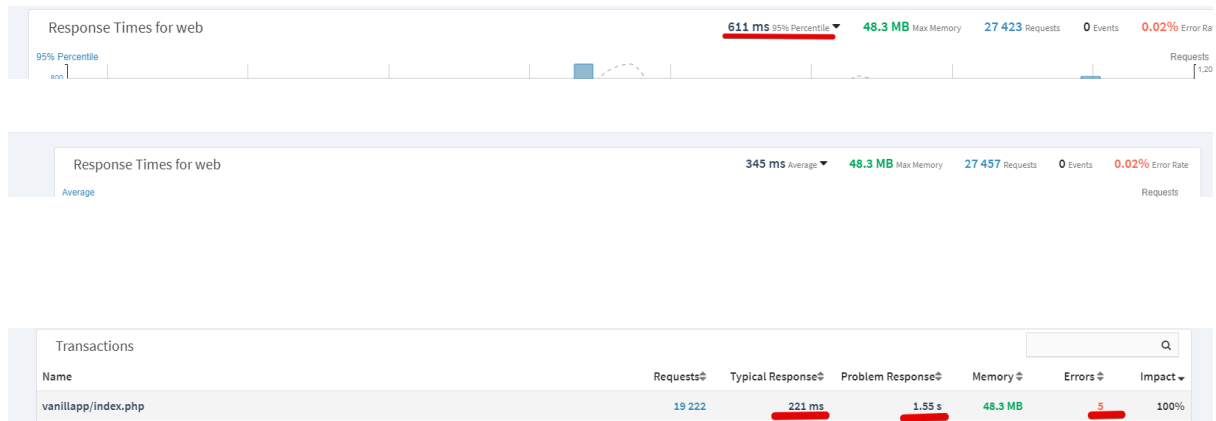


Date: 9 April
Period: From 7.20 AM (prod deployed) to + 8 hours

I looked at the pages with response times > 2 secs in detail.

Response times

95% Percentile requests - 611ms, 345ms - average



Categories page

Pages: <https://discussions.topcoder.com/> (`/categories`) and `/categories/XXXXXX`

Max response times: up to 36 secs.

Reason: No memcached data or memcached data has been expired.

The response times of categories pages:

- No data in memcached - up to 36 secs. 22 requests > 20 secs
- Most data in memcached - from 200ms+ but less than 1 sec.

149 ms	vanillapp/index.php	4.1 MB	200	GET discussions.topcoder.com/categories/general	SQL (26): 48.3 ms	Memcache (39): 4.17 ms	APCu 0.01 ms	Autoloading 7.67 ms	File I/O 1.13 ms	Unaccounted Wait 61.3 r	13:	
160 ms	vanillapp/index.php	3.9 MB	200	GET discussions.topcoder.com/categories/design	SQL (25): 52.5 ms	Memcache (21): 8.09 ms	APCu 0.01 ms	Autoloading 7.74 ms	File I/O 1.28 ms	Unaccounted Wait 64.9 r	07:	
216 ms	vanillapp/index.php	16.7 MB	500	PATCH discussions.topcoder.com/api/v2/categories/2411	SQL (26): 100 ms	Memcache (20): 6.63 ms	APCu 0.01 ms	Autoloading 4.24 ms	File I/O 0.10 ms	Unaccounted Wait 67.9 r	08:	
222 ms	vanillapp/index.php	4.6 MB	200	GET discussions.topcoder.com/categories/00080061-9cca-49fd-90d6-0ca84dc776fd	SQL (27): 55.6 ms	HTTP (1): 60.8 ms	Memcache (37): 4.41 ms	APCu 0.02 ms	Autoloading 11.1 ms	File I/O 1.43 ms	Unaccounted Wait 53.2 r	08:

36.1 s	N+1	SQL	HTTP	vanillapp/index.php	07:47
35.7 MB	200	GET discussions.topcoder.com/categories/new-here-getting-started			
		SQL (3 351): 3.16 s	HTTP (132): 6.30 s	Memcache (3 477): 268 ms	APCu 0.01 ms
				Autoloading 8.42 ms	File I/O 1.29 ms
					Unaccounted Wait 23.8 s
34.7 s	N+1	SQL	HTTP	vanillapp/index.php	07:53
40 MB	200	GET discussions.topcoder.com/			
		SQL (3 744): 3.55 s	HTTP (4): 317 ms	Memcache (4 364): 340 ms	APCu 0.01 ms
				Autoloading 12.5 ms	File I/O 1.60 ms
					Unaccounted Wait 23.3 s
30.9 s	N+1	SQL	HTTP	vanillapp/index.php	10:11
39.6 MB	200	GET discussions.topcoder.com/			
		SQL (4 492): 3.79 s	HTTP (4): 492 ms	Memcache (4 513): 347 ms	APCu 0.01 ms
				Autoloading 10.8 ms	File I/O 1.58 ms
					Unaccounted Wait 23.5 s
29.6 s	N+1	SQL	vanillapp/index.php	07:49	
34.3 MB	200	GET discussions.topcoder.com/categories/thrive			
		SQL (3 896): 3.55 s		Memcache (3 811): 295 ms	APCu 0.01 ms
				Autoloading 7.94 ms	File I/O 1.27 ms
					Unaccounted Wait 23.2 s
29.5 s	N+1	SQL	vanillapp/index.php	07:26	
35 MB	200	GET discussions.topcoder.com/			
		SQL (3 775): 3.51 s		Memcache (3 792): 291 ms	APCu 0.01 ms
				Autoloading 8.31 ms	File I/O 1.21 ms
					Unaccounted Wait 23.2 s
29.5 s	N+1	SQL	vanillapp/index.php	08:59	
30.5 MB	200	GET discussions.topcoder.com/			
		SQL (3 893): 3.61 s		Memcache (3 911): 299 ms	APCu 0.01 ms
				Autoloading 7.39 ms	File I/O 1.16 ms
					Unaccounted Wait 23.2 s

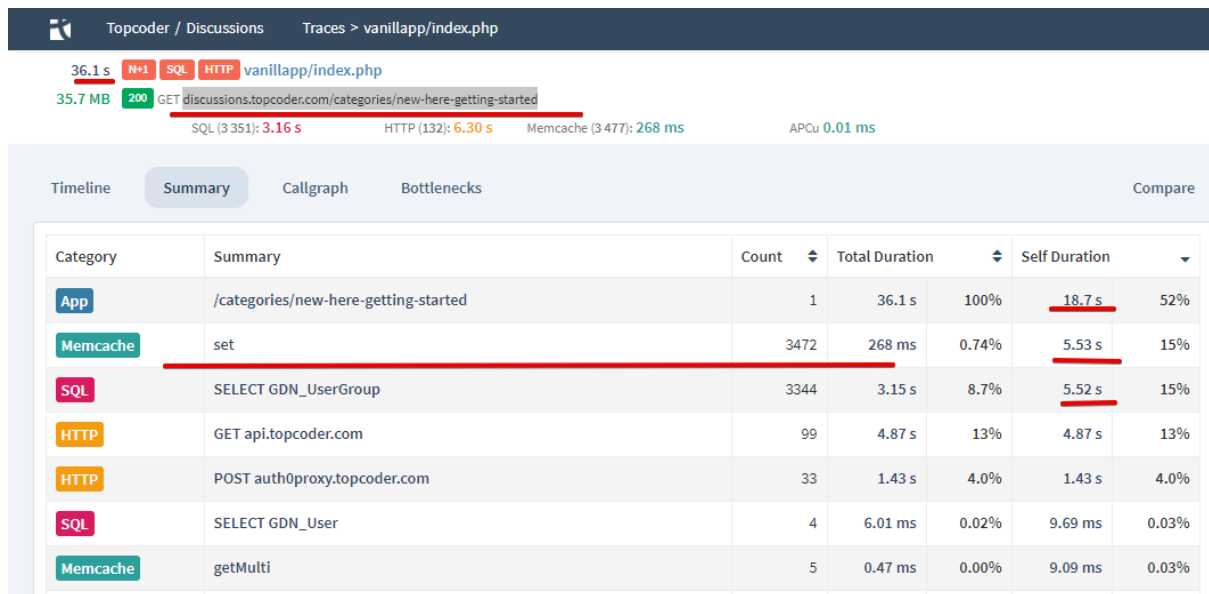
34.7 s	N+1	SQL	HTTP	vanillapp/index.php	
40 MB	200	GET discussions.topcoder.com/			
		SQL (3 744): 3.55 s	HTTP (4): 317 ms	Memcache (4 364): 340 ms	APCu 0.01 ms

Timeline	Summary	Callgraph	Bottlenecks	Compare
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Category	Summary	Count	Total Duration	Self Duration
App	/	1	34.7 s	100%
Memcache	set	4339	337 ms	0.97%
SQL	SELECT GDN_UserGroup	3723	3.52 s	10%
HTTP	GET api.topcoder.com	3	253 ms	0.73%
HTTP	POST auth0proxy.topcoder.com	1	64.4 ms	0.19%
SQL	SELECT GDN_Category	14	20.1 ms	0.06%
Memcache	getMulti	9	1.43 ms	0.00%
Memcache	get	16	1.49 ms	0.00%
SQL	SELECT GDN_Discussion	5	6.13 ms	0.02%
SQL	SELECT GDN_Comment	2	3.15 ms	0.01%
View	/vanillapp/themes/topcoder/views/default.master.tpl	1	5.66 ms	0.02%
Template	file:partials/header.tpl	1	1.39 ms	0.00%
Template	file:partials/footer.tpl	1	0.16 ms	0.00%
View	/library/Vanilla/Web/Asset/AssetPreloadModel.twig	1	0.04 ms	0.00%

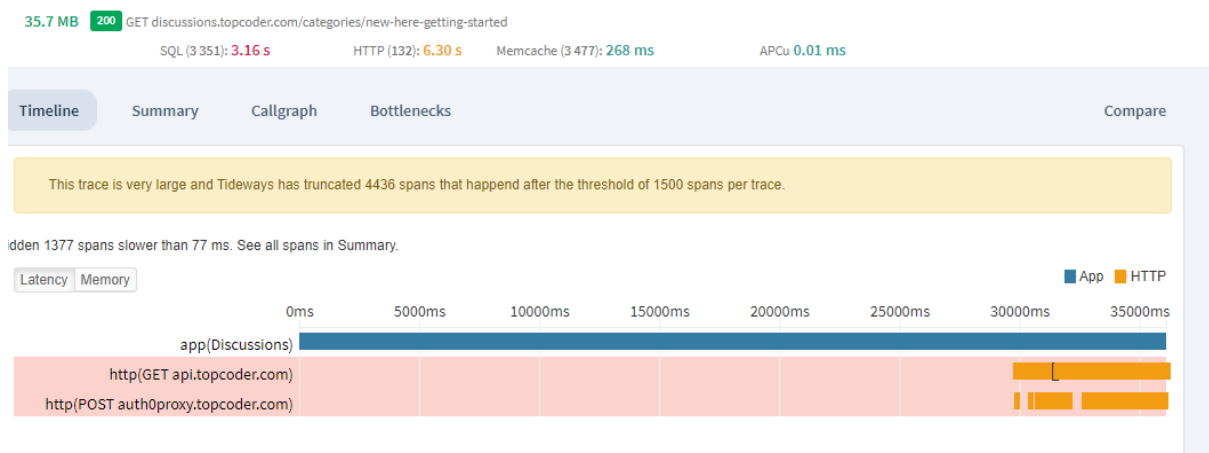
Categories with discussions:

36.1 s	N+1	SQL	HTTP	vanillapp/index.php
35.7 MB	200	GET discussions.topcoder.com/categories/new-here-getting-started		
		SQL (3 351): 3.16 s	HTTP (132): 6.30 s	Memcache (3 477): 268 ms
				APCu 0.01 ms



TODO: Need to do optimization when Memcached data is not set.

- Optimize UserGroup query for categories page. Check if we can use `where` sql condition (from GDN_UserGroup where UserID=XXX in (GroupID, ...)). Make a callgraph to see more details.
- 5 secs took to load data from Topcoder API (user details, rating, roles, etc). After loading data, it was cached in memcached. The pages displayed 20-30+ different users. 99 requests were sent. The main goal is to avoid excessive Topcoder API requests. Check Topcoder API if we can get data for multiple users per one request. Now the expiration period of Topcoder user data (image url, roles and others) is 1 hour.



Categories REST API

Response time: Up to 11 sec

Pages:/api/v2/categories, POST

11.1 s	N+1	SQL	vanillapp/index.php	07:4
38.3 MB	201	POST	discussions.topcoder.com/api/v2/categories	web @ producti
		SQL (2 437): 8.62 s	Memcache (21): 16.6 ms	APCu 0.01 ms
			Autoloading 4.74 ms	File I/O 0.10 ms
9.05 s	N+1	SQL	vanillapp/index.php	10:4
37.7 MB	201	POST	discussions.topcoder.com/api/v2/categories	web @ producti
		SQL (2 105): 7.09 s	Memcache (21): 13.9 ms	APCu 0.01 ms
			Autoloading 4.33 ms	File I/O 0.12 ms
				Unaccounted Wait 1.68
8.29 s	N+1	SQL	vanillapp/index.php	07:4
37.5 MB	201	POST	discussions.topcoder.com/api/v2/categories	web @ producti
		SQL (2 100): 6.31 s	Memcache (21): 15.6 ms	APCu 0.01 ms
			Autoloading 4.72 ms	File I/O 0.12 ms
				Unaccounted Wait 1.65

11.1 s	N+1	SQL	vanillapp/index.php	
38.3 MB	201	POST	discussions.topcoder.com/api/v2/categories	
		SQL (2 437): 8.62 s	Memcache (21): 16.6 ms	APCu 0.01 ms

Timeline	Summary	Callgraph	Bottlenecks	Compare
----------	---------	-----------	-------------	---------

Category	Summary	Count	Total Duration	Self Duration
SQL	UPDATE TreeLeft	2415	8.51 s	77%
App	/api/v2/categories	1	11.1 s	100%
SQL	OTHER	1	51.1 ms	0.46%
SQL	SELECT GDN_Category	2	20.9 ms	0.19%
SQL	SELECT GDN_Permission	11	13.6 ms	0.12%
Memcache	get	13	4.27 ms	0.04%

TODO: Need to have a look at an update query. `2415` = count of all categories in DB. If a new category is added then a category tree is re-built. It should be less count of update queries.

Dashboard (Admin)

Page: /dashboard/user

Reason: the same issues with Topcoder API calls to get Topcoder Data + We haven't added caching Topcoder data for Vanilla Admin pages (controllers).

6.09 s	HTTP	vanillapp/index.php	
6.4 MB	200	GET	discussions.topcoder.com/dashboard/user
		SQL (54): 82.8 ms	HTTP (112): 5.79 s
			Memcache (194): 21.0 ms
			APCu 0.01 ms

Timeline	Summary	Callgraph	Bottlenecks	Compare
----------	---------	-----------	-------------	---------

Category	Summary	Count	Total Duration	Self Duration
HTTP	GET api.topcoder.com	84	4.39 s	72%
HTTP	POST auth0proxy.topcoder.com	27	1.34 s	22%
App	/dashboard/user	1	6.09 s	100%
Memcache	set	161	16.8 ms	0.28%
HTTP	auth.topcoder.com	1	60.3 ms	0.99%

The list of Topcoder users:

The screenshot shows the Vanilla CMS 'Manage Users' interface. The sidebar on the left contains navigation links: 'Vanilla', 'SITE' (with sub-links 'Messages', 'Users', 'Ban Rules'), and 'CONTENT' (with sub-links 'Flood Control', 'Spam Queue', 'Moderation Queue', 'Change Log'). The 'Users' link is highlighted. The main content area is titled 'Manage Users' and features a search bar with a magnifying glass icon. Below the search bar, it says '3783 users found.' A table lists users with columns: 'USERNAME', 'ROLES', 'FIRST VISIT', and 'LAST VISIT'. Four users are visible, with their names and profile pictures redacted with red bars. The roles for these users are 'Vanilla Member, Topcoder User', 'Vanilla Member, Topcoder User', 'Vanilla Member, Connect Manager, Topcoder User, Looker User', and 'Vanilla Member, Topcoder User, Active'.

USERNAME	ROLES	FIRST VISIT	LAST VISIT
[Redacted]	Vanilla Member, Topcoder User	December 2020	December
[Redacted]	Vanilla Member, Topcoder User	December 2020	February
[Redacted]	Vanilla Member, Connect Manager, Topcoder User, Looker User	January 15	January 1
[Redacted]	Vanilla Member, Topcoder User, Active	February 2	March 31

Rebuild Vanilla Categories cache after posting discussions/comments

Page: /post/comment2.json

Max response time: up to 6 secs

We've optimized it in Issues-381 (<https://github.com/topcoder-platform/forums/issues/381>). Now it works up to 5-6 secs. Before fixing Issues-381, it took about 1-2 mins and threw 502-504 errors (<https://github.com/topcoder-platform/forums/issues/400>). We've optimized the count of calls and rebuilt cache for ancestors only. From my point of view, this is more of an architectural issue in Vanilla that does not allow easy scalability. This is not a good idea to refactor Vanilla core further because all models/controllers/plugins depend on fired events, etc. It will take a lot of effort and time, code analysis, testing and etc. But there is still room for improvement.

The main goal is to avoid excessive category cache rebuilding. Rebuilding the cache occurs in the following cases:

- New category added/removed/moved. So this is ok.
- Category cache is expired

- Comment/discussion is added/edited/deleted

1. Building category cache includes
 - a. building a pure category tree
 - b. calculating category data (count of posts for a category and its ancestors, etc)
 - c. joining user data (permissions for categories and so on)
 - d. joining recent posts (LastXXX fields from Category table, Discussion table, Comment table)

If comment/discussion is added/edited/removed. The pure category is not changed, user category data is not changed. Check if we can do only b. and d. steps. This will require some code improvement. Need to investigate it.

2. Vanilla loads all categories from DB in cache including archived ones. The main idea is to load only non-archived categories in cache. Vanilla category cache has 2 levels: internal Vanilla cache + memcached. This will require some code improvement. Need to investigate it.

Posting new Discussions

Page: /post/discussion/XXX

Max response time: up to 6 secs

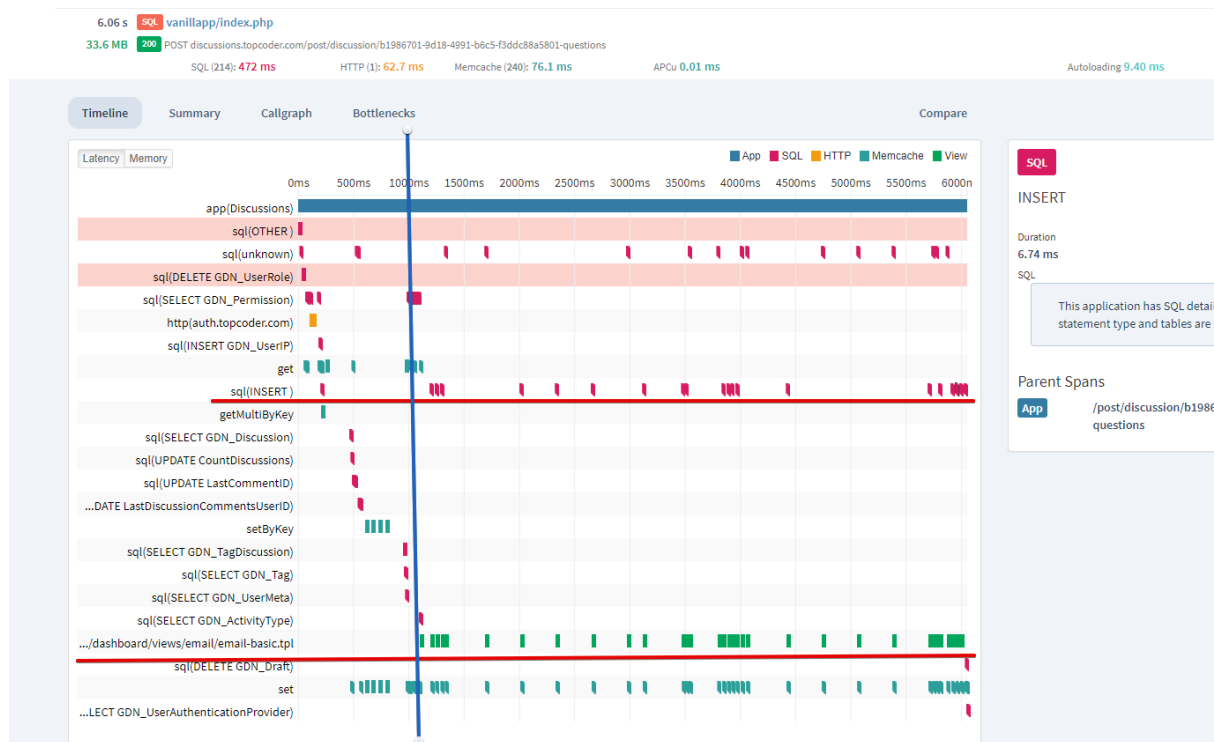
Reason: After posting a discussion, activity records are added in the Activity table. It increases the response time. For this request it took 5 secs. If new discussion is added, we notify all members of a group. About 50+ members in the group (groupID-882).

TODO: Need to analyze code.

I am worried about it if we have this issue with 50+ users. What response time will be, if we will send for 100+/500+ users.

It may be better to analyze this problem first and then fix

Issues-522(<https://github.com/topcoder-platform/forums/issues/522>). If a lot of posts are added + users are watching the forums (like 'General', etc) then response times will be much longer. Now if user is watching 'General', then notifications are not sent out (<https://github.com/topcoder-platform/forums/issues/522#issuecomment-813897450>).

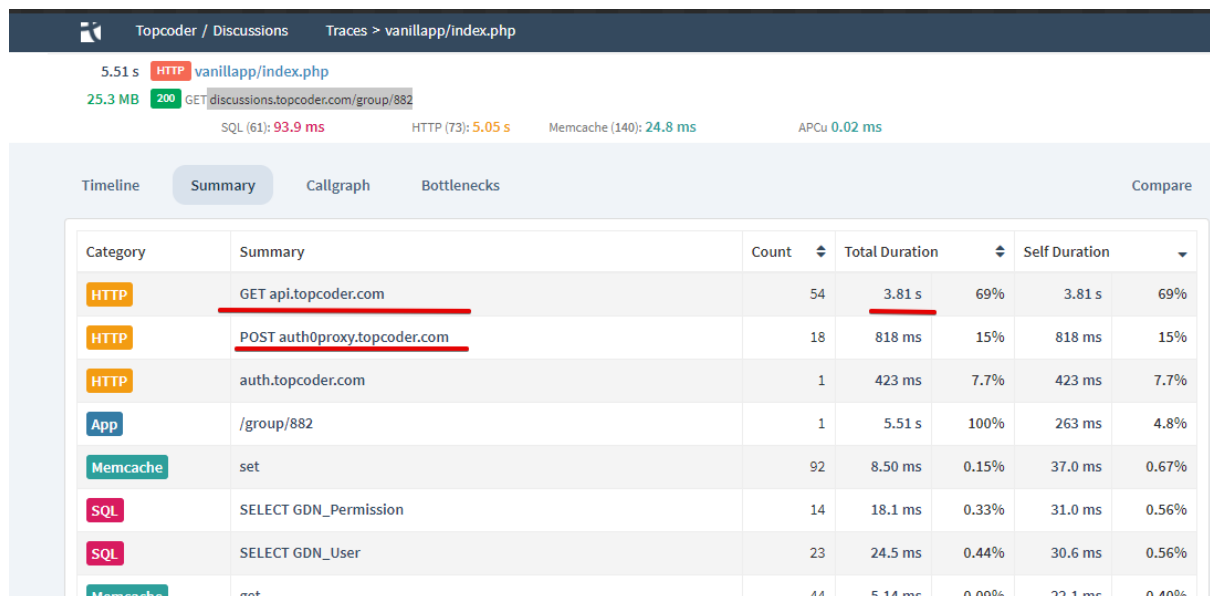


Group/Group Member page with 50+ members

Page: /group/XXX or /group/members/XXX

Reason: The group with 50+ members.Topcoder user data has been expired or missing in memcached. 54 requests to Topcoder API.

TODO: It's been mentioned above.



Group REST API

Page: /api/v2/groups/XXX/member/YYYY - Removing an user from the group

Time: 4 secs

Reason. Rebuilding UserCache, UserCategoryCache and UserGroup after deleting an user from the group.

TODO: Build a callgraph and have a look at the details.

SQL (1501): 1.22 s

Memcache (1501): 112 ms

APCu 0.01 ms

Timeline

Summary

Callgraph

Bottlenecks

Compare

Category	Summary	Count	Total Duration	Self Duration
App	/api/v2/groups/833/member/3724	1	4.81 s	100%
SQL	SELECT GDN_UserGroup	1499	1.22 s	25%
Memcache	set	1501	112 ms	2.3%
SQL	unknown	1	2.81 ms	0.06%
SQL	SELECT GDN_Discussion	1	1.19 ms	0.02%

View Discussion

Page: /discussion/XXX

Time: up to 2 secs

Reason:Topcoder data has been expired or missing in memcached.

Topcoder / Discussions

Traces > vanillapp/index.php

2.35 s

HTTP

vanillapp/index.php

28.5 MB

200

GET discussions.topcoder.com/discussion/2175/quick-local-setup-guide

SQL (42): 66.4 ms

HTTP (27): 1.94 s

Memcache (56): 21.1 ms

APCu 0.01 ms

Timeline

Summary

Callgraph

Bottlenecks

Compare

Category	Summary	Count	Total Duration	Self Duration
HTTP	GET api.topcoder.com	19	1.56 s	66%
App	/discussion/2175/quick-local-setup-guide	1	2.35 s	100%
HTTP	POST auth0proxy.topcoder.com	7	263 ms	11%
HTTP	auth.topcoder.com	1	110 ms	4.7%
SQL	unknown	5	17.0 ms	0.72%
Memcache	getMultiByKey	1	13.1 ms	0.56%

Long Topcoder HTTPp Calls

Long Auth Topcoder Http calls. Several requests had this issue:

auth.topcoder.com

Warning: We consider this call abottleneck (see description for details).

Started at	Duration
107 ms	17.1 s (99%)
Memory Start	Memory Change
2.5 MB	8.1 KB (0.30%)
Network (outgoing)	Network (incoming)
0 Byte	NaN
http.status	
0	

Parent Spans

App /notifications/inform

Stack

```
#1 curl_exec
#2 GuzzleHttp\Handler\CurlHandler::__invoke
#3 GuzzleHttp\Handler\Proxy::GuzzleHttp\Handler\{closure}
#4 GuzzleHttp\Handler\Proxy::GuzzleHttp\Handler\{closure}
#5 GuzzleHttp\PrepareBodyMiddleware::__invoke
#6 GuzzleHttp\Middleware::GuzzleHttp\{closure}
#7 GuzzleHttp\RedirectMiddleware::__invoke
#8 GuzzleHttp\Middleware::GuzzleHttp\{closure}
#9 GuzzleHttp\HandlerStack::__invoke
#10 GuzzleHttp\Client::transfer
#11 GuzzleHttp\Client::requestAsync
#12 GuzzleHttp\Client::request
#13 Auth0\SDK\API\Helpers\RequestBuilder::call
#14 Auth0\SDK\Helpers\JWKFetcher::requestJwks
#15 Auth0\SDK\Helpers\JWKFetcher::getKeys
#16 Auth0\SDK\Helpers\JWKFetcher::getKey
#17 Auth0\SDK\Helpers\Tokens\AsymmetricVerifier::checkSignature
#18 Auth0\SDK\Helpers\Tokens\SignatureVerifier::verifyAndDecode
#19 Auth0\SDK\Helpers\Tokens\TokenVerifier::verify
#20 Auth0\SDK\Helpers\Tokens\IdTokenVerifier::verify
```

17.2 s	HTTP	vanillapp/index.php	3.2 MB	200	POST discussions.topcoder.com/notifications/inform	SQL (20): 41.1 ms	HTTP (1): 17.1 s	Memcache (8): 1.75 ms	APCu 0.02 ms
Timeline	Summary	Callgraph	Bottlenecks	Compare					
Category	Summary	Count	Total Duration	Self Duration					
HTTP	auth.topcoder.com	1	17.1 s	99%	17.1 s	99%			
App	/notifications/inform	1	17.2 s	100%	60.9 ms	0.35%			
SQL	SELECT GDN_Permission	13	18.5 ms	0.11%	32.2 ms	0.19%			

7.00 s	HTTP	vanillapp/index.php	3.1 MB	200	POST discussions.topcoder.com/notifications/inform	SQL (22): 38.7 ms	HTTP (1): 6.88 s	Memcache (12): 2.01 ms	APCu 0.02 ms
Timeline	Summary	Callgraph	Bottlenecks	Compare					
Category	Summary	Count	Total Duration	Self Duration					
HTTP	auth.topcoder.com	1	6.88 s	98%	6.88 s	98%			
App	/notifications/inform	1	7.00 s	100%	66.8 ms	0.95%			
SQL	SELECT GDN_Permission	14	19.7 ms	0.28%	32.0 ms	0.46%			

500 HTTP Errors

vanillapp/index.php

17 582

220 ms

1.56 s

48.3 MB

5

100%

vanillapp/health.php

7 878

- ms

- ms

590 KB

0

0.00%

Search...

Date: All

Type: All

Date

Clear Filters

Add Filter

HTTP Status: All 500s

216 ms

vanillapp/index.php

16.7 MB

500

PATCH discussions.topcoder.com/api/v2/categories/2411

SQL (26): 100 ms

Memcache (26): 6.63 ms

APCu 0.01 ms

Autoloading 4.24 ms

36b4ce4cea57

web @ production

08:28

281 ms

vanillapp/index.php

3.7 MB

500

POST discussions.topcoder.com/post/comment2.json

SQL (46): 101 ms

HTTP (1): 60.7 ms

Memcache (27): 3.97 ms

APCu 0.01 ms

Autoloading 7.70 ms

36b4ce4cea57

web @ production

08:28

File I/O 0.10 ms

Unaccounted Wait 67.9 ms

File I/O 0.44 ms

Unaccounted Wait 77.3 ms

Displayed 5 errors in dashboard but only 2 errors are displayed on a detail page.

I don't have access PROD Vanilla logs to see stack trace for the errors:

- 1 error with updating a category using REST API
- 1 error after adding a new comment

404 HTTP errors

80+ errors with discussions.topcoder.com/favicon.ico

228 ms	vanillapp/index.php	4.1 MB	404	GET discussions.topcoder.com/favicon.ico	SQL (24): 52.0 ms	HTTP (1): 77.7 ms	Memcache (23): 2.81 ms	APCu 0.02 ms	Autoloading 9.33 ms	36b4ce4cea57	web @ production	19:14
									File I/O 1.32 ms	Unaccounted Wait 52.9 ms		