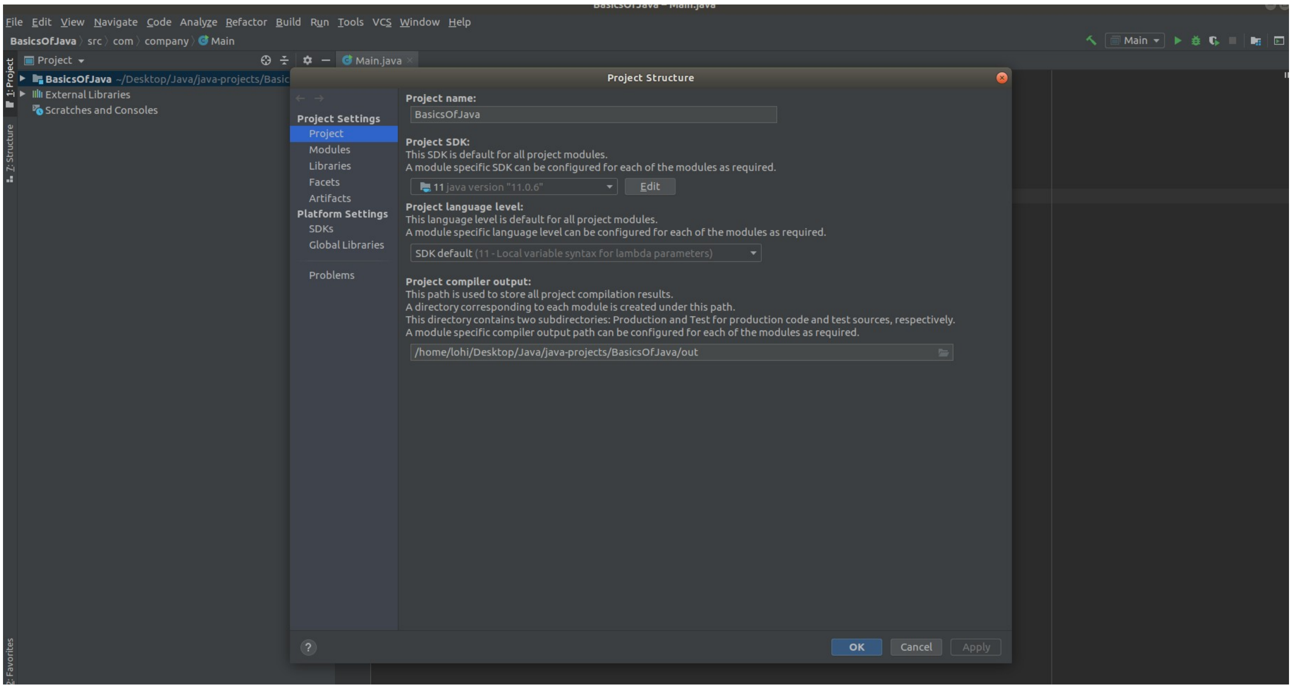
To open current project structure

either click on Ctrl+Shift+Alt+s

or

Please click on 3rd item from right side.



Project Structure

Project name:

BasicsOfJava

Project SDK:

This SDK is default for all project modules.

A module specific SDK can be configured for each of the modules as required.

11 java version "11.0.6"

Project language level:

This language level is default for all project modules.

A module specific language level can be configured for each of the modules as required.

SDK default (11 - Local variable syntax for lambda parameters)

Project compiler output:

This path is used to store all project compilation results.

A directory corresponding to each module is created under this path.

This directory contains two subdirectories: Production and Test for production code and test sources, respectively.

A module specific compiler output path can be configured for each of the modules as required.

/home/lohi/Desktop/Java/java-projects/BasicsOfJava/out

> sout   (Short cut for System.out.println)

Increasing Font Size :-

Press Ctrl+Alt+s (For opening Settings)

We neet to go to File -> Settings -> Editor -> click on Font

> How to increase the font size for console :-

Press Ctrl+Alt+s (For opening Settings)

We neet to go to File -> Settings -> ColorScheme -> Console Font

> Key Mappings :-

Press Ctrl+Alt+s (For opening Settings)

We neet to go to File -> Settings -> Keymap -> keymap dropdown -> InellijClassic

> Color Themes

We need to go to View -> QuickSwichScheme -> pick Edit Color scheme

Suggestion: If we are working hours and hours then it is better to swith to **Darcua color scheme which is good for eyes compared to Light colour theme**.

> How to install Material Theme UI

https://plugins.jetbrains.com/plugin/8006-material-theme-ui

We can also select colour themeses from this

http://color-themes.com/?view=index

> Presentation Asistant

We are installing a plugin in intellij

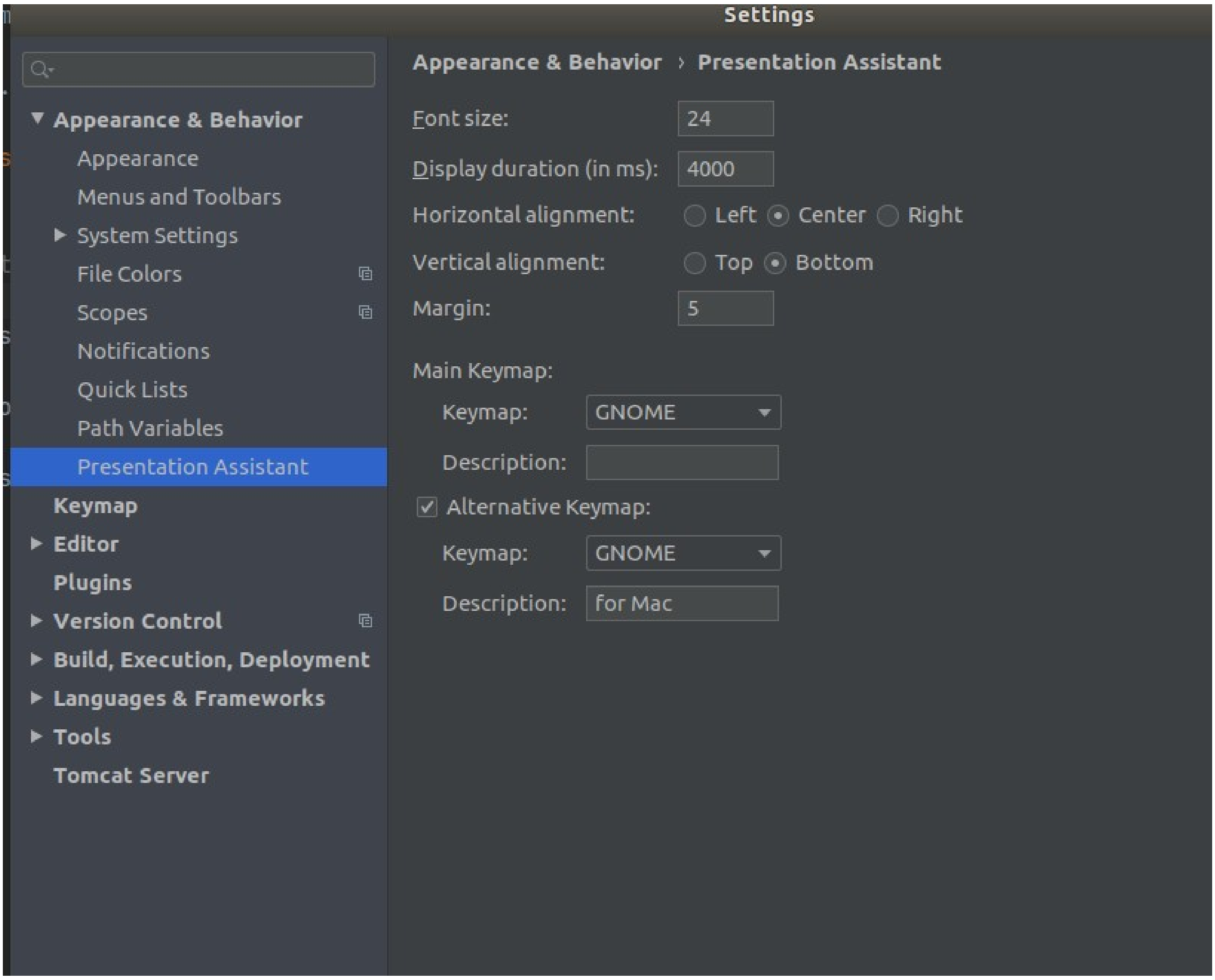
Press Ctrl+Alt+s (For opening Settings)

We neet to go to File -> Settings -> Plugins -> Presentation Asistant

it will be useful when you want to give demo for some one.

To do further settings in Presentation Assistant Please go to

File -> Settings -> Appearance & Behaviour -> Presentation Asistant.



Appearance & Behavior › Presentation Assistant

Font size: 24

Display duration (in ms): 4000

Horizontal alignment: ○ Left ● Center ○ Right

Vertical alignment: ○ Top ● Bottom

Margin: 5

Main Keymap:

Keymap: GNOME

Description:

☑ Alternative Keymap:

Keymap: GNOME

Description: for Mac

Cloning Project :-

Please go to this url

https://github.com/amigoscode/spring-boot-react-fullstack

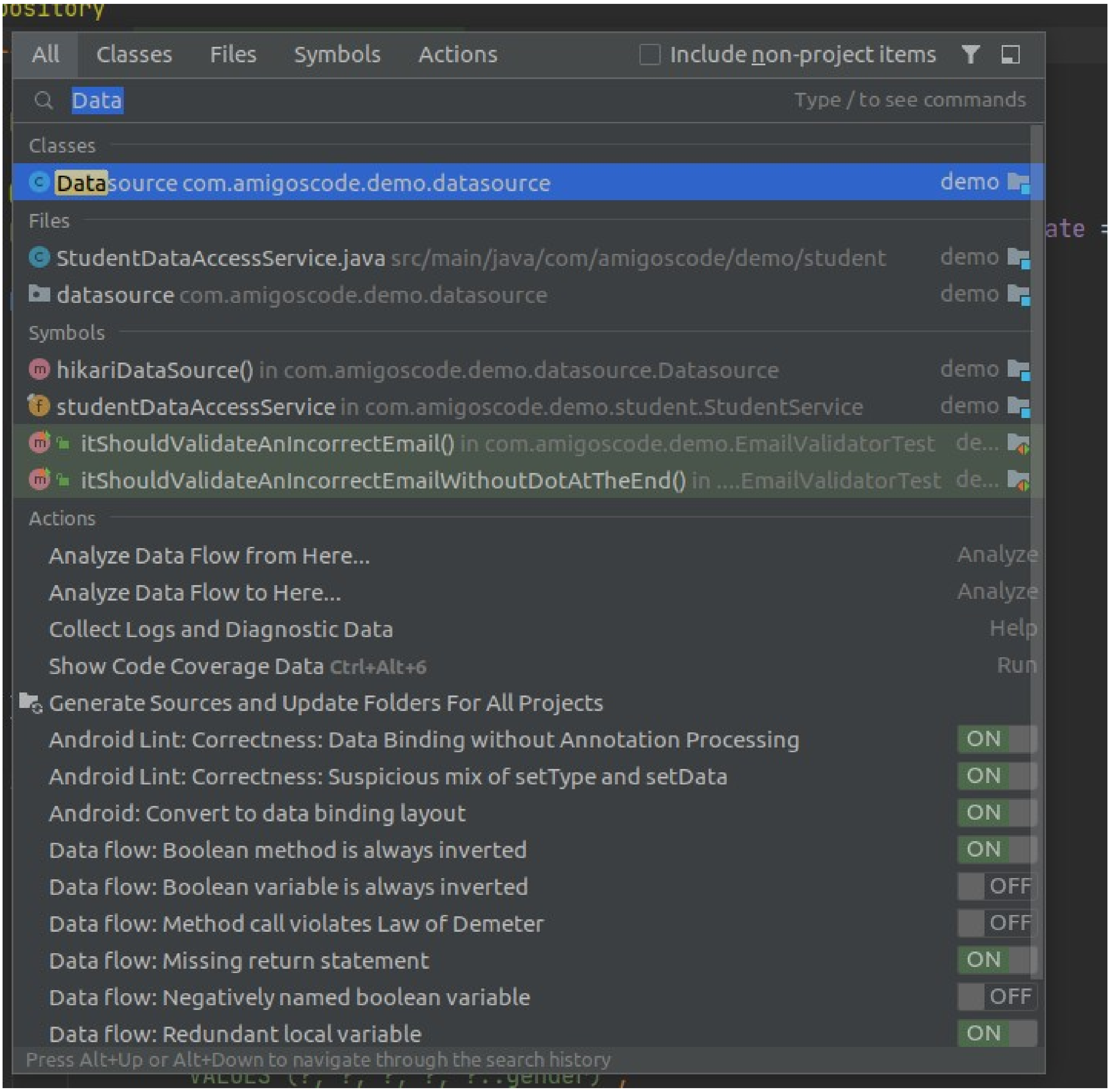
How to download project

Click on VCS -> Get from version control

> Searching class files and Every where

if you want to open All tab on Search box then you need to do

1. Press **Shift two times**.



Data

Classes

Datasource com.amigoscode.demo.datasource demo

Files

StudentDataAccessService.java src/main/java/com/amigoscode/demo/student demo

datasource com.amigoscode.demo.datasource demo

Symbols

hikariDataSource() in com.amigoscode.demo.datasource.Datasource demo

studentDataAccessService in com.amigoscode.demo.student.StudentService demo

itShouldValidateAnIncorrectEmail() in com.amigoscode.demo.EmailValidatorTest de...

itShouldValidateAnIncorrectEmailWithoutDotAtTheEnd() in ....EmailValidatorTest de...

Actions

Analyze Data Flow from Here... Analyze

Analyze Data Flow to Here... Analyze

Collect Logs and Diagnostic Data Help

Show Code Coverage Data Ctrl+Alt+6 Run

Generate Sources and Update Folders For All Projects

Android Lint: Correctness: Data Binding without Annotation Processing ON

Android Lint: Correctness: Suspicious mix of setType and setData ON

Android: Convert to data binding layout ON

Data flow: Boolean method is always inverted ON

Data flow: Boolean variable is always inverted OFF

Data flow: Method call violates Law of Demeter OFF

Data flow: Missing return statement ON

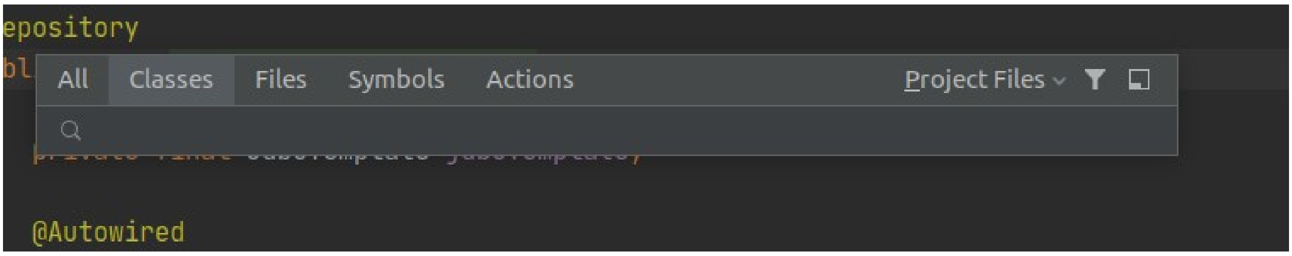
Data flow: Negatively named boolean variable OFF

Data flow: Redundant local variable ON

Press Alt+Up or Alt+Down to navigate through the search history

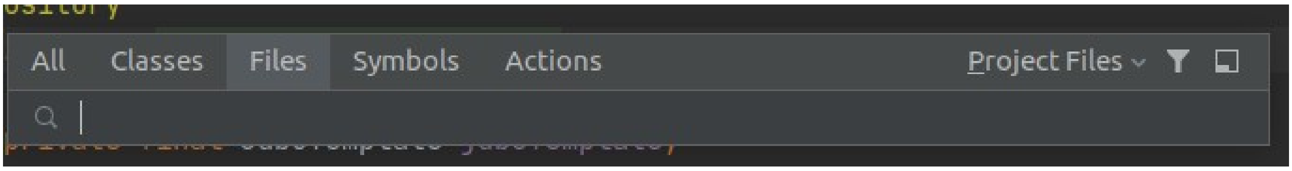
2. command for opening classes :-

You need to use **ctrl+ N** to open classes



3. command for opening files

You need to use **ctrl+shift+N** to open files



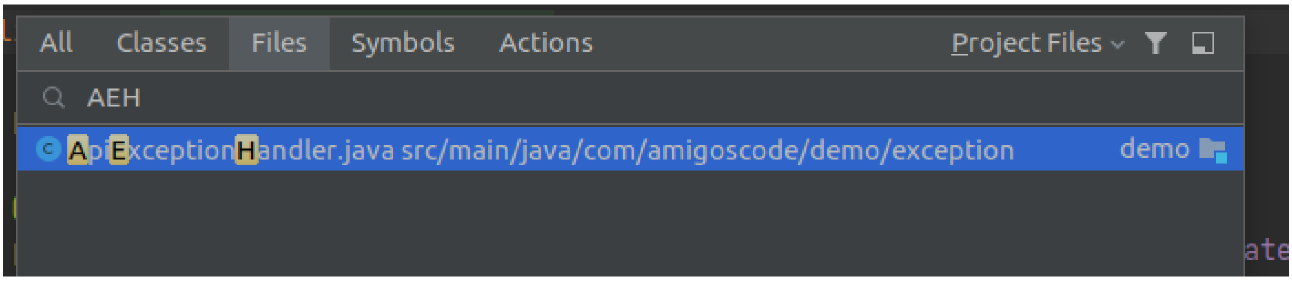
Important :--

Intellij can also search based on upper case letters. It is using **CamelCase Pattern**

If the file name is **StudentAccessLayer**

then you can give **sal** it will work.

2. If the file name is **ApiExceptionHandler** then you can do search using AEH



AEH

ApiExceptionHandler.java src/main/java/com/amigoscode/demo/exception demo

4. Command for moving between above tabs in search box

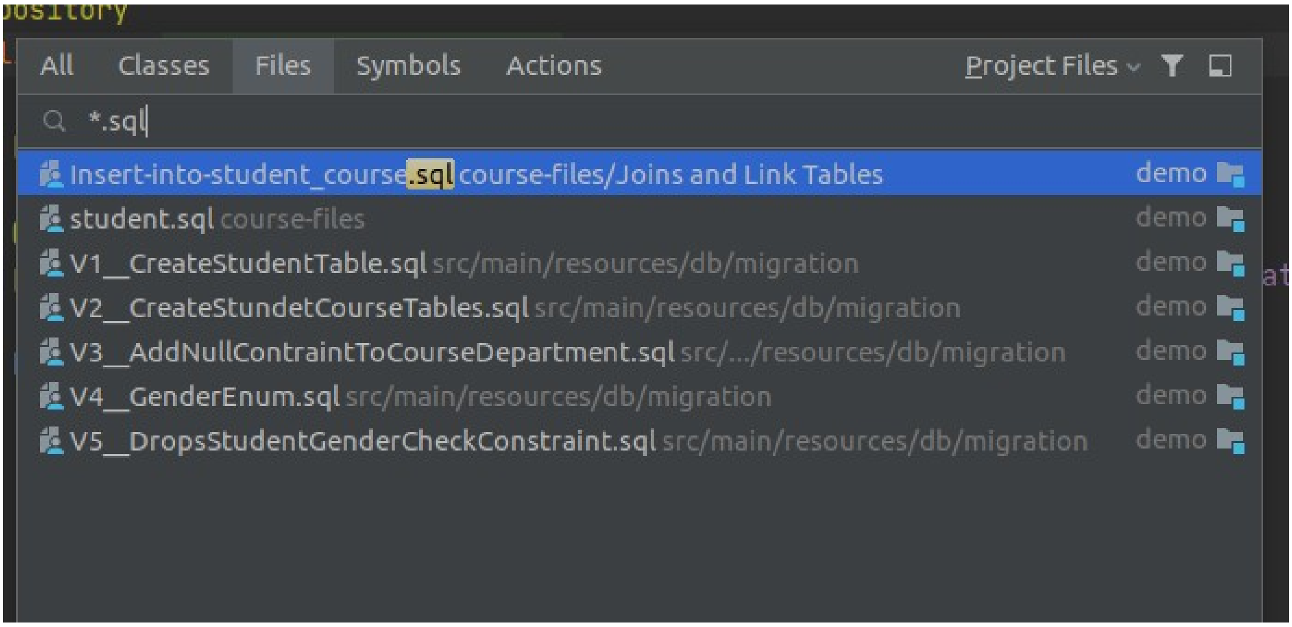
open search box by using ctrl+N

You need to use **ctrl+tab** button to move from one tab to another tab.

5. To search for all sql files in the project :-

open files tab by using **ctrl+shift+N**

You need to use ***.sql** in search box.



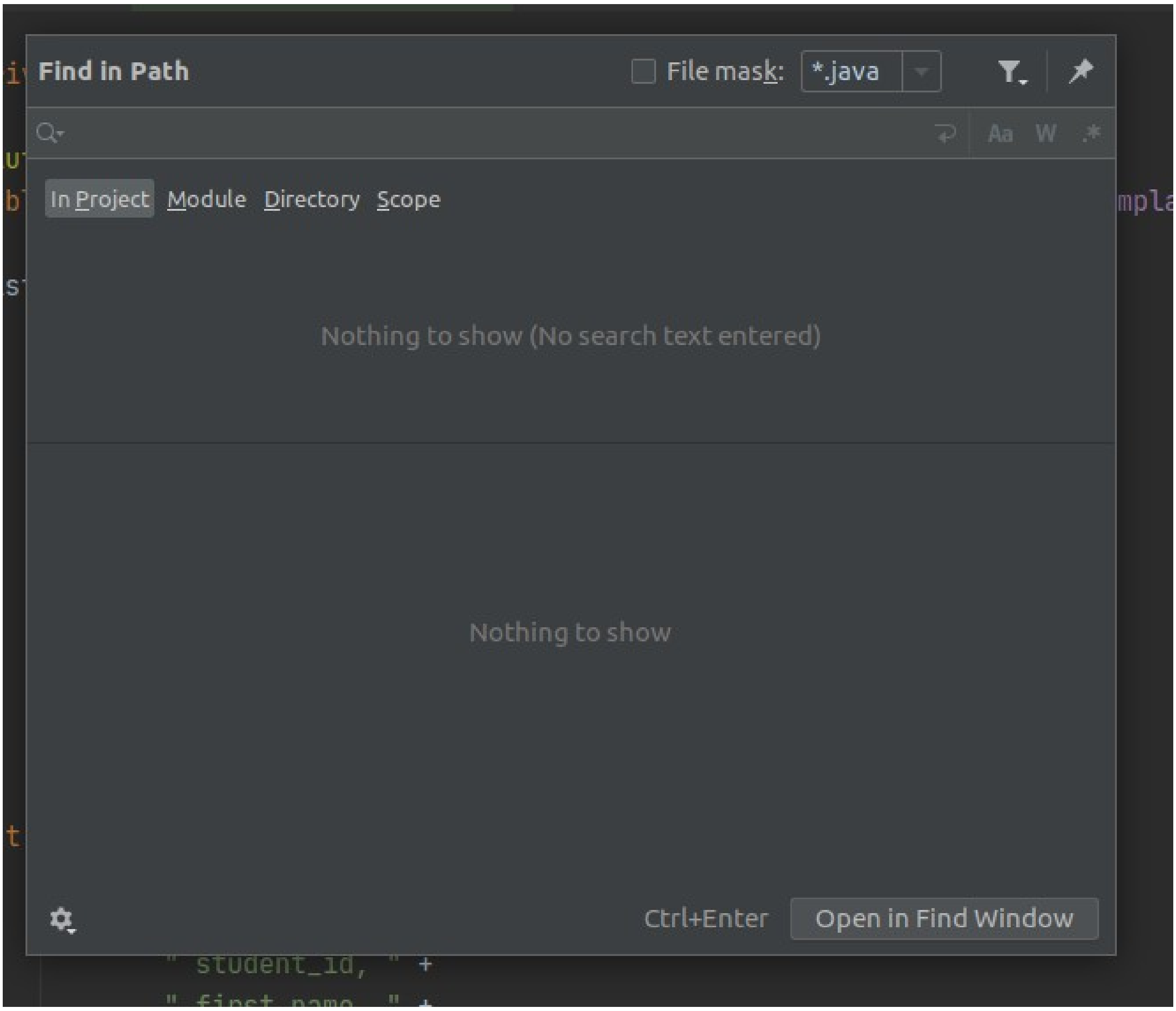
*.sql

- Insert-into-student_course.sql course-files/Joins and Link Tables demo
- student.sql course-files demo
- V1__CreateStudentTable.sql src/main/resources/db/migration demo
- V2__CreateStundetCourseTables.sql src/main/resources/db/migration demo
- V3__AddNullContraintToCourseDepartment.sql src/.../resources/db/migration demo
- V4__GenderEnum.sql src/main/resources/db/migration demo
- V5__DropsStudentGenderCheckConstraint.sql src/main/resources/db/migration demo

Search with Find In a Path :-

Another powerful way for searching words, regular expressions and patterns is by using command

ctrl+shift+N

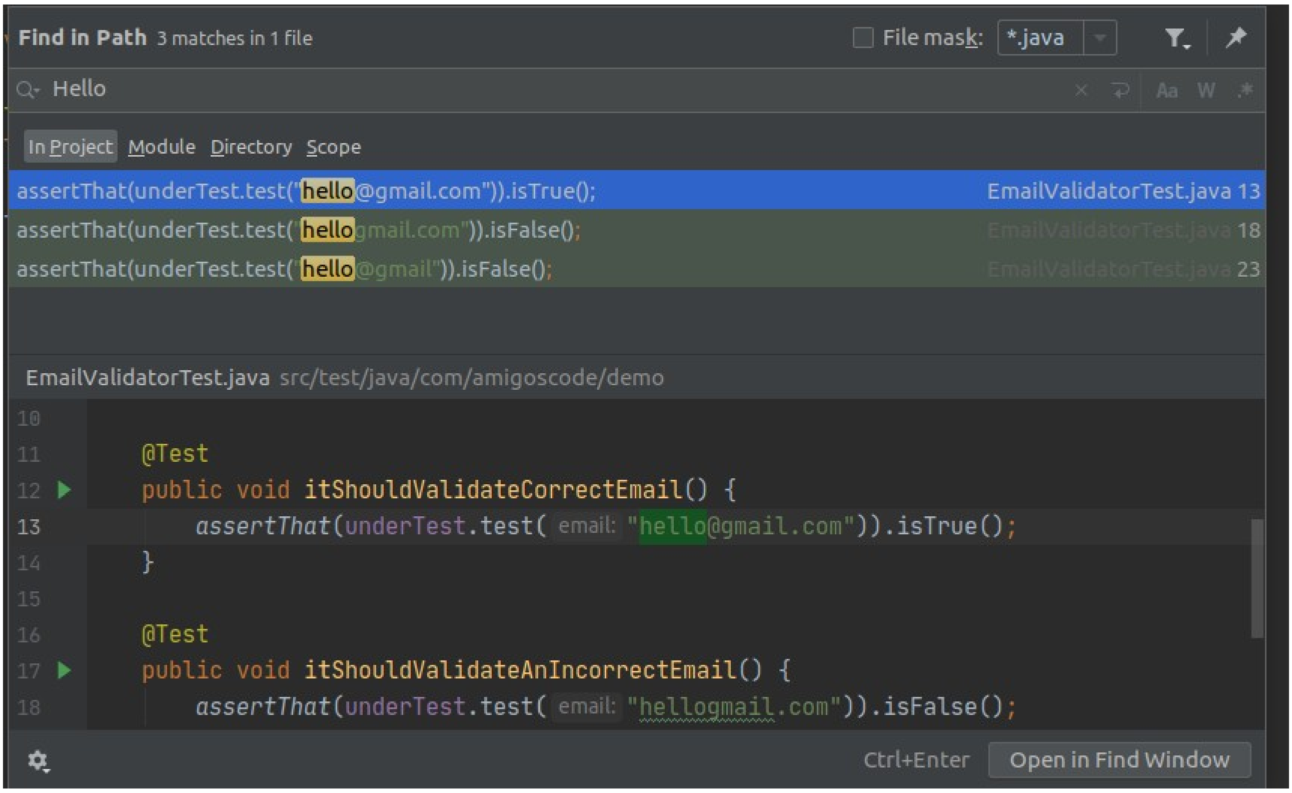


□ File mask: *.java

Nothing to show (No search text entered)

Nothing to show

We can search for any word by typing word name like below in search box



Find in Path 3 matches in 1 file

□ File mask: *.java

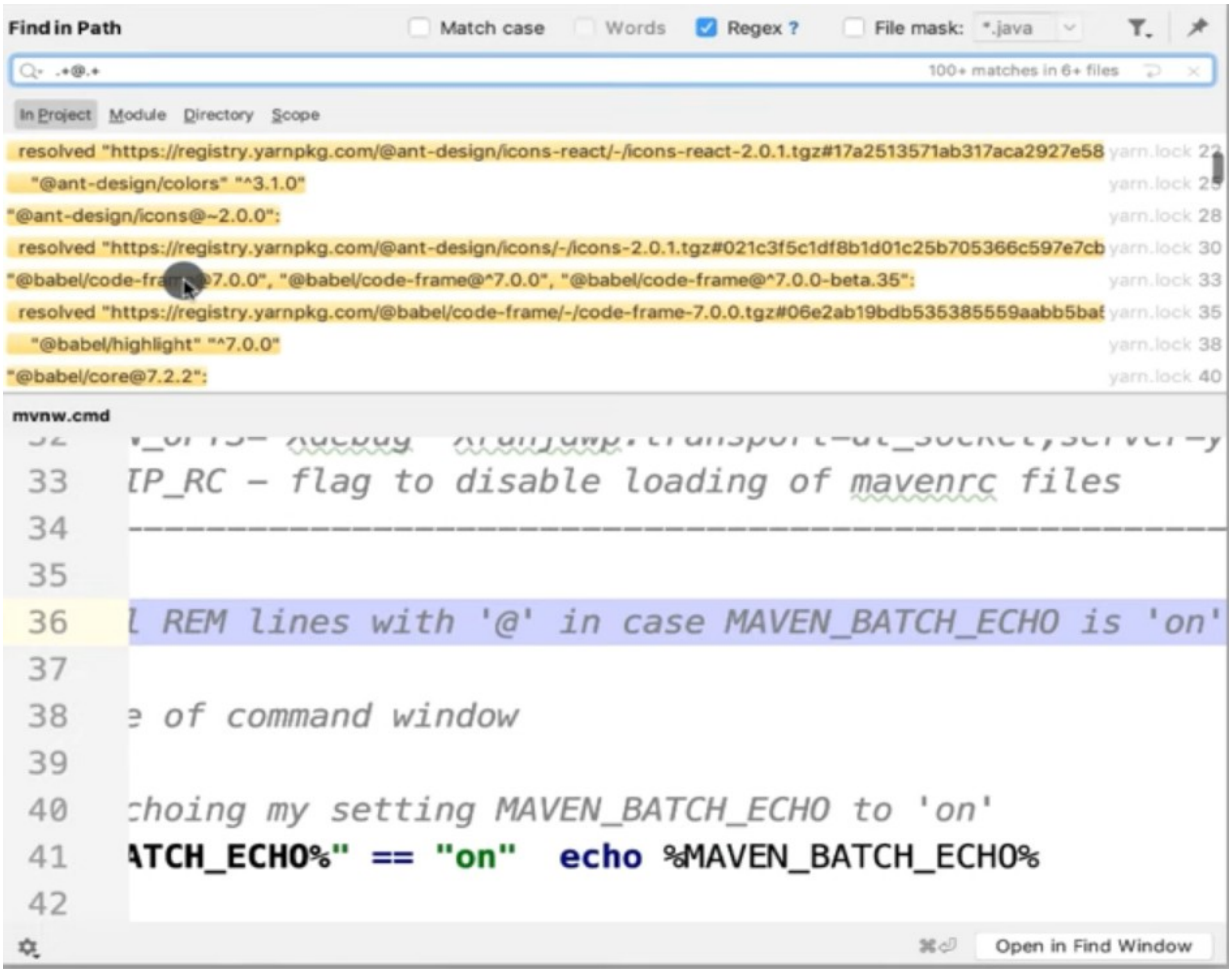
Hello

```
assertThat(underTest.test("hello@gmail.com")).isTrue();        EmailValidatorTest.java 13
assertThat(underTest.test("hellogmail.com")).isFalse();         EmailValidatorTest.java 18
assertThat(underTest.test("hello@gmail")).isFalse();            EmailValidatorTest.java 23
```

EmailValidatorTest.java src/test/java/com/amigoscode/demo

```

    @Test
    public void itShouldValidateCorrectEmail() {
        assertThat(underTest.test( email: "hello@gmail.com")).isTrue();
    }

    @Test
    public void itShouldValidateAnIncorrectEmail() {
        assertThat(underTest.test( email: "hellogmail.com")).isFalse();
```

We can also use regular expression searching like below

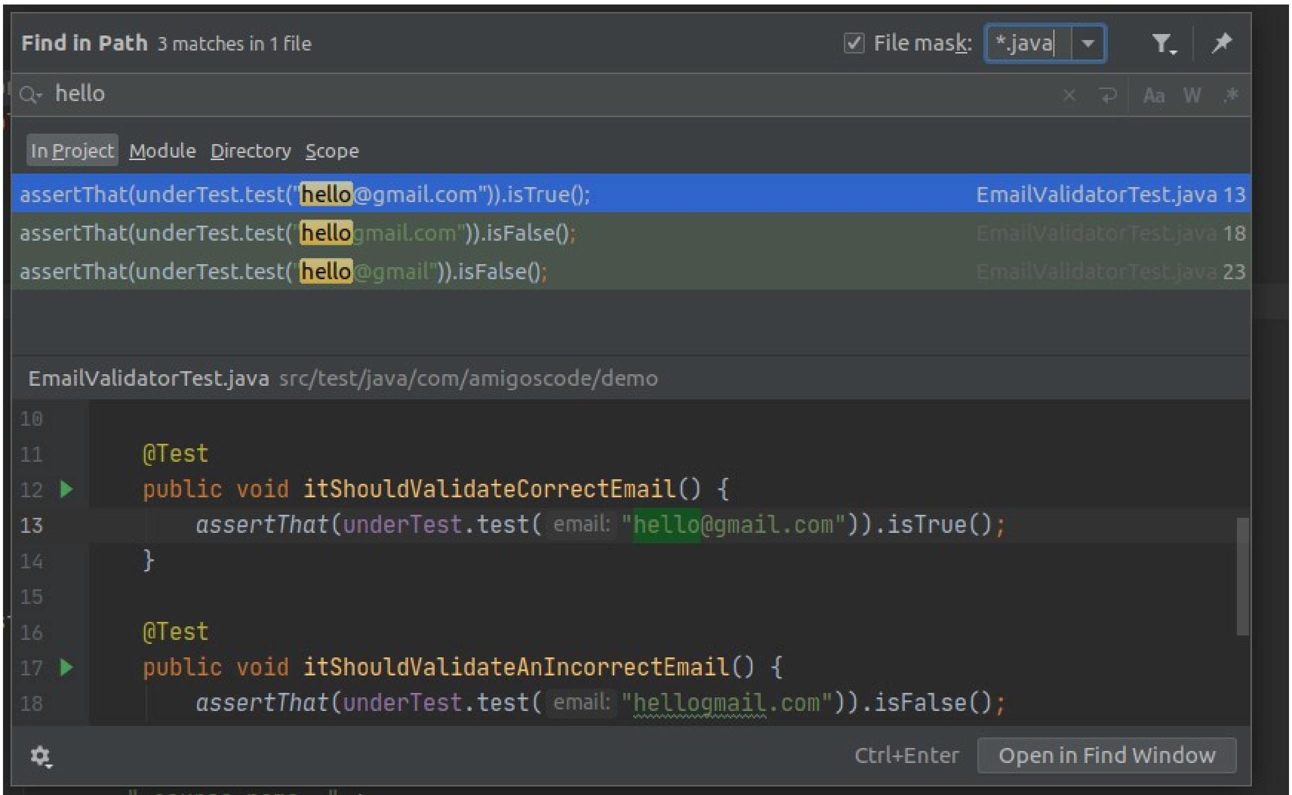


```
.+@.+
```

```
 resolved "https://registry.yarnpkg.com/@ant-design/icons-react/-/icons-react-2.0.1.tgz#17a2513571ab317aca2927e58 yarn.lock 22
  "@ant-design/colors" "^3.1.0"                                                                               yarn.lock 25
"@ant-design/icons@~2.0.0":                                                                                   yarn.lock 28
 resolved "https://registry.yarnpkg.com/@ant-design/icons/-/icons-2.0.1.tgz#021c3f5c1df8b1d01c25b705366c597e7cb yarn.lock 30
"@babel/code-fra@7.0.0", "@babel/code-frame@^7.0.0", "@babel/code-frame@^7.0.0-beta.35":                     yarn.lock 33
 resolved "https://registry.yarnpkg.com/@babel/code-frame/-/code-frame-7.0.0.tgz#06e2ab19bdb535385559aabb5ba yarn.lock 35
  "@babel/highlight" "^7.0.0"                                                                                 yarn.lock 38
"@babel/core@7.2.2":                                                                                          yarn.lock 40
```

```
_OPTS=-Xdebug -Xrunjdwp:transport=dt_socket,server=y
IP_RC - flag to disable loading of mavenrc files
-----------------------------------------------------------

l REM lines with '@' in case MAVEN_BATCH_ECHO is 'on'

e of command window

choing my setting MAVEN_BATCH_ECHO to 'on'
ATCH_ECHO%" == "on"  echo %MAVEN_BATCH_ECHO%

```

We can use **File Mask to select** only java files / jsp files.



```
hello
```

```
assertThat(underTest.test("hello@gmail.com")).isTrue();    EmailValidatorTest.java 13
assertThat(underTest.test("hellogmail.com")).isFalse();    EmailValidatorTest.java 18
assertThat(underTest.test("hello@gmail")).isFalse();       EmailValidatorTest.java 23
```

EmailValidatorTest.java src/test/java/com/amigoscode/demo

```

    @Test
    public void itShouldValidateCorrectEmail() {
        assertThat(underTest.test( email: "hello@gmail.com")).isTrue();
    }

    @Test
    public void itShouldValidateAnIncorrectEmail() {
        assertThat(underTest.test( email: "hellogmail.com")).isFalse();
```

> How to search for specific content in specifi folder.

Option 1 :-

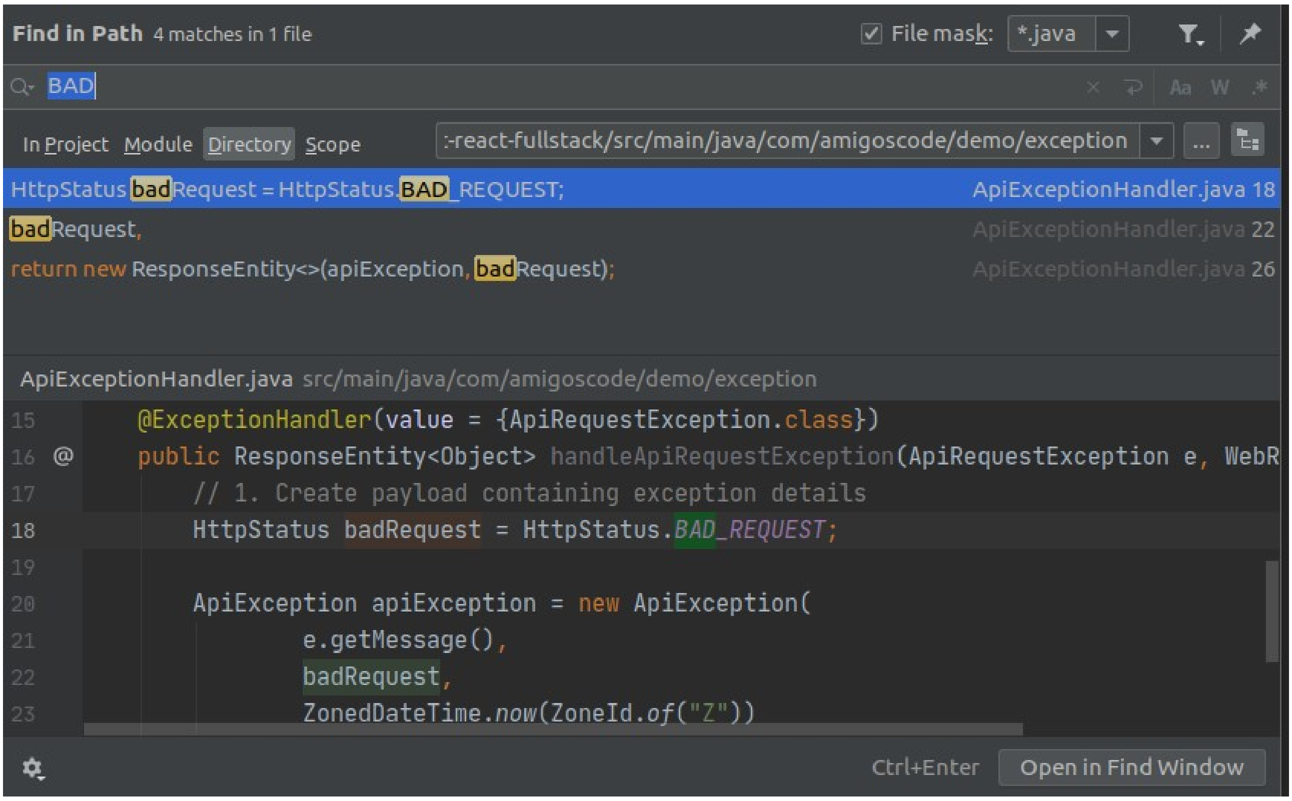
Step1 : Please select the folder name by using mouse click.

Step2: Now click on ctrl+shift+F to search for content

Now it will search for content in this folder

Example :

1. first I have selected Exception folder
2. I have clicked on ctrl+shift+f
3. Now you type words which you want.



Find in Path 4 matches in 1 file

☑ File mask: *.java

BAD

In Project Module Directory Scope :-react-fullstack/src/main/java/com/amigoscode/demo/exception

```
HttpStatus badRequest = HttpStatus.BAD_REQUEST;                          ApiExceptionHandler.java 18
badRequest,                                                              ApiExceptionHandler.java 22
return new ResponseEntity<>(apiException, badRequest);                   ApiExceptionHandler.java 26
```

ApiExceptionHandler.java src/main/java/com/amigoscode/demo/exception

```
    @ExceptionHandler(value = {ApiRequestException.class})
    public ResponseEntity<Object> handleApiRequestException(ApiRequestException e, WebR
        // 1. Create payload containing exception details
        HttpStatus badRequest = HttpStatus.BAD_REQUEST;

        ApiException apiException = new ApiException(
                e.getMessage(),
                badRequest,
                ZonedDateTime.now(ZoneId.of("Z"))
```

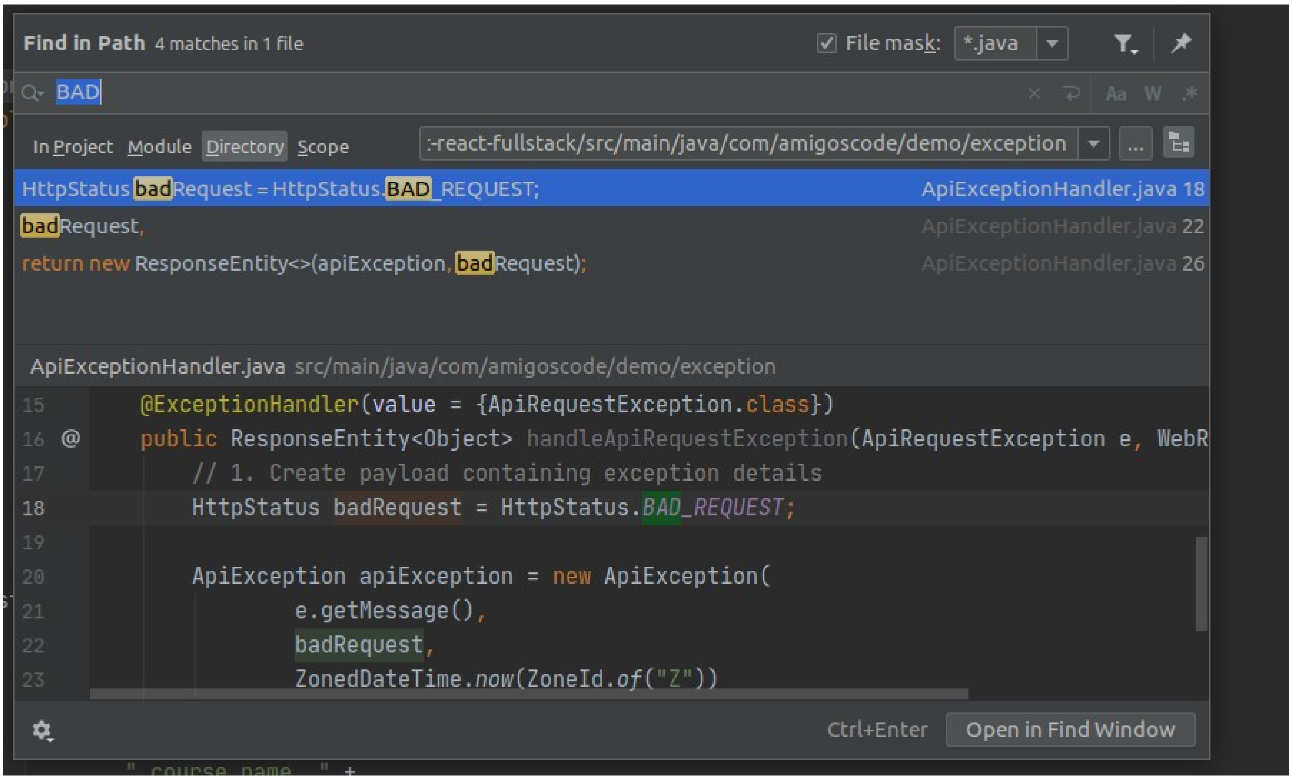
Ctrl+Enter Open in Find Window

Now its doing search by using directory

Option 2 :-

step 1: Please select specific folder by using mouse option
step 2: Now click on ctrl+shift+f

3. Now select for specific content.



☑ File mask: *.java

BAD

:-react-fullstack/src/main/java/com/amigoscode/demo/exception

```
HttpStatus badRequest = HttpStatus.BAD_REQUEST;            ApiExceptionHandler.java 18
badRequest,                                                ApiExceptionHandler.java 22
return new ResponseEntity<>(apiException, badRequest);     ApiExceptionHandler.java 26
```

ApiExceptionHandler.java src/main/java/com/amigoscode/demo/exception

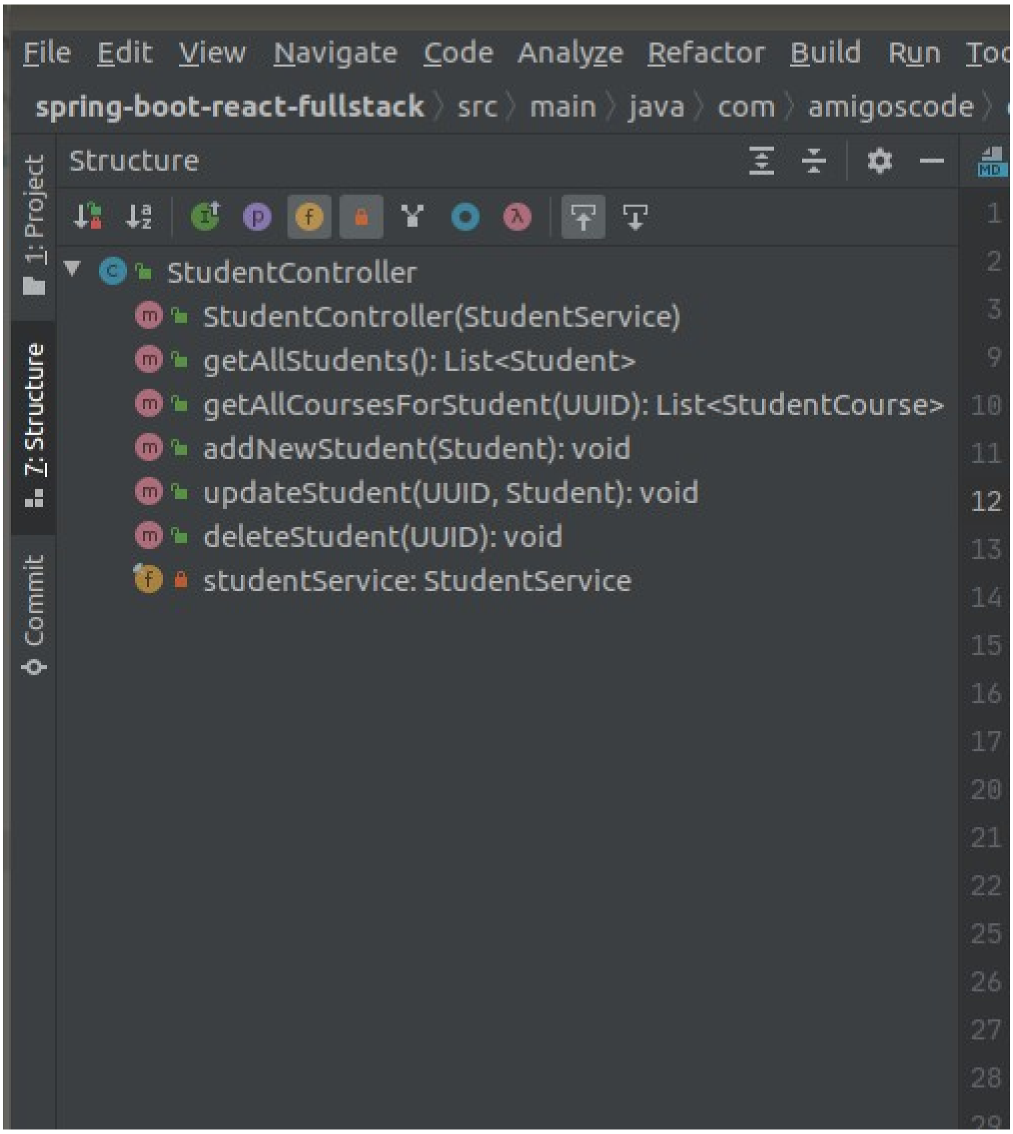
```
    @ExceptionHandler(value = {ApiRequestException.class})
    public ResponseEntity<Object> handleApiRequestException(ApiRequestException e, WebR
        // 1. Create payload containing exception details
        HttpStatus badRequest = HttpStatus.BAD_REQUEST;

        ApiException apiException = new ApiException(
                e.getMessage(),
                badRequest,
                ZonedDateTime.now(ZoneId.of("Z"))
```

> File Structure :-

We can view all methods declared in a file by uisng two options.

Option 1 :-

1. Please select specifi file.
2. By clicking on structure tab which is on left side of panel.



```
StudentController
    StudentController(StudentService)
    getAllStudents(): List<Student>
    getAllCoursesForStudent(UUID): List<StudentCourse>
    addNewStudent(Student): void
    updateStudent(UUID, Student): void
    deleteStudent(UUID): void
    studentService: StudentService
```

2. **We can open File Strucutre better way by using below steps**

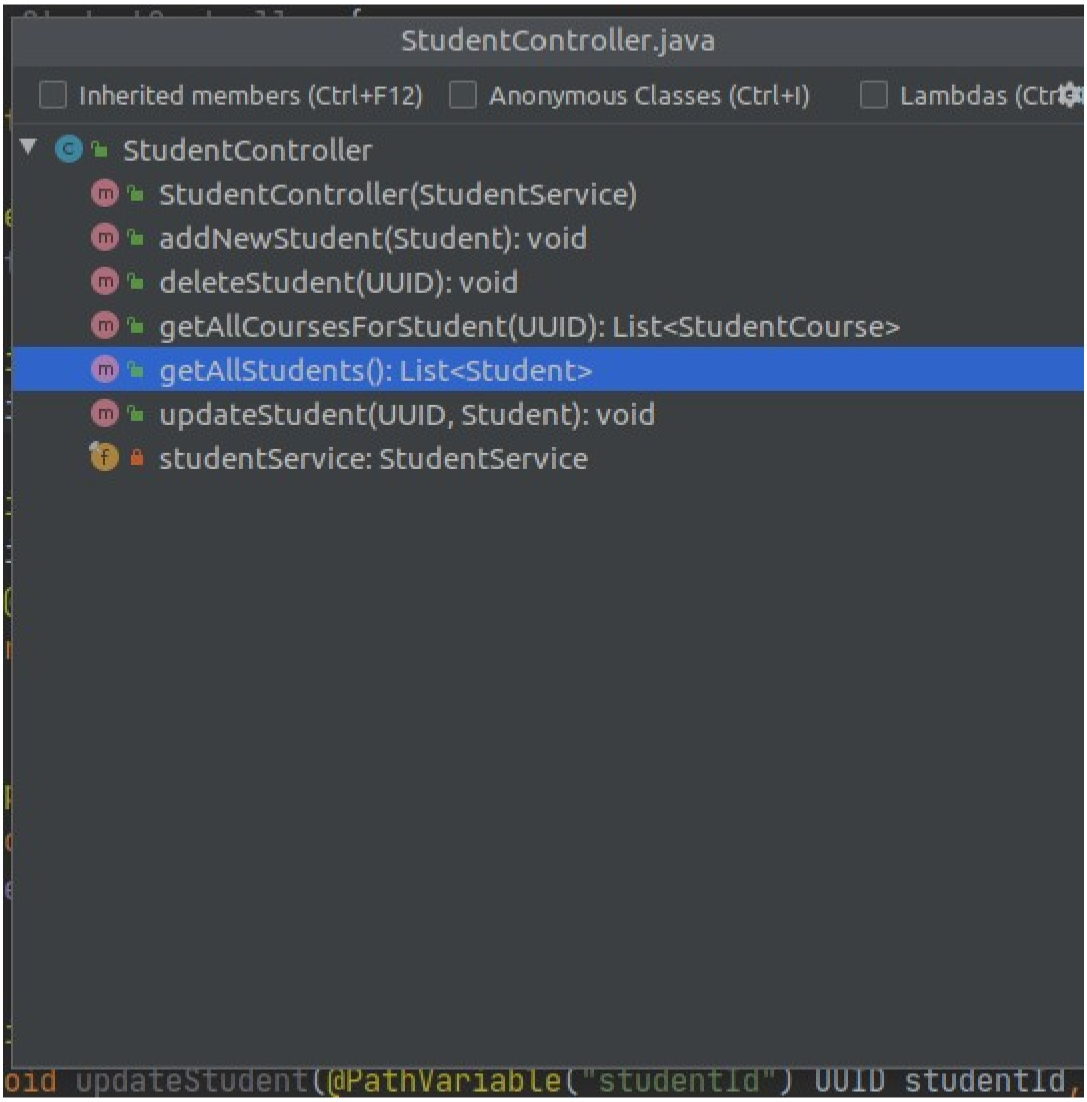
We can Ctrl + F12 top open file structure

or

step 1:   click on Navigate tab which is on top.

Step 2: Click on File structure option

it will show methods in a nice way and we can also go to specific method



StudentController.java

□ Inherited members (Ctrl+F12) □ Anonymous Classes (Ctrl+I) □ Lambdas (Ctr

```
▼ StudentController
    StudentController(StudentService)
    addNewStudent(Student): void
    deleteStudent(UUID): void
    getAllCoursesForStudent(UUID): List<StudentCourse>
    getAllStudents(): List<Student>
    updateStudent(UUID, Student): void
    studentService: StudentService
```

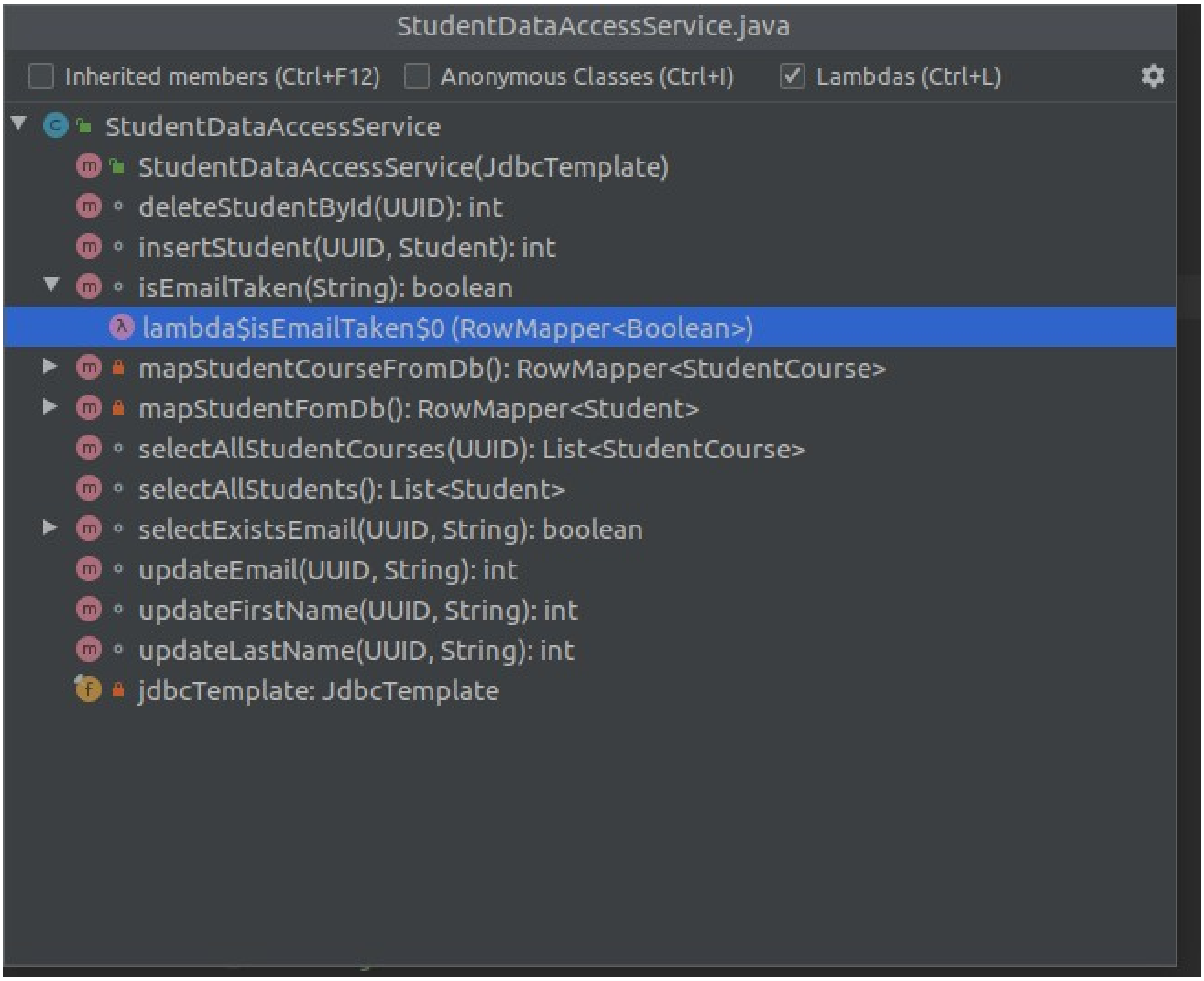
```
oid updateStudent(@PathVariable("studentId") UUID studentId,
```

Important: We can also able to select

1. Anonymous Classes.

2. Lambdas

3. Inherited Members



StudentDataAccessService.java

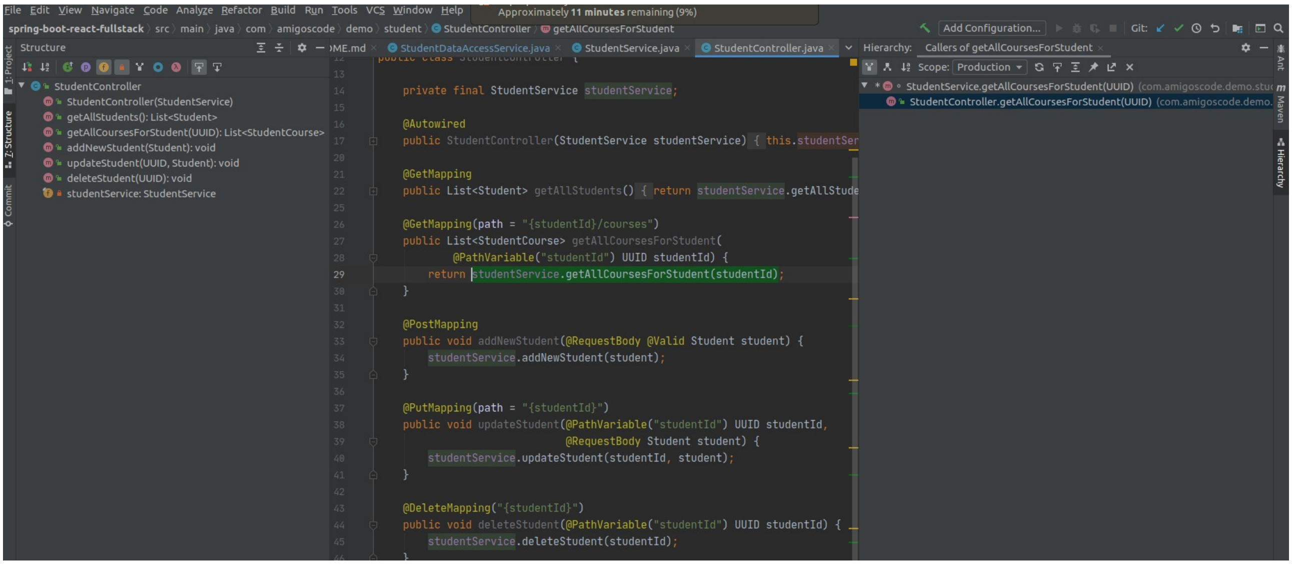
□ Inherited members (Ctrl+F12) □ Anonymous Classes (Ctrl+I) ☑ Lambdas (Ctrl+L)

```
▼ StudentDataAccessService
    StudentDataAccessService(JdbcTemplate)
    deleteStudentById(UUID): int
    insertStudent(UUID, Student): int
  ▼ isEmailTaken(String): boolean
      lambda$isEmailTaken$0 (RowMapper<Boolean>)
  ▶ mapStudentCourseFromDb(): RowMapper<StudentCourse>
  ▶ mapStudentFomDb(): RowMapper<Student>
    selectAllStudentCourses(UUID): List<StudentCourse>
    selectAllStudents(): List<Student>
  ▶ selectExistsEmail(UUID, String): boolean
    updateEmail(UUID, String): int
    updateFirstName(UUID, String): int
    updateLastName(UUID, String): int
    jdbcTemplate: JdbcTemplate
```

> Call Hierarchy :-

1. We can use keyboard shortcut

1. Please select the method name by using cursor.
2. click by using **Ctrl+Alt+H**


File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Approximately 11 minutes remaining (9%)
spring-boot-react-fullstack 〉 src 〉 main 〉 java 〉 com 〉 amigoscode 〉 demo 〉 student 〉 StudentController 〉 getAllCoursesForStudent
Structure
1: Project
7: Structure
Commit
ME.md
StudentDataAccessService.java
StudentService.java
StudentController.java
Add Configuration...
Git:
Ant
Maven
Hierarchy

```
StudentController
    StudentController(StudentService)
    getAllStudents(): List<Student>
    getAllCoursesForStudent(UUID): List<StudentCourse>
    addNewStudent(Student): void
    updateStudent(UUID, Student): void
    deleteStudent(UUID): void
    studentService: StudentService
```

```java
public class StudentController {

    private final StudentService studentService;

    @Autowired
    public StudentController(StudentService studentService) { this.studentSer

    @GetMapping
    public List<Student> getAllStudents() { return studentService.getAllStude

    @GetMapping(path = "{studentId}/courses")
    public List<StudentCourse> getAllCoursesForStudent(
            @PathVariable("studentId") UUID studentId) {
        return studentService.getAllCoursesForStudent(studentId);
    }

    @PostMapping
    public void addNewStudent(@RequestBody @Valid Student student) {
        studentService.addNewStudent(student);
    }

    @PutMapping(path = "{studentId}")
    public void updateStudent(@PathVariable("studentId") UUID studentId,
                              @RequestBody Student student) {
        studentService.updateStudent(studentId, student);
    }

    @DeleteMapping("{studentId}")
    public void deleteStudent(@PathVariable("studentId") UUID studentId) {
        studentService.deleteStudent(studentId);
    }
```

Hierarchy: Callers of getAllCoursesForStudent

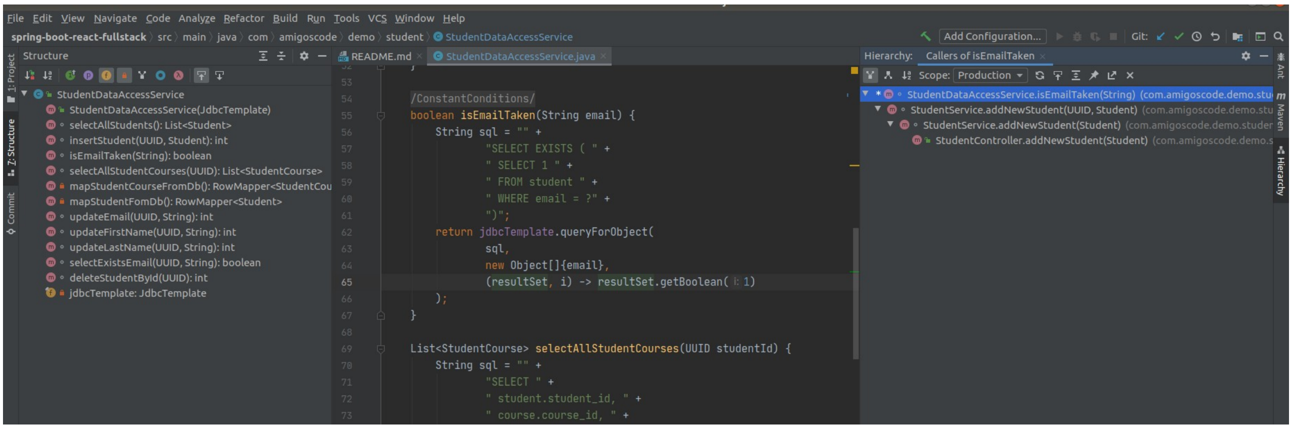
Scope: Production

```
▼ * StudentService.getAllCoursesForStudent(UUID) (com.amigoscode.demo.stu
      StudentController.getAllCoursesForStudent(UUID) (com.amigoscode.demo.
```

2. We can check in which files given method is called by using

Step 1: Please select particular method by using mouse.
Step 2: Please click on Navigate -> Call Hierarchy
Step 3 : We can also select Scope i.e

1. production: to show method usages in src folder
2. test: to show method usages in test folder.


File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
spring-boot-react-fullstack 〉 src 〉 main 〉 java 〉 com 〉 amigoscode 〉 demo 〉 student 〉 StudentDataAccessService
Structure
1: Project
7: Structure
Commit
README.md
StudentDataAccessService.java
Add Configuration...
Git:
Ant
Maven
Hierarchy

```
StudentDataAccessService
    StudentDataAccessService(JdbcTemplate)
    selectAllStudents(): List<Student>
    insertStudent(UUID, Student): int
    isEmailTaken(String): boolean
    selectAllStudentCourses(UUID): List<StudentCourse>
    mapStudentCourseFromDb(): RowMapper<StudentCou
    mapStudentFomDb(): RowMapper<Student>
    updateEmail(UUID, String): int
    updateFirstName(UUID, String): int
    updateLastName(UUID, String): int
    selectExistsEmail(UUID, String): boolean
    deleteStudentById(UUID): int
    jdbcTemplate: JdbcTemplate
```

```java
    /ConstantConditions/
    boolean isEmailTaken(String email) {
        String sql = "" +
                "SELECT EXISTS ( " +
                " SELECT 1 " +
                " FROM student " +
                " WHERE email = ?" +
                ")";
        return jdbcTemplate.queryForObject(
                sql,
                new Object[]{email},
                (resultSet, i) -> resultSet.getBoolean( i: 1)
        );
    }

    List<StudentCourse> selectAllStudentCourses(UUID studentId) {
        String sql = "" +
                "SELECT " +
                " student.student_id, " +
                " course.course_id, " +
```

Hierarchy: Callers of isEmailTaken

Scope: Production

```
▼ * StudentDataAccessService.isEmailTaken(String) (com.amigoscode.demo.stu
    ▼ StudentService.addNewStudent(UUID, Student) (com.amigoscode.demo.stu
        ▼ StudentService.addNewStudent(Student) (com.amigoscode.demo.studer
              StudentController.addNewStudent(Student) (com.amigoscode.demo.s
```

>The importance of keyboard shortcuts :-

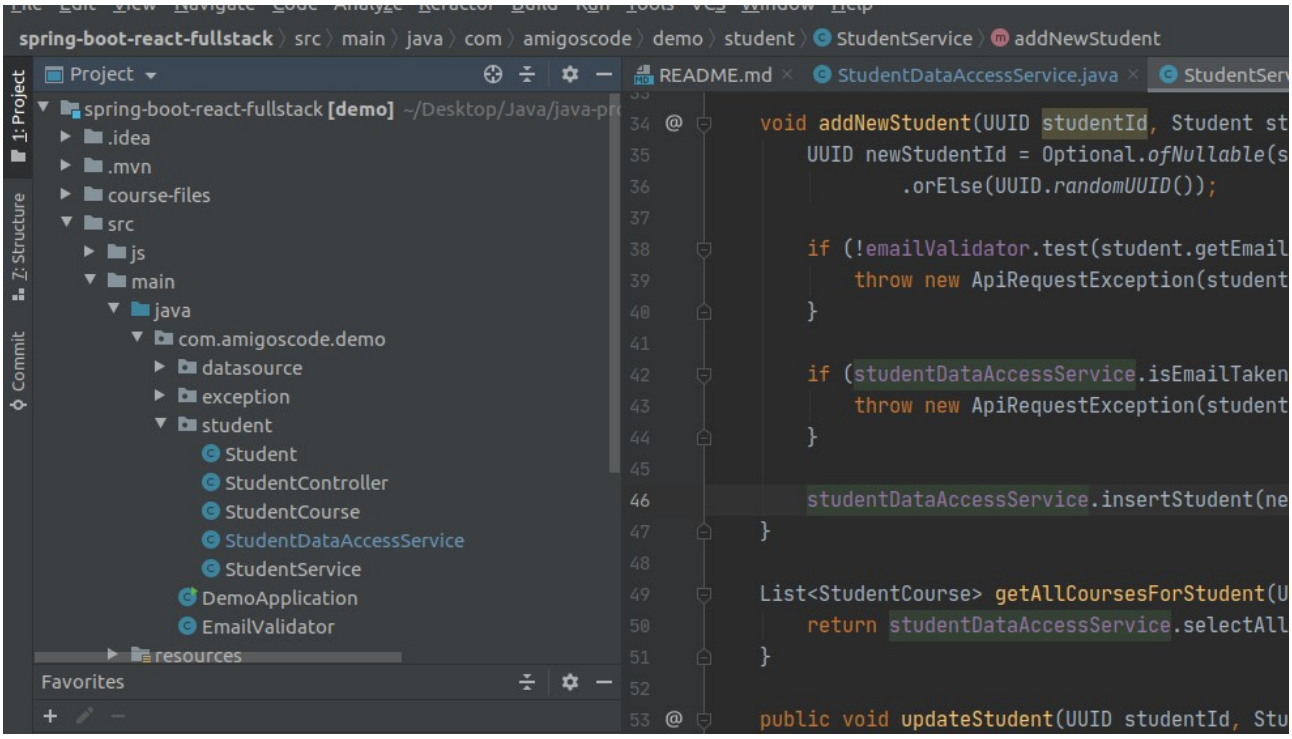
if you are using keybaords shortcuts you are becoming better developer and much more productive.

If you dont know how to use right tool then you need to waste lot of time.its very very important to learn keyboard shortcuts to become much more productive.
If you are using keyboard short cuts then you can memorize them.

In Intellij for for project they have given number as 1.
for favorates they have given number as 2
for todo they have given number as 6
for structure they have given number as 7
for give they have given numbers as 9

How to open project structure :

type Alt + 1



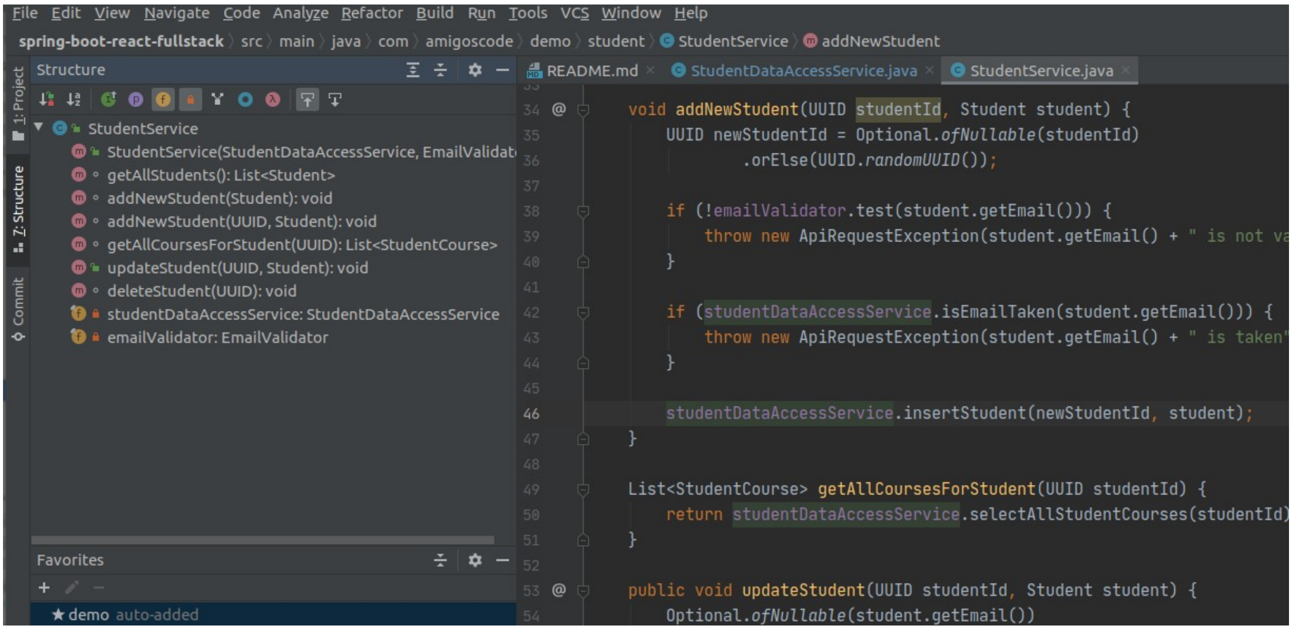
```
    void addNewStudent(UUID studentId, Student st
        UUID newStudentId = Optional.ofNullable(s
                .orElse(UUID.randomUUID());

        if (!emailValidator.test(student.getEmail
            throw new ApiRequestException(student
        }

        if (studentDataAccessService.isEmailTaken
            throw new ApiRequestException(student
        }

        studentDataAccessService.insertStudent(ne
    }

    List<StudentCourse> getAllCoursesForStudent(U
        return studentDataAccessService.selectAll
    }

    public void updateStudent(UUID studentId, Stu
```

type Alt+2 for opening favorate

type Alt+6 for todo

How to open structure :-

type Alt+7 for structure

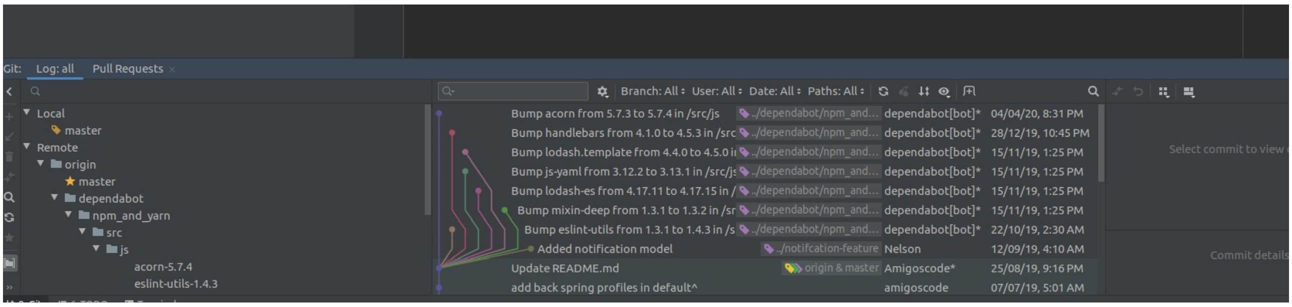

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
spring-boot-react-fullstack 〉 src 〉 main 〉 java 〉 com 〉 amigoscode 〉 demo 〉 student 〉 StudentService 〉 addNewStudent
1: Project
Z: Structure
Commit
Structure
README.md
StudentDataAccessService.java
StudentService.java
Favorites
demo auto-added

```
StudentService
    StudentService(StudentDataAccessService, EmailValidat
    getAllStudents(): List<Student>
    addNewStudent(Student): void
    addNewStudent(UUID, Student): void
    getAllCoursesForStudent(UUID): List<StudentCourse>
    updateStudent(UUID, Student): void
    deleteStudent(UUID): void
    studentDataAccessService: StudentDataAccessService
    emailValidator: EmailValidator
```

```
    void addNewStudent(UUID studentId, Student student) {
        UUID newStudentId = Optional.ofNullable(studentId)
                .orElse(UUID.randomUUID());

        if (!emailValidator.test(student.getEmail())) {
            throw new ApiRequestException(student.getEmail() + " is not va
        }

        if (studentDataAccessService.isEmailTaken(student.getEmail())) {
            throw new ApiRequestException(student.getEmail() + " is taken"
        }

        studentDataAccessService.insertStudent(newStudentId, student);
    }

    List<StudentCourse> getAllCoursesForStudent(UUID studentId) {
        return studentDataAccessService.selectAllStudentCourses(studentId)
    }

    public void updateStudent(UUID studentId, Student student) {
        Optional.ofNullable(student.getEmail())
```

How to open git :-

type Alt+9 for git.



```
Local
    master
Remote
    origin
        master
    dependabot
        npm_and_yarn
            src
                js
                    acorn-5.7.4
                    eslint-utils-1.4.3
```

```
Bump acorn from 5.7.3 to 5.7.4 in /src/js          ../dependabot/npm_and...  dependabot[bot]*  04/04/20, 8:31 PM
Bump handlebars from 4.1.0 to 4.5.3 in /src        ../dependabot/npm_and...  dependabot[bot]*  28/12/19, 10:45 PM
Bump lodash.template from 4.4.0 to 4.5.0 ii        ../dependabot/npm_and...  dependabot[bot]*  15/11/19, 1:25 PM
Bump js-yaml from 3.12.2 to 3.13.1 in /src/js      ../dependabot/npm_and...  dependabot[bot]*  15/11/19, 1:25 PM
Bump lodash-es from 4.17.11 to 4.17.15 in /        ../dependabot/npm_and...  dependabot[bot]*  15/11/19, 1:25 PM
 Bump mixin-deep from 1.3.1 to 1.3.2 in /sr        ../dependabot/npm_and...  dependabot[bot]*  15/11/19, 1:25 PM
  Bump eslint-utils from 1.3.1 to 1.4.3 in /s      ../dependabot/npm_and...  dependabot[bot]*  22/10/19, 2:30 AM
    Added notification model                        ../notifcation-feature   Nelson            12/09/19, 4:10 AM
Update README.md                                          origin & master    Amigoscode*       25/08/19, 9:16 PM
add back spring profiles in default^                                         amigoscode        07/07/19, 5:01 AM
```

> To restore default layout

Type the command **Shift+f12**

Using Intellij without Mouse :-

We dont need mouse to work with intellij.

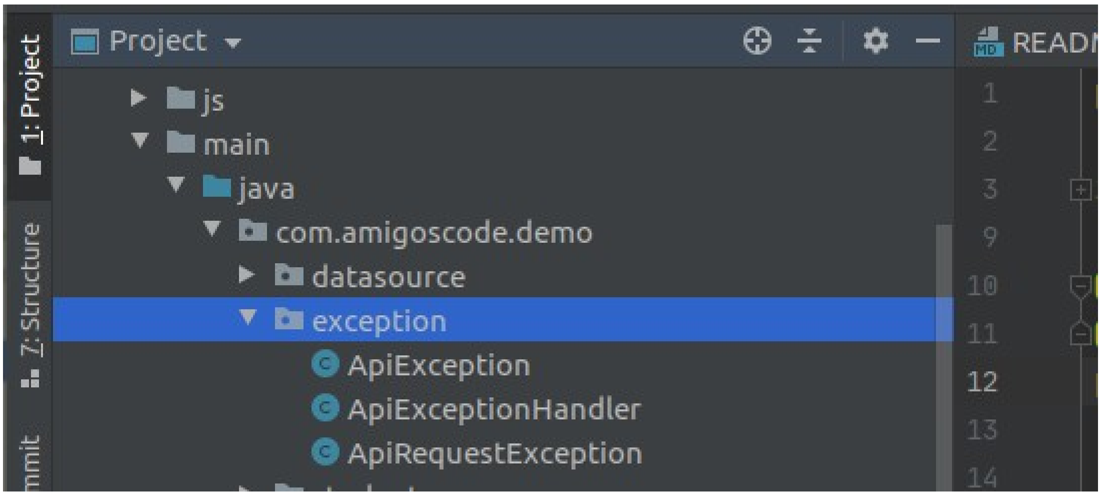
How to open/close package on the left hand side?

To open project structure

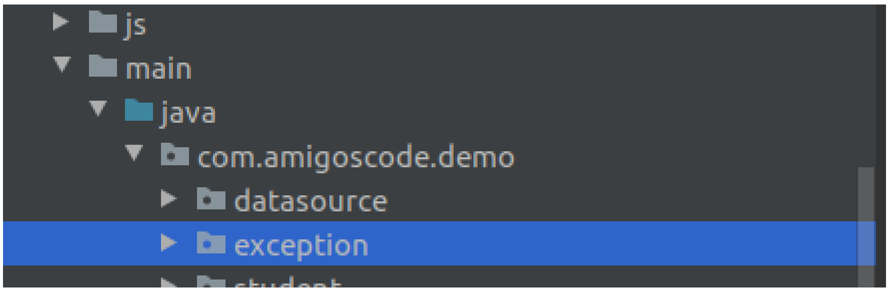
you need to type Alt+1

How to expand the folder / package?

Click on Right Arrow to open package



Click on Left Arrow to close the package.



How to open file from left hand side?

Click on **Alt+1** to open project structure.

Now click on **Enter** to open specific file.

How to move cursor from project sturcture to file ?

> Click on **ESC (i.e escape)** to move mouse pointer from project structure to file.

How to delete a line from file?

Type **Ctrl+Y** to delete a line from file.

How to reformat the code ?

Ctrl + Alt + L

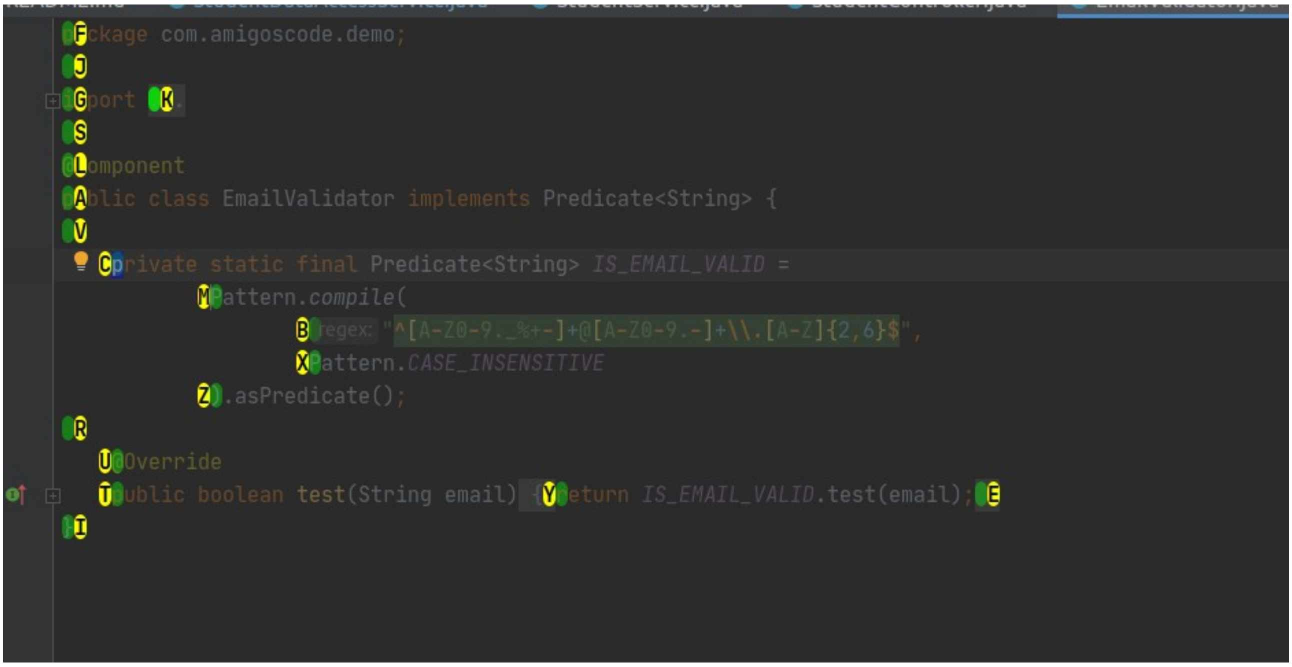
AceJump Plugin :-

Install AceJump Plugin.

Press Ctrl+; so AceJump will be activate

1. **Press Up Arrow to Up** :-

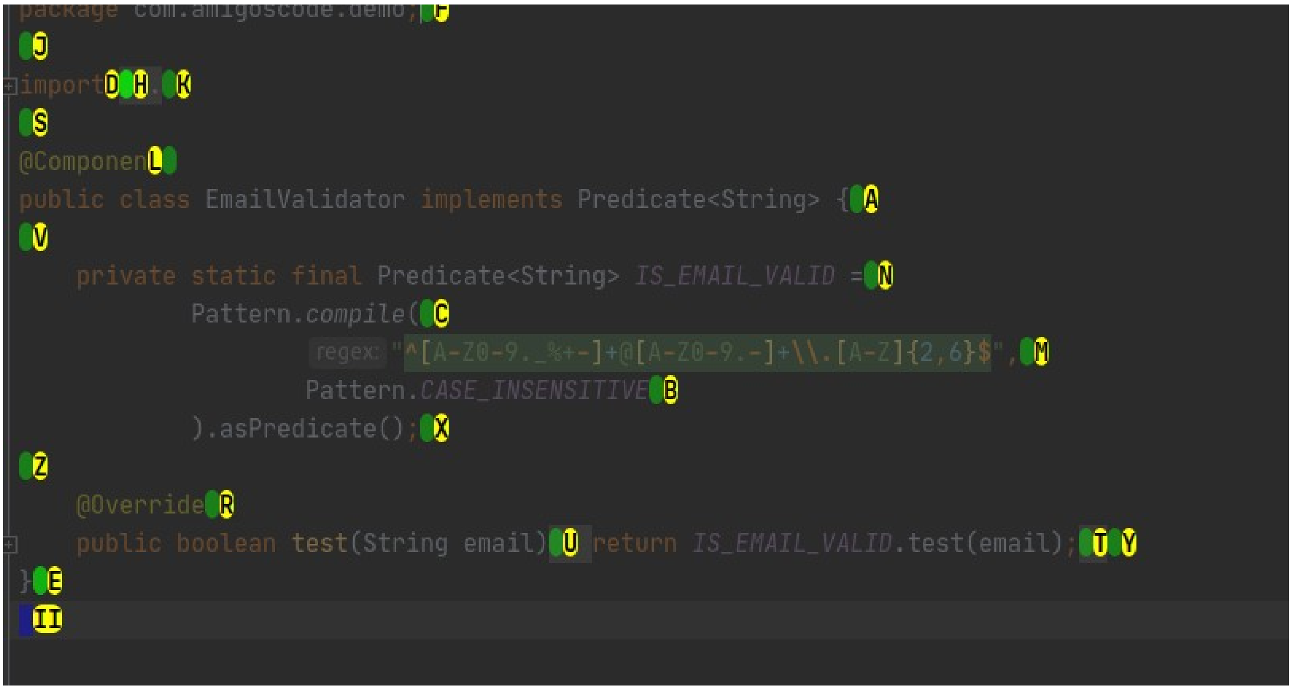
Now type Up Arrow so that it will show one character per each line.
If you click particular letter then it will go to that particular line.



```
Fckage com.amigoscode.demo;
J
Gport K
S
Lomponent
Ablic class EmailValidator implements Predicate<String> {
V
    Cprivate static final Predicate<String> IS_EMAIL_VALID =
            MPattern.compile(
                    Bregex: "^[A-Z0-9._%+-]+@[A-Z0-9.-]+\\.[A-Z]{2,6}$",
                    XPattern.CASE_INSENSITIVE
            Z).asPredicate();
R
    U@Override
    Tublic boolean test(String email) {Yeturn IS_EMAIL_VALID.test(email);E
I
```

Now press A so that it will go to public class .

2. **Press Right Arrow to go to right :**



```
package com.amigoscode.demo;

import .

@Componen
public class EmailValidator implements Predicate<String> {

    private static final Predicate<String> IS_EMAIL_VALID =
            Pattern.compile(
                    regex: "^[A-Z0-9._%+-]+@[A-Z0-9.-]+\\.[A-Z]{2,6}$",
                    Pattern.CASE_INSENSITIVE
            ).asPredicate();

    @Override
    public boolean test(String email) return IS_EMAIL_VALID.test(email);
}
```

3. Press Left Arrow to go to left side :-

How to disable AceJump :-

Just click Esc(Escape) to disable it.

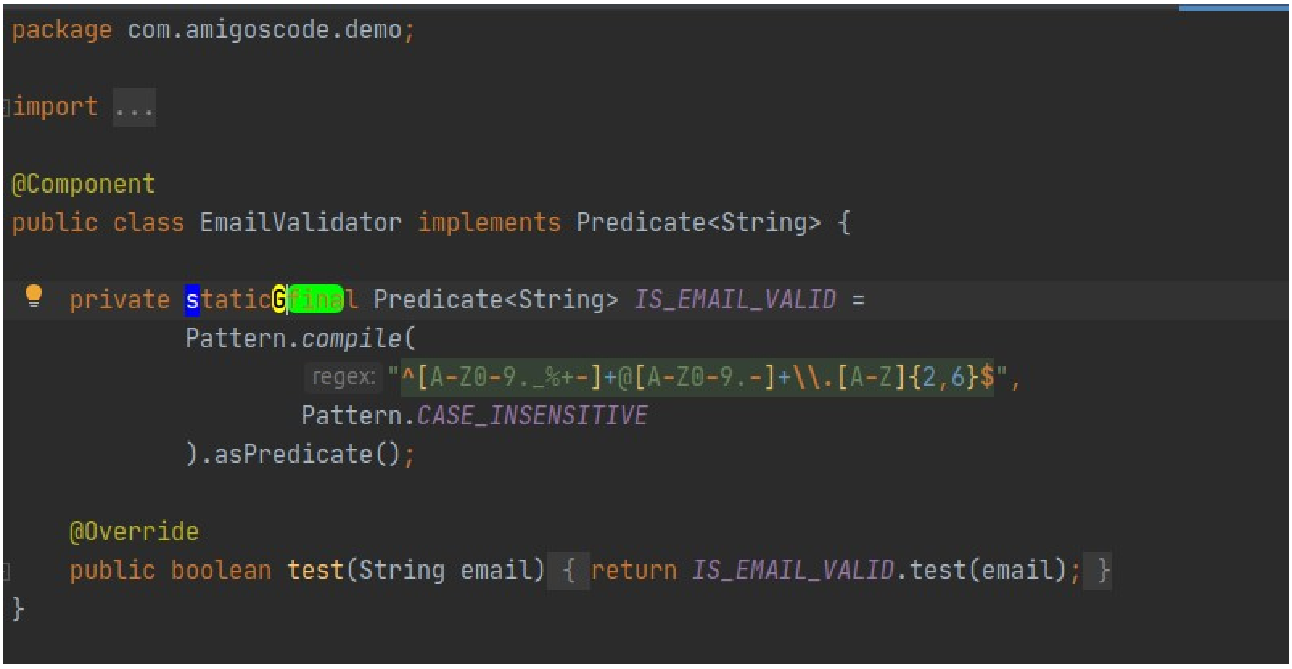
How to go to specific position :-

Activate AceJump by clicking on Ctrl+;

To go to = symbol just type =

then it will show charaacter at That symbol

now click that charaacter



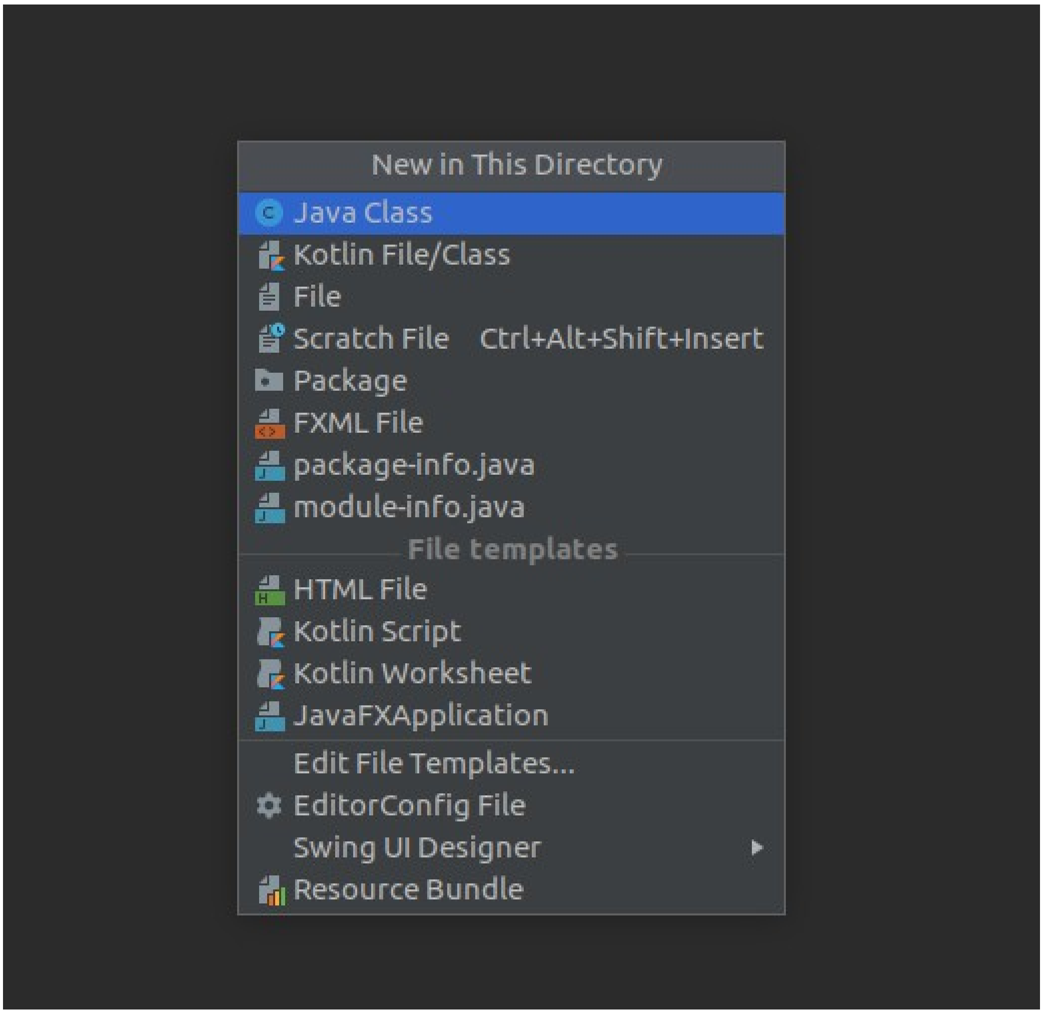
```
package com.amigoscode.demo;

import ...

@Component
public class EmailValidator implements Predicate<String> {

    private static final Predicate<String> IS_EMAIL_VALID =
            Pattern.compile(
                    regex: "^[A-Z0-9._%+-]+@[A-Z0-9.-]+\\.[A-Z]{2,6}$",
                    Pattern.CASE_INSENSITIVE
            ).asPredicate();

    @Override
    public boolean test(String email) { return IS_EMAIL_VALID.test(email); }
}
```

Generating Code :-

Using this section we can boost productivity

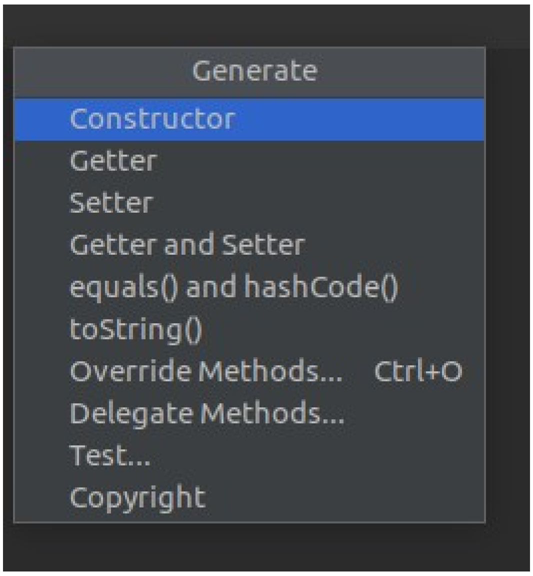
> How to create new classs/package ?

Please go to project structure by using Alt+1
please click down arrow to go to specific package
Now using **Ctrl+Alt+insert** command to create new file



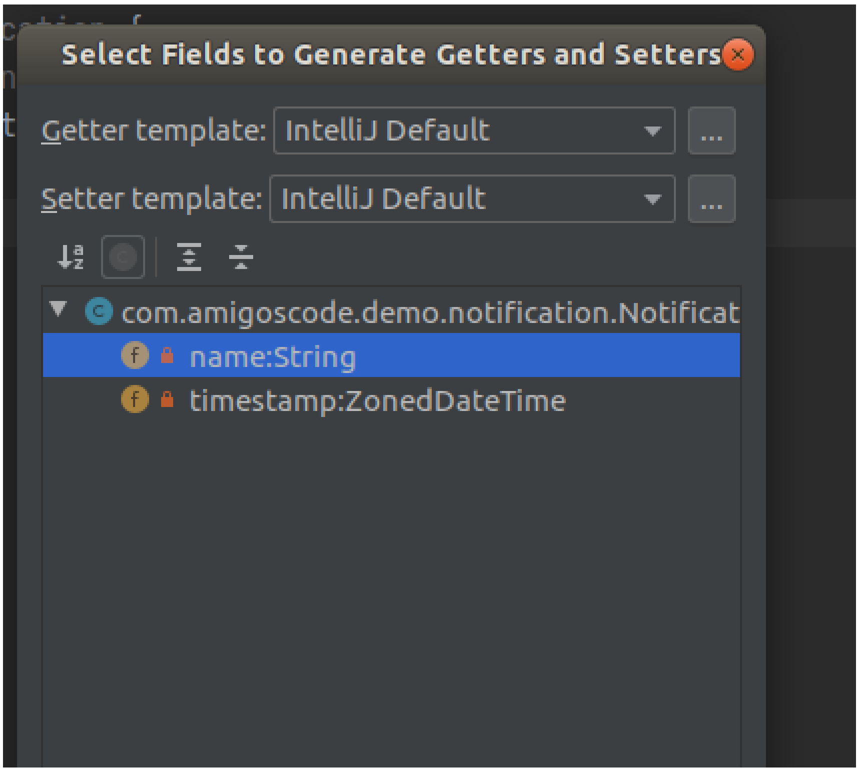
> How to generate Getters and Setters?

> press Alt+Insert command to open dialog box



Now click on Getter and Setter button

it will show below box



Select Fields to Generate Getters and Setters

Getter template: IntelliJ Default

Setter template: IntelliJ Default

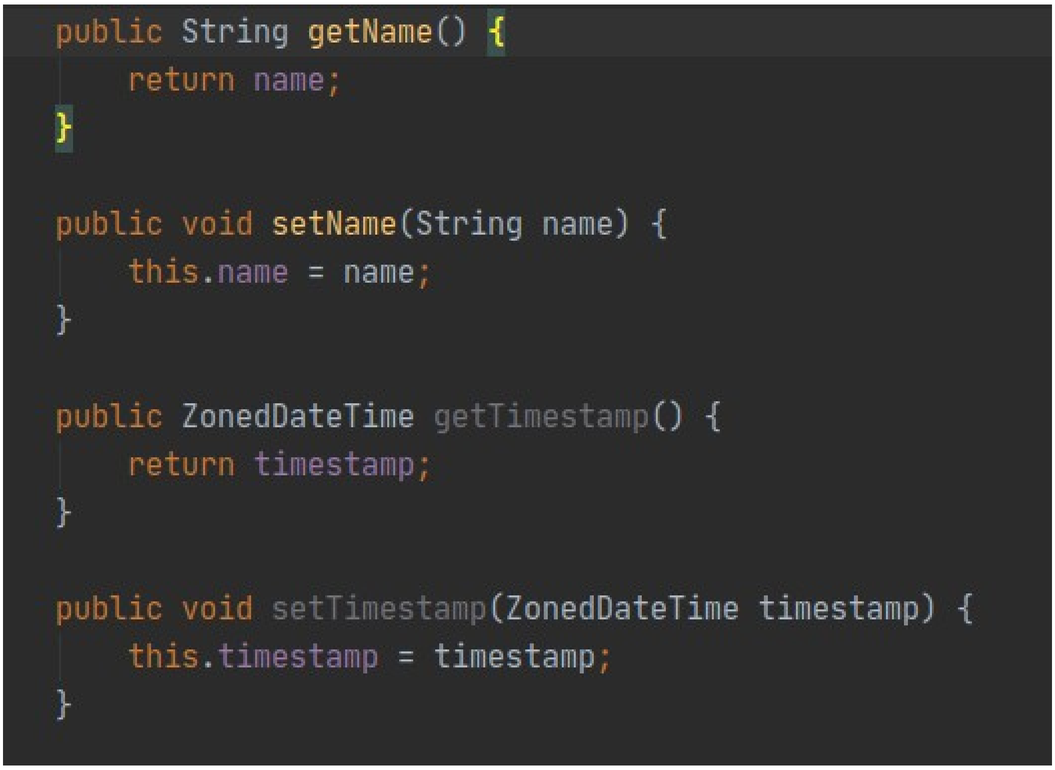
com.amigoscode.demo.notification.Notificat

name:String

timestamp:ZonedDateTime

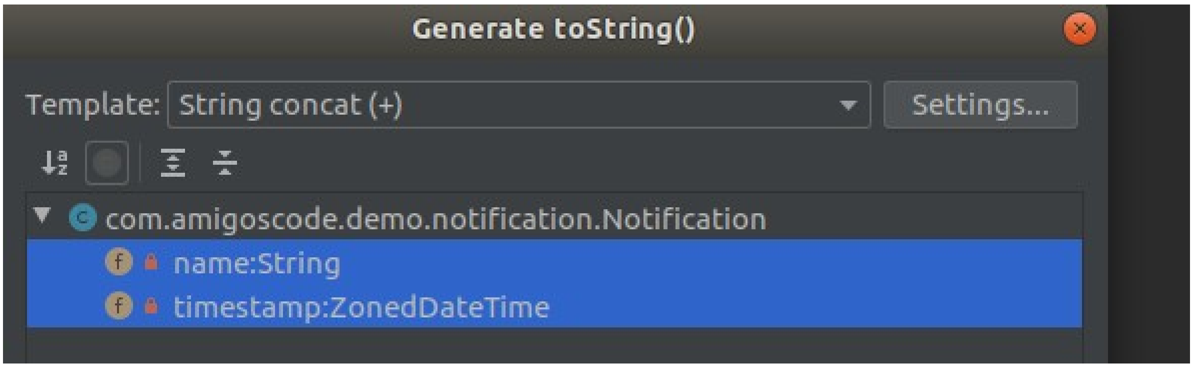
Now select both fields and then click Tab and then press OK.

It will generate getters and setters code.



```java
public String getName() {
    return name;
}

public void setName(String name) {
    this.name = name;
}

public ZonedDateTime getTimestamp() {
    return timestamp;
}

public void setTimestamp(ZonedDateTime timestamp) {
    this.timestamp = timestamp;
}
```

> **We can also generate toString method**

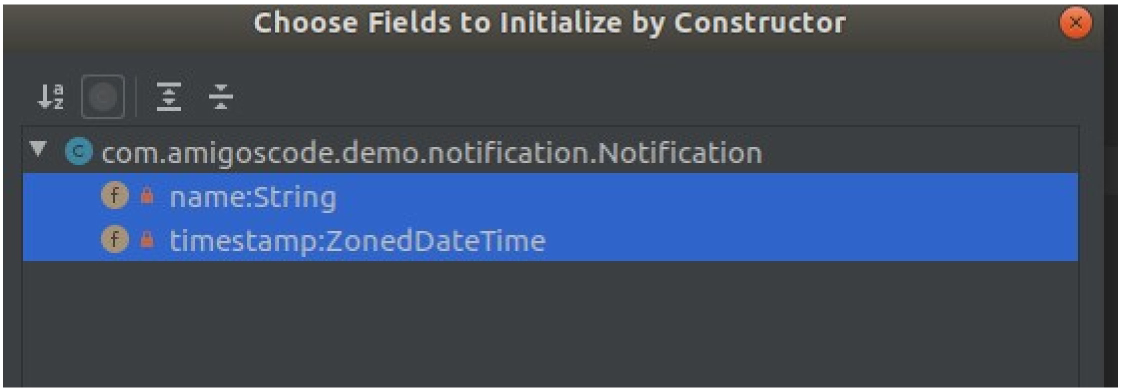


Template: String concat (+)

com.amigoscode.demo.notification.Notification
name:String
timestamp:ZonedDateTime

```java
@Override
public String toString() {
    return "Notification{" +
            "name='" + name + '\'' +
            ", timestamp=" + timestamp +
            '}';
}
```

> **We can also generate constructors by selecting field names**



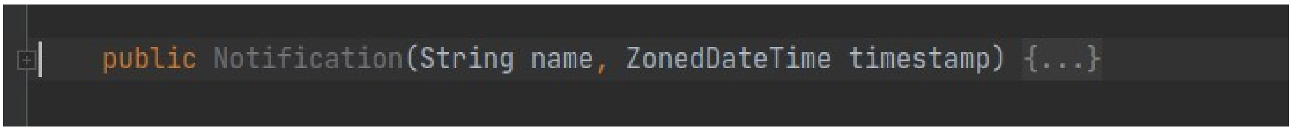
```
com.amigoscode.demo.notification.Notification
    name:String
    timestamp:ZonedDateTime
```

its generating below code.

```
public Notification(String name, ZonedDateTime timestamp) {
    this.name = name;
    this.timestamp = timestamp;
}
```

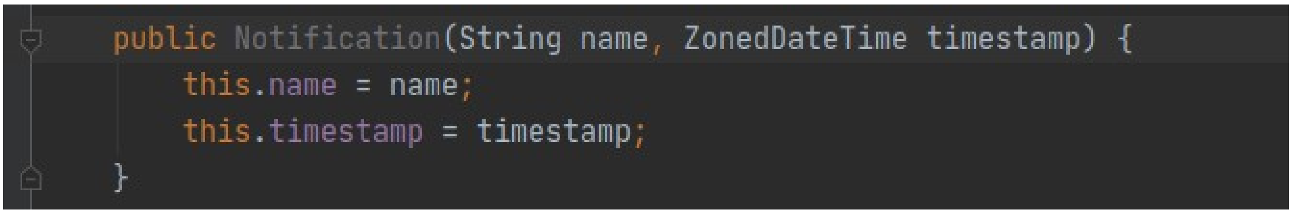
> How to expand code in method? / How to compress code in method ?

You need to expand code by using Ctrl + + and



```
public Notification(String name, ZonedDateTime timestamp) {...}
```

to compress code by using Ctrl + -



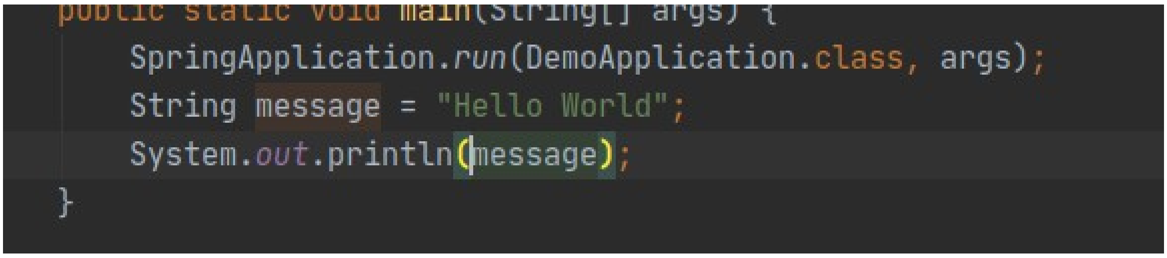
```
public Notification(String name, ZonedDateTime timestamp) {
    this.name = name;
    this.timestamp = timestamp;
}
```

> **sout to display System.out.println(message) :-**

Type sout to print System.out.println(message);

> Create variable by copying string

Type **Ctrl+Alt+V** to create variable. (Here V stands for variable)

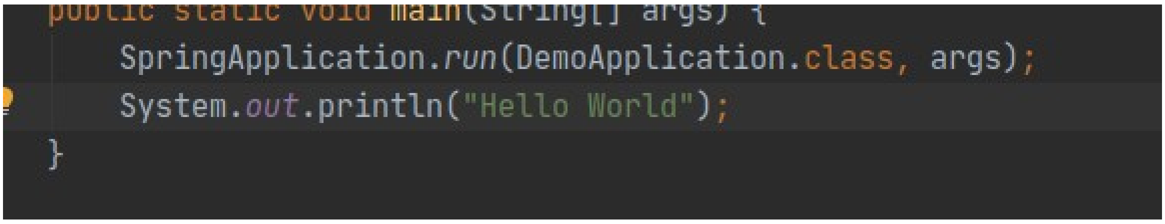


```
public static void main(String[] args) {
    SpringApplication.run(DemoApplication.class, args);
    String message = "Hello World";
    System.out.println(message);
}
```

> To remove variable reference and mention it directly we will use

Ctrl + Alt + N

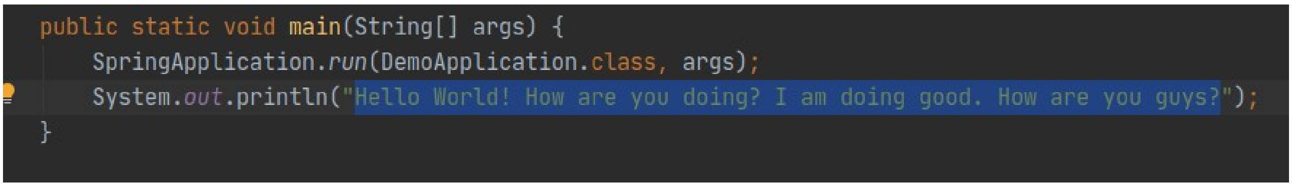
This will remove String message variable and copy its data to system.out.println like below



```
public static void main(String[] args) {
    SpringApplication.run(DemoApplication.class, args);
    System.out.println("Hello World");
}
```

> How to select entire big string?

To select entire big string we can use **Ctrl + W**



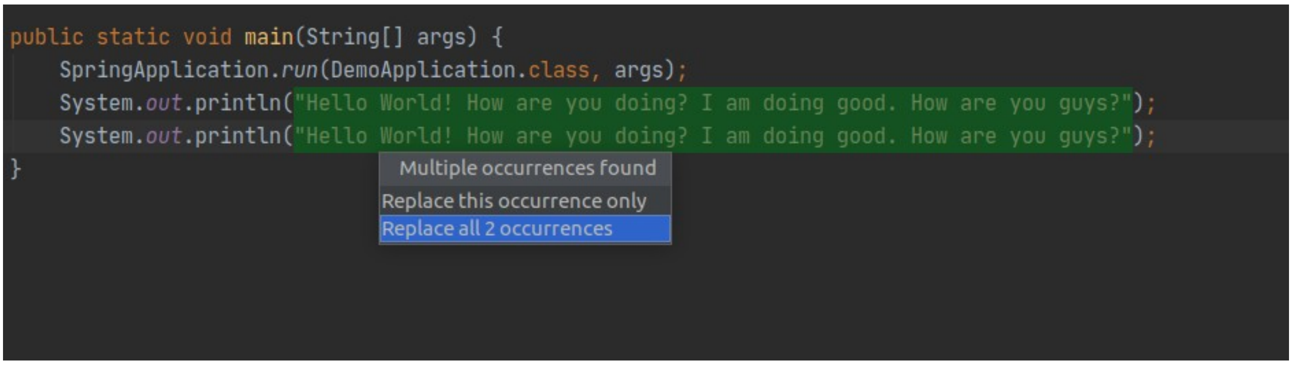
```
public static void main(String[] args) {
    SpringApplication.run(DemoApplication.class, args);
    System.out.println("Hello World! How are you doing? I am doing good. How are you guys?");
}
```

> How to replace multiple occurrances of common data with variable Name?

```
public static void main(String[] args) {
    SpringApplication.run(DemoApplication.class, args);
    System.out.println("Hello World! How are you doing? I am doing good. How are you guys?");
    System.out.println("Hello World! How are you doing? I am doing good. How are you guys?");
}
```

I would like to crate one variable to store the message.

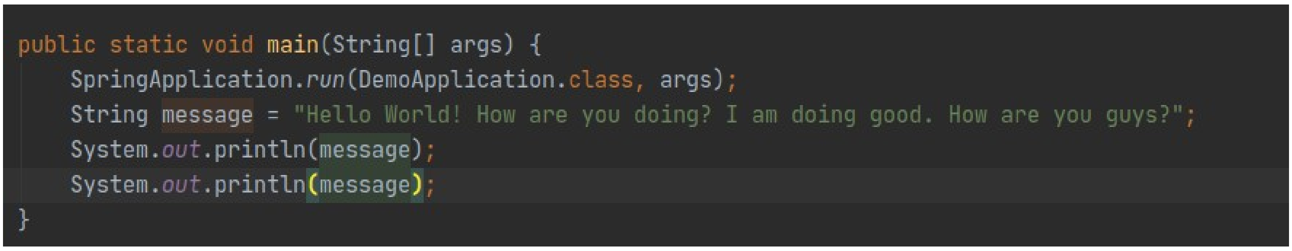
1. selecte entire big string by using **Ctrl+W**
2. Now press Ctrl + Alt + V it will ask to copy multiple occurancce



```
public static void main(String[] args) {
    SpringApplication.run(DemoApplication.class, args);
    System.out.println("Hello World! How are you doing? I am doing good. How are you guys?");
    System.out.println("Hello World! How are you doing? I am doing good. How are you guys?");
}
```

Multiple occurrences found
Replace this occurrence only
Replace all 2 occurrences

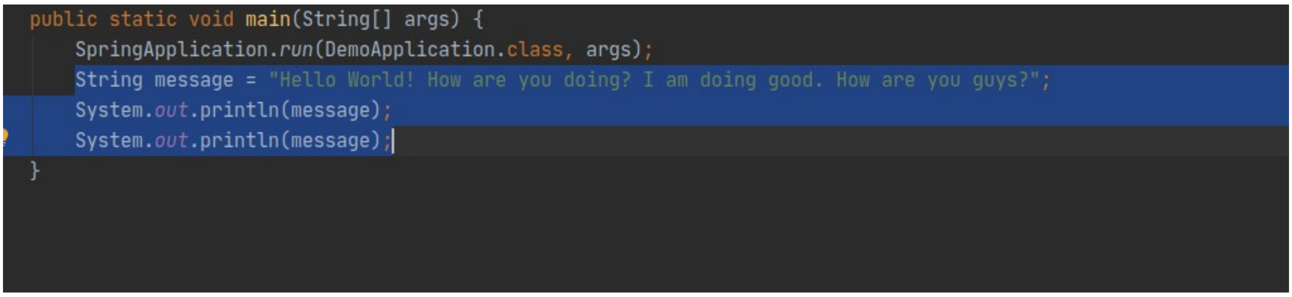
if we click entre then it will create variable like below



```
public static void main(String[] args) {
    SpringApplication.run(DemoApplication.class, args);
    String message = "Hello World! How are you doing? I am doing good. How are you guys?";
    System.out.println(message);
    System.out.println(message);
}
```

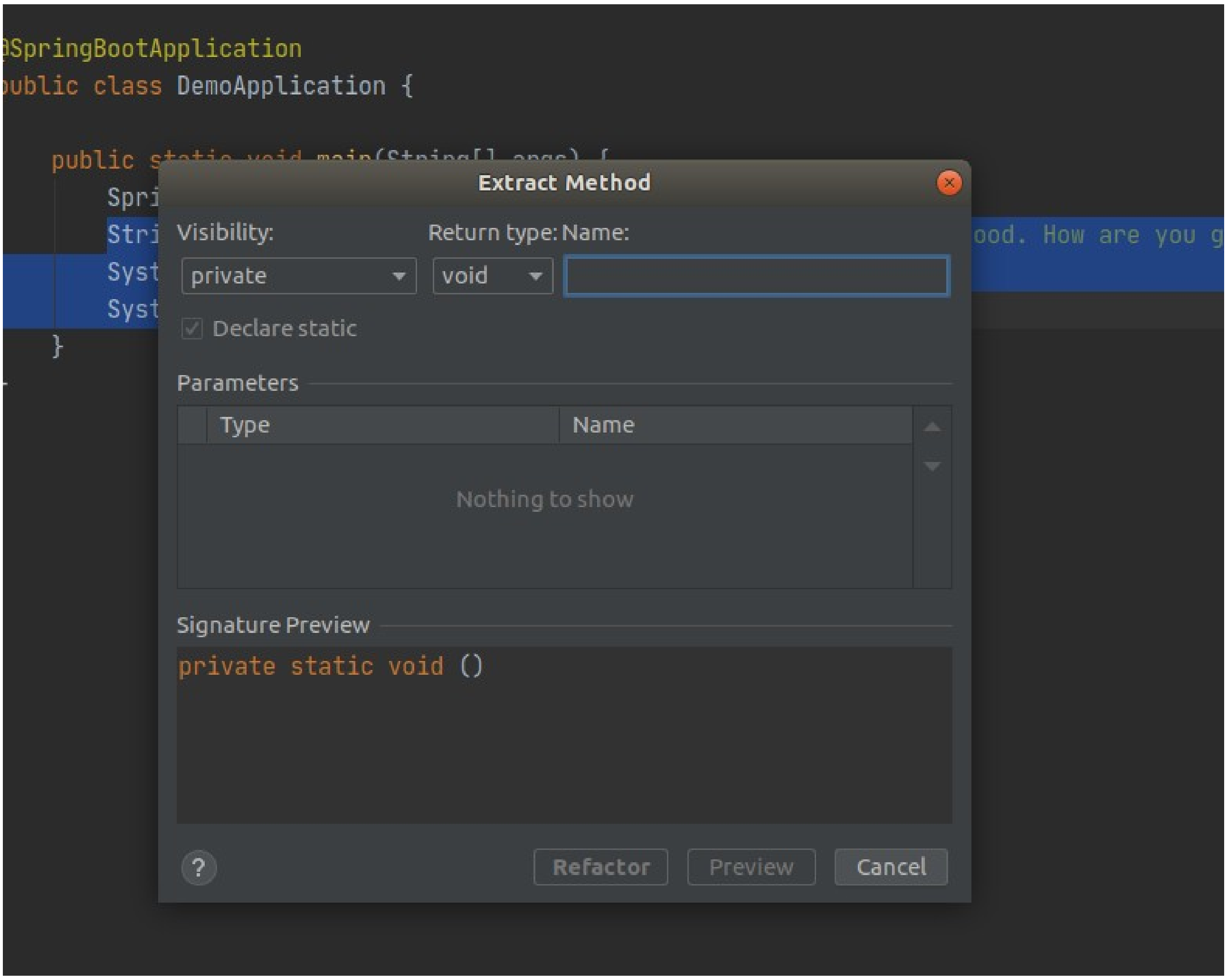
> How to create a method from selected data ?

Select data for which you want to create method like below



```
public static void main(String[] args) {
    SpringApplication.run(DemoApplication.class, args);
    String message = "Hello World! How are you doing? I am doing good. How are you guys?";
    System.out.println(message);
    System.out.println(message);
}
```

> Now press Ctrl + Alt + M (for creating a new method)



```
@SpringBootApplication
ublic class DemoApplication {

    public static void main(String[] args) {
        Spri
        Stri                                                    ood. How are you g
        Syst
        Syst
    }
```

Extract Method

Visibility: private

Return type: void

Name:

☑ Declare static

Parameters

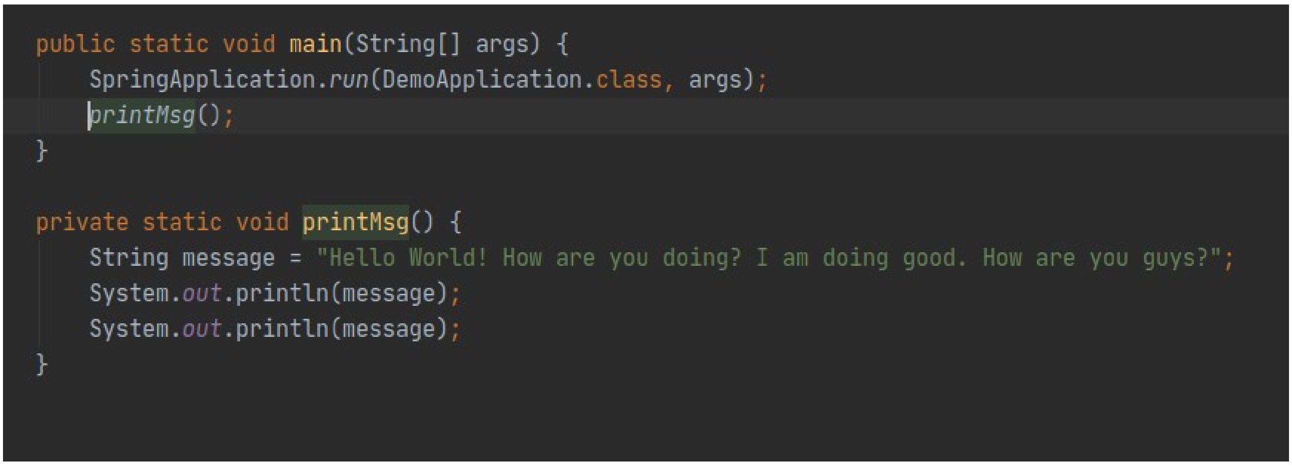
Type	Name
Nothing to show	

Signature Preview

```
private static void ()
```

> Please enter the method name and then click enter.

Its creating a new method like below.



```
public static void main(String[] args) {
    SpringApplication.run(DemoApplication.class, args);
    printMsg();
}

private static void printMsg() {
    String message = "Hello World! How are you doing? I am doing good. How are you guys?";
    System.out.println(message);
    System.out.println(message);
}
```

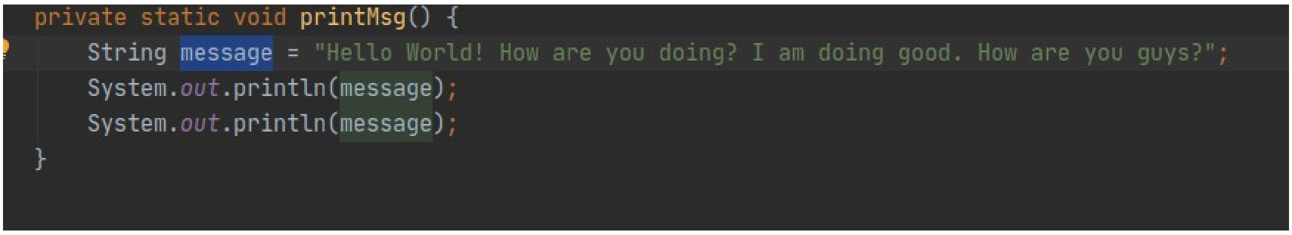
> How to create Parameter from inside method variable Name?

Let us say you have below method

```
private static void printMsg() {
    String message = "Hello World! How are you doing? I am doing good. How are you guys?";
    System.out.println(message);
    System.out.println(message);
}
```

Now you would like to move meesage as method parameter/argument. To do this

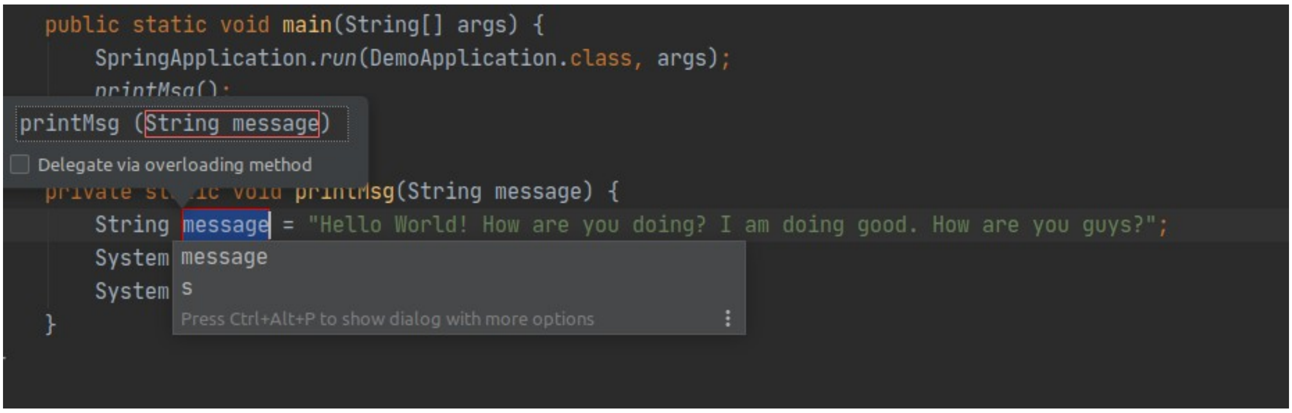
1. select variable name first



```
private static void printMsg() {
    String message = "Hello World! How are you doing? I am doing good. How are you guys?";
    System.out.println(message);
    System.out.println(message);
}
```

2. Now click Ctrl+Alt + P (p stands for parameter, v stands for variable, M stands for method)

Now I have clicked Ctrl+Alt+p.



```
public static void main(String[] args) {
    SpringApplication.run(DemoApplication.class, args);
    printMsg();

private static void printMsg(String message) {
    String message = "Hello World! How are you doing? I am doing good. How are you guys?";
    System
    System
}
```

printMsg (String message)

☐ Delegate via overloading method

message
s
Press Ctrl+Alt+P to show dialog with more options

Now I clicked on enter. Here is the output

```
public static void main(String[] args) {
    SpringApplication.run(DemoApplication.class, args);
    printMsg("Hello World! How are you doing? I am doing good. How are you guys?");
}
```

```
private static void printMsg(String message) {
    System.out.println(message);
    System.out.println(message);
}
```

> How to remove line?

Press Ctrl + Y

> How to duplicate line?

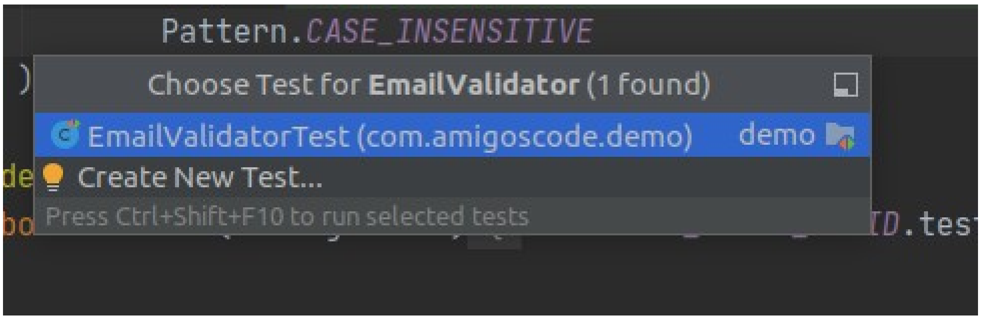
Press Ctrl + D

> Tests :-

> How to open existing file?

Type Shift + ctrl + T

> if the test file is already exists then it will show popup like below



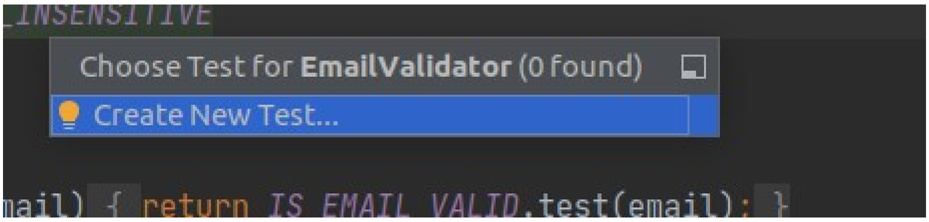
```
Pattern.CASE_INSENSITIVE
```

Choose Test for EmailValidator (1 found)
EmailValidatorTest (com.amigoscode.demo)
demo
Create New Test...
Press Ctrl+Shift+F10 to run selected tests

> How to create new test file ?

Now click enter to go to specific file.

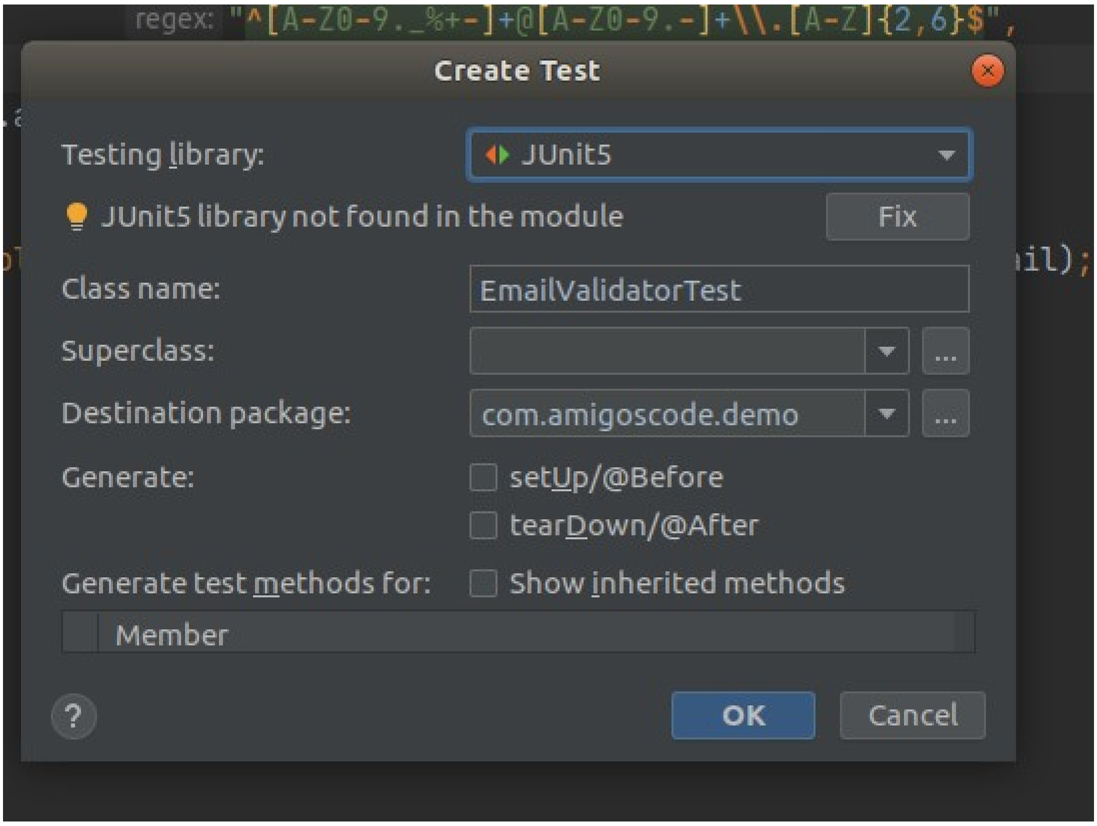
> Just pres Ctrl + shift + T



```
INSENSITIVE
mail) { return IS_EMAIL_VALID.test(email); }
```

> Now click   Enter

It will show below screen



```
regex: "^[A-Z0-9._%+-]+@[A-Z0-9.-]+\\.[A-Z]{2,6}$",
```

Testing library: JUnit5

JUnit5 library not found in the module

Class name: EmailValidatorTest

Superclass:

Destination package: com.amigoscode.demo

Generate: □ setUp/@Before
□ tearDown/@After

Generate test methods for: □ Show inherited methods

Now selecte Generate options and then click enter.

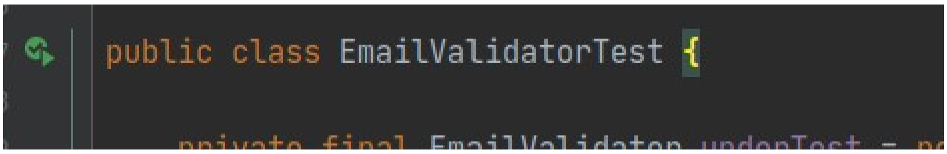
Now it will generate file.

> How to run tests?

Option 1: Just type Ctrl + Shift + F10

Option 2 :

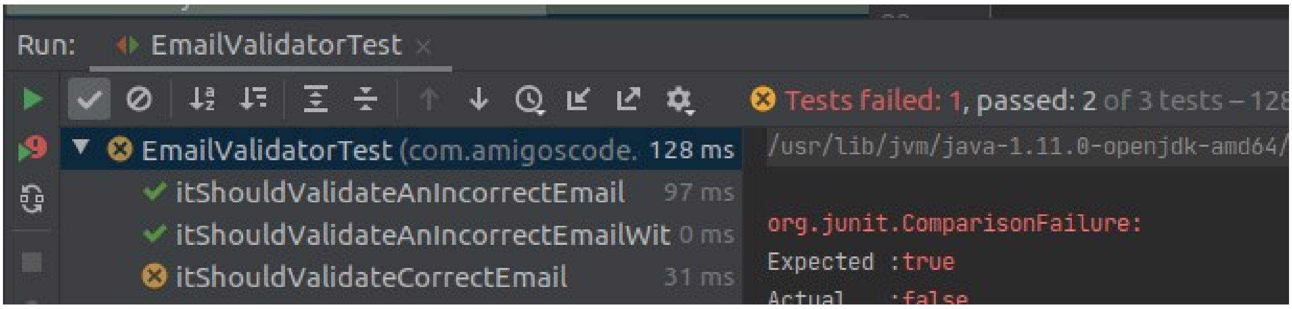
To run all tests click arrow button which is in green color on left hand side of file name



```
public class EmailValidatorTest {

    private final EmailValidator underTest = ne
```

> How to select only failed tests ?

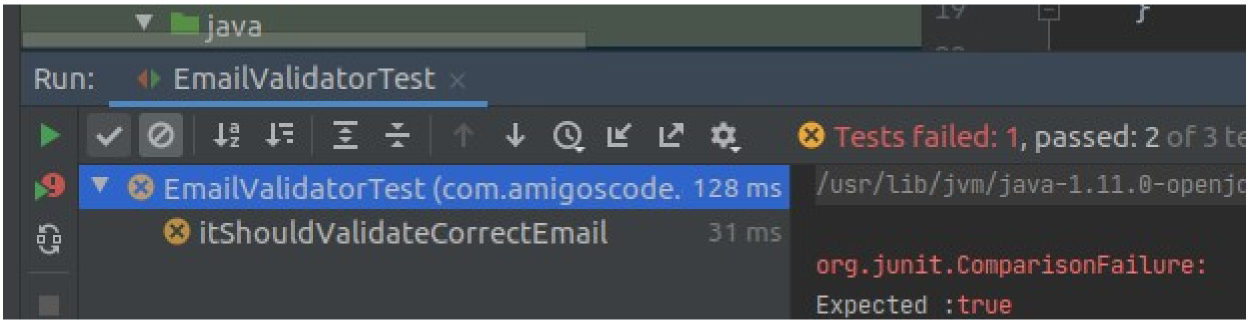
Please click on Correct symbol shown below



```
Run:  EmailValidatorTest ×

✗ Tests failed: 1, passed: 2 of 3 tests – 128

▼ ✗ EmailValidatorTest (com.amigoscode. 128 ms
    ✓ itShouldValidateAnIncorrectEmail     97 ms
    ✓ itShouldValidateAnIncorrectEmailWit   0 ms
    ✗ itShouldValidateCorrectEmail         31 ms

/usr/lib/jvm/java-1.11.0-openjdk-amd64/

org.junit.ComparisonFailure:
Expected :true
Actual   :false
```

So that it will show only failed tests. It will be very helpful when your file has 100’s of tests.

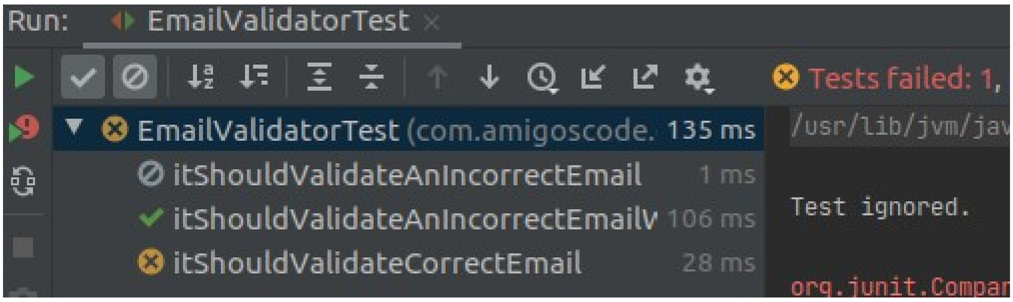
Now I am clicking on Correct symbol. So that it will show only failed tests.



```
▼ java

Run:  EmailValidatorTest ×

✗ Tests failed: 1, passed: 2 of 3 te

▼ ✗ EmailValidatorTest (com.amigoscode. 128 ms
    ✗ itShouldValidateCorrectEmail         31 ms

/usr/lib/jvm/java-1.11.0-openjc

org.junit.ComparisonFailure:
Expected :true
```

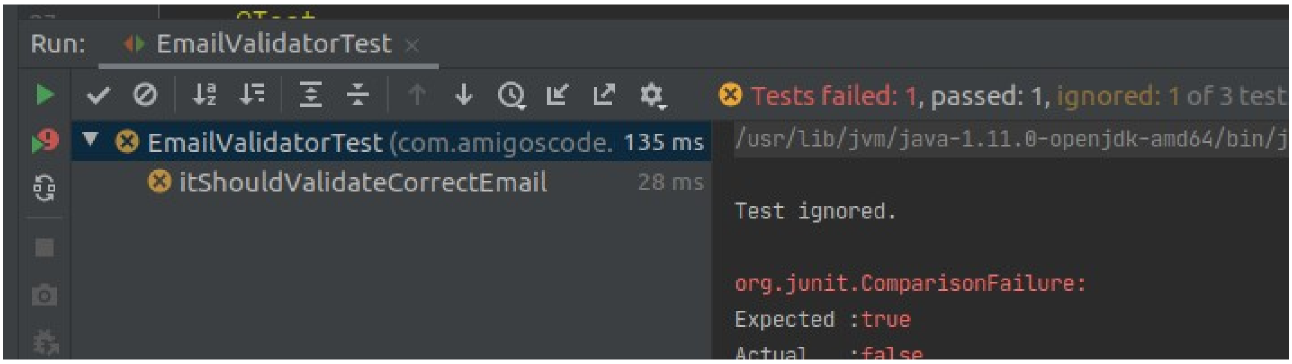
> How to filter out ignored tests ?

To filter out only ignored tests we need to click on block circle symbol shown below



```
Run:   EmailValidatorTest ×
Tests failed: 1,
EmailValidatorTest (com.amigoscode. 135 ms
    itShouldValidateAnIncorrectEmail          1 ms
    itShouldValidateAnIncorrectEmailV       106 ms
    itShouldValidateCorrectEmail             28 ms
/usr/lib/jvm/jav
Test ignored.
org.junit.Compar
```

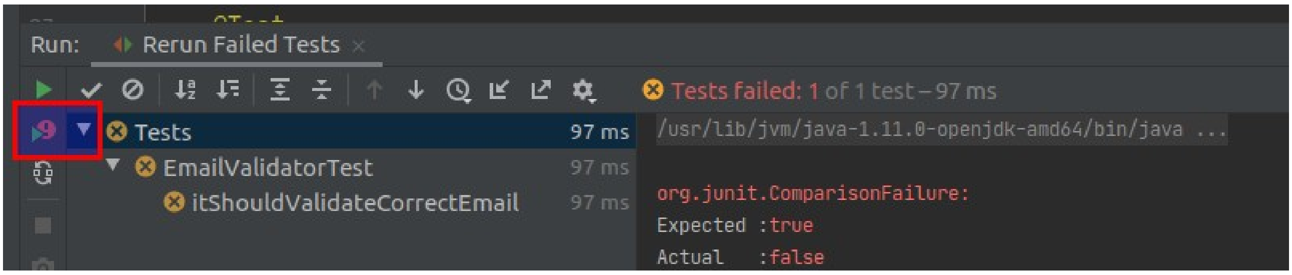
> Now I am clicking on block circle symbol to filter only ignored tests. So that it wont show ignored test.



```
Run:   EmailValidatorTest ×
Tests failed: 1, passed: 1, ignored: 1 of 3 test
EmailValidatorTest (com.amigoscode. 135 ms
    itShouldValidateCorrectEmail             28 ms
/usr/lib/jvm/java-1.11.0-openjdk-amd64/bin/j
Test ignored.
org.junit.ComparisonFailure:
Expected :true
Actual   :false
```

> How to rerun only failed tests ?

I am going to show symbol with red color and green arrow to run only failed tests below.



```
Run:   Rerun Failed Tests ×
Tests failed: 1 of 1 test – 97 ms
Tests                                    97 ms
  EmailValidatorTest                     97 ms
    itShouldValidateCorrectEmail         97 ms
/usr/lib/jvm/java-1.11.0-openjdk-amd64/bin/java ...
org.junit.ComparisonFailure:
Expected :true
Actual   :false
```

> How to go back to main file from test file.

Just press Ctrl + Shift + T

> How to add break point ?

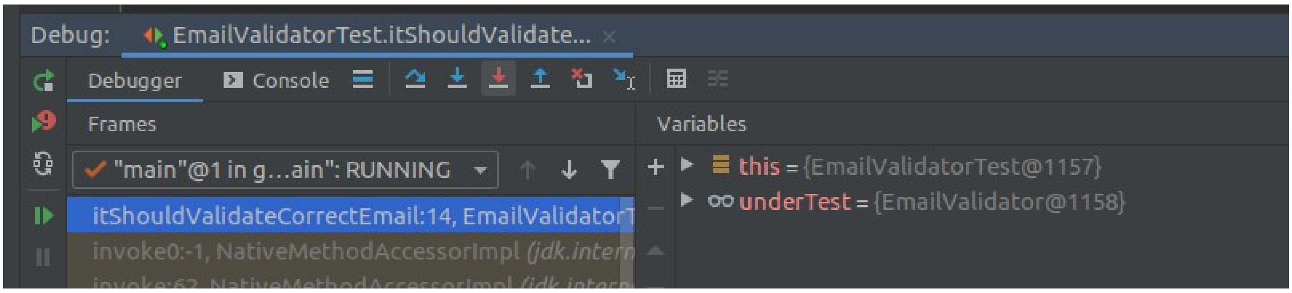
Just press Ctrl + F8 to add break point

> How to debug failed test ?

Please add break point at failed test and main source code

Now go to failed test and click on Debug failed test.

It will show below list of options



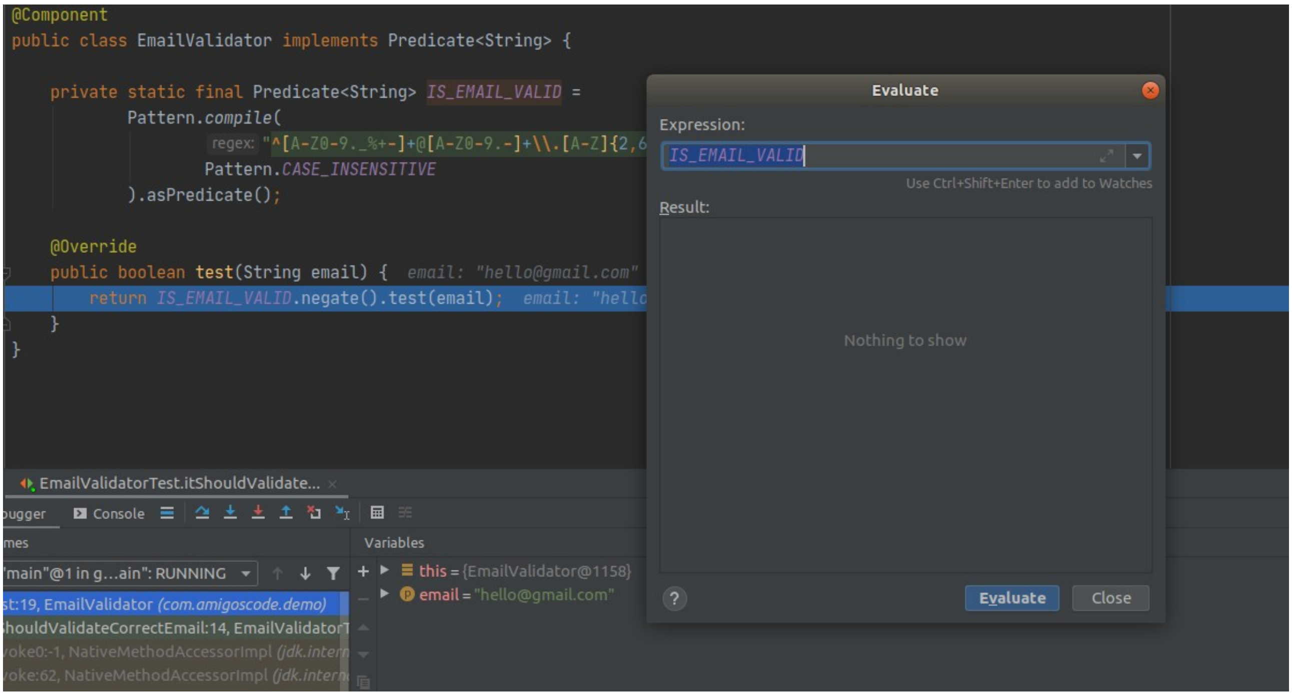
```
"main"@1 in g...ain": RUNNING
itShouldValidateCorrectEmail:14, EmailValidatorT
invoke0:-1, NativeMethodAccessorImpl (jdk.intern
invoke:62, NativeMethodAccessorImpl (jdk.intern

this = {EmailValidatorTest@1157}
underTest = {EmailValidator@1158}
```

1. F8 (step over) -> it will go to next debug statement.

2. F7 (it will step into test)

3. Shift + F8 (it will step out)

Now you can evaluate expression like below

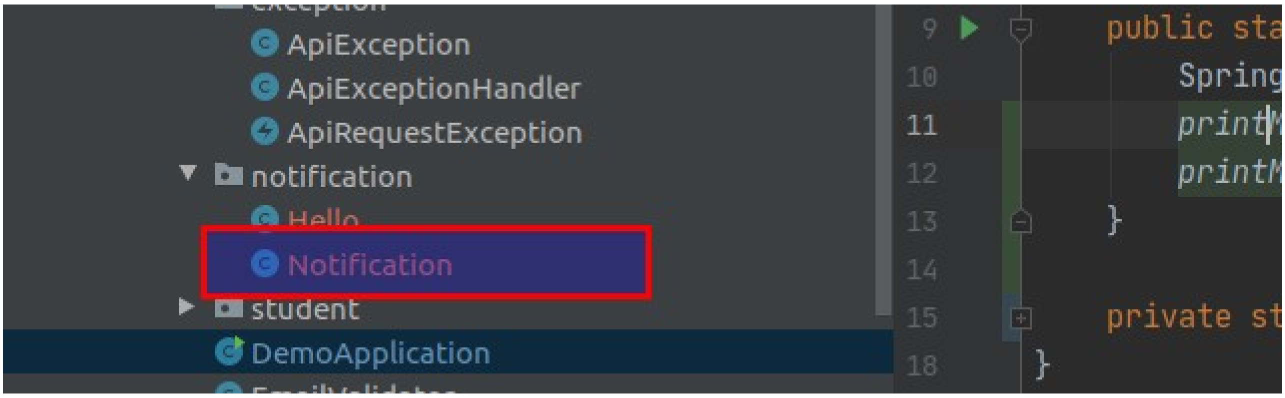


```
@Component
public class EmailValidator implements Predicate<String> {

    private static final Predicate<String> IS_EMAIL_VALID =
            Pattern.compile(
                    regex: "^[A-Z0-9._%+-]+@[A-Z0-9.-]+\\.[A-Z]{2,6
                    Pattern.CASE_INSENSITIVE
            ).asPredicate();

    @Override
    public boolean test(String email) {  email: "hello@gmail.com"
        return IS_EMAIL_VALID.negate().test(email);  email: "hello
    }
}
```

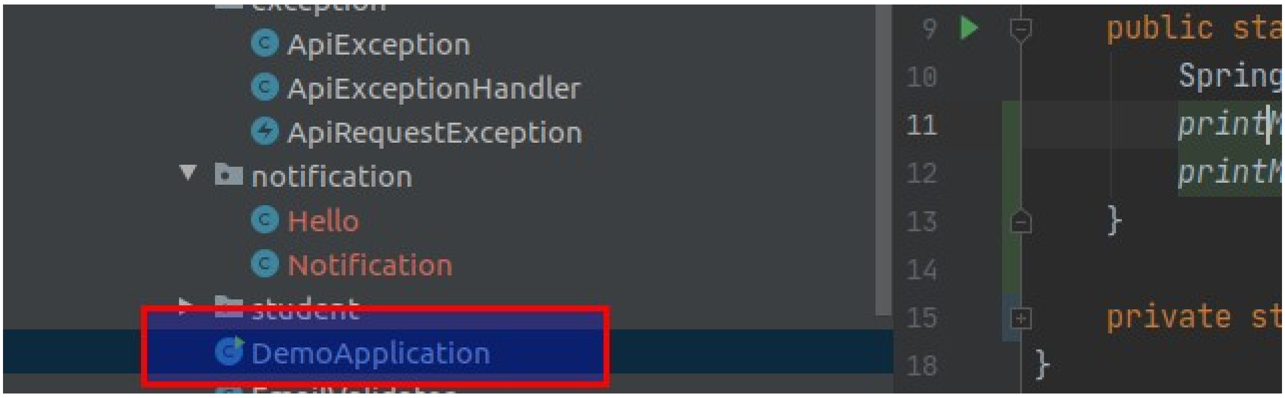
```
IS_EMAIL_VALID

'main"@1 in g...ain": RUNNING
st:19, EmailValidator (com.amigoscode.demo)
houldValidateCorrectEmail:14, EmailValidatorT
oke0:-1, NativeMethodAccessorImpl (jdk.intern
oke:62, NativeMethodAccessorImpl (jdk.intern

this = {EmailValidator@1158}
email = "hello@gmail.com"
```

Git and Github integration :-

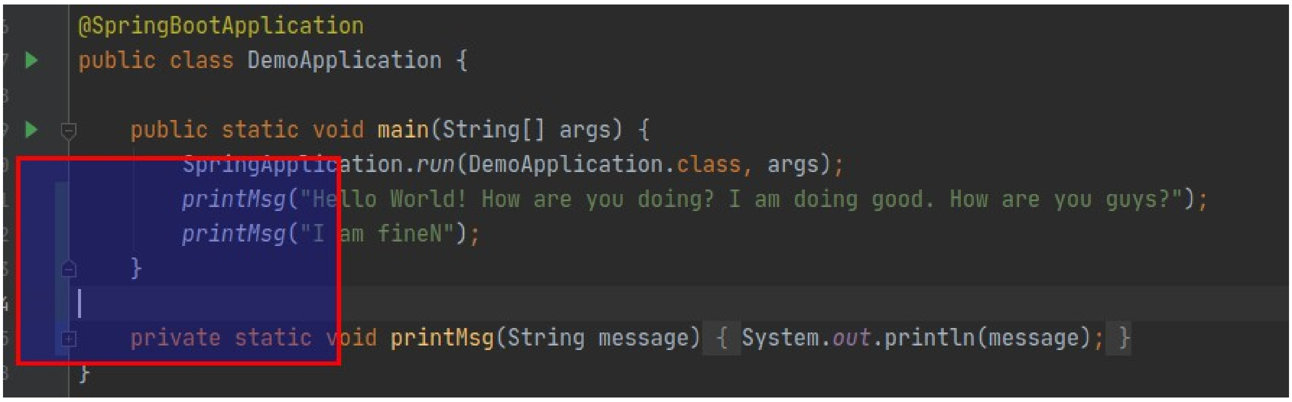
1. if the file is in Red color then its a new file and its not pushed.



2. if the file is in blue color then this file has some changes.

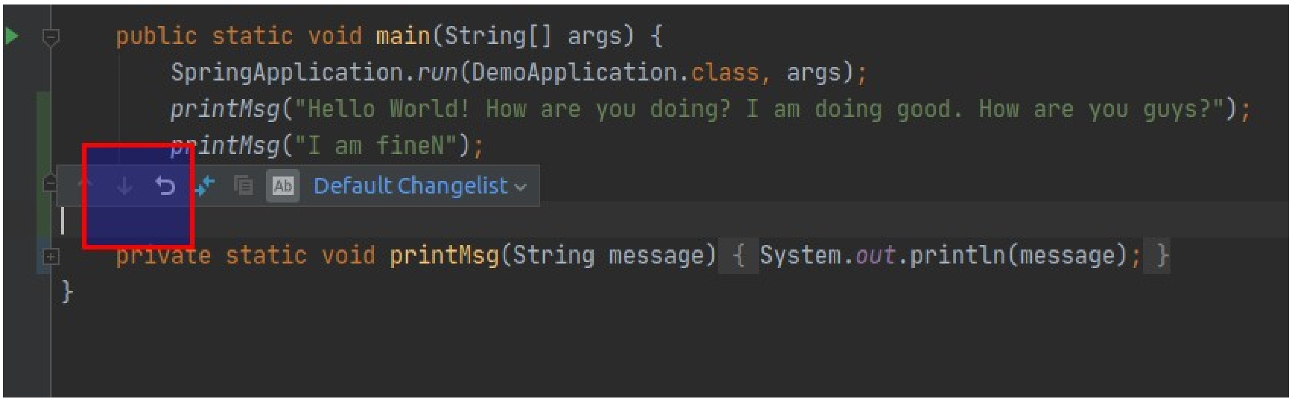


3. If you open file then it will highlight changes like below



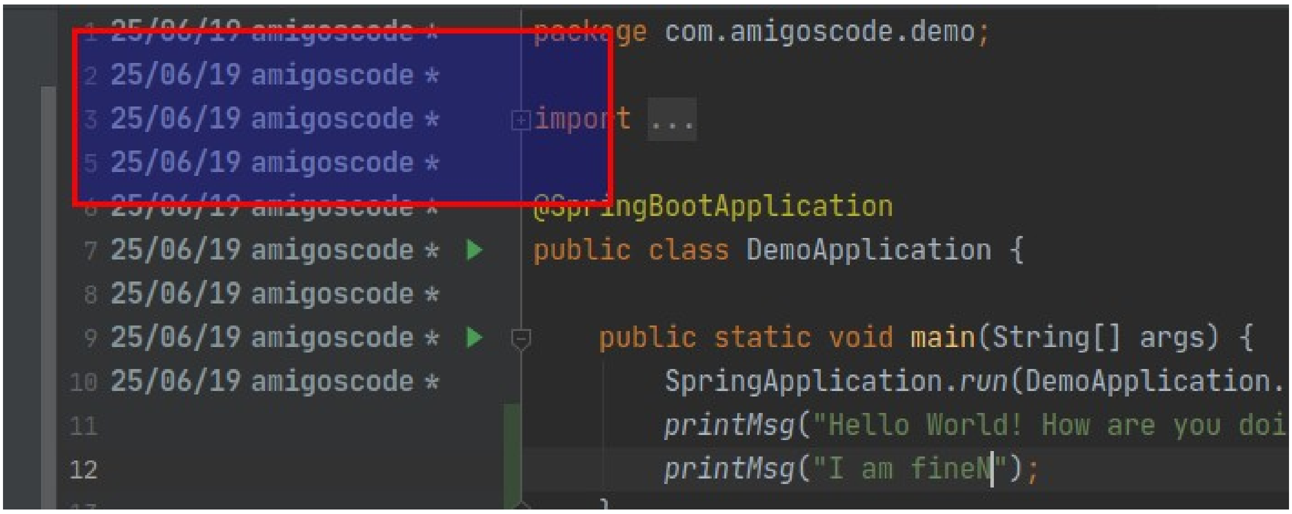
```
@SpringBootApplication
public class DemoApplication {

    public static void main(String[] args) {
        SpringApplication.run(DemoApplication.class, args);
        printMsg("Hello World! How are you doing? I am doing good. How are you guys?");
        printMsg("I am fineN");
    }

    private static void printMsg(String message) { System.out.println(message); }
}
```

4. if you want to rollback changes then just click on that area then it will show rollback symbol



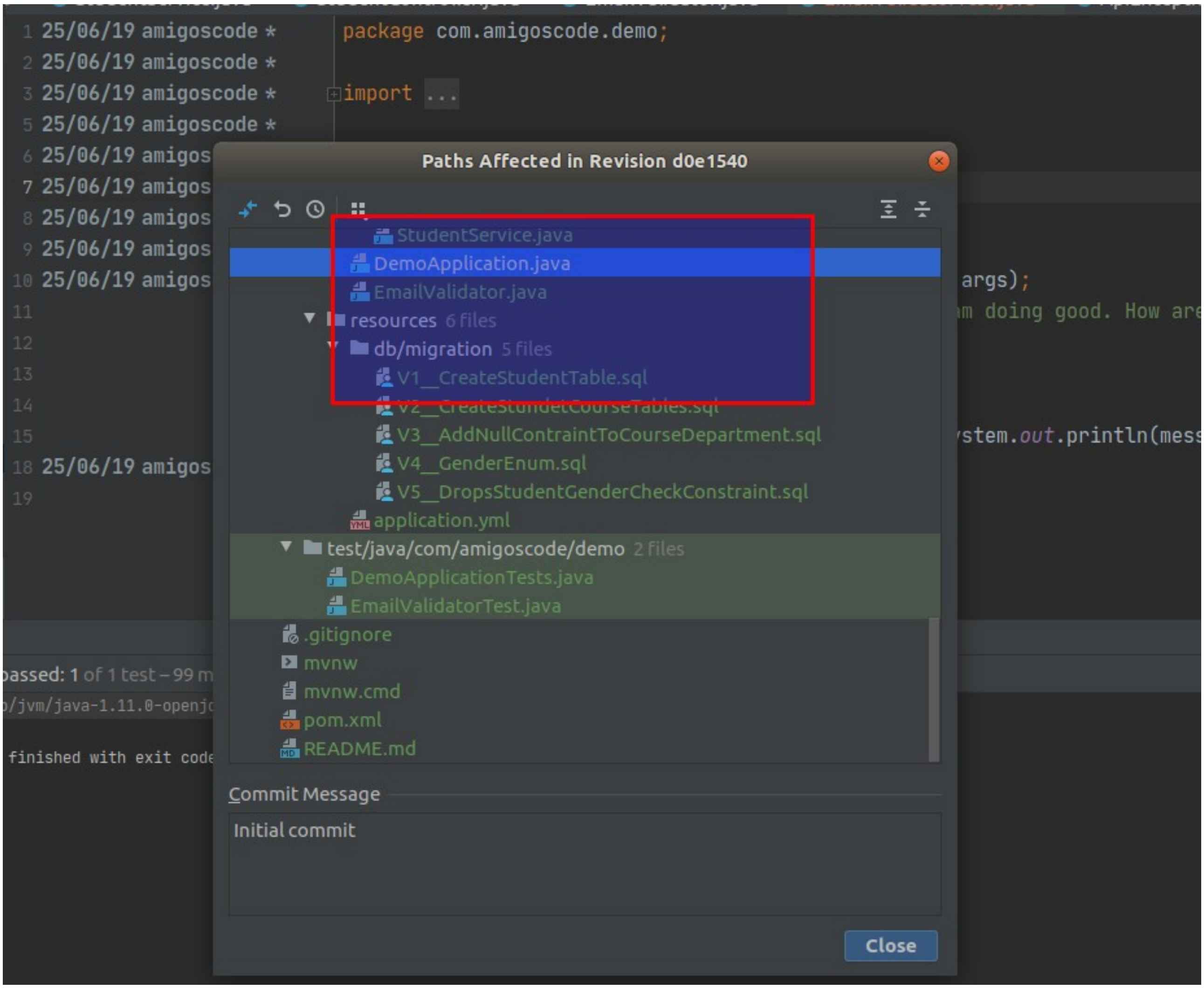
```
    public static void main(String[] args) {
        SpringApplication.run(DemoApplication.class, args);
        printMsg("Hello World! How are you doing? I am doing good. How are you guys?");
        printMsg("I am fineN");

    private static void printMsg(String message) { System.out.println(message); }
}
```

5. if you right click on any line number then it will show annotate symbol.



```
1  25/06/19 amigoscode *   package com.amigoscode.demo;
2  25/06/19 amigoscode *
3  25/06/19 amigoscode *   import ...
5  25/06/19 amigoscode *
6  25/06/19 amigoscode *   @SpringBootApplication
7  25/06/19 amigoscode *   public class DemoApplication {
8  25/06/19 amigoscode *
9  25/06/19 amigoscode *       public static void main(String[] args) {
10 25/06/19 amigoscode *           SpringApplication.run(DemoApplication.
11                                 printMsg("Hello World! How are you doi
12                                 printMsg("I am fineN");
```

6. if you click on any commit then it will show all changes related to project like below



```
25/06/19 amigoscode *        package com.amigoscode.demo;
25/06/19 amigoscode *
25/06/19 amigoscode *        import ...
25/06/19 amigoscode *
```

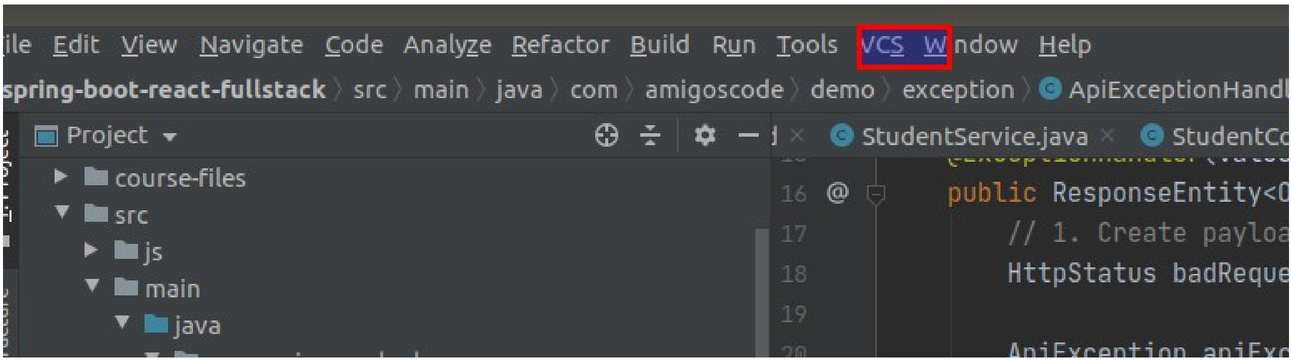
Paths Affected in Revision d0e1540

```
StudentService.java
DemoApplication.java
EmailValidator.java
▼ resources 6 files
  ▼ db/migration 5 files
      V1__CreateStudentTable.sql
      V2__CreateStundetCourseTables.sql
      V3__AddNullContraintToCourseDepartment.sql
      V4__GenderEnum.sql
      V5__DropsStudentGenderCheckConstraint.sql
    application.yml
▼ test/java/com/amigoscode/demo 2 files
    DemoApplicationTests.java
    EmailValidatorTest.java
.gitignore
mvnw
mvnw.cmd
pom.xml
README.md
```

Commit Message

Initial commit

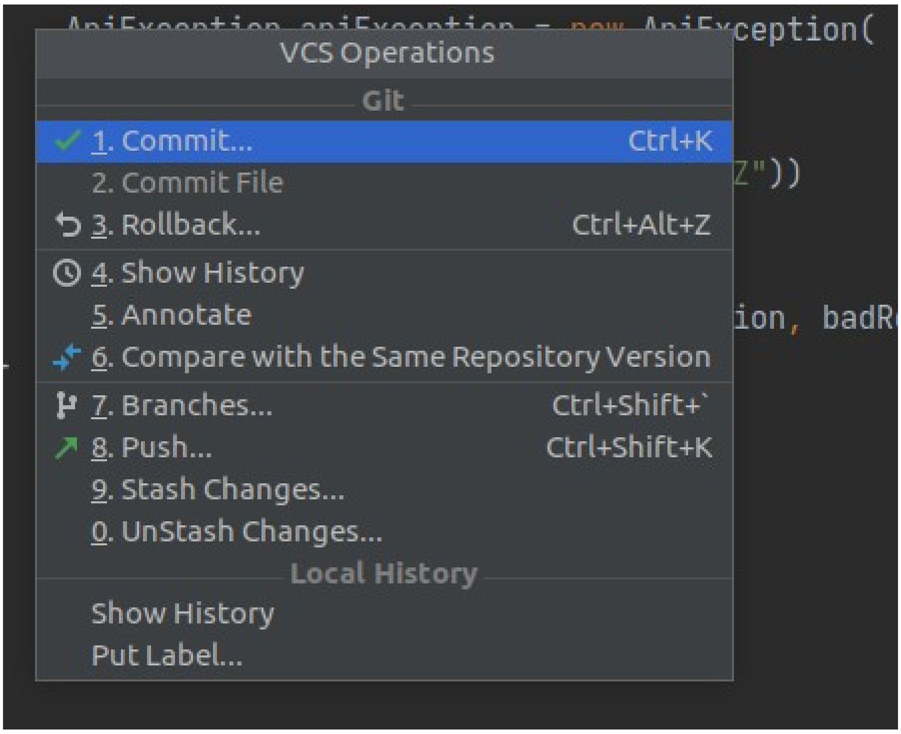
7. you can see lot of options related to version control under Vcs tab



ile Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
spring-boot-react-fullstack 〉 src 〉 main 〉 java 〉 com 〉 amigoscode 〉 demo 〉 exception 〉 ApiExceptionHandl
Project
StudentService.java
StudentCo
course-files
src
js
main
java

```
    public ResponseEntity<O
        // 1. Create payloa
        HttpStatus badReque
```

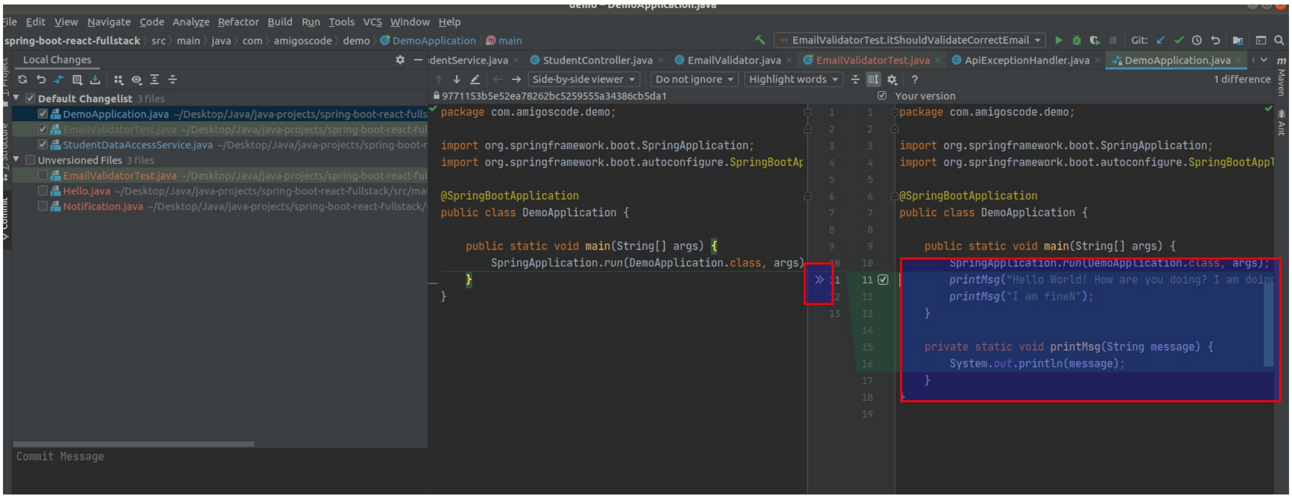
8. VCS Operators popup also list lot of options all git operations under VCS



> How to commit changes :-

1. Please press Ctrl + k To commit files. So it will open popup with list of changes.

It will list newly added code in green color.
It will show deleted code in red color.


File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
spring-boot-react-fullstack › src › main › java › com › amigoscode › demo › DemoApplication › main
EmailValidatorTest.itShouldValidateCorrectEmail
Git:
Local Changes
dentService.java
StudentController.java
EmailValidator.java
EmailValidatorTest.java
ApiExceptionHandler.java
DemoApplication.java
Side-by-side viewer
Do not ignore
Highlight words
1 difference
Commit Message

☑ Default Changelist 3 files
- ☑ DemoApplication.java ~/Desktop/Java/java-projects/spring-boot-react-fulls
- ☑ EmailValidatorTest.java ~/Desktop/Java/java-projects/spring-boot-react-ful
- ☑ StudentDataAccessService.java ~/Desktop/Java/java-projects/spring-boot-r

□ Unversioned Files 3 files
- □ EmailValidatorTest.java ~/Desktop/Java/java-projects/spring-boot-react-ful
- □ Hello.java ~/Desktop/Java/java-projects/spring-boot-react-fullstack/src/mai
- □ Notification.java ~/Desktop/Java/java-projects/spring-boot-react-fullstack/

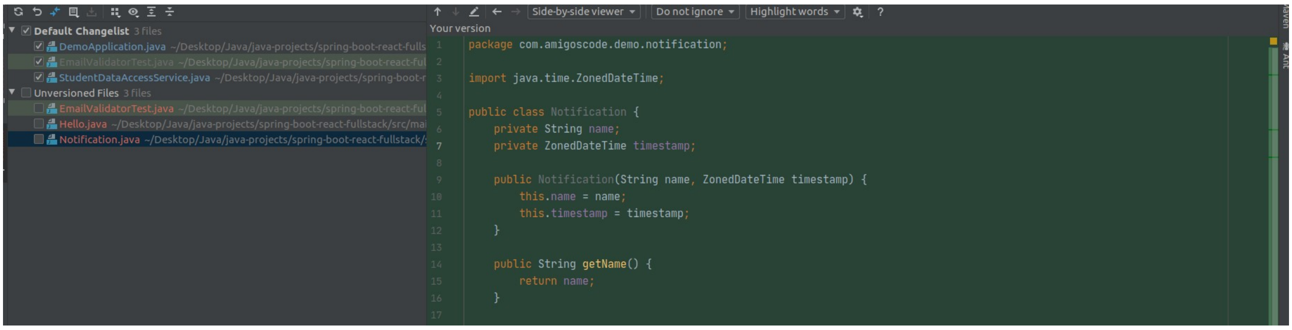
9771153b5e52ea78262bc5259555a34386cb5da1

```
package com.amigoscode.demo;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootAp

@SpringBootApplication
public class DemoApplication {

    public static void main(String[] args) {
        SpringApplication.run(DemoApplication.class, args)
    }
}
```

☑ Your version

```
package com.amigoscode.demo;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootAppl

@SpringBootApplication
public class DemoApplication {

    public static void main(String[] args) {
        SpringApplication.run(DemoApplication.class, args);
        printMsg("Hello World! How are you doing? I am doinc
        printMsg("I am fineN");
    }

    private static void printMsg(String message) {
        System.out.println(message);
    }
}
```

2. It will show newly added file code in green color



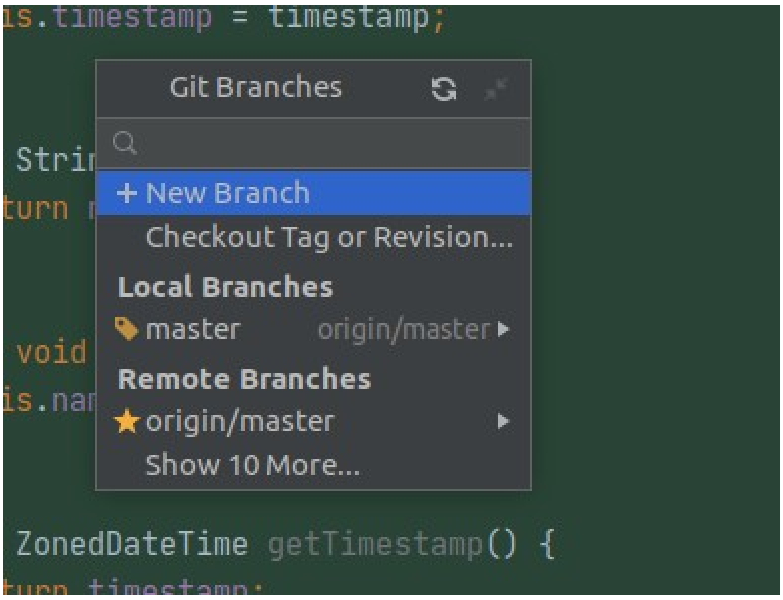
Default Changelist 3 files
- ☑ DemoApplication.java ~/Desktop/Java/java-projects/spring-boot-react-fulls
- ☑ EmailValidatorTest.java ~/Desktop/Java/java-projects/spring-boot-react-ful
- ☑ StudentDataAccessService.java ~/Desktop/Java/java-projects/spring-boot-r

Unversioned Files 3 files
- □ EmailValidatorTest.java ~/Desktop/Java/java-projects/spring-boot-react-ful
- □ Hello.java ~/Desktop/Java/java-projects/spring-boot-react-fullstack/src/mai
- □ Notification.java ~/Desktop/Java/java-projects/spring-boot-react-fullstack/

```java
package com.amigoscode.demo.notification;

import java.time.ZonedDateTime;

public class Notification {
    private String name;
    private ZonedDateTime timestamp;

    public Notification(String name, ZonedDateTime timestamp) {
        this.name = name;
        this.timestamp = timestamp;
    }

    public String getName() {
        return name;
    }

```

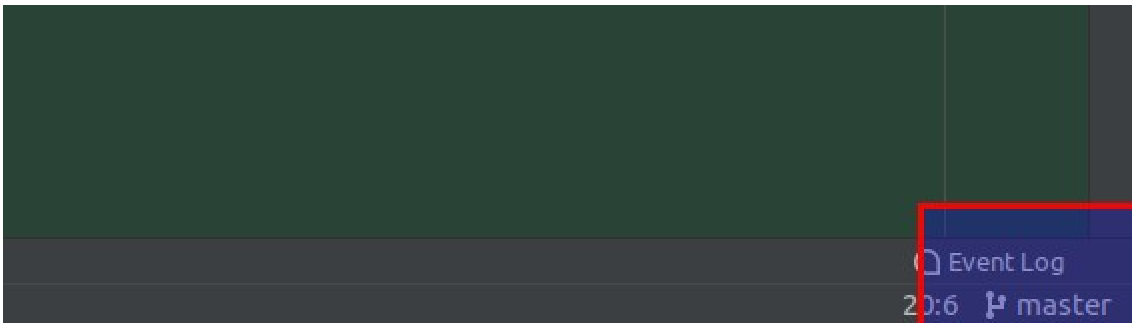
> How to view existing branches in git? And How can I create new branch?

1. You can type command **Ctrl + Shift + `** to list all branches



2. You can also go from Vcs -> git -> Branches

3. You can see this option at bottom right corner like below also



> What is optimize imports checkbox before commiting code?

Its going to remove ununsed import startements from the code.

Example :-

You have added List import at the begining but now you changed your code to use ArrayList.

So its going to remove unused List statement.

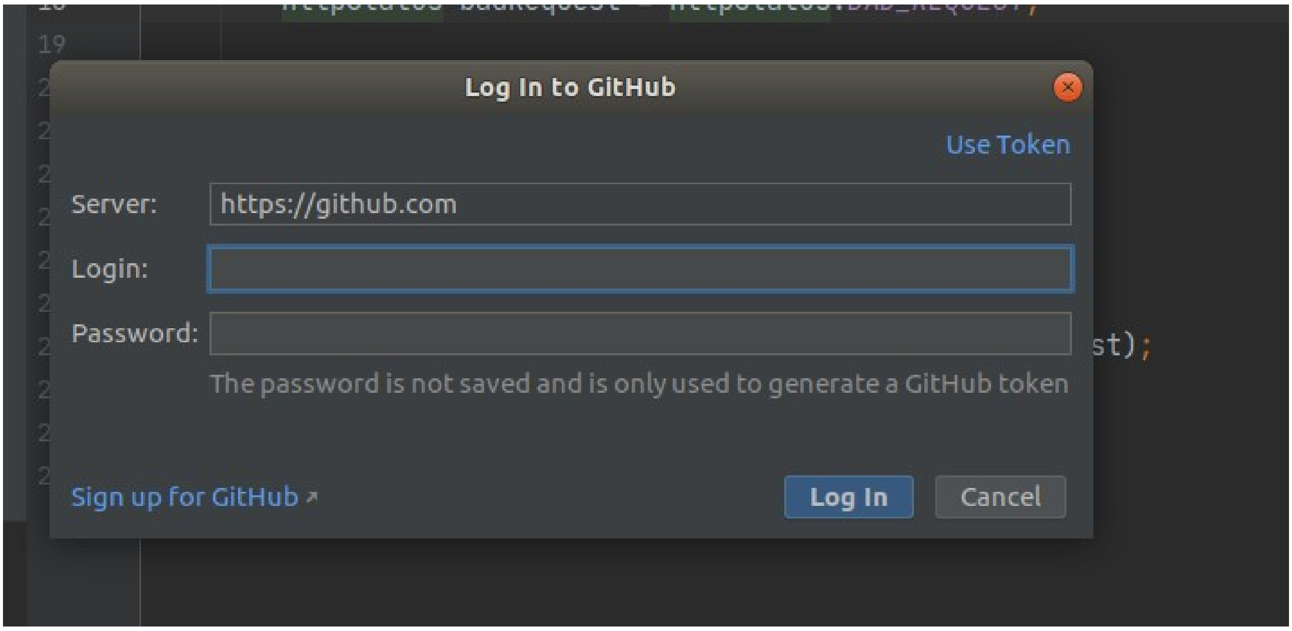
> How to create a pull requests?

1. You can push the code to remote branch and then create the pull request manually.
2. We can also create the pull request from intellij.

How to create the pull request from Intellij?

Go from Vcs -> Git -> Create pull request

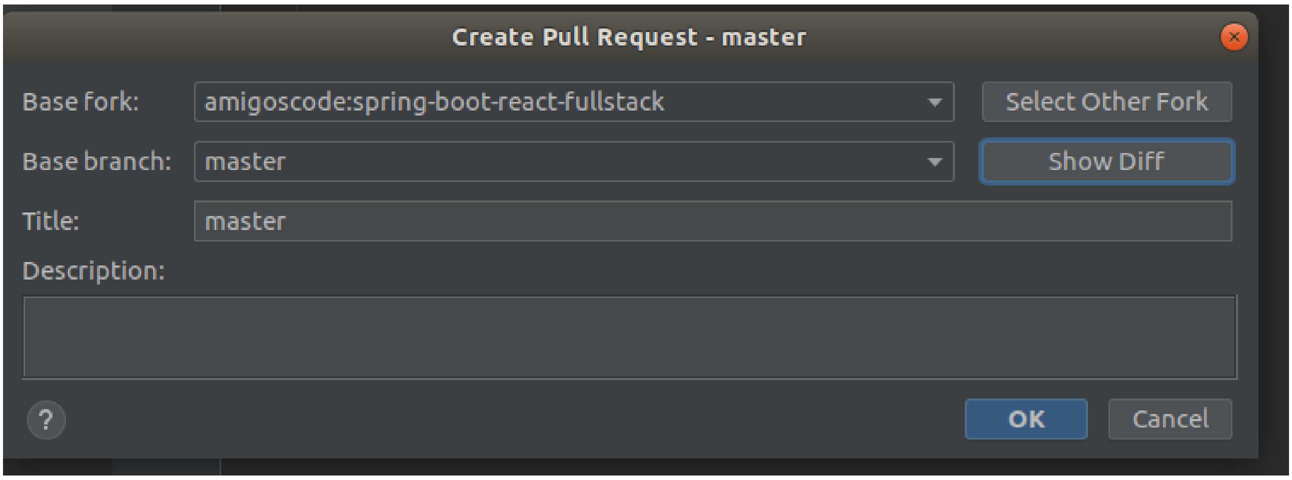
at the first time it will ask login credentials.



https://github.com

The password is not saved and is only used to generate a GitHub token

> once you entered credentials. It will show popup box with title and description. You can enter those details there.



Create Pull Request - master

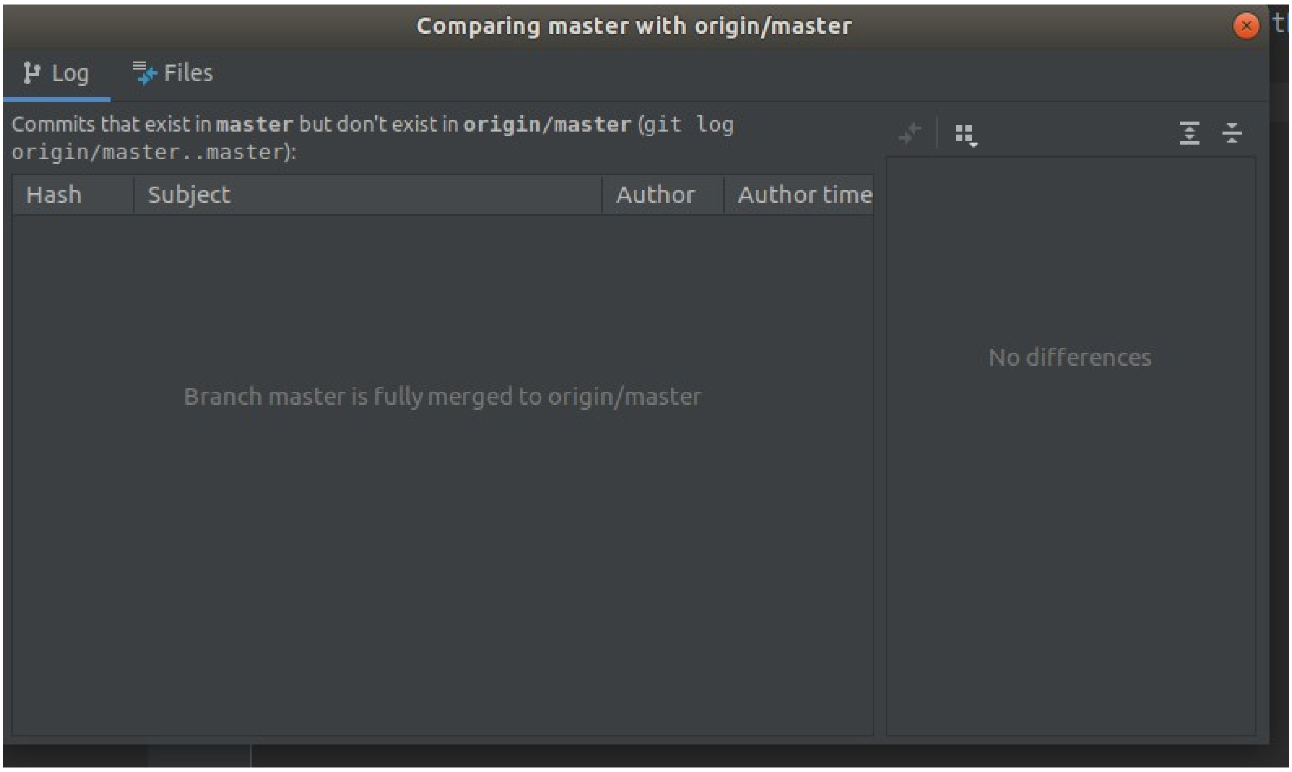
Base fork: amigoscode:spring-boot-react-fullstack

Base branch: master

Title: master

Description:

> There is a show Diff button which will show list of changes in this pull request.



Comparing master with origin/master

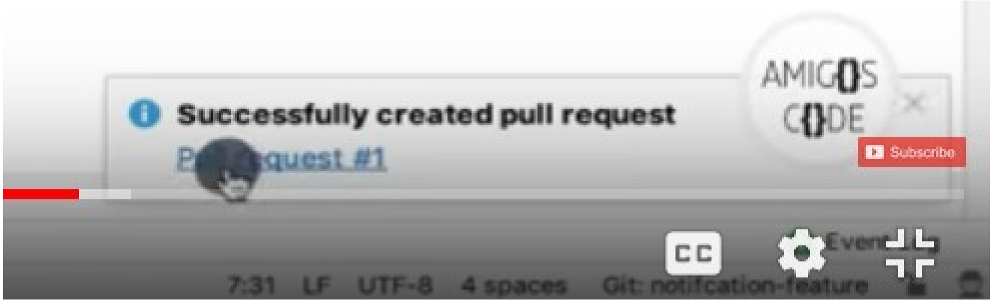
Commits that exist in master but don't exist in origin/master (git log origin/master..master):

Hash	Subject	Author	Author time

Branch master is fully merged to origin/master

No differences

> It will also the actuall link for pull request. So just you can click on that link and you see changes.

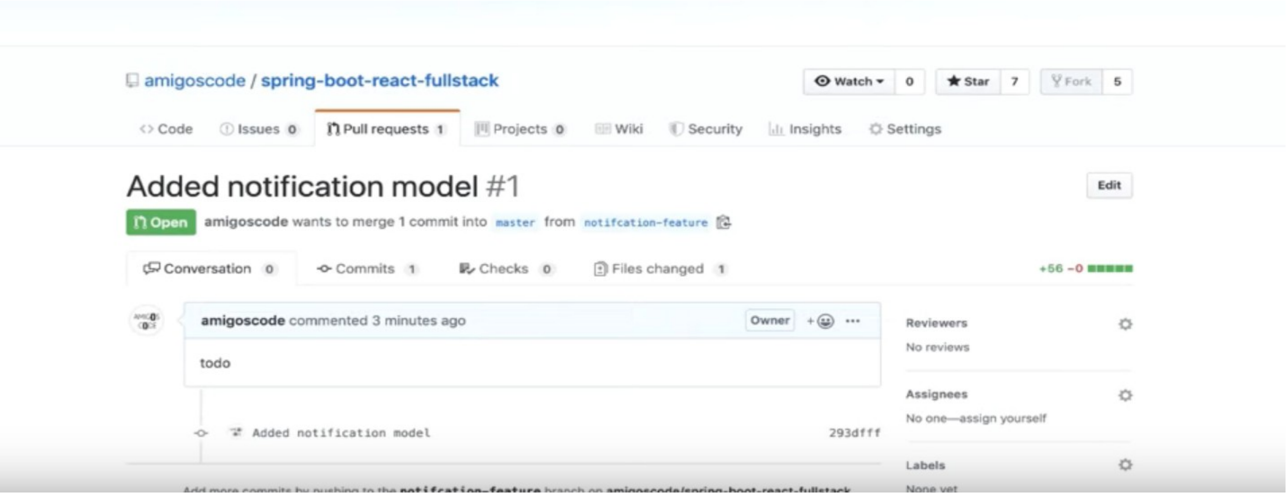


Successfully created pull request

Pull Request #1

7:31 LF UTF-8 4 spaces Git: notifcation-feature

> if you open that link it will take to you git page like below.



Added notification model #1

Open amigoscode wants to merge 1 commit into master from notifcation-feature

amigoscode commented 3 minutes ago

todo

Added notification model 293dfff

No reviews

No one—assign yourself

None yet

Add more commits by pushing to the notifcation-feature branch on amigoscode/spring-boot-react-fullstack

>> How to use intellij for other languages like Kotlin

> How to convert java file to Kotilin file?

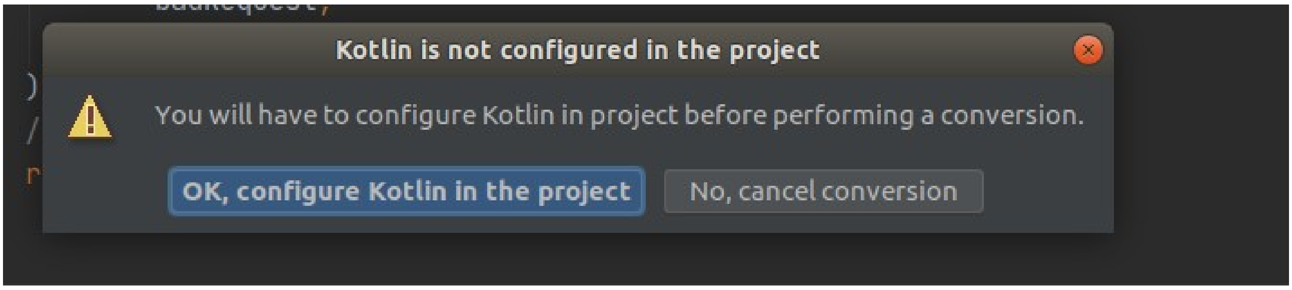
You can type **Ctrl+Alt+shift+K**

or

You can convert java file to kotil by using below option

Right click on file name then you can see last option saying

convert java file to kotilin, once you click on enter

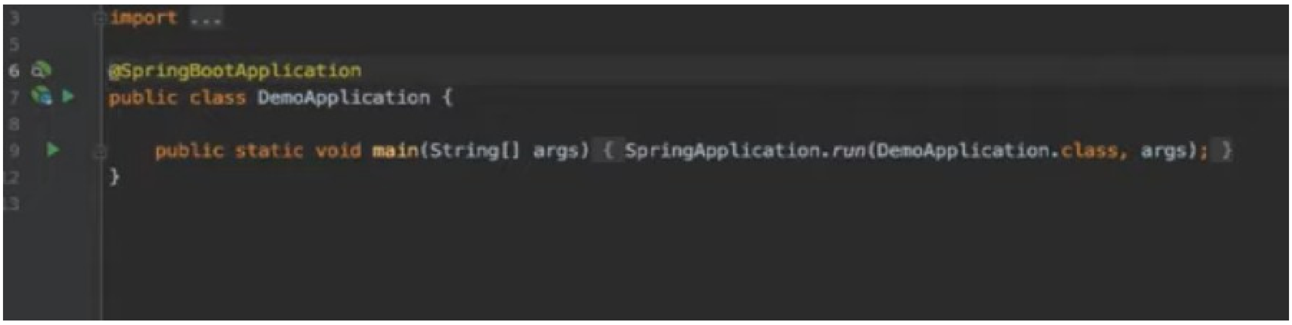


Kotlin is not configured in the project

You will have to configure Kotlin in project before performing a conversion.

>> How to use Intellij Ultimate Edition

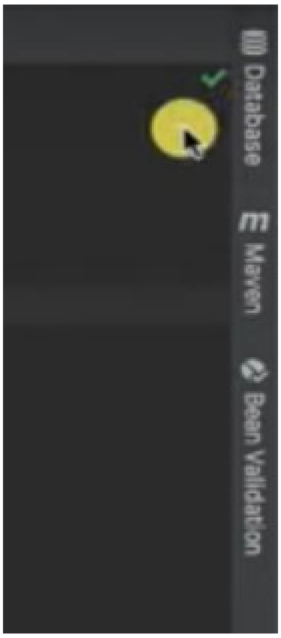
> Once you installed Ultimate Edition it will detect spring beans and it will show there.



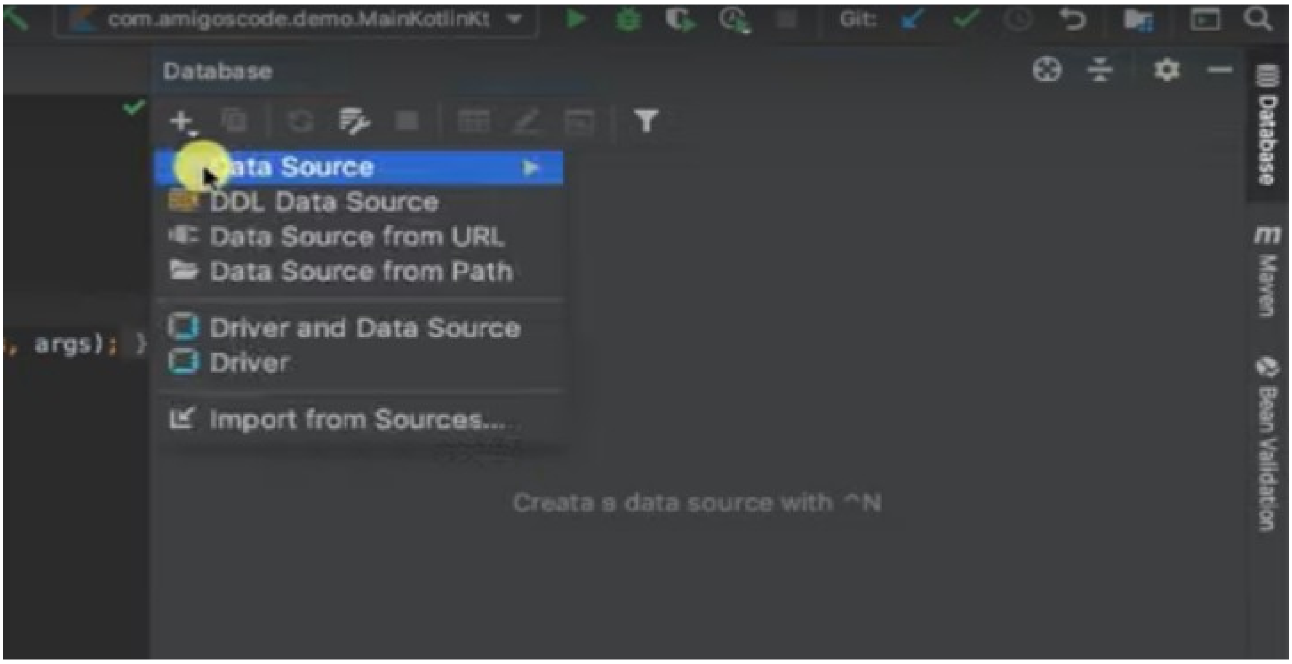
```
import ...

@SpringBootApplication
public class DemoApplication {

    public static void main(String[] args) { SpringApplication.run(DemoApplication.class, args); }
}
```

> Learn how to connect to database / Database Integration

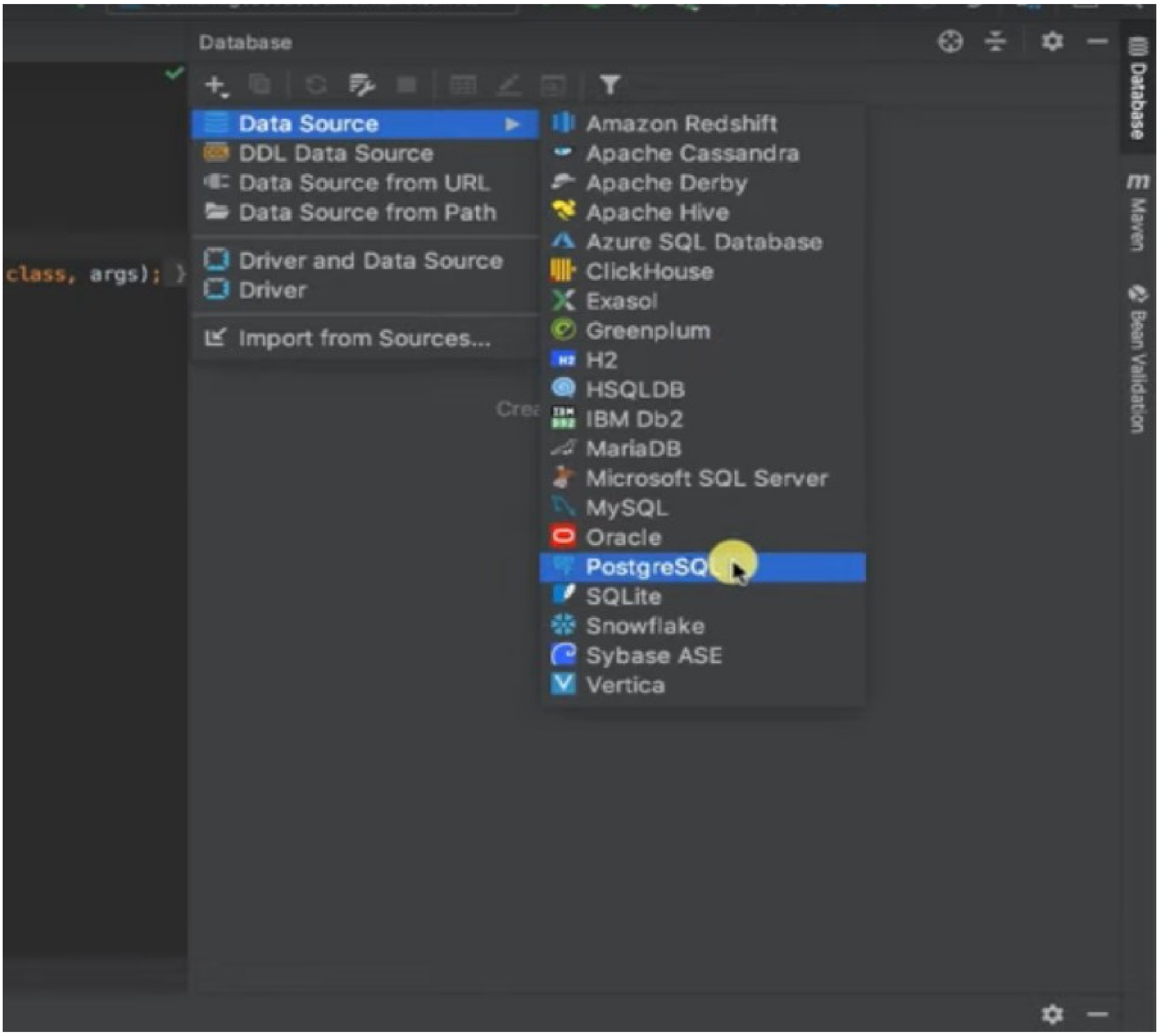
on the right hand side it will show database section



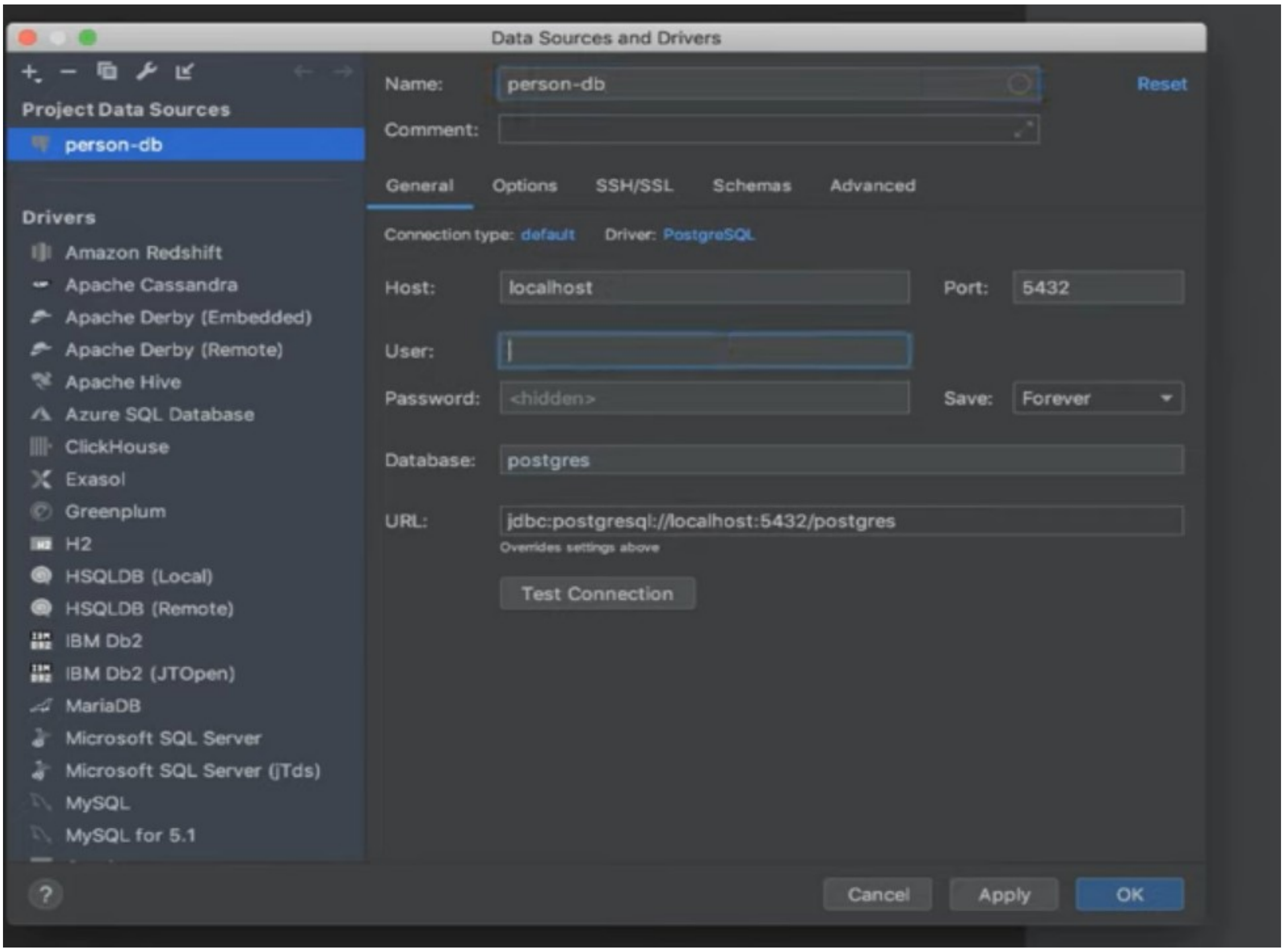
> You are going to create databases by using data sources.



> Now click on Datasource it will show list of supporterd databases



> You can give db configuration details



Name: person-db

Comment:

Connection type: default Driver: PostgreSQL

Host: localhost Port: 5432

User:

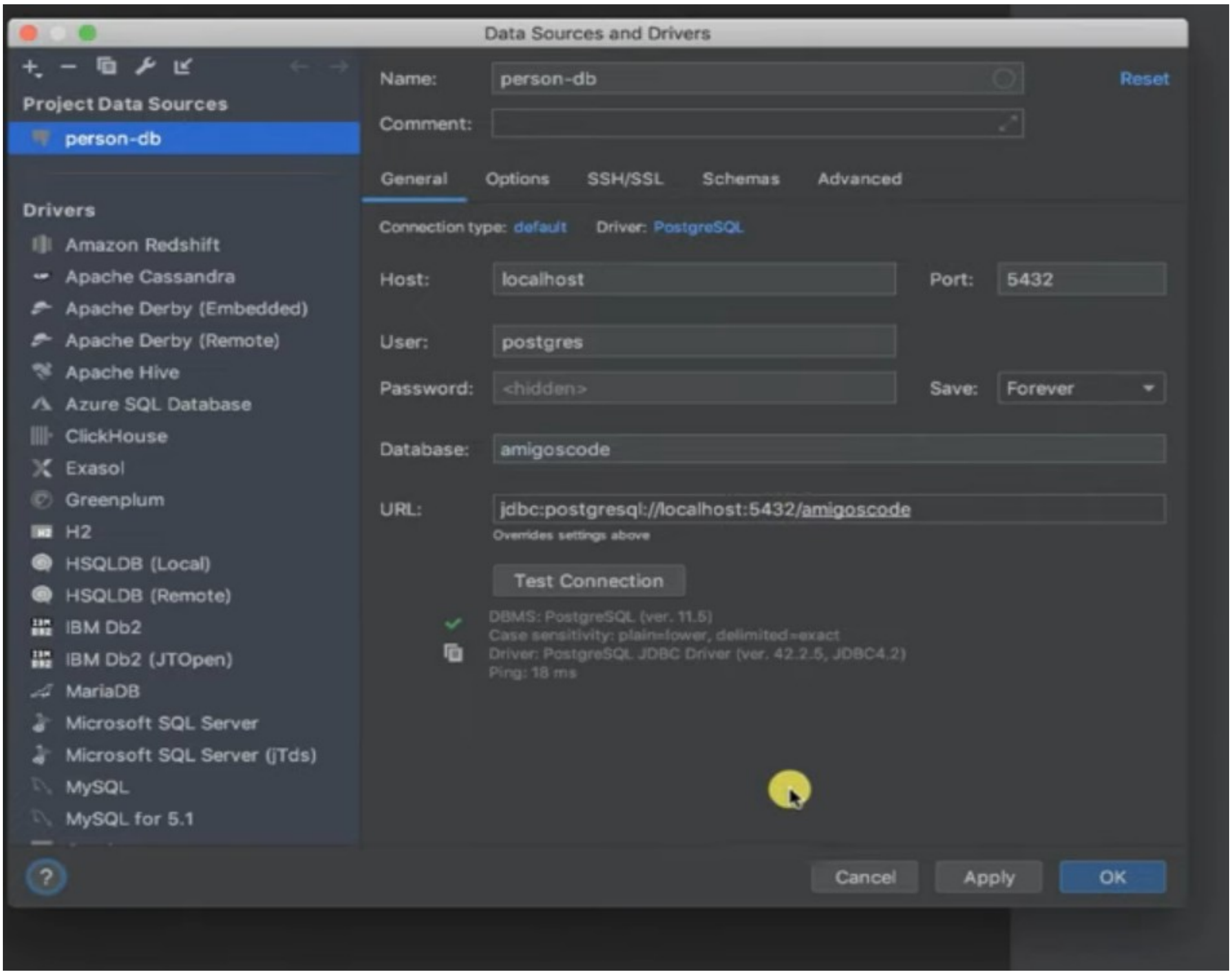
Password: <hidden> Save: Forever

Database: postgres

URL: jdbc:postgresql://localhost:5432/postgres

Overrides settings above

> You can enter all the details and test the connection



Name: person-db

Comment:

Connection type: default Driver: PostgreSQL

Host: localhost Port: 5432

User: postgres

Password: <hidden> Save: Forever

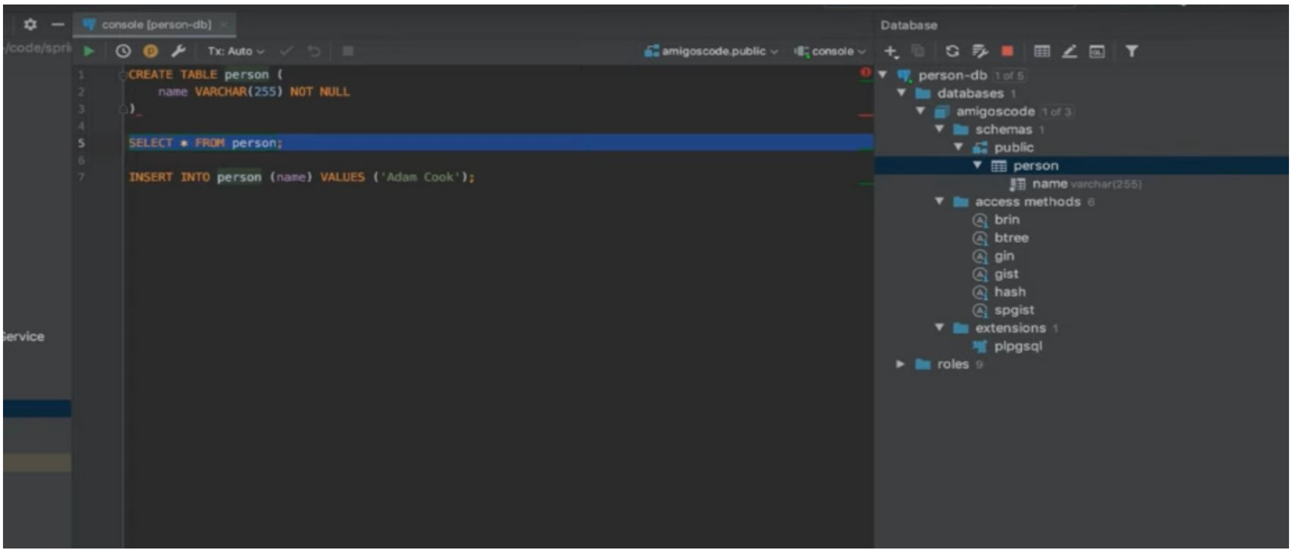
Database: amigoscode

URL: jdbc:postgresql://localhost:5432/amigoscode

Overrides settings above

```
DBMS: PostgreSQL (ver. 11.5)
Case sensitivity: plain=lower, delimited=exact
Driver: PostgreSQL JDBC Driver (ver. 42.2.5, JDBC4.2)
Ping: 18 ms
```

> You can do all operations on database by using below



```
CREATE TABLE person (
    name VARCHAR(255) NOT NULL
)

SELECT * FROM person;

INSERT INTO person (name) VALUES ('Adam Cook');
```

> How to use Maven