Defining test cases

What to test? (Test-case description)	Input data	Expected output
Empty string	""	"For input string: \"\"";
Empty sub-block	"192..0.1"	"For input string: \"\""
Invalid format	"192-168-0-1"	"For input string: \"192-168-0-1\""
NaN	"abcdsds"	"For input string: \"abcdsds\""
NaN	"192.asd.0.1"	"For input string: \"asd\""
Invalid IP adress	"-5.12.31.2"	"Ip address cannot contain negative number"
Invalid format	"192.168:0.1"	"For input string: \"168:0\""
Too many full stops	"192.168.0.1."	"Too many fullstops in the ip address"
Invalid IP adress	"255.255.257.255"	"An ip address cannot contain a number bigger than 255"
Valid conversion	"0.0.0.0"	0
Valid conversion	"0.0.0.10"	10

Executing the tests and Reporting Unit Test results

Number of tests planned:	11
Number of tests executed:	11
Number of tests executed with OK result:	9
Number of tests executed with NOK (not-OK) result:	3
Percentage of OK / Total tests	81%
Final test status (Green = all OK, Red = at least one test is not OK)	**Red**
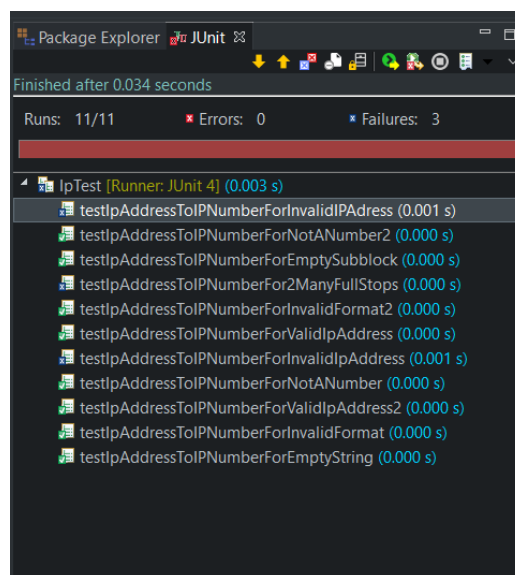
Planning the test

What to test? (Test-case description)	Input data	Behaviour of the mock service	Expected output of the tested function
Login with valid username and password combination	Username: "a" Password: "b"	if the username is "a" and the password is "b" in the authenticateUser() function it returns a valid User object with the appropriate username and password.	A valid user object is added to the model map (bound to the key "user"), with the "a" and "b" as username and password respectively. The function returns "redirect:home".
Login with invalid username and password	Username: "asd" Password: "dsa"	NoSearchException is thrown by the authenticateUser() method.	An error message's been added to the model map. The function returns "index".
Login with valid username and invalid password	Username: "boi" Password: "qwerty"	InvalidPasswordException is thrown by the authenticateUser() method.	An error message's been added to the model map. The function returns "index".
Write empty string as username	Username: "" Password: "dunno"	NoSearchResultException is thrown by the authenticateUser() method.	An error message's been added to the model map. The function returns "index".
Write full stops to username and password.	Username: "." Password: "."	DatabaseConnectionException is thrown by the authenticateUser() method.	An error message's been added to the model map. The function returns "index".

Implementing test cases with Mockito framework

Number of tests planned:	5
Number of tests executed:	5
Number of tests executed with OK result:	5
Number of tests executed with NOK (not-OK) result:	0
Percentage of OK / Total tests	100%
Final test status (Green = all OK, Red = at least one test is not OK)	**Green**

Package Explorer JUnit
Finished after 2.247 seconds

Runs: 5/5   Errors: 0   Failures: 0

Controller.UserControllerTester [Runner: JUnit 4] (0.590 s)
    testNoSearchResultLogin (0.540 s)
    testInvalidPasswordLogin (0.012 s)
    testValidLogin (0.010 s)
    testNoSearchResultLoginWithEmptyUserName (0.008 s)
    testDataBaseConnection (0.019 s)