Database: Service Layer

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SWDV 691: SOFTWARE DEVELOPMENT CAPSTONE 1W 25/SP2

Professor: Joseph Gradecki

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Overview

The backend services for my web application will be a Spring Boot web application. The clients will interact with the Web browser which calls into the web application get web pages back. The web application will interact with the database.

The web application will be broken into two layers.

1. Controller: The URL endpoints will call into the controllers. The controllers will connect to the Services layer to get the requested data. It will then send the data back as an HTML page for the browser to display.

2. Services: The code that will handle the business logic and retrieving data from the database, do any type of massaging of the data and sending it back to the Controller.
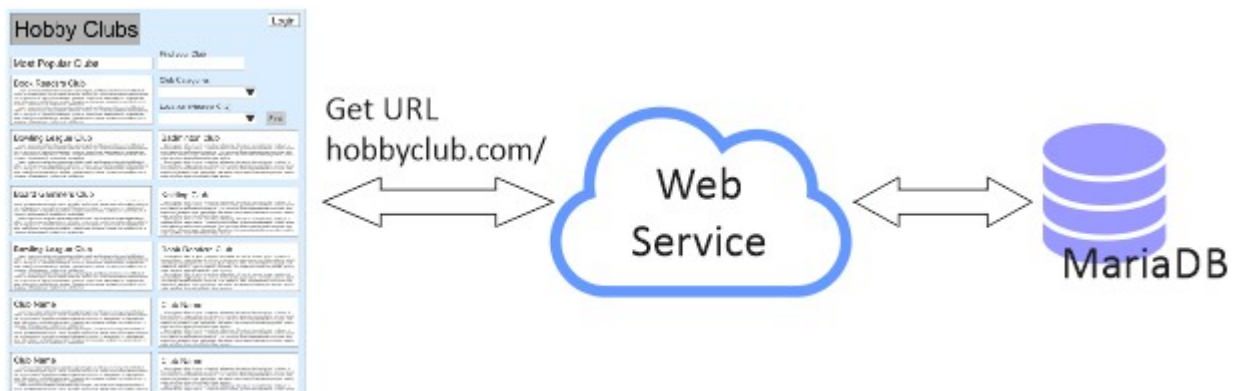
Web Service Layer Specifications:

Home page

Method: GET

URL: https://capstone691.hobbyclub.com/

Purpose: Retrieve hobby club information for popular clubs, base on the number of members and recent

activity.

Example: https://capstone691.hobbyclub.com/

Success Response data:

List of clubs:
      club:
            id: 123
            title: Book Readers Club
            description: Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.
            city: St Louis
            members: 22

Error Response data:

500 Service error

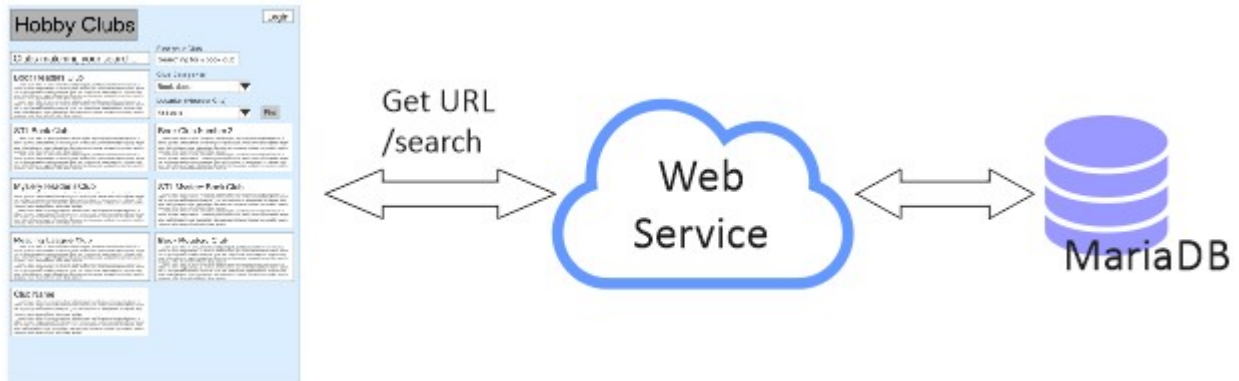message: Server Error. Unable to process request.

Search page

Method: GET

URL: https://capstone691.hobbyclub.com/search?

category=:category&location=:location&params=:customerSearchText

Purpose: Retrieve hobby club information base on the search criteria passed in.

Example: https://capstone691.hobbyclub.com/search?category=books&location=st

%20louis&params=reading%20clubs

Success Response data:

200 Success

List of clubs:
      club:
            id: 123
            title: Book Readers Club
            description: Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.
            city: St Louis
            state: Missouri
            members: 22

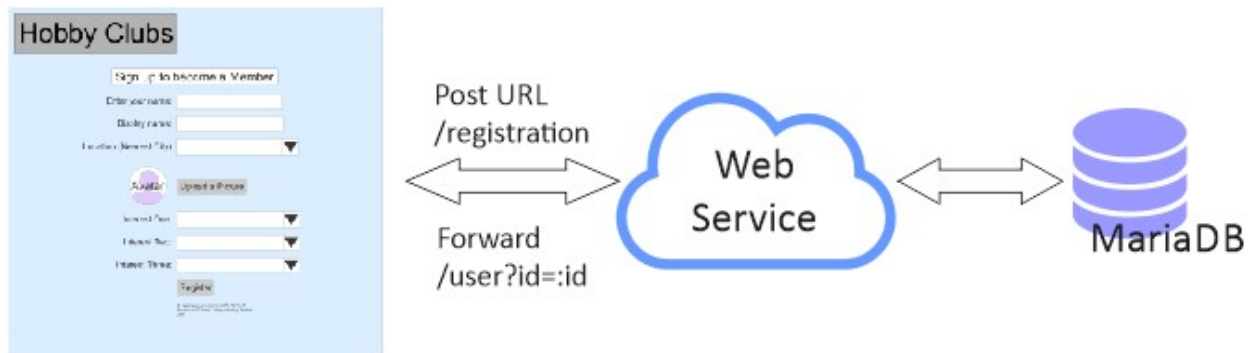Error Response data:

400 Bad Request

message: Category is required.

Registration

Method: POST

URL: https://capstone691.hobbyclub.com/registration

Purpose: Creates a new member account.

Example: https://capstone691.hobbyclub.com/registration \
    --header 'Content-Type: application/json' \
    --data '{
        "firstName": "Gary"
        "lastName": "Deken",
        "nickName": "Gary",
        "location": "St Louis",
        "interests": [
           {
                "category", "Books"
           }
        ]
    }'

Success Response data:

201 Created (forwarded to user's home page.)

id: 2
message: Gary Deken's account has been created.

Error Response data:

400 Bad Request

status: 400
message: Last Name is required.

User's Home page

Method: GET

URL: https://capstone691.hobbyclub.com/user?id=:id

Purpose: Retrieves the user's home page, display events and topics related to the user's clubs. Also,

listing clubs the user belongs to and/or created. This is restricted to the user logged in.

Example: https://capstone691.hobbyclub.com/club?id=22
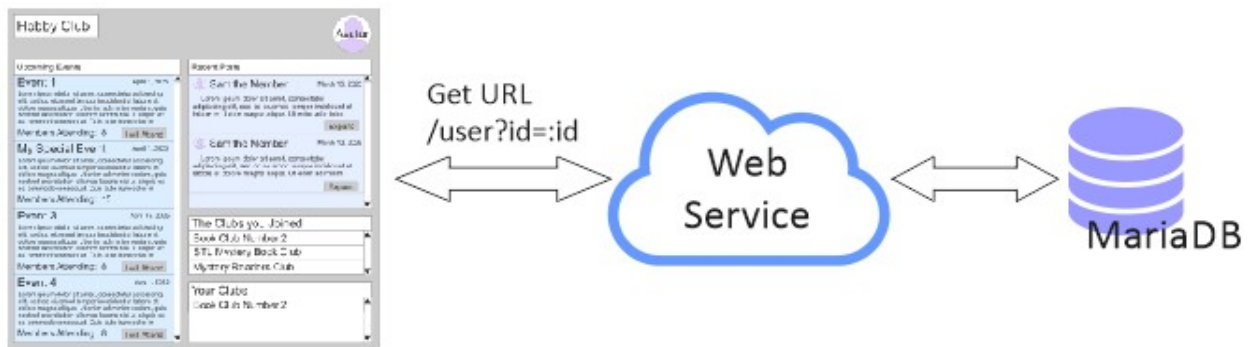
Success Response data:

200 Success

List of Events:
        Event:
                id: 2
                title: Weekly Reading group
                details: Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor
incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco
laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit
esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa
qui officia deserunt mollit anim id est laborum.
                datetime: 03/25/2025 7:00pm
                city: St Louis
                noattend: 6

List of Topics:

        Topic:

                id: 4

                author: Sam the Member

                message: Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse.

                datetime: 03/15/2025 7:00pm

                List of Replies:

                        Reply:

                                author: Joe the Member

                                message: Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse.

                                datetime: 03/15/2025 7:15pm

List of joined clubs:

        club:

                id: 3

                title: Book Club Number 3

        club:

                id:12

                title: STL Mystery Book Club

List of create clubs:

        club:

                id:12

                title: STL Mystery Book Club

Error Response Data:

400 Bad Request
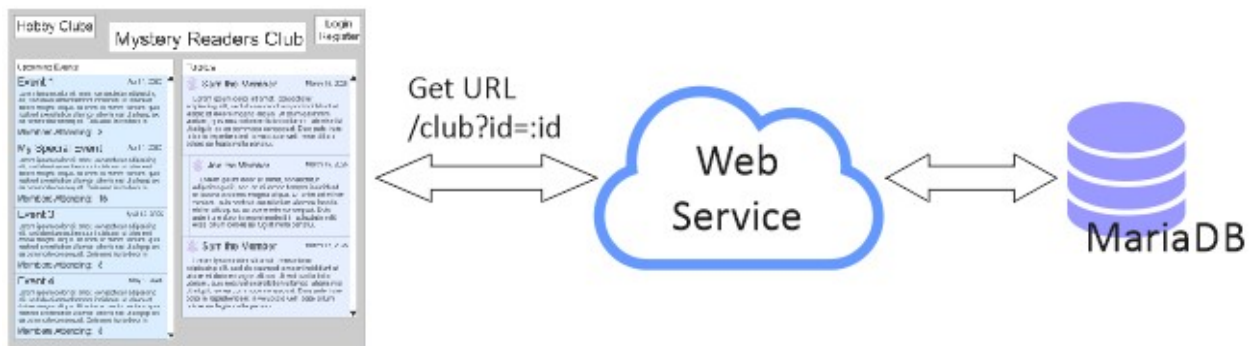
status: 400
message: User ID is invalid.

Status: 401
message: Unauthorized.

Club Home page

Method: GET

URL: https://capstone691.hobbyclub.com/club?id=:id

Purpose: Retrieves the basic club information base on the Id.

Example: https://capstone691.hobbyclub.com/club?id=22

Success Response data:

200 Success

List of Events:
 id: 2
 title: Weekly Reading group
 details: Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.
 datetime: 03/25/2025 7:00pm
 city: St Louis
 noattend: 6
List of Topics:
 id: 4
 author: Sam the Member
 message: Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse.
 datetime: 03/15/2025 7:00pm
 List of Replies:

author: Joe the Member

message: Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse.

datetime: 03/15/2025 7:15pm
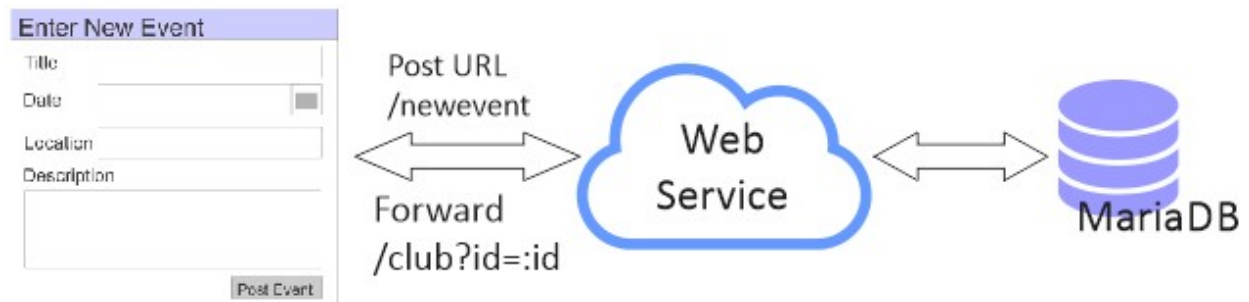
Error Response Data:

400 Bad Request

status: 400
message: Club ID is required.

Create new Events

Method: POST

URL: https://capstone691.hobbyclub.com/newevent

Purpose: To post a new event on the hobby club page. On a successful post it will return to the club

home page.

Example: curl –request POST –url https://capstone691.hobbyclub.com/newevent \
--header 'Content-Type: application/json' \
--data '{
"clubid": "22",
"title": "Special guest event",
"date": "03-25-2025",
"time": "7:15 pm",
"location": "St Louis",
"description": "Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod

tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum."

       }'

Success Response:

201 Created

```
{
        "status": 201,
        "message": "Event Created"
}
```
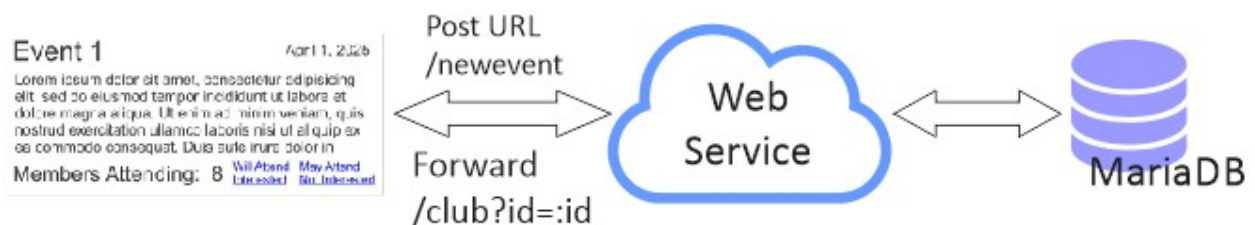
Error Response:

400 Bad Request

```
{
        "status": 400,
        "message": "Title is required."
}
```

Mark Interest in Event

Method: POST

URL: https://capstone691.hobbyclub.com/eventinterest

Purpose: To mark a members interest in an event.

Example: curl –request POST –url https://capstone691.hobbyclub.com/eventinterest \
       --header 'Content-Type: application/json' \
       --data '{
              "clubid": "22",

> "eventid": "54",
> "interest": "WA"
>
> }'

Success Response:

201 Created

status: 201
message: Interest noted on Event
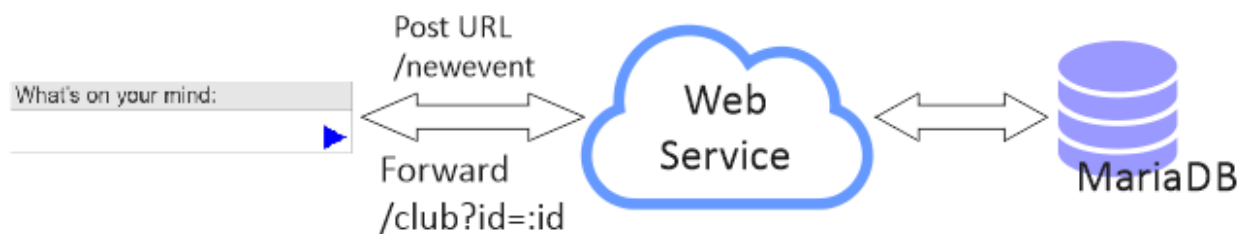
Error Response:

400 Bad Request

status: 400
message: Event ID is required.

New Topic

Method: POST

URL: https://capstone691.hobbyclub.com/newtopic

Purpose: To add a new topic on the hobby club page.

Example: curl –request POST –url https://capstone691.hobbyclub.com/newtopic \
 --header 'Content-Type: application/json' \
 --data '{
  "clubid": "22",
  "message": "Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse."
 }'

Success Response Data:

201 Created

status: 201
message: Topic Created
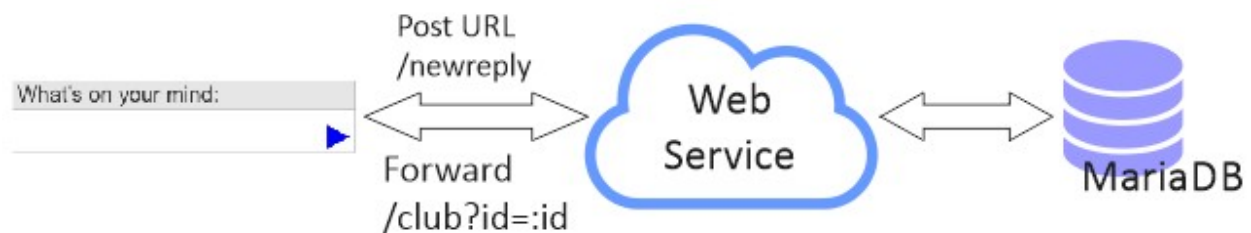
Error Response Data:

400 Bad Request

status: 400
message: Club ID is required.

New Reply

Method: POST

URL: https://capstone691.hobbyclub.com/newreply

Purpose: To reply to a topic on the hobby club page.

Example: curl –request POST –url https://capstone691.hobbyclub.com/newreply \
    --header 'Content-Type: application/json' \
    --data '{
        "clubid": "22",
        "topicid": "12",
        "message": "Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit."
    }'

Success Response:

201 Created

status: 201
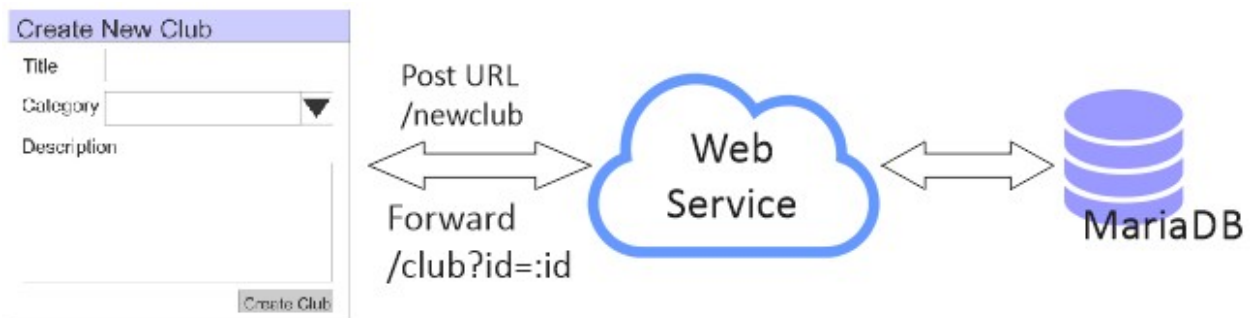message: Reply Created

Error Response:

400 Bad Request

status: 400
message: topic ID is required.

Create a new Club

Method: POST

URL: https://capstone691.hobbyclub.com/newclub

Purpose: Creates a new club with the information passed in.

Example: curl –request POST –url https://capstone691.hobbyclub.com/newclub \
    --header 'Content-Type: application/json' \
    --data '{
        "name": "Mystery Reader's Club",
        "category": "2",
        "description": "Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.",
        "datetime": "02-24-2025 8:45pm",
        "creatorid": "43",
        "cityid": "87",
        "stateid": "14"
    }'

Success Response Data:

201 Created

id: 2
message: Mystery Reader's Club Created.

Error Response Data:

400 Bad Request

status: 400
message: Club Category is required.