session

sebi@raspberrypi:~$ pwd
/home/sebi
sebi@raspberrypi:~$ docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS                               NAMES
3db0e4ee14e1   solr:latest                          "docker-entrypoint.s..." 11 hours ago   Up 11 hours   0.0.0.0:8983->8983/tcp, :::8983->8983/tcp   solr-container
dcca0ee41d1    alexstefan1702/php-apache-arm       "docker-php-entrypoi..." 11 hours ago   Up 11 hours   0.0.0.0:8080->80/tcp, [::]:8080->80/tcp   apache-container
sebi@raspberrypi:~$
```

**Application:** Apache SOLR  
**Build Version:** 9.7.0



Dashboard

Logging

Security

Core Admin

Java Properties

Thread Dump

Instance

Start about 10 hours ago

Versions

	<b>solr-spec</b>	9.7.0
	<b>solr-impl</b>	9.7.0 675a41516e3f3bacfc975590773e7abdca444ff4 - anshum - 2024-09-03 15:05:20
	<b>lucene-spec</b>	9.11.1
	<b>lucene-impl</b>	9.11.1 0c087dfdd10e0f6f3f6faecc6af4415e671a9e69 - 2024-06-23 12:31:02

**Baseline:**  
Physical memory - 1.80Gb  
Swap Space - 200Mb  
File Descriptor Count - 1048576  
JVM Memory - 512Mb

**Verificaion:**  
Physical memory - 1.80Gb  
Swap Space - 2000Mb  
File Descriptor Count - 1048576  
JVM Memory - 512Mb

**Performance test scenario:**

- Get Request: Open SOLR page <http://peviitor.go.ro/>
- Workload: 50 VUsers
- Duration: 15 min.
- Ramp-Up: 10 sec.

**Test scope:**

- Error rate <0%

- Swap Space < 90%

# Test results:

## Baseline test JMeter Aggregated Report:

00:15:14 0 0/50

Aggregate Report

Name:

Comments:

Write results to file / Read from file

Filename

Browse...

Log/Display Only: ☐ Errors ☐ Successes 

Configure

Label	# Samples	Average	Median	90% Line	95% Line	99% Line	Min	Maximum	Error %	Throughput	Received KB/...	Sent KB/sec
HTTP Request	2150	21043	21041	21057	21063	21135	21005	21249	100.00%	2.4/sec	6.01	0.00
TOTAL	2150	21043	21041	21057	21063	21135	21005	21249	100.00%	2.4/sec	6.01	0.00

## Verification test JMeter Aggregated Report:

00:15:01 0 0/50

Aggregate Report

Name:

Comments:

Write results to file / Read from file

Filename

Browse...

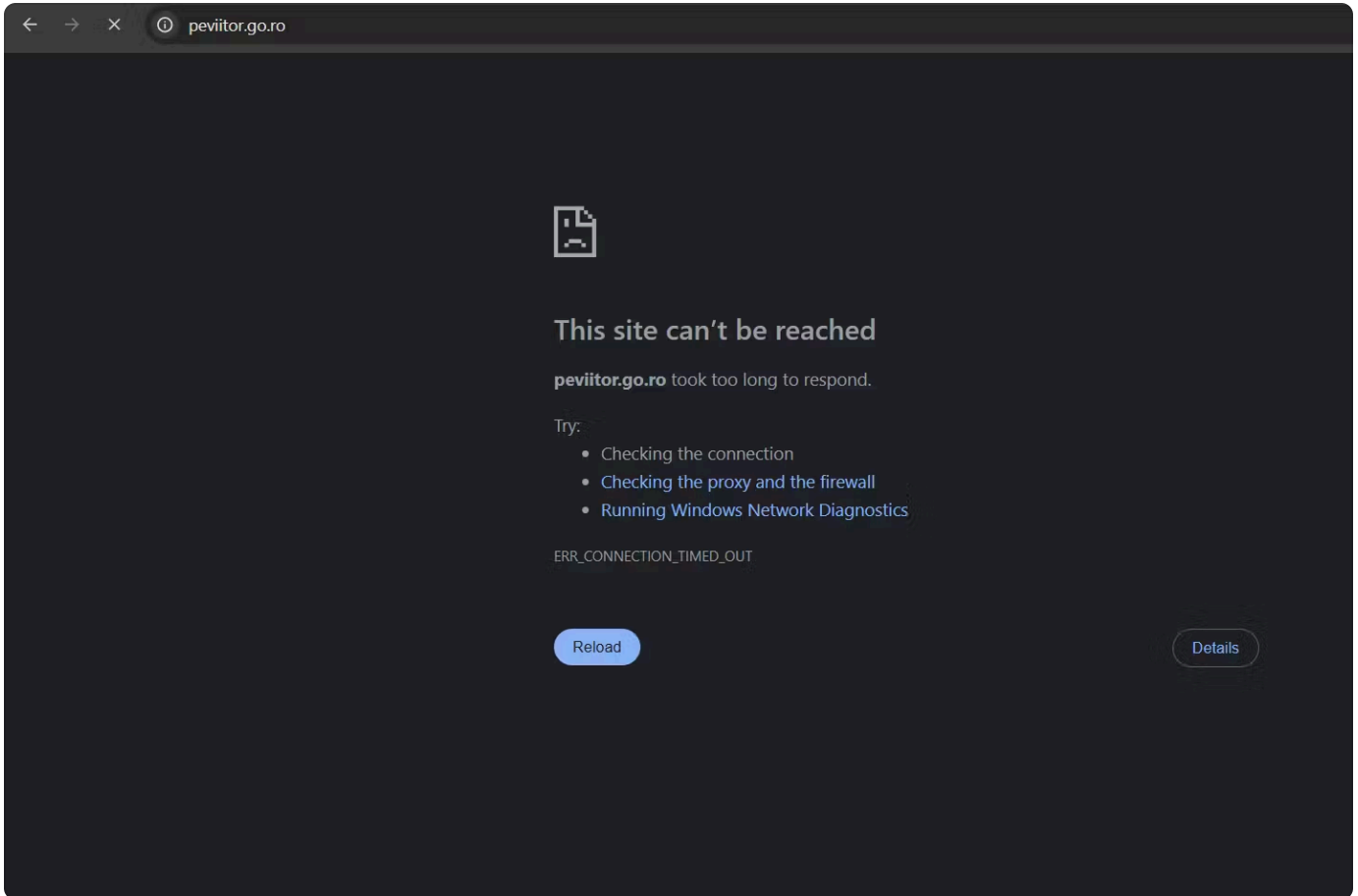
Log/Display Only: ☐ Errors ☐ Successes 

Configure

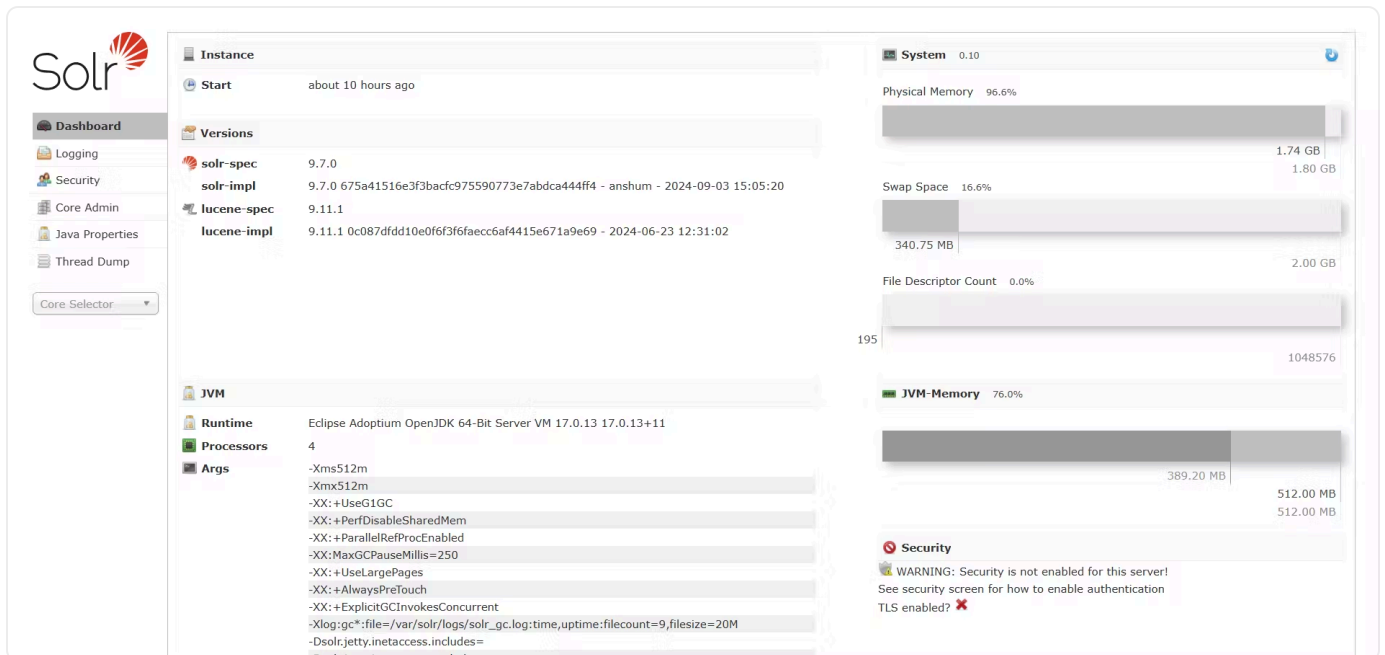
Label	# Samples	Average	Median	90% Line	95% Line	99% Line	Min	Maximum	Error %	Throughp...	Received...	Sent KB/...
HTTP Re...	81414	536	500	740	854	1148	42	8040	0.00%	90.4/sec	1563.89	21.63
TOTAL	81414	536	500	740	854	1148	42	8040	0.00%	90.4/sec	1563.89	21.63

## SOLR

Baseline:



Verification:



## Conclusion:

**Baseline test:** 200 Mb Swap Space - Error rate is 100%;

**Verification test:** 2000 Mb Swap Space - Error rate is 0%;

- 200 MB of swap space is not enough to keep <http://peviitor.go.ro/> operational, especially considering that Docker containers and a Raspberry Pi were in use and available.
- 2000 MB of swap space is sufficient to run a benchmark performance test for 15 minutes with 50 virtual users.

Recommendation: Continue using 2000 MB of Swap Space.