ASSIGNMENT – 10

Name: Sudharsan Srinivasan

UTA ID: 1001755919

RAW RESULTS

Analysis of Given Code:

(i) SpotBugs:

Raw Results:

```
eclipse-workspace - Static code Analysis/src/SimpleWebServer.java - Eclipse Platform
File Edit Source Refactor Navigate Search Project Run Window Help
_ _
                                              🕡 SimpleWebServer.java 🛭 🕡 SecondSmallest.java
     ♯ Package Explorer 🏻
                            15⊕ import java.io.*;
                                                                                                           ..
      > 🔛 Code-10-29
                                                19 public class SimpleWebServer {
      > 📂 code1029
      > 👺 company_management
                                                        /* Run the HTTP server on this TCP port. */
                                                21
      > 🔛 Exercise03
                                                       private static final int PORT = 8080;
                                                23
      > 👺 Exercise04
                                                24⊝
                                                        /* The socket used to process incoming connections
      > 🔛 HotelApp_TestAutomation
                                                25
                                                           from web clients *
                                                        private static ServerSocket dServerSocket;
      > 🗾 HW4
                                                26
                                                27
      > 🛀 HW5
                                                        public SimpleWebServer () throws Exception {
    dServerSocket = new ServerSocket (PORT);
                                                 28⊝
      > 👑 JUnitParams
                                                29
                                                 30
      > 📂 maven_pl.pragmatists_JUnitParams
                                                 31
      > 👑 pl.pragmatists_JUnitParams
                                                 32⊝
                                                        public void run() throws Exception {
                                                        while (true) {
   /* wait for a connection from a client */
      > 👺 Project
                                                33
      > 🗁 Servers
                                                35
                                                            Socket s = dServerSocket.accept();
      > 🗁 src
      37
                                                            /* then process the client's request */
                                                38
                                                            processRequest(s);
         39

√ Æ (default package) (8)

                                                40
                                                41
              > 🔬 SecondSmallest.java
                                                        /* Reads the HTTP request from the client, and
                                                42@
              > 🕡 SimpleWebServer.java (8)
                                                           responds with the file the user requested or
                                                 43
                                                44
                                                        a HTTP error code. */
public void processRequest(Socket s) throws Exception {
         > A JRE System Library [jre1.8.0_291]
                                                45⊝

■ SpotBugReport.xml

                                                        /* used to read data from the client */
BufferedReader br =
           47
                                                            new BufferedReader (
                                              ø
                                                49
                                                                   new InputStreamReader (s.getInputStream()));
                                                 50
                                                51
                                                        /st used to write data to the client st/
                                                        OutputStreamWriter osw =
                                                 52
                                              ø
                                                            new OutputStreamWriter (s.getOutputStream());
                                                        /* read the HTTP request from the client */
String request = br.readLine();
                                                 55
                                                56
                                                        String command = null;
String pathname = null;
                                                58
                                                59
```

```
🖨 eclipse-workspace - Static code Analysis/src/SimpleWebServer.java - Eclipse Platform
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- -

☐ Package Explorer 
☐

                                                🔃 SimpleWebServer.java 🛭 🔑 SecondSmallest.java
                             E 🕏 📴
String command = null;
                                                   58
      > 📂 Code-10-29
                                                   59
                                                           String pathname = null;
                                                   60
      > 📂 code1029
                                                           /* parse the HTTP request */
                                                   61
      > 👺 company_management
                                                           StringTokenizer st =
      > 👺 Exercise03
                                                ø
                                                               new StringTokenizer (request, " ");
                                                   63
      > 👺 Exercise04
                                                           command = st.nextToken();
      > 🔛 HotelApp_TestAutomation
                                                           pathname = st.nextToken();
                                                   66
      > 👺 HW4
                                                   68
                                                           if (command.equals("GET")) {
      > 👺 HW5
                                                               /* if the request is a GET try to respond with the file
                                                   69
      > 🔛 JUnitParams
                                                   70
                                                   71
                                                                  the user is requesting */
      > 📂 maven_pl.pragmatists_JUnitParams
                                                               serveFile (osw,pathname);
      > 📂 pl.pragmatists_JUnitParams
                                                   73
74
75
                                                           else {
/* if the request is a NOT a GET,
      > 🔐 Project
      > 📂 Servers
                                                   76
77
                                                                  return an error saying this server does not implement the requested command \ensuremath{^{*/}}
      > 📴 src
                                                   78
79
                                                               osw.write ("HTTP/1.0 501 Not Implemented\n\n");
      80
                                                           /st close the connection to the client st/
                                                   81

✓ Æ (default package) (8)

                                                   82
                                                           osw.close();
               > 🛺 SecondSmallest.java
                                                   83
              > 🔝 SimpleWebServer.java (8)
                                                   84
                                                           public void serveFile (OutputStreamWriter osw,
         > A JRE System Library [jre1.8.0_291]
                                                   86
                                                                      String pathname) throws Exception {
                                                           FileReader fr=null;

    ▼ SpotBugReport.xml

                                                   87
                                                           int c=-1;
StringBuffer sb = new StringBuffer();
            X SpotBugReportSecondSmallest.xml
                                                   88
                                                   89
                                                   90
                                                           /* remove the initial slash at the beginning
  of the pathname in the request */
if (pathname.charAt(0)=='/')
                                                   91
                                                   92
                                                   93
94
                                                               pathname=pathname.substring(1);
                                                           /* if there was no filename specified by the
client, serve the "index.html" file */
                                                   96
```

```
eclipse-workspace - Static code Analysis/src/SimpleWebServer.java - Eclipse Platform
File Edit Source Refactor Navigate Search Project Run Window Help
| 🖰 + 🖟 🖟 | 😭 | 🏈 + | 🗗 | 🍇 | 🌳 🕖 😜 🔡 🗐 🖷 | 🖘 + 🕖 + 💁 + 😭 + | 🖶 🐠 + | 🕾 + 🗁 🔑 + | 🕾 + | 🖒 + | 👉 + | □
                                          _ _
                                                     SimpleWebServer.java Sp. SecondSmallest.java
       □ Package Explorer 
                                90
                                                                 /* remove the initial slash at the beginning
       > 👺 Code-10-29
                                                                 of the pathname in the request */
if (pathname.charAt(0)=='/')
                                                        92
       > 📂 code1029
                                                        93
       > 👺 company_management
                                                        94
                                                                     pathname=pathname.substring(1);
                                                        95
       > 👺 Exercise03
                                                                 /* if there was no filename specified by the
  client, serve the "index.html" file */
  if (pathname.equals("""))
                                                        96
       > 👺 Exercise04
                                                        97
98
       > 🔛 HotelApp_TestAutomation
                                                        99
                                                                     pathname="index.html";
       > 🛀 HW4
                                                       100
       > 👺 HW5
                                                                  /* try to open file specified by pathname */
                                                       101
                                                       102
       > 👑 JUnitParams
                                                                     fr = new FileReader (pathname);
c = fr.read();
                                                        103
       > 📂 maven_pl.pragmatists_JUnitParams
       > > pl.pragmatists_JUnitParams
                                                       105
                                                                 catch (Exception e) {
   /* if the file is not found, return the
                                                     2106
       > Project
                                                       107
                                                                     appropriate HTTP response code */
osw.write ("HTTP/1.0 404 Not Found\n\n");
       > B Servers
                                                       108
                                                       109
       > 📂 src
                                                       110
                                                                     return;
       3
                                                       111
          ∨ # src (8)
                                                       112
                                                                 /* if the requested file can be successfully opened
                                                       113

√ Æ (default package) (8)

                                                                    and read, then return an OK response code and send the contents of the file */
                                                       114
                > 🛺 SecondSmallest.java
                                                       115
                                                                 osw.write ("HTTP/1.0 200 OK\n\n");
while (c != -1) {
   sb.append((char)c);
                                                       116
                > 🕖 SimpleWebServer.java (8)
          > A JRE System Library [jre1.8.0_291]

■ SpotBugReport.xml

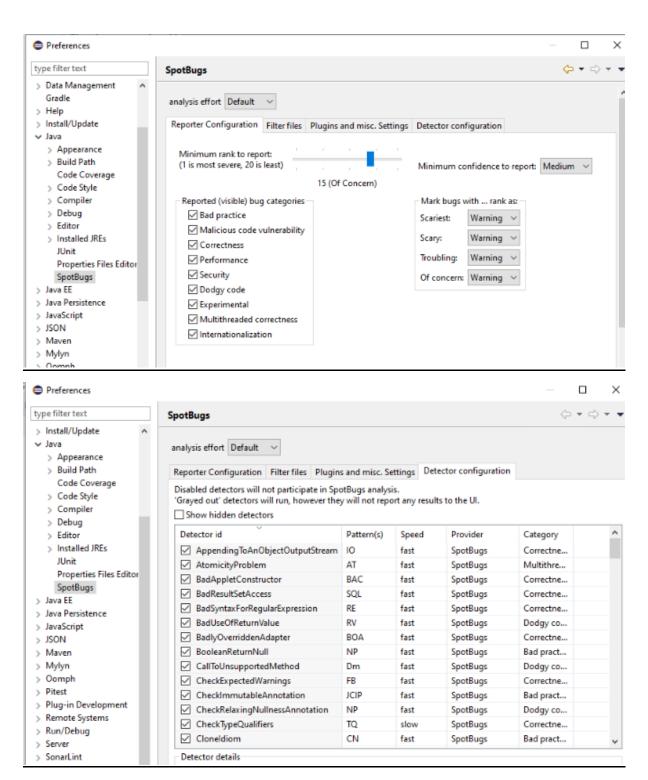
                                                       119
                                                                     c = fr.read();
                                                       120
             SpotBugReportSecondSmallest.xml
                                                                 osw.write (sb.toString());
                                                       121
                                                       122
                                                       123
                                                       124⊖
                                                                 /* This method is called when the program is run from
                                                       125
                                                                    the command line.
                                                       126@
                                                                 public static void main (String argv[]) throws Exception {
                                                       127
                                                       128
                                                                  /* Create a SimpleWebServer object, and run it */
                                                                 SimpleWebServer sws = new SimpleWebServer();
                                                       130
                                                                 sws.run();
                                                       131
                                                       132
```

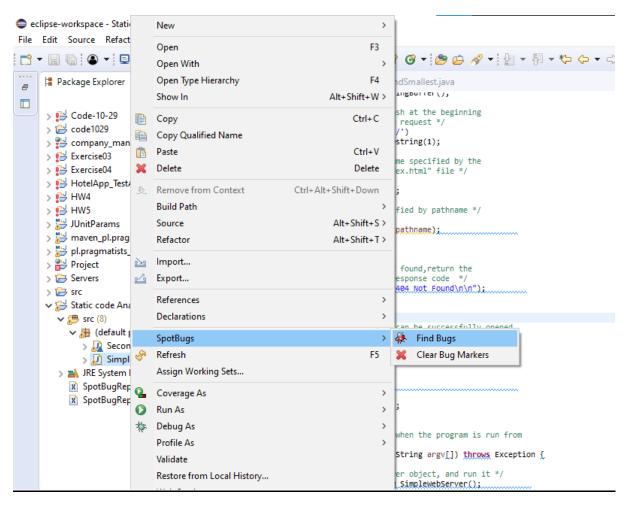
Enabling Security Rules:

```
eclipse-workspace - Static code Analysis/src/SimpleWebServer.java - Eclipse Platform
File Edit Source Refactor Navigate Search Project Run Window Help
                                                             New Window
                                                                                 Editor
                                   _ _

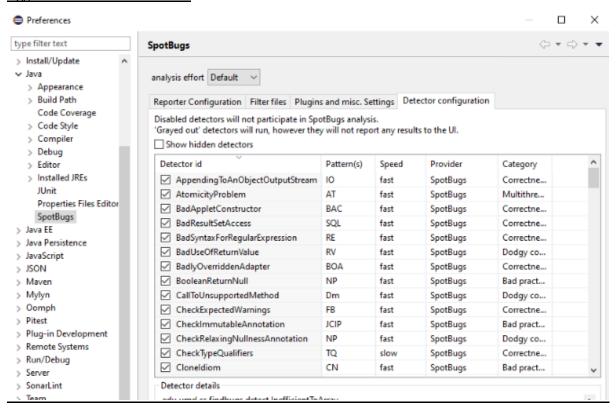
☐ Package Explorer 
☐

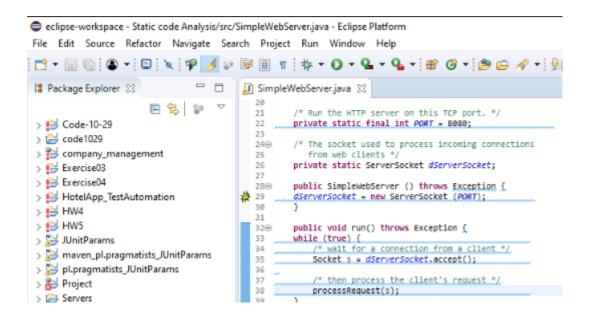
                                            SimpleWell
                                                                                nallest.java
                                                            Appearance
                          90
> 월 Code-10-29
                                                            Show View
                                                                               t the beginning
                                              91
                                              92
                                                                                uest */
                                                            Perspective
      > 📂 code1029
                                              93
                                                     if
                                              94
      > 👺 company_management
                                                                                ng(1);
                                                            Navigation
                                              95
     > 👺 Exercise03
                                                                                pecified by the
                                              96
      > 👺 Exercise04
                                              97
                                                                                tml" file */
                                                            Preferences
                                              98
      > HotelApp_TestAutomation
                                                         pathname="index.html";
                                              99
     > 🛀 HW4
                                             100
     > 🛀 HW5
                                                      /* try to open file specified by pathname */
                                             101
                                                     try {
    fr = new FileReader (pathname);
                                             102
      > 👑 JUnitParams
                                             103
      > maven_pl.pragmatists_JUnitParams
                                             104
                                             105
      > Pl.pragmatists_JUnitParams
                                                     catch (Exception e) {
   /* if the file is not found, return the
                                            2106
      > 🔐 Project
                                             107
      > 📂 Servers
                                             108
                                                            appropriate HTTP response code
```

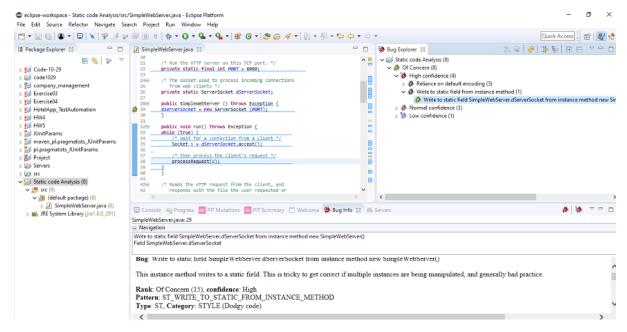


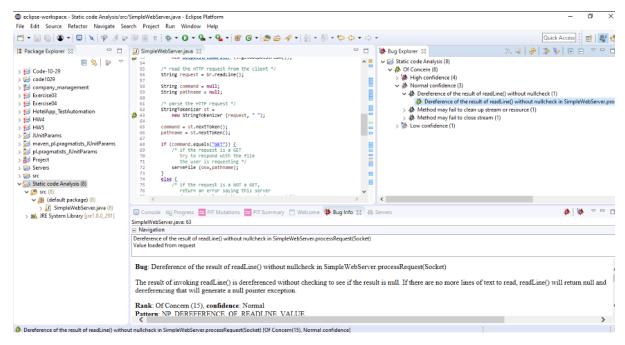


Aggressive mode to find defects:



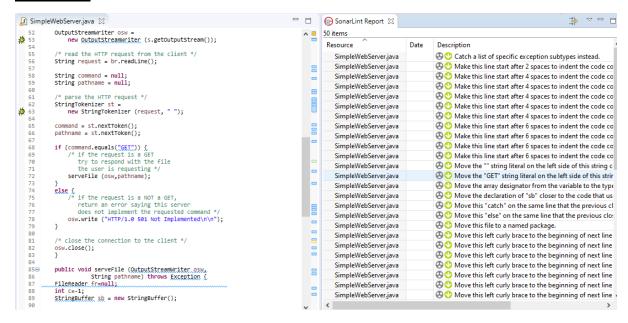




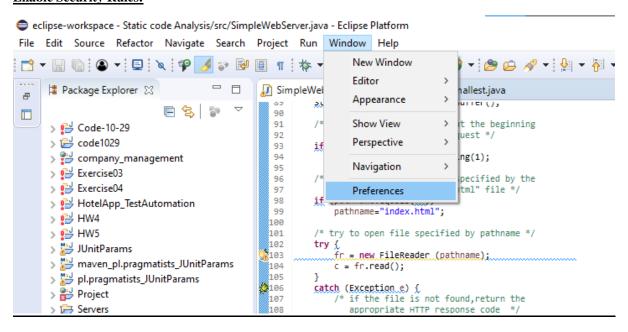


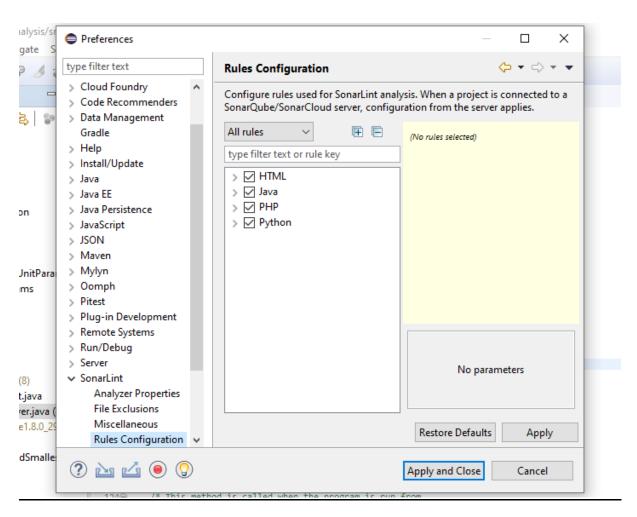
(ii) SonarLint:

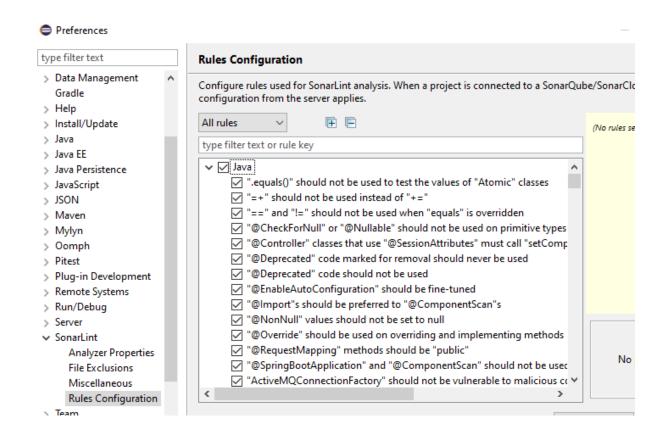
Raw Results:

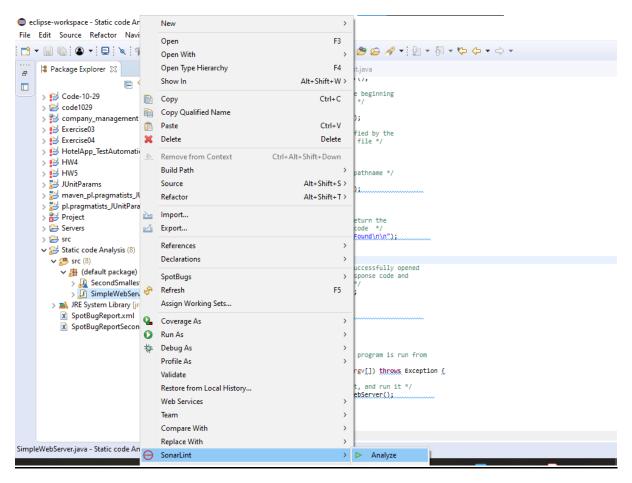


Enable Security Rules:

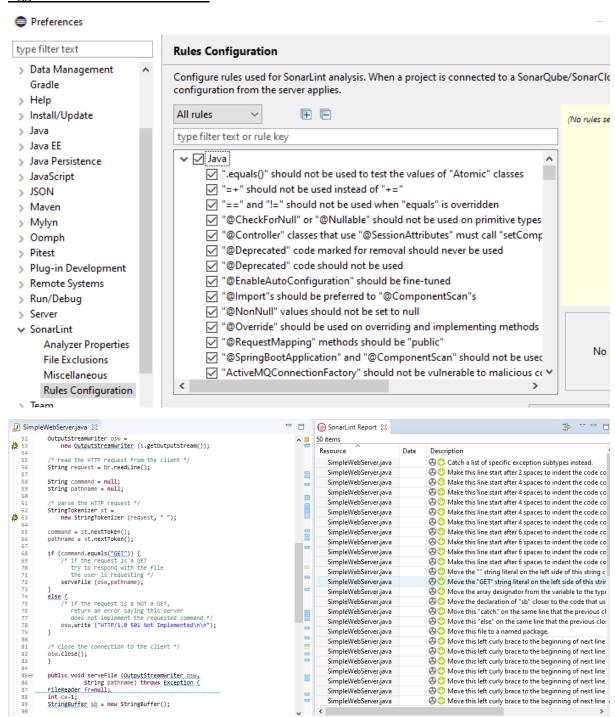


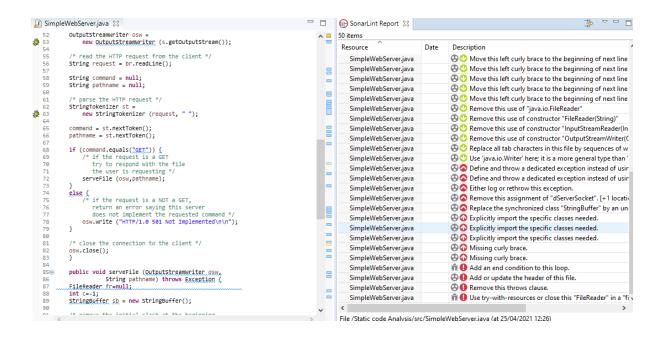






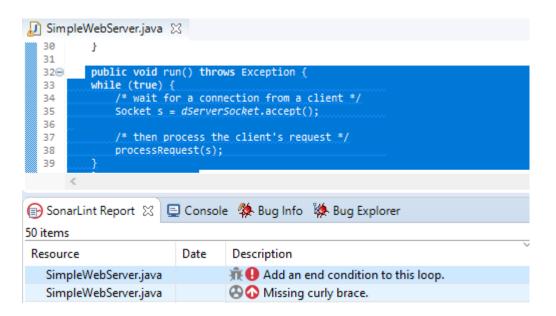
Aggressive mode to find all defects:





```
private static final int PORT = 8080;
  23
  24⊝
          /* The socket used to process incoming connections
             from web clients */
  25
  26
          private static ServerSocket dServerSocket;
  27
  28⊝
          public SimpleWebServer () throws Exception {
  29
          dServerSocket = new ServerSocket (PORT);
  30
  31
  32⊕
          public void run() throws Exception {
  33
          while (true) {
                wait for a connection from a client */
  34
  35
              Socket s = dServerSocket.accept();
  36
  37
              /* then process the client's request */
              processRequest(s);
  38
  39
  48
  41
             Dasde the UTTD remuset from the client
```

```
31
       public void run() throws Exception {
32⊖
33
       while (true) {
34
          /* wait for a connection from a client */
35
           Socket s = dServerSocket.accept();
36
37
        /* then process the client's request */
   processRequest(s);
38
20
       /* Reads the HTTP request from the client, and
 42⊖
            responds with the file the user requested or
 43
            a HTTP error code. */
        public void processRequest(Socket s) throws Exception {
 45⊖
         /* used to read data from the client */
 46
 47
         BufferedReader br =
 48
             new BufferedReader (
 49
                     new InputStreamReader (s.getInputStream()));
 50
84
85⊕
        public void serveFile (OutputStreamWriter osw,
                   String pathname) throws Exception {
86
        FileReader fr=null;
87
88
        int c=-1;
89
        StringBuffer sb = new StringBuffer();
00
```



Analysis of Own Code:

(i) SpotBugs:

Raw Results:

```
🗆 🗖 💹 SecondSmallest.java 🛭
□ Package Explorer 🖂
                          🖹 💲 🖆 🔻
                                                      class SecondSmallest
> 📂 Code-10-29
                                                          /* Function to print first smallest and second smallest
> 🔁 code1029
> 🔁 company_management
                                                          static void Print2Smallest(int arr[])
> 👺 Exercise03
                                                              int first, second, arr size = arr.length;
> 🔁 Exercise04
                                                               /* There should be atleast two elements */
if (arr_size < 2)</pre>
> 🔛 HotelApp_TestAutomation
> 📴 HW4
> 💕 HW5
                                                                  System.out.println(" Invalid Input ");
return;
> 👺 JUnitParams
> strain maven_pl.pragmatists_JUnitParams
                                                              first = second = Integer.MAX_VALUE;
for (int i = 0; i < arr_size ; i ++)</pre>
> 👺 pl.pragmatists_JUnitParams
> Project
                                                                  /* If current element is smaller than first
then update both first and second */
> 🥃 Servers
> 🗁 src
                                                                   if [arr[i] < first)

✓ 

Static code Analysis (1)

   second = first;
first = arr[i];

√ 

Æ (default package) (1)

         > 🛺 SecondSmallest.java (1)
   > N JRE System Library [jre1.8.0_291]

X SpotBugReport.xml
                                                                   /* If secil is in between first and second

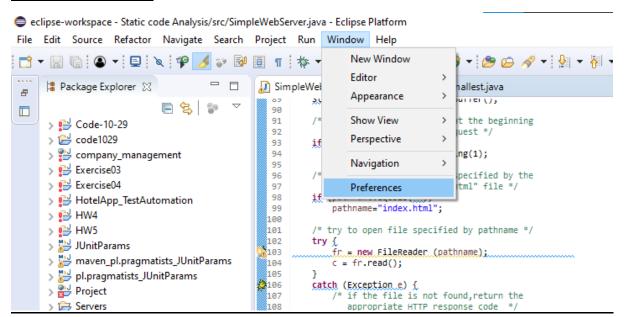
    SonarLint Report □ Console ♠ Bug Info ♠ Bug Explorer ⋈
                                                Static code Analysis (1)
                                                     A Of Concern (1)

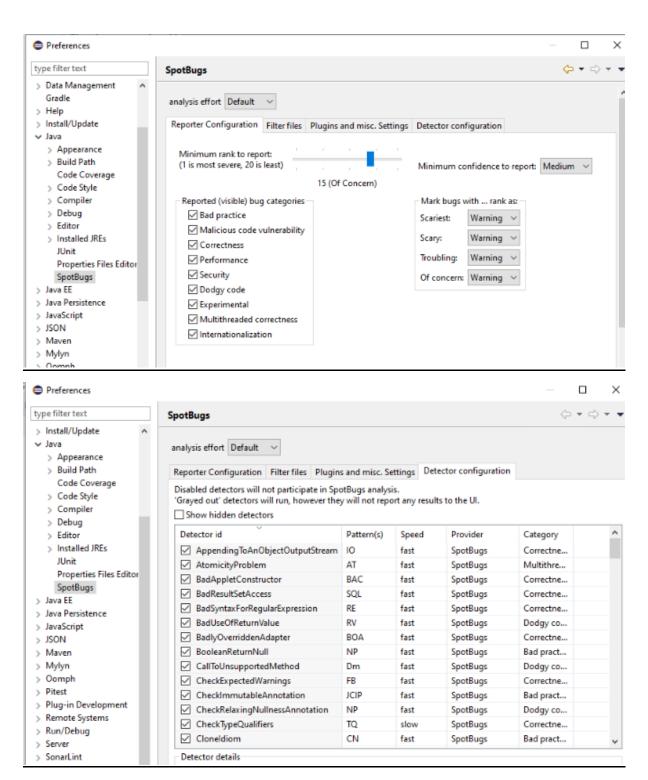
✓ 

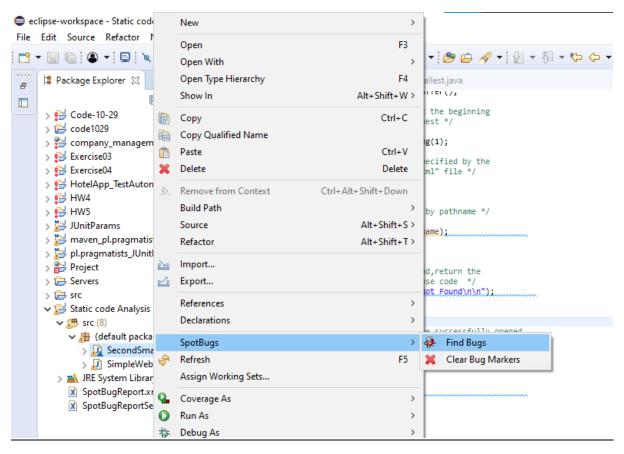
Method names should start with a lower case letter (1)

                                                               🌞 The method name SecondSmallest.Print2Smallest(int[]) doesn't start with a lower case letter [Of Concern(19), Low confidence]
```

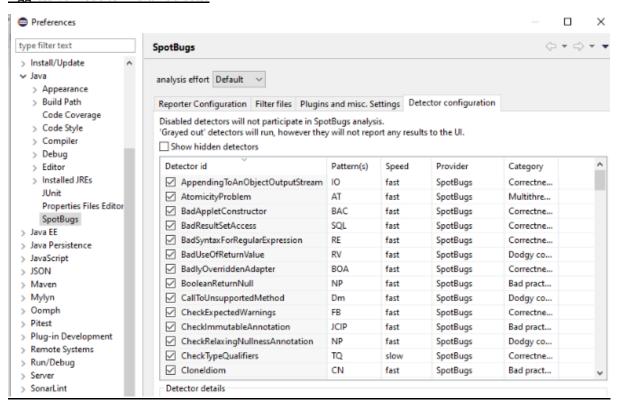
Enabling Security Rules:







Aggressive mode to find all defects:



```
📮 Package Explorer 🛭 🗀 🖟 SecondSmallest.java 🖾
                     □ 🕏 🖆 ▽
                                            class SecondSmallest
> 📂 Code-10-29
                                                /* Function to print first smallest and second smallest
> 👺 code1029
> 🔀 company_management
                                                static void Print2Smallest(int arr[])
> 👺 Exercise03
                                                   int first, second, arr size = arr.length;
> 📂 Exercise04
                                                    /* There should be atleast two elements */
if (arr_size < 2)</pre>
> B HotelApp_TestAutomation
> 🔒 HW4
> 📂 HW5
                                                       System.out.println(" Invalid Input ");
> 🕌 JUnitParams
> maven_pl.pragmatists_JUnitParams
> > pl.pragmatists_JUnitParams
                                                    first = second = Integer.MAX_VALUE;
for (int i = 0; i < arr_size ; i ++)</pre>
> 👺 Project
                                                       /* If current element is smaller than first
then update both first and second */
.if [marc[i] .s first]
> 🥃 Servers
> 🗁 src
∨ ﷺ src (1)
                                                           second = first;
first = arr[i];
     ✓ ♣ (default package) (1)
       > 💹 SecondSmallest.java (1)
   > A JRE System Library [jre1.8.0_291]
                                                       /# Tf anniil is in hatuman first and sa

■ SpotBugReport.xml

                                       ⑤ SonarLint Report ☐ Console ♠ Bug Info ♠ Bug Explorer ※

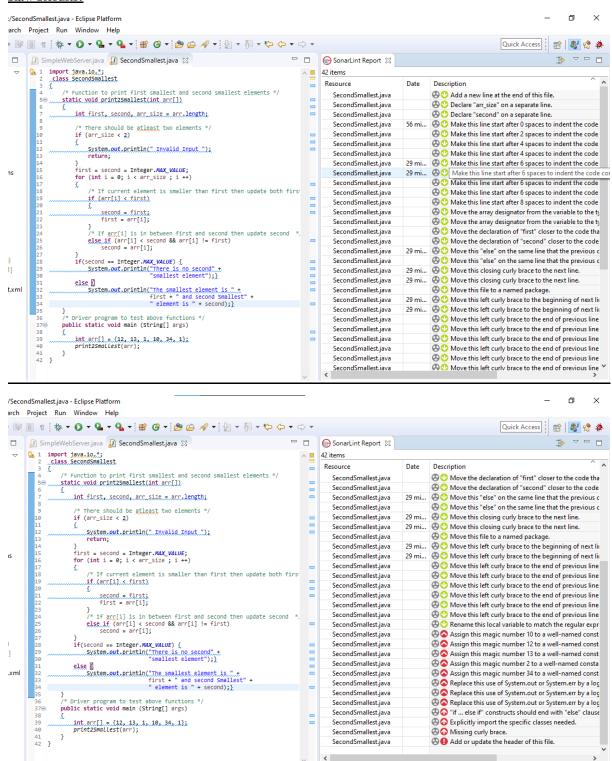
✓ 

Static code Analysis (1)

                                          ∨ Dow confidence (1)
                                               Method names should start with a lower case letter (1)
                                                    🌞 The method name SecondSmallest.Print2Smallest(int[]) doesn't start with a lower case letter [Of Concern(19), Low confidence]
  /* Function to print first smallest and second smallest elements */
             static void Print2Smallest(int arr[])
                  /* There should be atleast two elements */
                 if (arr_size < 2)
    10
  🗱 Bug Explorer 📃 Console 🧌 Bug Info 🛭
  SecondSmallest.java: 7
  Navigation
  The method name SecondSmallest.Print2Smallest(int[]) doesn't start with a lower case letter
   Bug: The method name SecondSmallest.Print2Smallest(int[]) doesn't start with a lower case letter
   Methods should be verbs, in mixed case with the first letter lowercase, with the first letter of each internal word capitalized.
   Rank: Of Concern (16), confidence: Normal
   Pattern: NM_METHOD_NAMING_CONVENTION
   Type: Nm, Category: BAD_PRACTICE (Bad practice)
```

(ii) SonarLint:

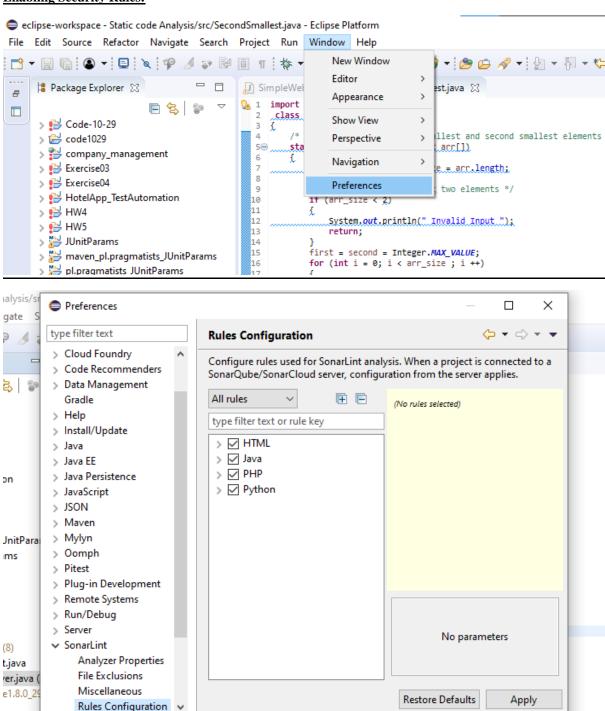
Raw Results:



Enabling Security Rules:

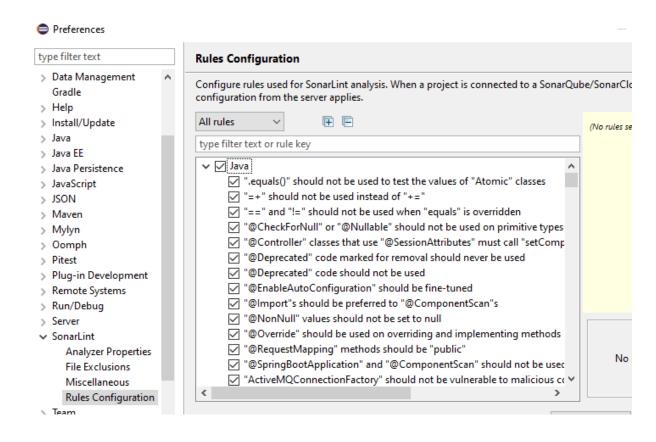
dSmalle

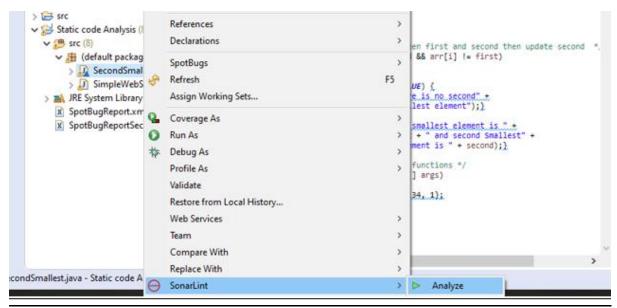
? 🕍 🝊 🖲 😯



Apply and Close

Cancel





Aggressive mode to find all defects:

