#### 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:**



```
package com.promineotech.socialMediaApi;

import org.springframework.boot.SpringApplication;

@ComponentScan("com.promineotech.socialMediaApi")

@SpringBootApplication
public class App {
    public static void main(String[] args) {
        SpringApplication.run(App.class, args);
    }

13 }
```



```
package com.promineotech.socialMediaApi.service;
3⊕ import java.util.Date;
13 @Service
14 public class PostService {
160
       @Autowired
       private PostRepository repo;
190
       @Autowired
       private UserRepository userRepo;
220
       public Iterable<Post> getAllPosts() {
           return repo.findAll();
26●
       public Post getPost(Long id) {
           return repo.findOne(id);
30€
       public Post updatePost(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);
       }
       public Post createPost(Post post, Long userId) throws Exception {
39●
           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);
       }
48 }
```

```
package com.promineotech.socialMediaApi.service;
   30 import org.springframework.beans.factory.annotation.Autowired;
     public class UserService {
           @Autowired
           private UserRepository repo;
           public User createUser(User user) {
                return repo.save(user);
 20●
           public User login(User user) throws Exception {
                User foundUser = repo.findByUsername(user.getUsername());
if (foundUser != null && foundUser.getPassword().equals(user.getPassword())) {
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                return foundUser;
} else {
                     throw new Exception("Invalid username or password.");
                }
           }
                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);
           }
40 ●
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47
           public Following getFollowedUsers(Long userId) throws Exception {
                User user = repo.findOne(userId);
                if (user == null) {
                     throw new Exception("User does not exist");
                return new Following(user);
 48●
           public User updateProfilePicture(Long userId, String url) throws Exception {
                User user = repo.findOne(userId);
if (user == null) {
   throw new Exception("User does not exist.");
                user.setProfilePictureUrl(url);
                return repo.save(user);
     }
```

```
package com.promineotech.socialMediaApi.view;
 3⊕ import java.util.Set;
    public class Following {
         private Set<User> following;
10
         public Following(User user) {
110
12
              following = user.getFollowing();
13
150
         public Set<User> getFollowing() {
              return following;
17
         public void setFollowing(Set<User> following) {
190
              this.following = following;
21
22
23
1 spring.datasource.url=jdbc:mysql://localhost/social_api
2 spring.datasource.username=root
3 spring.datasource.password=root1234
4 spring.datasource.driver-class-name=com.mysql.jdbc.Driver
6 spring.jpa.hibernate.ddl-auto=create
7 spring.jpa.show-sql=true
8 spring.jpa.properties.hibernate.dialect=org.hibernate.dialect.MySQL5Dialect
10 multipart.max-file-size=10MB
11 multipart.max-request-size=10MB
12
```



```
<?xml version="1.0" encoding="UTF-8"?>
 3⊖ <project xmlns="http://maven.apache.org/POM/4.0.0"
         xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd"
<modelVersion>4.0.0</modelVersion>
         <groupId>com.promineotech</groupId>
         <artifactId>socialMediaApi</artifactId>
         <version>0.0.1-SNAPSHOT
         <name>socialMediaApi</name>
         <!-- FIXME change it to the project's website -->
<url>http://www.maven.apache.org</url>
15e
16
17
18
19
        | parent
             <groupId>org.springframework.boot</groupId>
             <artifactId>spring-boot-starter-parent</artifactId>
             <version>1.2.6.RELEASE
21  22  23  24  25  26  27  28  29  30  31  32  33  34  35  36  37
         properties>
             <maven.compiler.source>1.7</maven.compiler.source>
             <maven.compiler.target>1.7</maven.compiler.target>
         </properties>
         <dependencies>
             </dependency>
             <dependency
                  ~groupId>io.jsonwebtoken</groupId>
~artifactId>jjwt-impl</artifactId>
~version>0.10.5</version>
             <dependency>
                 <groupId>io.jsonwebtoken</groupId>
  <artifactId>jjwt-jackson</artifactId>
  <version>0.10.5</version>
             </dependency>
43●
             <dependency>
                 <groupId>org.springframework.boot</groupId>
                  <artifactId>spring-boot-starter-web</artifactId>
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47●
                           <groupId>org.springframework.boot</groupId>
                           <artifactId>spring-boot-starter-logging</artifactId>
                       </exclusion>
             </dependency>
             <dependency>
                  <groupId>org.springframework.boot</groupId>
                  <artifactId>spring-boot-starter-log4j2</artifactId>
             </dependency>
```



```
<groupId>org.springframework.boot</groupId>
                620
                <dependency>
     <groupId>mysql</groupId>
               68●
                <scope>test</scope>
</dependency>
                <dependency>
<dependency>
<groupId>org.springframework.boot</groupId>
<artifactId>spring-boot-starter-data-jpa</artifactId>
   739
74
75
76
               </pr
   770
                <artifactia-spring-security-cry
</dependency>
<dependency>
<artifactid-junit</artifactid>
<scope>test</scope>
</domnation:</pre>
   80
81
            </dependency>
</dependencies>
   87●
88●
            <build>
               <pluginManagement><!-- lock down <u>plugins</u> versions to avoid using <u>Maxen</u>
defaults (may be moved to parent <u>pam</u>) -->
   89
900
                                                                                                                         Talking:
                             <artifactId>maven-clean-plugin</artifactId>
                             <version>3.1.0
   970
                             <artifactId>maven-resources-plugin</artifactId>
                            <version>3.0.2
  101<del>0</del>
102
                            <artifactId>maven-compiler-plugin</artifactId>
                            <version>3.8.0
                      <artifactId>maven-surefire-plugin</artifactId>
<artifactId>
  105⊖
                       <plugin>
                           <artifactId>maven-jar-plugin</artifactId>
<version>3.0.2</version>
                          <artifactId>maven-install-plugin</artifactId>
                           <version>2.5.2
                       </plugin>
<plugin>
117●
                           1220
123
124
125
                          <artifactId>maven-site-plugin</artifactId>
                           <version>3.7.1</version>
                           </plugin>
</plugins>
</pluginManagement>
</build>
```



```
package com.promineotech.socialMediaApi.controller;
   3 import org.springframework.beans.factory.annotation.Autowired;
  import org.springframework.beans.Tactory.annotation.Autowired;
import org.springframework.http.HttpStatus;
import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RestController;
       import com.promineotech.socialMediaApi.entity.Post;
import com.promineotech.socialMediaApi.service.PostService;
15 @RestController
     @RequestMapping("/users/{userId}/posts")
public class PostController {
19●
             private PostService service;
21
220
              @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) {
    try {
                    return new ResponseEntity<Object>(service.updatePost(post, postId), HttpStatus.OK);
} catch (Exception e) {
   return new ResponseEntity<Object>(e.getMessage(), HttpStatus.BAD_REQUEST);
              }
40
419
              @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);
} catch (Exception e) {
   return new ResponseEntity<Object>(e.getMessage(), HttpStatus.BAD_REQUEST);
 49 }
```



```
ckage com.promineotech.socialMediaApi.controller;
    3⊕ import java.nio.file.Files;
4 import java.nio.file.Path;
5 import java.nio.file.Paths;
       import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.HttpStatus;
import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;
               rt org.springframework.web.bind.annotation.RequestParam;
rt org.springframework.web.bind.annotation.RestController;
                   org.springframework.web.multipart.MultipartFile;
       import com.promineotech.socialMediaApi.entity.User;
import com.promineotech.socialMediaApi.service.UserService;
       @RequestMapping("/users")
public class UserController {
              private static String UPLOADED_FOLDER = "./pictures/";
  27⊜
              @RequestMapping(value = "/register", method = RequestMethod.POST)
public ResponseEntity<Object> register(@RequestBody User user) {
  300
              public ResponseEntity<Object> register(@RequestBody User user) {
    return new ResponseEntity<Object>(service.createUser(user), HttpStatus.CREATED);
}
  35e
              @RequestMapping(value = "/login", method = RequestMethod.POST)
public ResponseEntity<Object> login(@RequestBody User user) {
  37
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44
                    return new ResponseEntity<Object>(service.login(user), HttpStatus.OK);
} catch (Exception e) {
   return new ResponseEntity<Object>(e.getMessage(), HttpStatus.BAD_REQUEST);
              @RequestMapping(value = "/{id}/follows")
public ResponseEntity<Object> showFollowedUsers(@PathVariable Long id) {
    try {
                    return new ResponseEntity<Object>(service.getFollowedUsers(id), HttpStatus.CREATED);
} catch (Exception e) {
   return new ResponseEntity<Object>(e.getMessage(), HttpStatus.BAD_REQUEST);
              30
              62●
                                             ResponseEntity<Object>("Please upload a file.", HttpStatus.BAD_REQUEST);
                    try {
   String url = UPLOADED_FOLDER + file.getOriginalFilename();
   byte[] bytes = file.getBytes();
   Path path = Paths.get(url);
   Path path = paths.get(url);
                               Files.write(path, bytes);
                      return new ResponseEntity<Object>(service.updateProfilePicture(id, url), HttpStatus.org)
} catch (Exception e) {
   return new ResponseEntity<Object>(e.getMessage(), HttpStatus.INTERNAL_SERVER_ERROR);
                                          n new ResponseEntity<Object>(service.updateProfilePicture(id, url), HttpStatus.CREATED);
                       }
78 }
```

```
age com.promineotech.socialMediaApi.entity;
       package com.promineotech.socialMediaApi.entity;
                                                                                                                      import java.util.Date;
import java.util.Set;
    ● import java.util.Date;
       import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
                                                                                                                         import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.persistence.JoinColumn;
import javax.persistence.ManyToOne;
import javax.persistence.OneToMany;
       import javax.persistence.JoinColumn;
import javax.persistence.ManyToOne;
       import com.fasterxml.jackson.annotation.JsonIgnore;
import com.promineotech.socialMediaApi.entity.Post;
import com.promineotech.socialMediaApi.entity.User;
                                                                                                                          @Entity
public class Post {
                                                                                                                                  private Long id;
private String content;
private Date date;
private User user;
private Set<Comment> comments;
              private Long id;
private String content;
private Date date;
private User user;
              @JsonIgnore private Post post;
                                                                                                                                   @GeneratedValue(strategy = GenerationType.AUTO)
public Long getId() {
    return id;
26
27⊜
             @GeneratedValue(strategy = GenerationType.AUTO)
public Long getId() {
    return id;
}
                                                                                                                                  public void setId(Long id) {
    this.id = id;
}
32
330
                                                                                                                                 public String getContent() {
    return content;
}
                                                                                                                   330
             public String getContent() {
    return content;
}
                                                                                                                                 public void setContent(String content) {
   this.content = content;
             public void setContent(String content) {
    this.content = content;
                                                                                                                                 public Date getDate() {
    return date;
}
             public Date getDate() {
    return date;
}
                                                                                                                   410
                                                                                                                                 public void setDate(Date date) {
    this.date = date;
}
              public void setDate(Date date) {
   this.date = date;
                                                                                                                                  @JoinColumn(name = "userId")
public User getUser() {
    return user;
              @ManyToOne
@JoinColumn(name = "postId")
public Post getPost() {
    return post;
}
                                                                                                                                 public void setUser(User user) {
  this.user = user;
}
                                                                                                                   550
             public void setPost(Post post) {
    this.post = post;
                                                                                                                                  @OneToMany(mappedBy = "post")
public Set<Comment> getComments() {
    return comments;
              @ManyToOne
@JoinColumn(name = "userId")
public User getUser() {
    return user;
}
                                                                                                                                  public void setComments(Set<Comment> comments) {{
    this.comments = comments;
}
                                                                                                                  649
             public void setUser(User user) {
   this.user = user;
```



public void setPosts(Set<Post> posts) {
 this.posts = posts;

```
package com.promineotech.socialMediaApi.repository;
        3@ import org.springframework.data.repository.CrudRepository;
             import com.promineotech.socialMediaApi.entity.Post;
             public interface PostRepository extends CrudRepository <Post, Long> {
            package com.promineotech.socialMediaApi.repository;
            import org.springframework.data.repository.CrudRepository;
            import com.promineotech.socialMediaApi.entity.Comment;
            public interface CommentRepository extends CrudRepository<Comment, Long> {
    package com.promineotech.socialMediaApi.entity;
 ∃⊜ import java.util.Set;
           javax.persistence.CascadeType;
javax.persistence.Entity;
javax.persistence.GeneratedValue;
javax.persistence.GenerationType;
javax.persistence.Id;
javax.persistence.JoinColumn;
           javax.persistence.JoinTable;
javax.persistence.ManyToMany;
       port javax.persistence.OneToMany;
    import com.fasterxml.jackson.annotation.JsonIgnore;
import com.fasterxml.jackson.annotation.JsonProperty;
        private Long id;
private String username;
private String profilePictureUrl;
        @JsonIgnore
private Set<User> following;
           ivate Set<Post> posts;
        @JsonIgnore private Set<Comment> comments;
330
        @GeneratedValue(strategy = GenerationType.AUTO)
public Long getId() {
   return id;
.0
41
42⊜
43
        public String getUsername() {
    return username;
        public void setUsername(String username) {
    this.username = username;
           iblic String getPassword() {
   return password;
        @JsonProperty
nublic void setPassword(String password) {
59©
60
61
62
        public void setPassword(String
    this.password = password;
}
        @OneToMany(mappedBy = "user")
public Set<Post> getPosts() {
    return posts;
```

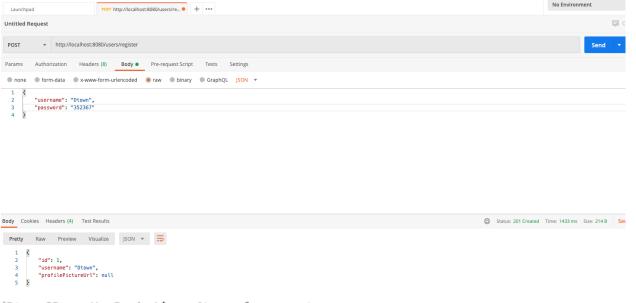


```
### Special Company (mapped by a "user")
### public Set-Comments | Comments |
```

= "id"))

```
[INFO] Scanning for projects...
                         Building socialMediaApi 0.0.1-SNAPSHO
                                                                                                                        --[ jar ]---
                        --- maven-clean-plugin:3.1.0:clean (default-clean) @ socialMed
Deleting /Users/Dtown/git/SocialMediaAPI/socialMediaApi/target
                          --- maven-resources-plugin:3.0.2:resources (default-resources) @ socialMediaApi --- Using 'UTF-8' encoding to copy filtered resources.
                         --- maven-compiler-plugin:3.8.0:compile (default-compile) @ socialMediaApi --- Changes detected - recompiling the module! Compiling 14 source files to /Users/Divom/git/SocialMediaAPI/socialMediaApi/target/classes
                        --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ socialMediaApi ---
Using 'UTF-8' encoding to copy filtered resources.
skip non existing resourcedirectory /Users/Dtown/git/SocialMediaApi/socialMediaApi/src/test/resources
                        --- maven-compiler-plugin:3.8.8:testCompile (default-testCompile) @ socialMediaApi --- Changes detected - recompiling the module! Compiling 1 source file to //users/flown/git/SocialMediaApI/socialMediaApi/tarpet/test-classes
                        --- maven-surefire-plugin:2.22.1:test (default-test) @ socialMediaApi ---
                        Running com.promineotech.socialMediaApi.AppTest
Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.318 s - in com.promineotech.socialMediaApi.AppTest
                        --- maven-jar-plugin:3.0.2:jar (default-jar) @ socialMediaApi --- Building jar: /Users/Dtown/git/SocialMediaApi/socialMediaApi/target/socialMediaApi-0.0.1-SNAPSHOT.jar
                        --- maven-install-plugin:2.5.2:install (default-install) @ socialMediaApi ---
Installing /Users/Dtown/git/SocialMediaApi/socialMediaApi/target/socialMediaApi-0.0.1-SNAPSHOT.jar to /Users/Dtown/.m2/repository/com/promineotech/socialMediaApi/0.0.1-SNAPSHOT/socialMediaApi-0.0.1
    INFO] Total time: 18.881 s
INFO] Finished at: 2020-06-27T10:05:16-07:00
1282-8-27 19:86:28.239) boot - 1485 INFO [com.prominentech.socialMediaApi.App.main()] —— Dialect: HHHH000400: Using dialect: org.hibernate.dialect.MySQL5Dialect [2282-86-27 19:86:29.252] boot - 1485 INFO [com.prominentech.socialMediaApi.App.main()] —— ASTQueryTranslatorFactory: HHH00027: Running hbm2ddl schema export HH00027: Running hbm2ddl schema export HH
 rg.springframework.http.ResponseEntity<java.lang.Object> com.promineotech.socialMediaApi.controller.CommentController.createComment(com.promineotech.socialMediaApi.entity.Comment,java.lang.long,java.lang.long)
[2028-06-27 18:06:37.462] boot - 1485 INFO (com.promineotech.socialMediaApi.App.main()] — RequestMappingHandlerMapping: Mapped "((/users/(userId/)posts/(posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)posts/(posts/)pos
```





[Dtown@Dezs-MacBook-Air ~ % mysql -u root -p

[Enter password:

Welcome to the MySQL monitor. Commands end with ; or \g.

Your MySQL connection id is 188

Server version: 8.0.20 MySQL Community Server - GPL

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

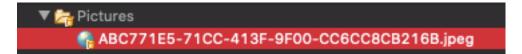
[mysql> USE social\_api;

Reading table information for completion of table and column names You can turn off this feature to get a quicker startup with -A

#### Database changed

[mysql> SELECT \* FROM user;

+			profile_picture_url		•
٠	1	352367	NULL	Dtown	
		in set (0.6			٢





URL to GitHub Repository: <a href="https://github.com/DesmondYo/SocialMediaAPI">https://github.com/DesmondYo/SocialMediaAPI</a>