Web API Design with SpringBoot Week 1 Coding Assignment

Points possible: 70

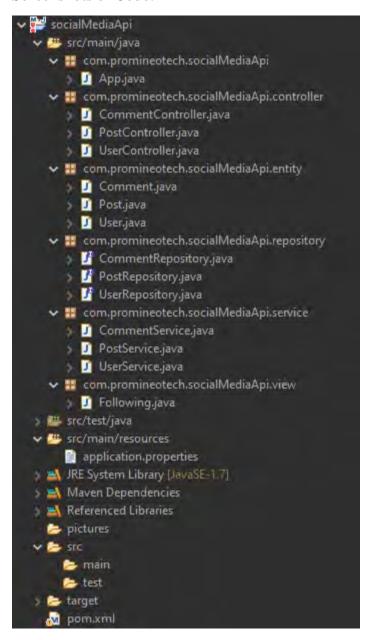
Category	Criteria	% of Grade
Functionality	Does the code work?	25
Organization	Is the code clean and organized? Proper use of white space, syntax, and consistency are utilized. Names and comments are concise and clear.	25
Creativity	Student solved the problems presented in the assignment using creativity and out of the box thinking.	25
Completeness	All requirements of the assignment are complete.	25

Instructions: In Eclipse, or an IDE of your choice, write the code that accomplishes the objectives listed below. Ensure that the code compiles and runs as directed. Take screenshots of the code and of the running program (make sure to get screenshots of all required functionality) and paste them in this document where instructed below. Create a new repository on GitHub for this week's assignments and push this document, with your Java project code, to the repository. Add the URL for this week's repository to this document where instructed and submit this document to your instructor when complete.

Coding Steps:

Follow the tutorial in the homework section to build an API. Paste screenshots of your code and your postman requests and responses to show the API works. Push your project to GitHub and paste the link below.

Screenshots of Code:



```
1 package com.promineotech.socialMediaApi.controller;
  30 import org.springframework.beans.factory.annotation.Autowired;
        @RequestMapping(method=RequestMethod.GET)
         public ResponseEntity<Object> getAllPosts() {
             return new ResponseEntity<Object>(service.getAllPosts(), HttpStatus.OK);
        @RequestMapping(value="/{postId}", method=RequestMethod.GET)
public ResponseEntity<Object> getPost(@PathVariable Long postId) {
            return new ResponseEntity<Object>(service.getPost(postId), HttpStatus.OK);
        @RequestMapping(value="/{postId", method=RequestMethod.PUT)
public ResponseEntity<Object> updatePost(@RequestBody Post post, @PathVariable Long postId) {
                 return new ResponseEntity<Object>(service.updatePost(post, postId), HttpStatus.OK);
                 return new ResponseEntity<Object>(e.getMessage(), HttpStatus.BAD_REQUEST);
        @RequestMapping(method=RequestMethod.POST)
         public ResponseEntity<Object> createPost(@RequestBody Post post, @PathVariable Long userId) {
             try {
    return new ResponseEntity<Object>(service.createPost(post, userId), HttpStatus.OK);
                 return new ResponseEntity<Object>(e.getMessage(), HttpStatus.BAD_REQUEST);
```

```
☑ UserController.java 

X

   1 package com.promineotech.socialMediaApi.controller;
  30 import java.nio.file.Files;
 22 @RequestMapping("/users")
           @RequestMapping(value = "/register", method = RequestMethod.POST)
public ResponseEntity<Object> register(@RequestBody User user) {
    return new ResponseEntity<Object>(service.createUser(user), HttpStatus.CREATED);
           @RequestMapping(value = "/login", method = RequestMethod.POST)
public ResponseEntity<Object> login(@RequestBody User user) {
    try {
                 } catch (Exception e) {
  return new ResponseEntity<Object>(e.getMessage(), HttpStatus.BAD_REQUEST);
           @RequestMapping(value = "/{id}/follows")
public ResponseEntity<Object> showFollowedUsers(@PathVariable Long id) {
                         eturn new ResponseEntity<Object>(service.getFollowedUsers(id), HttpStatus.CREATED);
                 } catch (Exception e) {
    return new ResponseEntity<Object>(e.getMessage(), HttpStatus.BAD_REQUEST);
          @RequestMapping(value = "/{id}/follows/{followId}", method = RequestMethod.POST)
public ResponseEntity<Object> follow(@PathVariable Long id, @PathVariable Long followId) {
53●
                try {
    return new ResponseEntity<Object>(service.follow(id, followId), HttpStatus.CREATED);
                 } catch (Exception e) {
   return new ResponseEntity<Object>(e.getMessage(), HttpStatus.BAD_REQUEST);
           @RequestMapping(value="/{id}/profilePicture", method = RequestMethod.POST)
public ResponseEntity<Object> singleFileUpload(@PathVariable Long id, @RequestParam("file") MultipartFile file) {
   if (file.isEmpty()) {
                       return new ResponseEntity<Object>("Please upload a file.", HttpStatus.BAD_REQUEST);
                try {
    String url = UPLOADED_FOLDER + file.getOriginalFilename();
    byte[] bytes = file.getBytes();
    Path path = (Path) Paths.get(url);
    it (math bytes);
                 return new ResponseEntity<Object>(service.updateProfilePicture(id, url), HttpStatus.CREATED);
} catch (Exception e) {
                       return new ResponseEntity<Object>(e.getMessage(), HttpStatus.INTERNAL_SERVER_ERROR);
```

```
Comment.java X
 1 package com.promineotech.socialMediaApi.entity;
 3 import java.util.Date; ...
        private String content;
private Date date;
        private User user;
220
        private Post post;
25●
        @GeneratedValue(strategy = GenerationType.AUTO)
        public Long getId() {
    return id;
        public void setId(Long id) {
31●
35●
        public String getContent() {
39●
        public void setContent(String content) {
        public Date getDate() {
            return date;
        public void setDate(Date date) {
47●
         return post;
      public void setPost(Post post) {
      @ManyToOne
          return user;
```

```
🗾 Post.java 🗙
  package com.promineotech.socialMediaApi.entity;
  39 import java.util.Date;
        private Long id;
private String content;
private Date date;
private User user;
        @GeneratedValue(strategy = GenerationType.AUTO)
public Long getId() {
    return id;
        public void setContent(String content ) {
    this.content = content;
         public void setDate(Date date) {
    this.date = date;
 49●
           @ManyToOne
           @JoinColumn(name = "userId")
           public User getUser() {
                 return user;
 55●
            public void setUser(User user) {
                 this.user = user;
 59●
           @OneToMany(mappedBy = "post")
            public Set<Comment> getComments() {
                 return comments;
            public void setComments(Set<Comment> comments) {
 649
                 this.comments = comments;
```

```
🚺 User.java 🗶
   1 package com.promineotech.socialMediaApi.entity;
   3<sup>o</sup> import java.util.Set;
          private Long id;
private String username;
private String profilePictureUrl;
          private Set<User> following;
  32●
          private Set<Comment> comments;
          @GeneratedValue(strategy = GenerationType.AUTO)
          public Long getID() {
    return id;
 419
           public void setID(Long id) {
 45●
           public String getUsername() {
 49●
```

```
public String getPassword() {
            return password;
        @JsonProperty
        public void setPassword(String password) {
    this.password = password;
        @OneToMany(mappedBy = "user")
public Set<Post> getPosts() {
    return posts;
630
        public void setPosts(Set<Post> posts) {
689
        @OneToMany (mappedBy = "user")
public Set<Comment> getComments() {
            return comments;
        public void setComments(Set<Comment> comments) {
             this.comments = comments;
819
        @ManyToMany(cascade = CascadeType.ALL)
        @JoinTable(name = "following",
                 joinColumns = @JoinColumn(name = "userId", referencedColumnName = "id"),
inverseJoinColumns = @JoinColumn(name = "followingId", referencedColumnName = "id"))
        public Set<User> getFollowing() {
            return following;
890
        public void setFollowing(Set<User> following) {
            this.following = following;
             public String getProfilePictureUrl() {
                    return profilePictureUrl;
             public void setProfilePictureUrl(String profilePictureUrl) {
 97●
                    this.profilePictureUrl = profilePictureUrl;
             }
100 }
```

```
CommentRepository.java X

1 package com.promineotech.socialMediaApi.repository;
2
3 import org.springframework.data.repository.CrudRepository;
6
7 public interface CommentRepository extends CrudRepository<Comment, Long> {
8
9 }
10
11
```

```
PostRepository.java X

1 package com.promineotech.socialMediaApi.repository;
2
3 import org.springframework.data.repository.CrudRepository;
6
7 public interface PostRepository extends CrudRepository<Post, Long> {
8
9 }
10
```

```
UserRepository.java X

1 package com.promineotech.socialMediaApi.repository;
2
3 import org.springframework.data.repository.CrudRepository;
6
7 public interface UserRepository extends CrudRepository<User, Long> {
8
9    public User findByUsername(String username);
10 }
11
```

```
🚺 PostService.java 🗶
    package com.promineotech.socialMediaApi.service;
 30 import java.util.Date; ...
169
        private PostRepository repo;
        private UserRepository userRepo;
220
        public Iterable<Post> getAllPosts() {
             return repo.findAll();
26●
        public Post getPost(Long id) {
            return repo.findOne(id);
             Post foundPost = repo.findOne(id);
             if (foundPost == null) {
    throw new Exception("Post not found.");
             foundPost.setContent(post.getContent());
             return repo.save(foundPost);
<u>1</u>39●
        public Post PostService(Post post, Long id) throws Exception {
             Post foundPost = repo.findOne(id);
             if (foundPost == null) {
                 throw new Exception("Post not found.");
             foundPost.setContent(post.getContent());
             return repo.save(foundPost);
48●
        public Post createPost(Post post, Long userId) throws Exception {
            User user = userRepo.findOne(userId);
             if (user == null) {
    throw new Exception("User not found.");
             post.setDate(new Date());
             post.setUser(user);
             return repo.save(post);
```

```
UserService.java X
 1 package com.promineotech.socialMediaApi.service;
 40 import org.springframework.beans.factory.annotation.Autowired;
149
       @Autowired
       private UserRepository repo;
17●
        public User createUser(User user) {
            return repo.save(user);
219
        public User login(User user) throws Exception {
            User foundUser = (User) repo.findByUsername(user.getUsername());
            if (foundUser != null && foundUser.getPassword().equals(user.getPassword())) {
                return foundUser;
                throw new Exception("Invalid username or password.");
30€
        public Following follow(Long userId, Long followId) throws Exception {
            User user = repo.findOne(userId);
            User follow = repo.findOne(followId);
            if (user == null || follow == null) {
                throw new Exception("User does not exist.");
            user.getFollowing().add(follow);
            repo.save(user);
            return new Following(user);
419
            User user = (User) repo.findOne(userId);
            if (user == null) {
                throw new Exception ("User does not exist.");
            return new Following(user);
49●
        public User updateProfilePicture(Long userId, String url) throws Exception {
            User user = (User) repo.findOne(userId);
            if (user == null) {
                throw new Exception ("User does not exist.");
            user.setProfilePictureUrl(url);
            return repo.save(user);
```

```
☑ Following.java 

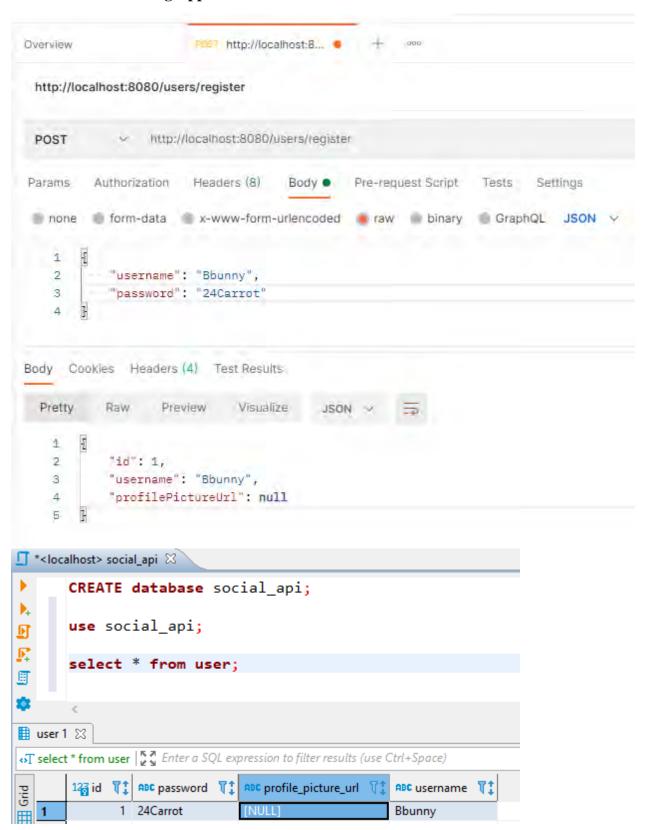
X

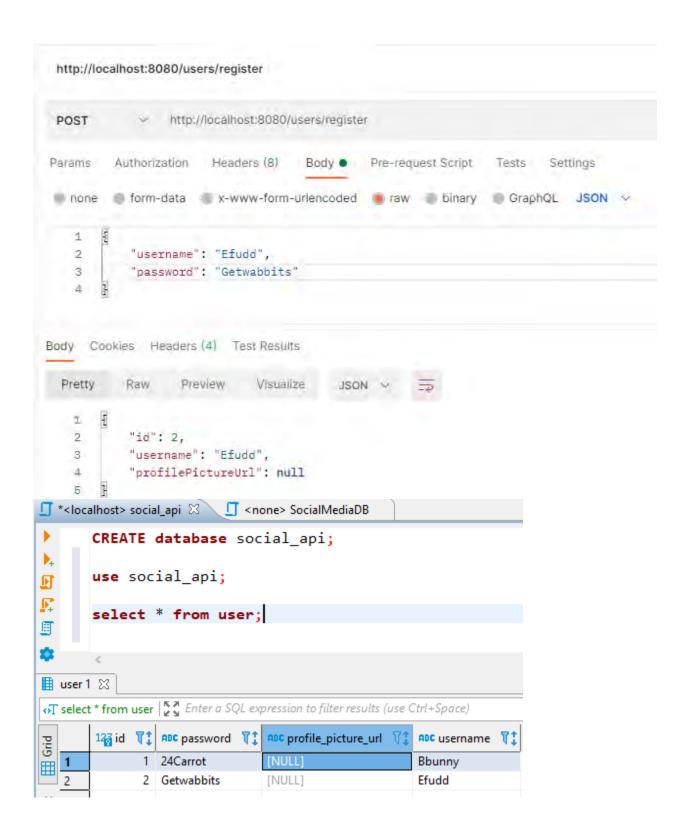
 1 package com.promineotech.socialMediaApi.view;
 30 import java.util.Set;
 7 public class Following {
        private Set<User> following;
119
        public Following(User user) {
12
            following = user.getFollowing();
13
        }
15●
        public Set<User> getFollowing() {
            return following;
17
        public void setFollowing(Set<User> following) {
199
            this.following = following;
21
22
23 }
```

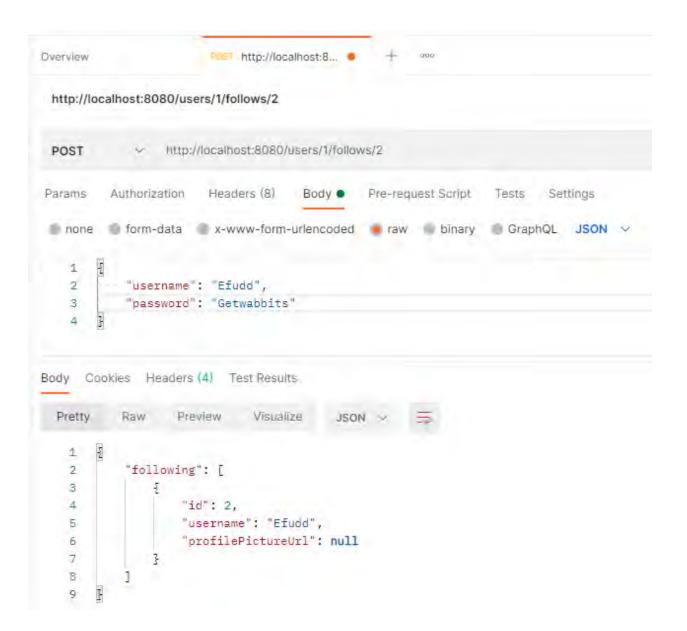
```
application.properties X

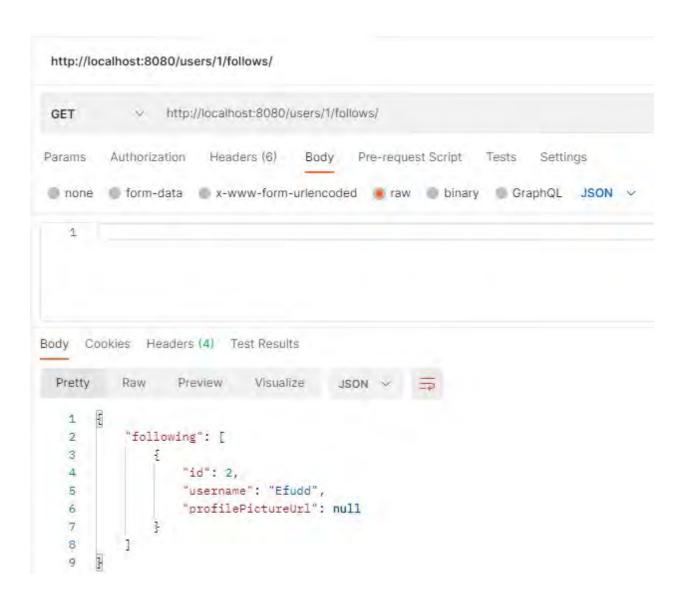
1 spring.datasource.url=jdbc:mysql://localhost/social_api
2 spring.datasource.username=root
3 spring.datasource.password=wxkxxxvvvvvvv
4 spring.datasource.driver-class-name=com.mysql.jdbc.Driver
5
6 spring.jpa.hibernate.ddl-auto=create
7 spring.jpa.show-sql=true
8 spring.jpa.properties.hibernate.dialect=org.hibernate.dialect.MySQL5Dialect
9
10 multipart.max-file-size=10MB
11 multipart.max-request-size=10MB
```

Screenshots of Running Application:

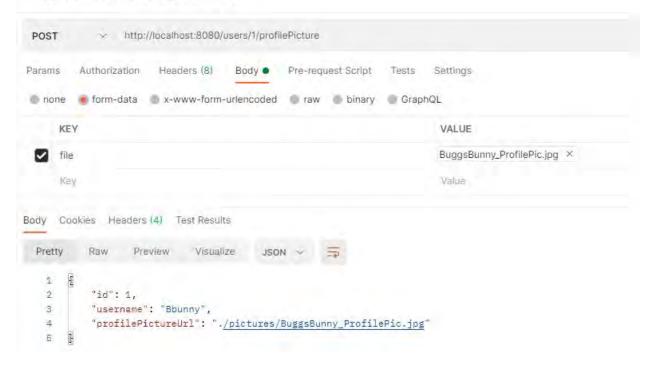








http://localhost:8080/users/1/profilePicture

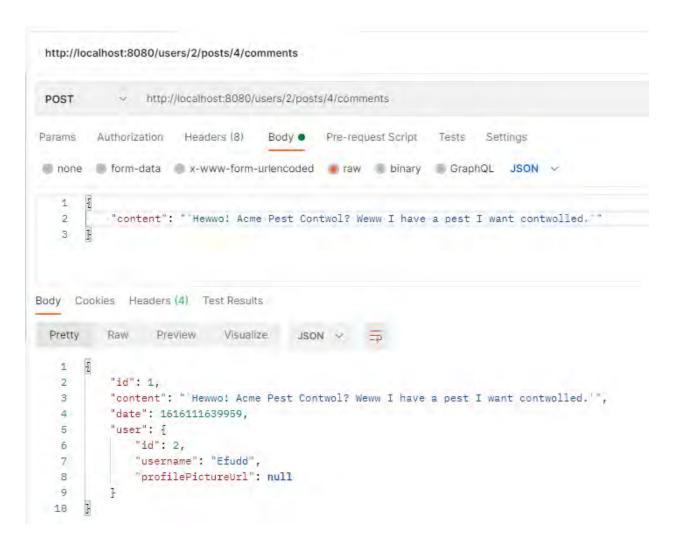


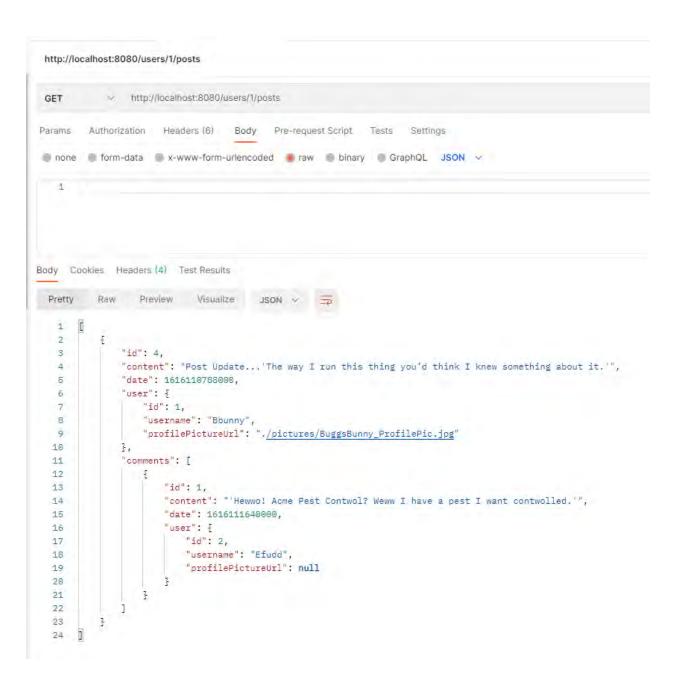
```
http://localhost:8080/users/1/posts
 POST
             http://localhost:8080/users/1/posts
Params Authorization Headers (8) Body Pre-request Script Tests Settings
 none form-data x-www-form-urlencoded raw binary GraphQL JSON V
            "content": "Here I go with the timid little woodland creature bit again. It's shameful, but…ehhh, it's a living."
    2
Body Cookies Headers (4) Test Results
                                        JSON V =
  Pretty
           Raw Preview
                             Visualize
   1
    2
    3
           "content": "Here I go with the timid little woodland creature bit again. It's shameful, but…ehhh, it's a living.",
           "date": 1616110787544,
    4
           "user": {
    5
              "id": 1,
    6
               "username": "Bbunny",
"profilePictureUrl": "./pictures/BuggsBunny_ProfilePic.jpg"
    8
    9
            "comments": null
  10
  11 }
```

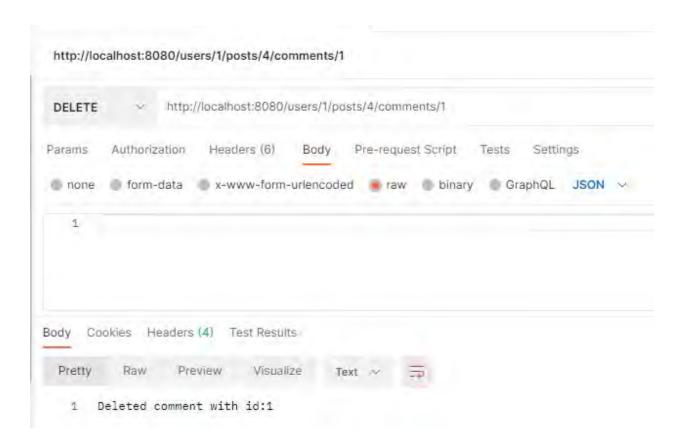
```
http://localhost:8080/users/1/posts
        http://localhost:8080/users/1/posts
 GET
Params Authorization Headers (8) Body Pre-request Script Tests Settings
 none form-data x-www-form-urlencoded raw binary GraphQL JSON v
          "content": "Here I go with the timid little woodland creature bit again. It's shameful, but…ehhh, it's a living."
Body Cookies Headers (4) Test Results
        Raw Preview Visualize JSON ~
  Pretty
      Ē
   1
   2
   3
             "id": 4,
              "content": "Here I go with the timid little woodland creature bit again. It's shameful, but...ehhh, it's a living.",
             "date": 1616110788000,
   5
              "user": {
                 "id": 1,
                "username": "Bbunny",
"profilePictureUrl": "./pictures/BuggsBunny_ProfilePic.jpg"
   8
   9
  10
  11
               "comments": []
  12
  13
 http://localhost:8080/users/1/posts/4
         http://localhost:8080/users/1/posts/4
 GET
Params Authorization Headers (6) Body Pre-request Script Tests Settings
 none form-data x-www-form-urlencoded raw binary GraphQL JSON
Body Cookies Headers (4) Test Results
          Raw Preview Visualize JSON > =
  Pretty
   1
           "id": 4,
   2
           "content": "Here I go with the timid little woodland creature bit again. It's shameful, but...ehhh, it's a living.",
   3
           "date": 1616110788000,
   4
           "user": {
             "id": 1,
   6
             "username": "Bbunny",
"profilePictureUrl": "./pictures/BuggsBunny_ProfilePic.jpg"
   8
   Q.
  10
           "comments": []
  11 }
```

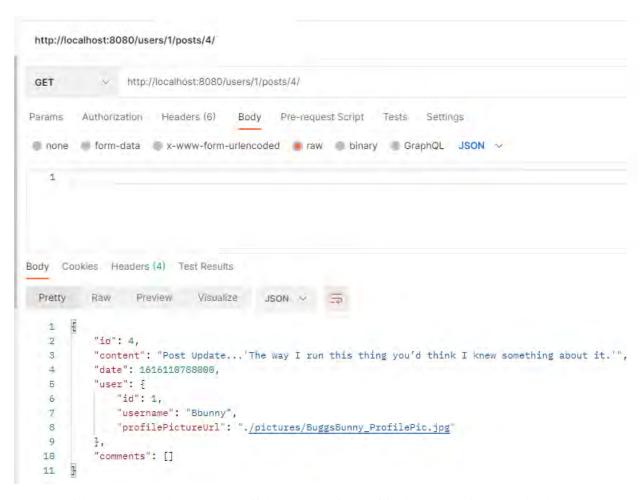
http://localhost:8080/users/1/posts/4 PUT http://localhost:8080/users/1/posts/4 Params Authorization Headers (8) Body Pre-request Script Tests Settings none form-data x-www-form-urlencoded raw binary GraphQL JSON > "content": "Post Update...'The way I run this thing you'd think I knew something about it." 2 3 Body Cookies Headers (4) Test Results Pretty Raw Preview Visualize JSON Y 1 "id": 4, 2 "content": "Post Update...'The way I run this thing you'd think I knew something about it.'", 3 4 "date": 1616110788000, "user": { 5 "id": 1, 6 "username": "Bbunny", "profilePictureUrl": "./pictures/BuggsBunny_ProfilePic.jpg" 7 8 9 10 "comments": []

11 }









URL to GitHub Repository: https://github.com/becje/Springboot_Coding_Assignments