

CONFLUENT TEST

FEED API

Problem Statement:

Problem:

We want to make a feed reader system. We will have 3 entities in the system: Users, Feeds, Articles. It should support the following operations:

1. Subscribe/Unsubscribe a User to a Feed
2. Add Articles to a Feed
3. Get all Feeds a Subscriber is following
4. Get Articles from the set of Feeds a Subscriber is following

Requirements:

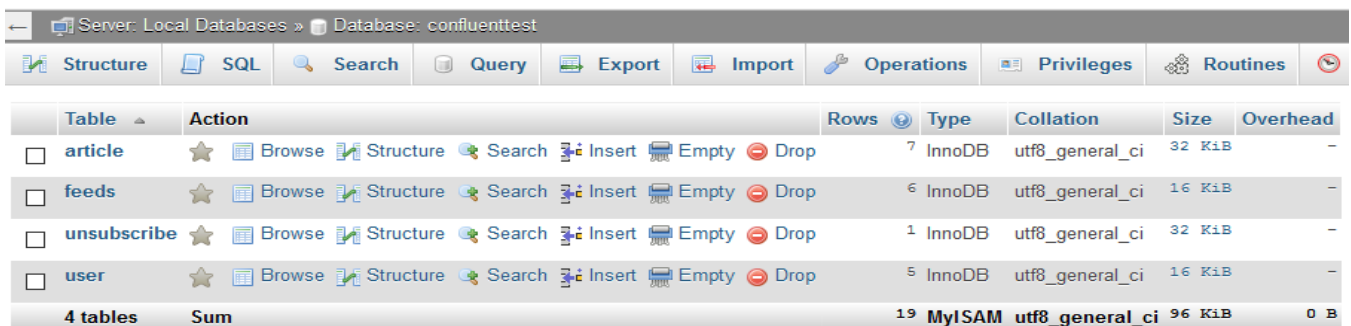
1. Write a service with HTTP endpoints that allow items 1-4 from above
2. It should handle multiple concurrent clients
3. It should persist data across restarts
4. Supply a README explaining your choices and how to run/test your service

Assumptions:

1. No Authentication is required.
2. All Users can see all other Users.
3. All topics of Feeds can be seen by User to select which Feed they want to Unsubscribe/Subscribe.
4. All Users are initially automatically Subscribed to all the Feeds.
5. They must explicitly Unsubscribe to a particular feed if the wish.
6. To Subscribe back they must cancel their Unsubscription.
7. Table Data is completely assumed and the attributes in the table can be increased, currently they are at the very minimum as per requirements.
8. Security Implementation is out of scope of the requirements.

Screen shots of the Database Structure:

- 1) Database 'confluenttest':



The screenshot shows the MySQL Workbench interface for the 'confluenttest' database. The 'Structure' tab is active, displaying a table list with columns: Table, Action, Rows, Type, Collation, Size, and Overhead. The tables listed are 'article', 'feeds', 'unsubscribe', and 'user'. Each table has a star icon for favorite, a document icon for browse, a magnifying glass for search, and icons for insert, empty, and drop. The 'article' table has 7 rows, 'feeds' has 6, 'unsubscribe' has 1, and 'user' has 5. All tables are InnoDB with utf8_general_ci collation. The total size for all tables is 96 KiB.

Table	Action	Rows	Type	Collation	Size	Overhead
article	★ Browse Structure Search Insert Empty Drop	7	InnoDB	utf8_general_ci	32 KiB	-
feeds	★ Browse Structure Search Insert Empty Drop	6	InnoDB	utf8_general_ci	16 KiB	-
unsubscribe	★ Browse Structure Search Insert Empty Drop	1	InnoDB	utf8_general_ci	32 KiB	-
user	★ Browse Structure Search Insert Empty Drop	5	InnoDB	utf8_general_ci	16 KiB	-
4 tables	Sum	19	MyISAM	utf8_general_ci	96 KiB	0 B

2) User Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/> 1	uid	int(11)			No	None		AUTO_INCREMENT
<input type="checkbox"/> 2	uname	varchar(60)	utf8_general_ci		No	None		

3) Feeds Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/> 1	feedid	int(11)			No	None		AUTO_INCREMENT
<input type="checkbox"/> 2	topic	varchar(100)	utf8_general_ci		No	None		

4) Article Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/> 1	aid	int(11)			No	None		AUTO_INCREMENT
<input type="checkbox"/> 2	fid	int(11)			No	None		
<input type="checkbox"/> 3	articledesc	varchar(250)	utf8_general_ci		Yes	NULL		

Foreign key constraints

Actions	Constraint properties	Column	Foreign key constraint (INNODB)		
			Database	Table	Column
Drop	FK_feed_article_fid	fid	confluenttest	feeds	feedid
	ON DELETE	RESTRICT			
	ON UPDATE	RESTRICT			

+ Add column

5) Unsubscribe Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/> 1	uid	int(11)			No	None		
<input type="checkbox"/> 2	fid	int(11)			No	None		
















Foreign key constraints

Actions	Constraint properties	Column	Foreign key constraint (INNODB)		
			Database	Table	Column
Drop	FK_feed_uns_fid	fid	confluenttest	feeds	feedid
	ON DELETE	RESTRICT			
	ON UPDATE	RESTRICT			
Drop	FK_user_uns_uid	uid	confluenttest	user	uid
	ON DELETE	RESTRICT			
	ON UPDATE	RESTRICT			

+ Add column

Screen shots of the Data in DB:

1) User Table:

+ Options				
← T →				
			uid	uname
<input type="checkbox"/>	 Edit	 Copy	 Delete	1 sap1
<input type="checkbox"/>	 Edit	 Copy	 Delete	2 abc1
<input type="checkbox"/>	 Edit	 Copy	 Delete	3 xyz
<input type="checkbox"/>	 Edit	 Copy	 Delete	4 johnd
<input type="checkbox"/>	 Edit	 Copy	 Delete	5 mary

2) Feeds Table:

feedid	topic
1	USA Politics
2	World Economy
3	Confluent Growth
4	New York News
5	Indian Economy
6	Game of Thrones

3) Article Table:

aid	fid	articledesc
1	1	Trump Administration pulls out of Paris Climate Ag...
2	2	World eyes Asian markets to drive global growth
3	3	Confluent successfully completed another round of ...
4	4	New Yorkers brace for major delays, as major const...
5	5	Indian economy on a strong path after structural c...
6	1	Trump Admin proposed merit based immigration polic...
7	4	New York is home to the iconic Central Park.

4) Unsubscribe Table:

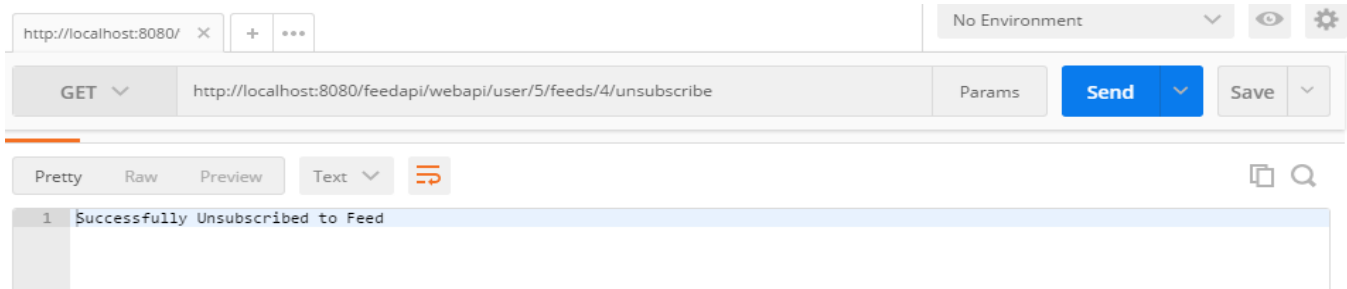
uid	fid
2	5

Screen shots of the tests listed in Tests.txt:

1) *Unsubscribe a User to a Feed*

HTTP Endpoint: <http://localhost:8080/feedapi/webapi/user/5/feeds/4/unsubscribe>

GET Request



Here user id=5, feed id= 4

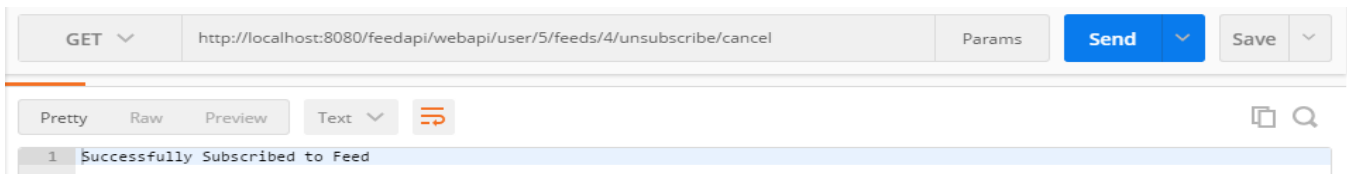
Unsubscribe Table

uid	fid
5	4
2	5

2) *Subscribe to a Feed*

HTTP Endpoint: <http://localhost:8080/feedapi/webapi/user/5/feeds/4/unsubscribe/cancel>

GET Request



Here the above User re-subscribed to Feed 4

Unsubscribe Table

uid	fid
2	5

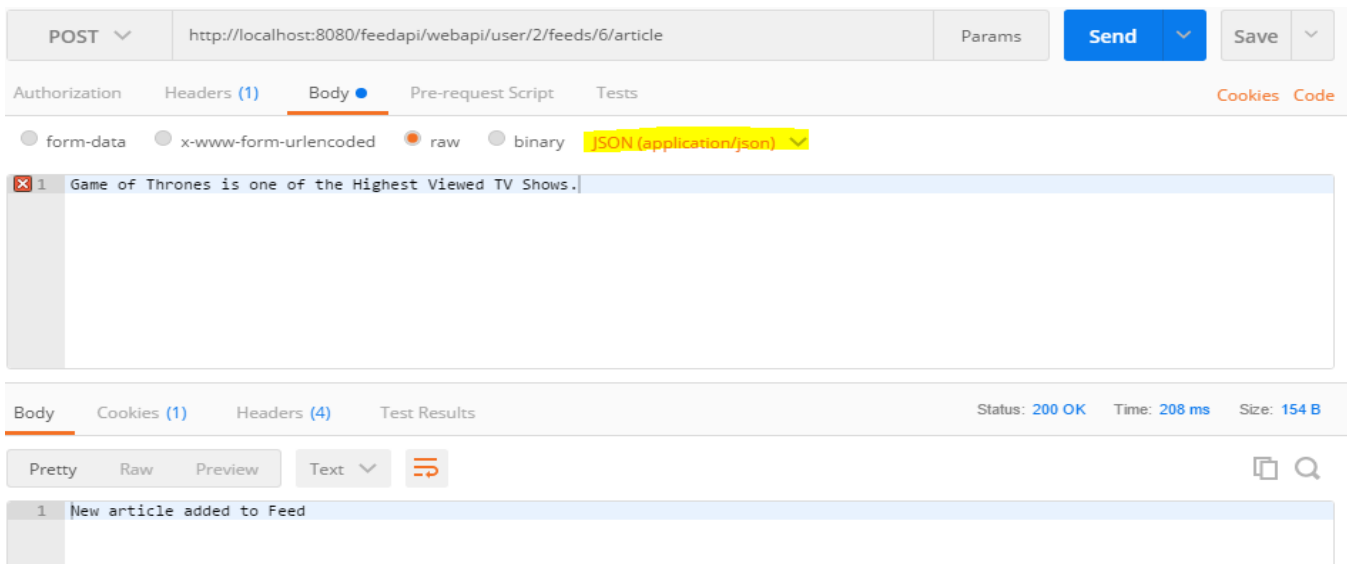
3) *Add Article to Feed*

HTTP Endpoint: <http://localhost:8080/feedapi/webapi/user/2/feeds/6/article>

POST Request

In Params modify the body to send (application/JSON).

In the body send: Game of Thrones is one of the Highest Viewed TV Shows.



Here User 2 added Article to Feed 6

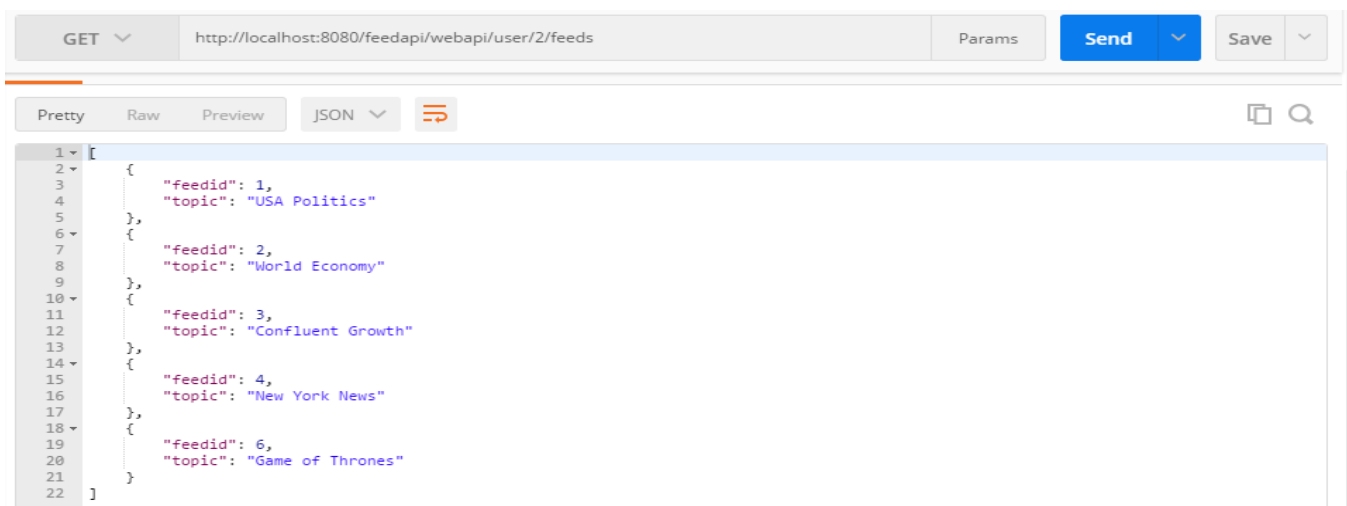
Article Table:

aid	fid	articledesc
1	1	Trump Administration pulls out of Paris Climate Ag...
2	2	World eyes Asian markets to drive global growth
3	3	Confluent successfully completed another round of ...
4	4	New Yorkers brace for major delays, as major const...
5	5	Indian economy on a strong path after structural c...
6	1	Trump Admin proposed merit based immigration polic...
7	4	New York is home to the iconic Central Park.
8	6	Game of Thrones is one of the Highest Viewed TV Sh...

4) Get all Feeds the Subscriber is following

HTTP Endpoint: <http://localhost:8080/feedapi/webapi/user/2/feeds>

GET Request



Here User 2 has Unsubscribed to Feed 5. Hence we do not see that Feed.

5) *Get Articles from a set of Feeds the user is following*

HTTP Endpoint: <http://localhost:8080/feedapi/webapi/user/5/feeds/5/article/1/3>

GET Request

GET <http://localhost:8080/feedapi/webapi/user/5/feeds/5/article/1/3> Params Send Save

Body Cookies (1) Headers (4) Test Results Status: 200 OK Time: 90 ms Size: 490 B

Pretty Raw Preview JSON

```
[
  {
    "aid": 1,
    "articledesc": "Trump Administration pulls out of Paris Climate Agreement",
    "fid": 1
  },
  {
    "aid": 2,
    "articledesc": "World eyes Asian markets to drive global growth",
    "fid": 2
  },
  {
    "aid": 3,
    "articledesc": "Confluent successfully completed another round of funding",
    "fid": 3
  },
  {
    "aid": 6,
    "articledesc": "Trump Admin proposed merit based immigration policy.",
    "fid": 1
  }
]
```

Additional Features:

6) *View all Users*

HTTP Endpoint: <http://localhost:8080/feedapi/webapi/user>

GET Request

GET <http://localhost:8080/feedapi/webapi/user> Params Send Save

Body Cookies (1) Headers (4) Test Results Status: 200 OK Time: 489 ms Size: 257 B

Pretty Raw Preview JSON

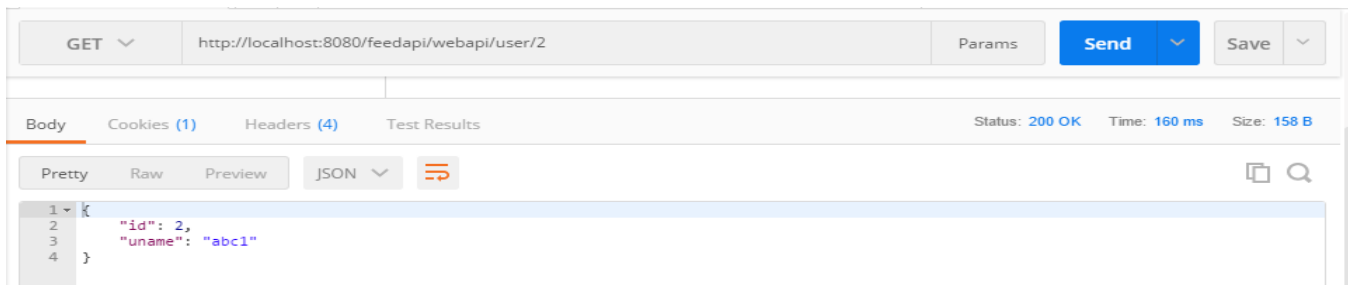
```
[
  {
    "id": 1,
    "uname": "sap1"
  },
  {
    "id": 2,
    "uname": "abc1"
  },
  {
    "id": 3,
    "uname": "xyz"
  },
  {
    "id": 4,
    "uname": "johnd"
  },
  {
    "id": 5,
    "uname": "mary"
  }
]
```

7) *View a User*

HTTP Endpoint: <http://localhost:8080/feedapi/webapi/user/2>

GET Request

Here 2= user id (You may use any id listed in the database.)



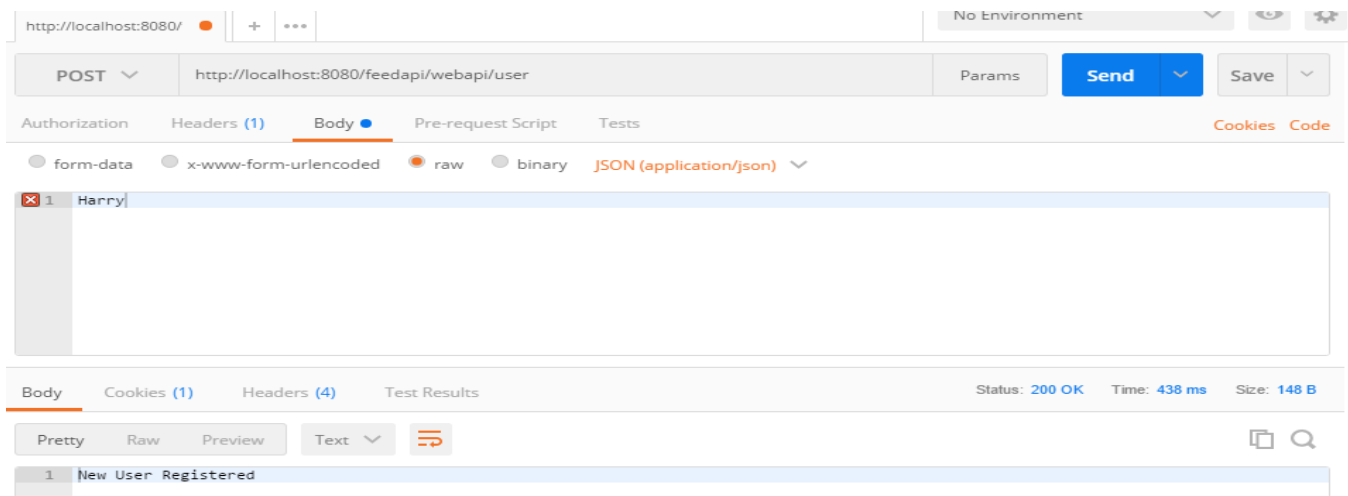
8) Add a User

HTTP Endpoint: <http://localhost:8080/feedapi/webapi/user>

POST Request

In Params modify the body to send (application/JSON).

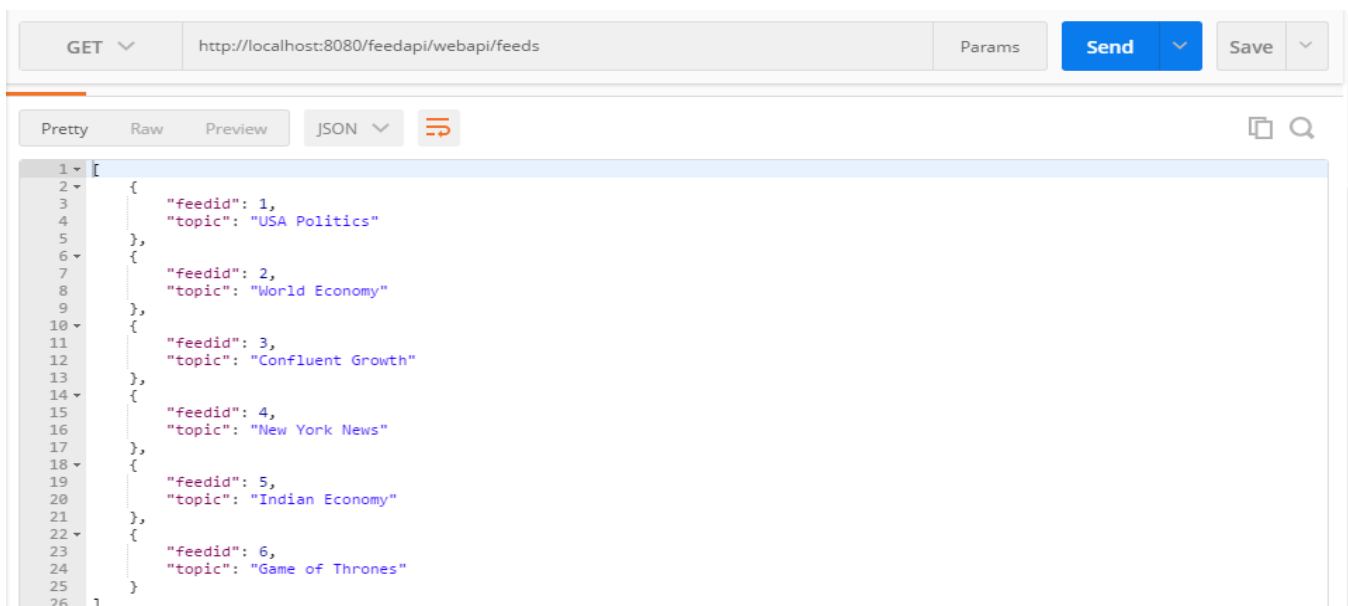
In the body send: Harry



9) View all Feeds

HTTP Endpoint: <http://localhost:8080/feedapi/webapi/feeds>

GET Request

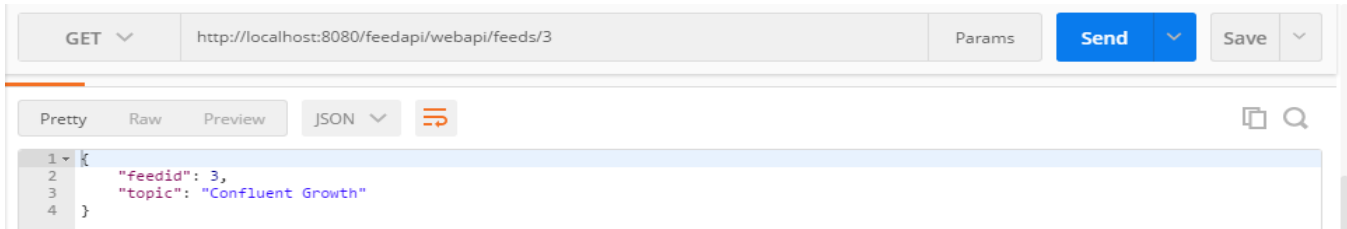


10) View a particular Feed

HTTP Endpoint: <http://localhost:8080/feedapi/webapi/feeds/3>

GET Request

Here 3 = Feed ID (You may use any id listed in the database.)



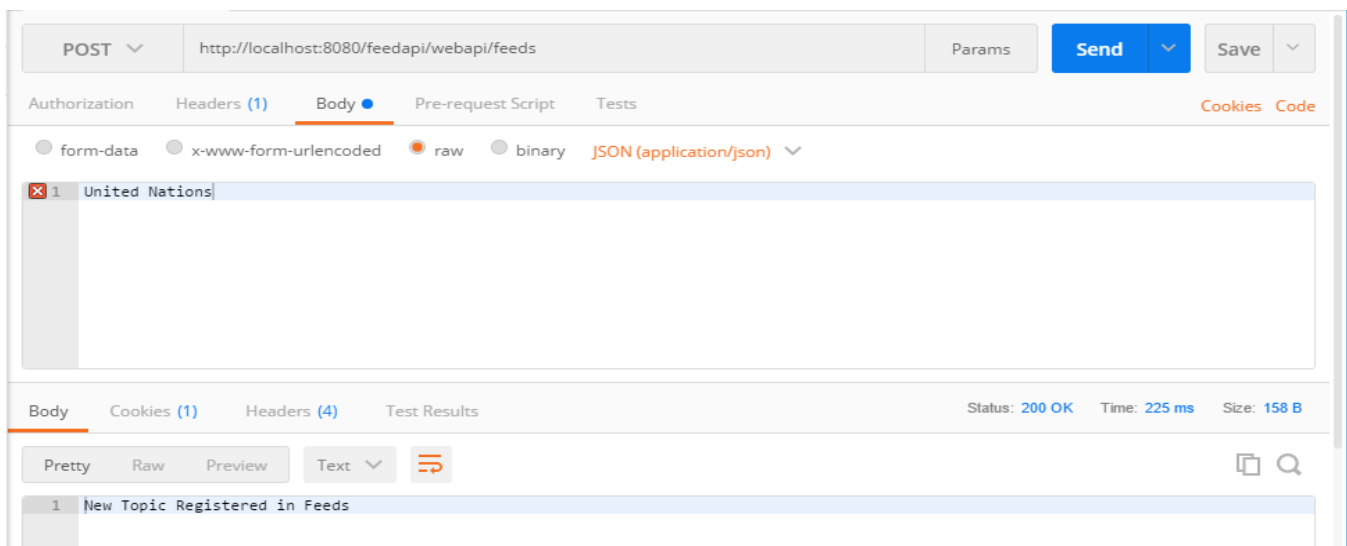
11) Add a topic to Feed

HTTP Endpoint: <http://localhost:8080/feedapi/webapi/feeds>

POST Request

In Params modify the body to send (application/JSON).

In the body send: United Nations



feedid	topic
1	USA Politics
2	World Economy
3	Confluent Growth
4	New York News
5	Indian Economy
6	Game of Thrones
7	United Nations