

Telerik Academy Forum

Task Description

Implement a server-side part of a forum application. In the forum users can create threads and post in a thread.

Forum Description

Using a centralized server the users of the forum can register, login and logout. Each registered user can create threads and posts. Registered users can view all threads, their posts and can post in every thread. Each thread has zero or more categories.

Forum Architecture:

The architecture of the forum application consists of two parts: server and client. The server exposes RESTful API that the client consumes.

Your task is to implement the server part of the application

Application Logic

The application works as follows:

- Users register in the forum / Users login in the forum
 - They receive SessionKey for later authentication
- Users can view all threads and their posts
- Users can create a new Thread, and it will be added to the other threads
- Users can open a Thread and view its posts
- Users can post in any thread
- Users can vote and comment for any post in a thread

RESTful API Overview

The RESTful API should expose web services to work with the server. The API has the following web service endpoints:

HTTP Method	Web service endpoint	Description
POST	api/users/register	Registers a new user in the forum
POST	api/users/login	Logs in a user in the forum
PUT	api/users/logout	Logs out a user from the forum

POST	api/threads/create	Creates a new thread
GET	api/threads	Gets all threads, sorted by their date of creation
GET	api/threads?category=XXXXX	Gets all threads in category XXXXX ,sorted by their date of creation
GET	api/threads?page=P&count=C	Gets the threads at positions from P*C to (P+1)*C. The threads sorted by date of creation and are at most C.
GET	api/threads/{threadId}/posts	Gets all posts for a thread with Id = threadId, sorted by post date
GET	api/posts	Gets all posts, sorted by postdate
GET	api/posts?page=P&count=C	Gets the posts at positions from P*C to (P+1)*C. The posts are sorted by postdate and are at most C.
POST	api/posts/create	Creates a new post for a given thread
GET	api/categories	Gets all categories
POST	api/posts/{postId}/vote	Votes for a post with Id = postId
POST	api/posts/{postId}/comment	Comments for a post with Id = postId

1. Task 1 – Create a Database

Create a MS SQL database to hold the data about the forum application.

Use EntityFramework code-first or database first approach.

2. Create the WebAPI endpoints

Develop the RESTful API of the forum application.

The services are as follows:

Users

Register

api/users/register		POST
Request	{ "username": "DonchoMinkov", "nickname": "Doncho Minkov",	

	"authCode": "bfff2dd4f1b310eb0dbf593bd83f94dd8d34077e" }
Response	{ "nickname": "Doncho Minkov", "sessionKey": "1sdkjqjwmMjsAdKLhHsqwsSAsdgapPqNMCASwsloiJHasftEv" }

Login

api/users/logout	POST
Request	{ "username": "DonchoMinkov", "authCode": "bfff2dd4f1b310eb0dbf593bd83f94dd8d34077e" }
Response	{ "nickname": "Doncho Minkov", "sessionKey": "1sdkjqjwmMjsAdKLhHsqwsSAsdgapPqNMCASwsloiJHasftEv" }

Logout

api/users/logout	PUT
Request	{ "sessionKey": "1sdkjqjwmMjsAdKLhHsqwsSAsdgapPqNMCASwsloiJHasftEv" }
Response	Null

Threads

All threads

api/threads	GET
Request	{ "sessionKey": "1sdkjqjwmMjsAdKLhHsqwsSAsdgapPqNMCASwsloiJHasftEv" }
Response	[{ "id": 1, "title": "I want more homework!", "dateCreated": "2013-08-16T10:16:24.9550631+03:00", "content": "I think that the homework that the trainers are giving us is too little for our capabilities", "createdBy": "Ivan Ivanov", "categories": ["homework", "web-api", "requests", "more"], "posts": [{ "content": "I fully agree with you!", "postDate": "2013-08-16T10:19:24.9550631+03:00", "rating": "5/5", "postedBy": "Gosho Goshev" }, { "content": "More! More! More! MOREEEEEEE!", "postDate": "2013-08-16T10:20:24.9550631+03:00", "rating": "5/5", "postedBy": "Stamo Stamo" } }, { "id": 2, "title": "We need harder exams!", "dateCreated": "2013-08-19T10:16:24.9550631+03:00",

```
"content": "The trainers need to think about harder exams, these are too easy",
"createdBy": "Misho Mishov",
"categories": ["exams", "requests", "hardcore"],
"posts": [ {
  "content": "Rock on!",
  "postDate": "2013-08-19T12:19:24.9550631+03:00",
  "rating": "5/5",
  "postedBy": "Gosho Goshev"
} ]
}, {
  "id": 3,
  "title": "Can't think of any more trolling",
  "dateCreated": "2013-08-20T10:16:24.9550631+03:00",
  "content": "Yep, I can't think of any more threads to troll the students",
  "createdBy": "Joro",
  "categories": ["just troll"],
  "posts": []
}]
```

Threads by category

api/threads?category="requests"

GET

Request { "sessionKey": "1sdkjqjwmMjsAdKLhHsqwsSAsdgapPqNMCASwsloiJHasftEv" }

Response

```
[{
  "id": 1,
  "title": "I want more homework!",
  "dateCreated": "2013-08-16T10:16:24.9550631+03:00",
  "content": "I think that the homework that the trainers are giving us is too little for our capabilities",
  "createdBy": "Ivan Ivanov",
  "categories": ["homework", "web-api", "requests", "more"],
  "posts": [ {
    "content": "I fully agree with you!",
    "postDate": "2013-08-16T10:19:24.9550631+03:00",
    "rating": "5/5",
    "postedBy": "Gosho Goshev"
  } ], {
    "content": "More! More! More! MOREEEEEEE!",
    "postDate": "2013-08-16T10:20:24.9550631+03:00",
    "rating": "5/5",
    "postedBy": "Stamo Stamo"
  } ]
}, {
  "id": 2,
  "title": "We need harder exams!",
  "dateCreated": "2013-08-19T10:16:24.9550631+03:00",
  "content": "The trainers need to think about harder exams, these are too easy",
```

	<pre> "createdBy": "Misho Mishov", "categories": ["exams", "requests", "hardcore"], "posts": [{ "content": "Rock on!", "postDate": "2013-08-19T12:19:24.9550631+03:00", "rating": "5/5", "postedBy": "Gosho Goshev" }] }] </pre>
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Threads with paging (example with full page)

api/threads?page=1&count=2		GET
Request	{ "sessionKey": "1sdkjqjwmMjsAdKLhHsqwsSAsdgapPqNMCASwsloiJHasftEv" }	
Response	<pre> [{ "id": 1, "title": "I want more homework!", "dateCreated": "2013-08-16T10:16:24.9550631+03:00", "content": "I think that the homework that the trainers are giving us is too little for our capabilities", "createdBy": "Ivan Ivanov", "categories": ["homework", "web-api", "requests", "more"], "posts": [{ "content": "I fully agree with you!", "postDate": "2013-08-16T10:19:24.9550631+03:00", "rating": "5/5", "postedBy": "Gosho Goshev" }], { "content": "More! More! More! MOREEEEEEE!", "postDate": "2013-08-16T10:20:24.9550631+03:00", "rating": "5/5", "postedBy": "Stamo Stamov" }] }, { "id": 2, "title": "We need harder exams!", "dateCreated": "2013-08-19T10:16:24.9550631+03:00", "content": "The trainers need to think about harder exams, these are too easy", "createdBy": "Misho Mishov", "categories": ["exams", "requests", "hardcore"], "posts": [{ "content": "Rock on!", "postDate": "2013-08-19T12:19:24.9550631+03:00", "rating": "5/5", "postedBy": "Gosho Goshev" }] }] </pre>	

Threads with paging (example with last page which is not full in this case)

api/threads?page=2&count=2		GET
Request	{ "sessionKey": "1sdkjwjwmMjsAdKLhHsqwsSAsdgapPqNMCASwsloiJHasftEv" }	
Response	<pre>[{ "id": 3, "title": "Can't think of any more trolling", "dateCreated": "2013-08-20T10:16:24.9550631+03:00", "content": "Yep, I can't think of any more threads to troll the students", "createdBy": "Joro", "categories": ["just troll"], "posts": [] }]</pre>	

Posts in a thread by thread Id

api/threads/1/posts		GET
Request	{ "sessionKey": "1sdkjwjwmMjsAdKLhHsqwsSAsdgapPqNMCASwsloiJHasftEv" }	
Response	<pre>[{ "content": "I fully agree with you!", "postDate": "2013-08-16T10:19:24.9550631+03:00", "rating": "5/5", "postedBy": "Gosho Goshev" }, { "content": "More! More! More! MOREEEEEEE!", "postDate": "2013-08-16T10:20:24.9550631+03:00", "rating": "5/5", "postedBy": "Stamo Stamov" }]</pre>	