

Performance Test Report

For

Execution of

Identity-Repository-creation – 300 users

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Summary

This report presents the observations and findings of the load test conducted for a load of 300 users performing Identity creation in Identity Repository which is executed for peak load for 60 minutes duration.

The objective of this load test was to observe and record the behavior of the application when users are creating their identity in identity repository.

The identity create API creates the identity in repository with the randomly generated data with valid UINs.

Below are the summary of the test executed:

Sprint/Report Name	Identity Creation in IdRepo
Run Date	15-November-2019
Period	07:01:46 UTC – 09:09:53 UTC
Number of concurrent users	300 (peak load)
Ramp up	1 user per 3 seconds
Run Duration	1 hour 36 minutes (60 minutes at peak load)
Ramp down	NA

The transaction response times observed were as below:

Label	# Samples	Average(ms)	90% Line(ms)	Min(ms)	Max(ms)	Error %	Throughput
TR_idrepo_create_identity	11562	116388	158345	197	169823	0.20%	1.98759
TOTAL	11562	116388	158345	197	169823	0.20%	1.98759



Stats from Glowroot

Breakdown (Main Thread):	total (ms)	count
http request	105,699.7	1
hibernate query	94,329.3	3
jdbc query	94,328.6	3
jdbc query	9,435.5	7
jdbc get connection	1,678.1	1
hibernate merge	232.1	2
jdbc query	128.7	2
logging	1.9	20
hibernate commit	13.7	1
jdbc commit	13.7	2

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Below screenshot shows the top five time consuming SQL queries from a single call trace, as taken from Glowroot.

Query stats (11)

	Total time ▼ (ms)	Execution count	Time per execution (ms)	Rows per execution
select uinhistory0_.eff_dtimes as col_0_0_, uinhist ... h uinhistory0_ where uinhistory0_.reg_id=? limit ?	93,775.0	1	93,775.0	0
update idrepo.uin_h set bio_ref_id=?, cr_by=?, cr_d ... , upd_dtimes=? where eff_dtimes=? and uin_ref_id=?	9,253.1	1	9,253.1	1.0
select uin0_.uin_ref_id as col_0_0_ from idrepo.uin uin0_ where uin0_.reg_id=? limit ?	526.8	1	526.8	0
select uinhistory0_.eff_dtimes as eff_dtim1_3_0_, u ... story0_.eff_dtimes=? and uinhistory0_.uin_ref_id=?	125.2	1	125.2	0
insert into idrepo.uin (bio_ref_id, cr_by, cr_dtime ... lues (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?)	109.9	1	109.9	1.0

Top two SQL queries are:

1. `select uinhistory0_.eff_dtimes as col_0_0_,
uinhistory0_.uin_ref_id as col_1_0_ from idrepo.uin_h
uinhistory0_ where uinhistory0_.reg_id=? limit ?`
2. `SELECT uinhistory0_.uin_hash AS col_0_0_ FROM idrepo.uin_h
uinhistory0_ WHERE uinhistory0_.reg_id = ?`

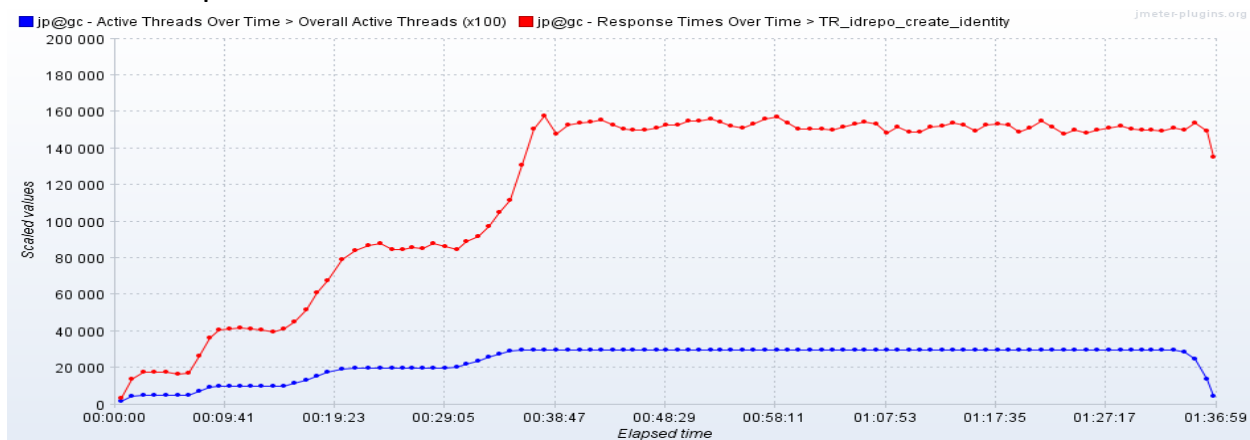
Performance Test Execution Details

We have executed JMeter script for Identity creation API, which has transactions mentioned in the above table.

Average response time of creation request is 11.6 seconds and error rate is less than 1%.

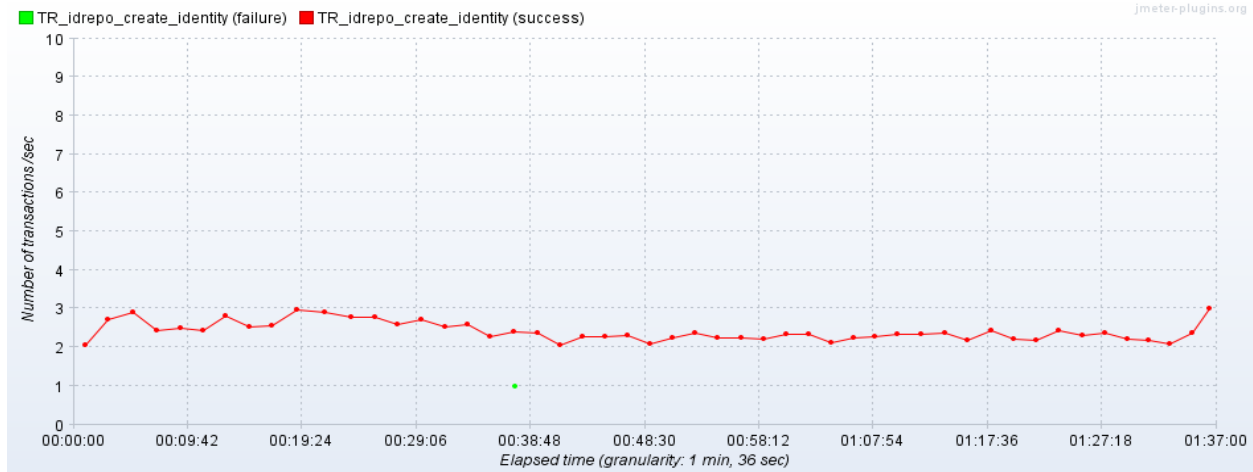
Response Time Graph:

As seen in the below graph, average response time for the creation request is around 90 seconds when 200 users are active, increases to 150 seconds when 300 users are active and TPS (throughput) when 300 users are active is at 10 transactions per second.





Transactions per second:



Some Error Responses:

Some of the erroneous responses are as below.

idrepo create:

```
{"id":"mosip.id.create","version":"v1","responsetime":"2019-11-15T07:33:44.392Z","metadata":null,"response":null,"errors":[{"errorCode":"IDR-IDC-012","message":"Record already exists in DB"}]}
```

```
{"id":"mosip.id.create","version":"v1","responsetime":"2019-11-15T07:41:53.001Z","metadata":null,"response":null,"errors":[{"errorCode":"IDR-IDC-004","message":"Unknown error occured"}]}
```

Conclusion and Next Steps

We will repeat the test for 500 users and observe the behavior once developer confirms the issue is fixed. The erroneous responses and Glowroot stats obtained during the load test will be shared with the developer team for further analysis.