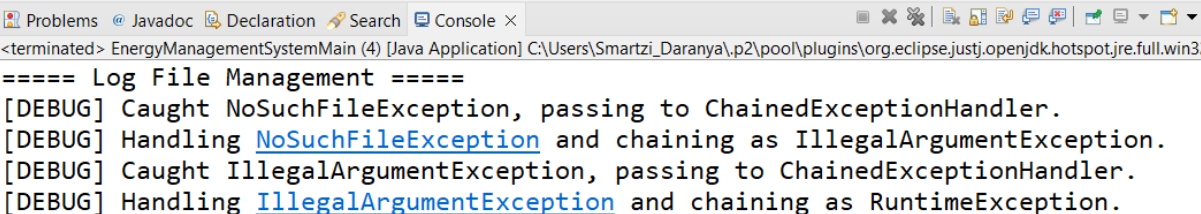


Outputs and Screenshots - Daranya Maniseharan - 7222079

01. I've worked on ChainedExceptionHandler class, chaining the three exceptions NoSuchFileException, IllegalArgumentException, and RuntimeException.

I triggered an error which resulted in NoSuchFileException in the try block of the main and caught it in the catch block and passed it to the ChainedExceptionHandler class.

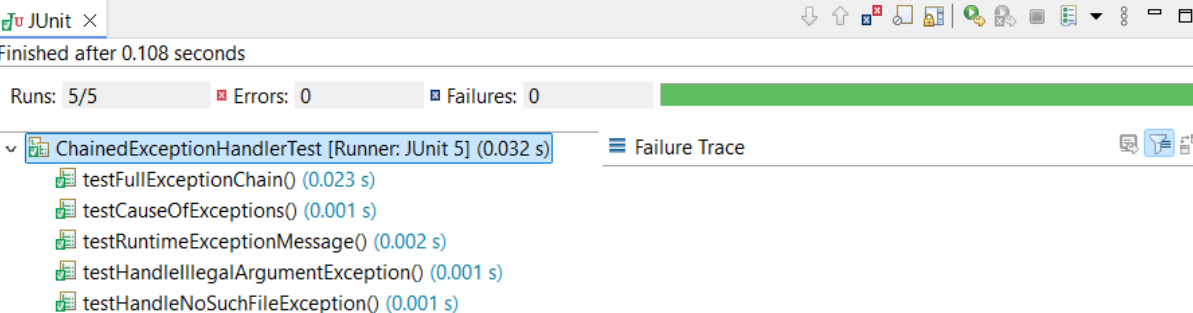
The output of running the main file in this scenario is as follows:



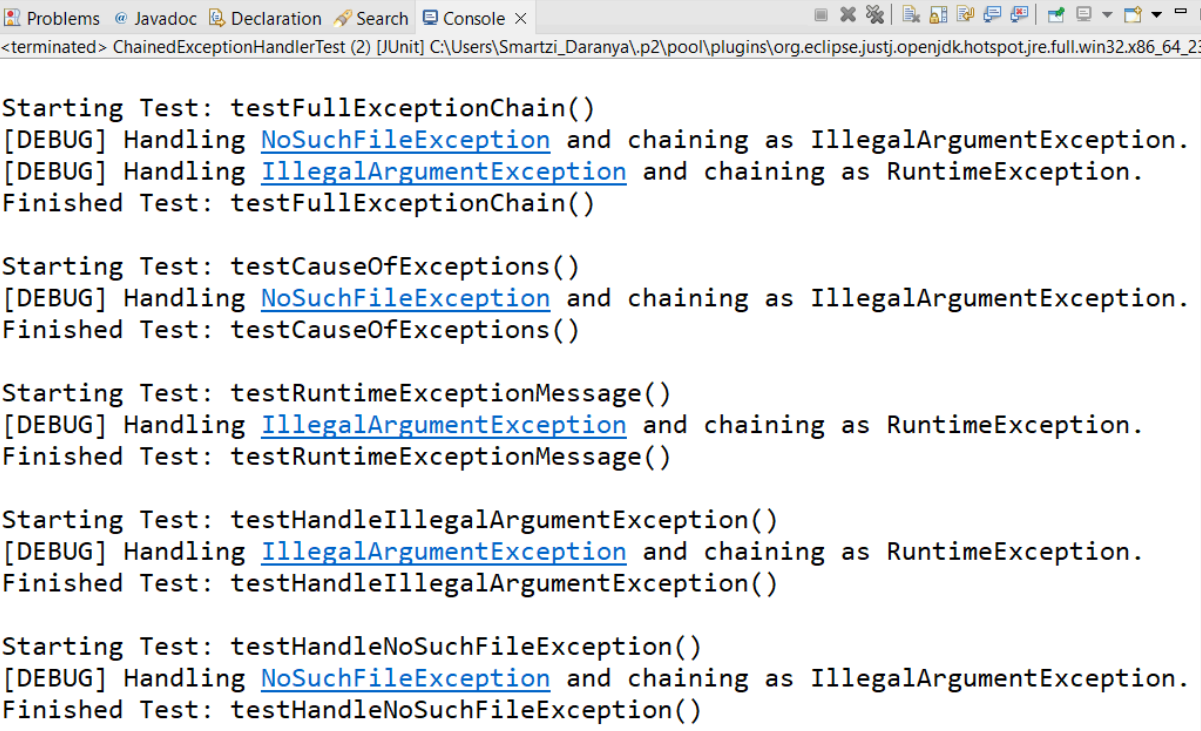
```
<terminated> EnergyManagementSystemMain (4) [Java Application] C:\Users\Smartz_Daranya\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64.jdk\bin\java.exe
===== Log File Management =====
[DEBUG] Caught NoSuchFileException, passing to ChainedExceptionHandler.
[DEBUG] Handling NoSuchFileException and chaining as IllegalArgumentException.
[DEBUG] Caught IllegalArgumentException, passing to ChainedExceptionHandler.
[DEBUG] Handling IllegalArgumentException and chaining as RuntimeException.
```

02. I've created the test file ChainedExceptionHandlerTest with 5 unit test cases for checking the ChainedExceptionHandler.

The output running this test file is as follows:



```
JUnit
Finished after 0.108 seconds
Runs: 5/5 Errors: 0 Failures: 0
ChainedExceptionHandlerTest [Runner: JUnit 5] (0.032 s)
  testFullExceptionChain() (0.023 s)
  testCauseOfExceptions() (0.001 s)
  testRuntimeExceptionMessage() (0.002 s)
  testHandleIllegalArgumentException() (0.001 s)
  testHandleNoSuchFileException() (0.001 s)
```



The screenshot shows the Eclipse IDE's console window. The title bar includes tabs for 'Problems', 'Javadoc', 'Declaration', 'Search', and 'Console'. The console text shows the execution of five test methods, each with a 'Starting Test', a debug message about exception handling, and a 'Finished Test' message. The exceptions handled are `NoSuchFileException` and `IllegalArgumentException`, which are chained as `IllegalArgumentException` and `RuntimeException` respectively.

```
<terminated> ChainedExceptionHandlerTest (2) [JUnit] C:\Users\Smartz_Daranya\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_23

Starting Test: testFullExceptionChain()
[DEBUG] Handling NoSuchFileException and chaining as IllegalArgumentException.
[DEBUG] Handling IllegalArgumentException and chaining as RuntimeException.
Finished Test: testFullExceptionChain()

Starting Test: testCauseOfExceptions()
[DEBUG] Handling NoSuchFileException and chaining as IllegalArgumentException.
Finished Test: testCauseOfExceptions()

Starting Test: testRuntimeExceptionMessage()
[DEBUG] Handling IllegalArgumentException and chaining as RuntimeException.
Finished Test: testRuntimeExceptionMessage()

Starting Test: testHandleIllegalArgumentException()
[DEBUG] Handling IllegalArgumentException and chaining as RuntimeException.
Finished Test: testHandleIllegalArgumentException()

Starting Test: testHandleNoSuchFileException()
[DEBUG] Handling NoSuchFileException and chaining as IllegalArgumentException.
Finished Test: testHandleNoSuchFileException()
```

03. I've combined my test file in our final test suite and ran the final tests, testing if the test suite is working fine with all the tests included.

The output from running the `EnergyManagementTestSuite` is as follows:

JUnit

Finished after 0.147 seconds

Runs: 21/21Errors: 0Failures: 0

EnergyManagementTestSuite [Runner: JUnit 5] (0.068 s)

JUnit Jupiter (0.068 s)

MultipleExceptionHandlerTest (0.020 s)

testIOExceptionHandling() (0.012 s)

testDifferentFileFormats() (0.002 s)

testExceptionPropagation() (0.002 s)

testSimulatedFileAccessError() (0.001 s)

testSecurityExceptionHandler() (0.000 s)

testFileNotFoundException() (0.001 s)

RethrowExceptionHandlerTest (0.008 s)

testCatchAndReThrow() (0.001 s)

testExceptionPropagation() (0.001 s)

testIOExceptionMessage() (0.001 s)

testReThrowInMainHandling() (0.001 s)

testIOExceptionRethrown() (0.001 s)

LogFileReaderTest (0.017 s)

testReadLogFile_FileNotFound() (0.002 s)

testReadLogFile_MultipleLines() (0.006 s)

testReadLogFile_EmptyFile() (0.002 s)

testReadLogFile_ValidFile() (0.003 s)

testReadLogFile_SpecialCharacters() (0.003 s)

ChainedExceptionHandlerTest (0.016 s)

testFullExceptionChain() (0.007 s)

testCauseOfExceptions() (0.002 s)

testRuntimeExceptionMessage() (0.002 s)

testHandleIllegalArgumentException() (0.001 s)

testHandleNoSuchFileException() (0.002 s)

Failure Trace