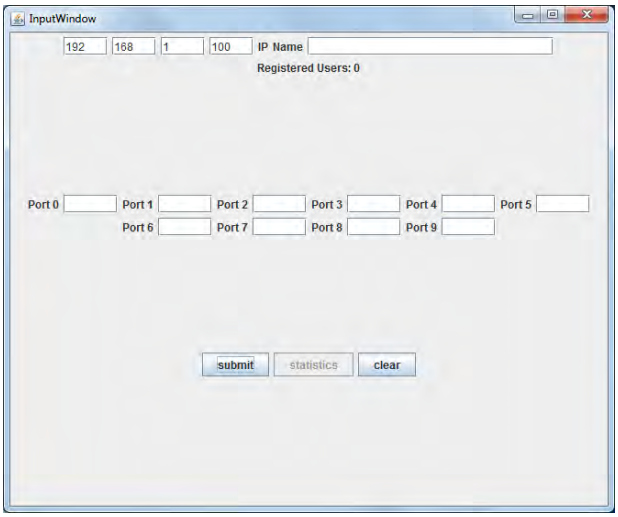
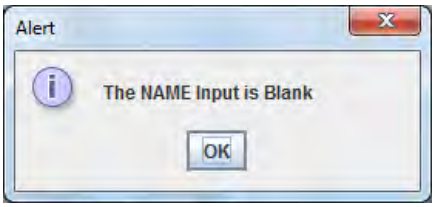
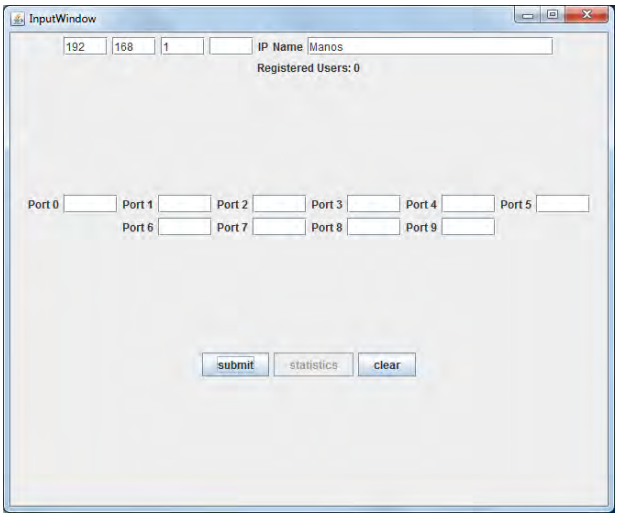
### 3. Testing the Application

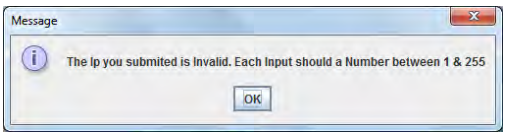
**a.** The user omits to submit a Username and is alerted about the false activity



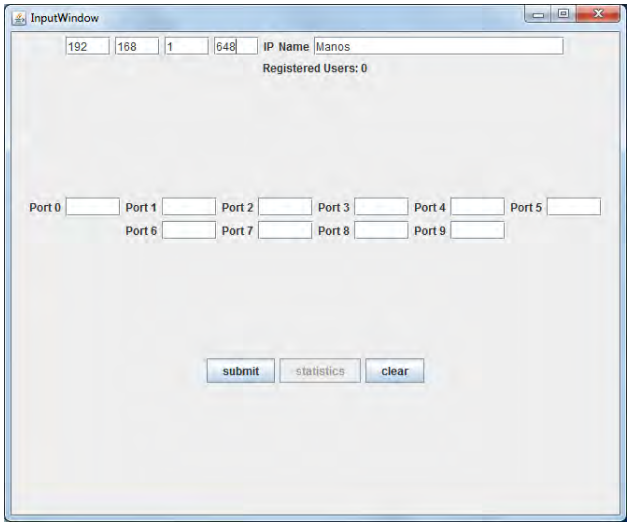



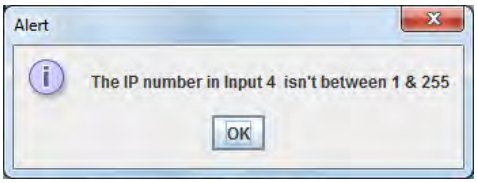

**b.** The user omits to submit a valid IP address by leaving an input field blank and is informed by the application



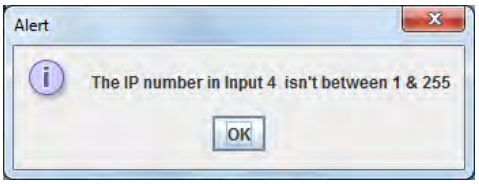



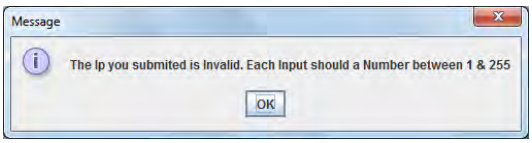
**c.** The user inputs an IP address that is invalid by submitting within an input field a number that is greater than the number 255 and alerted with the false action within a specific input that the conflict was traced



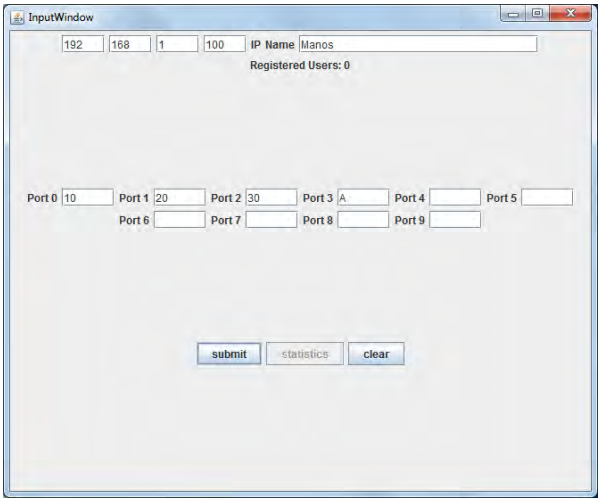



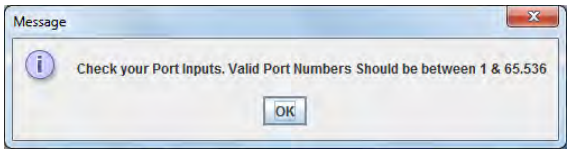

The same secure action is triggered when an appropriate character is submitted or a negative value is applied



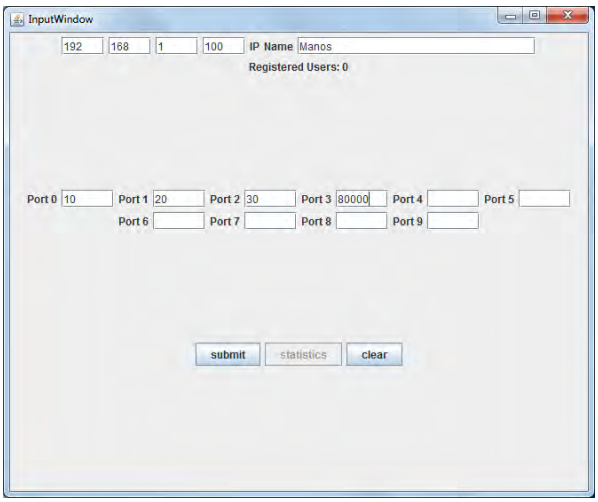



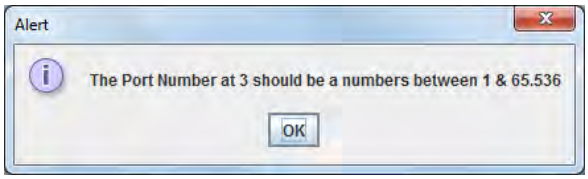
**d.** The user submits an invalid Port number placing an alphabetical character within a port field and is informed with the specifications of proper values, as also the section that the conflict was traced



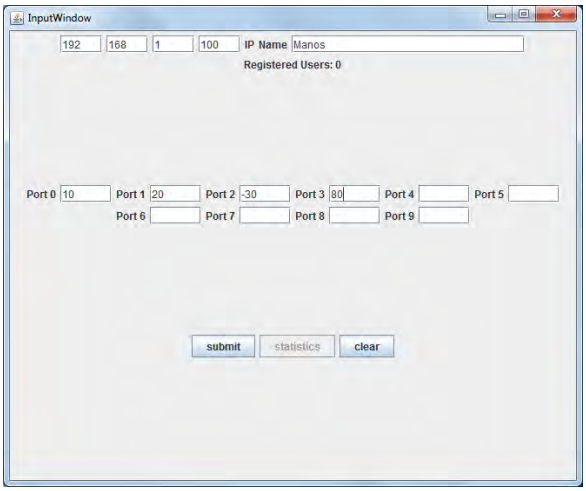



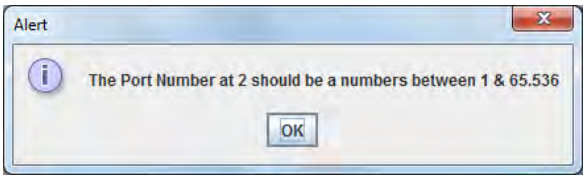

A similar action is performed when a user tries to input a port number that goes beyond the specific values allowed for this area and informed of the exact port label number the conflict emerged and instructions to overcome the conflict



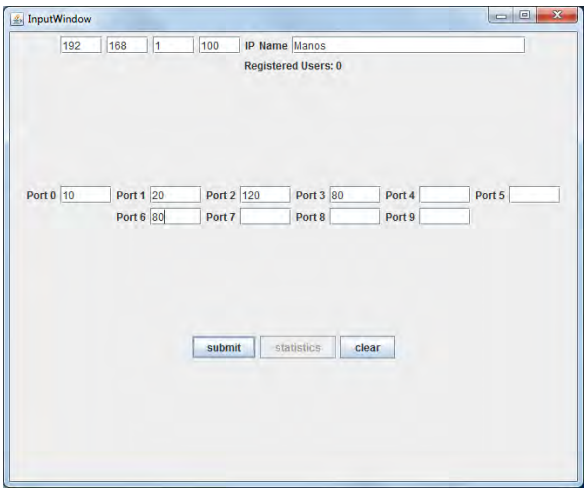



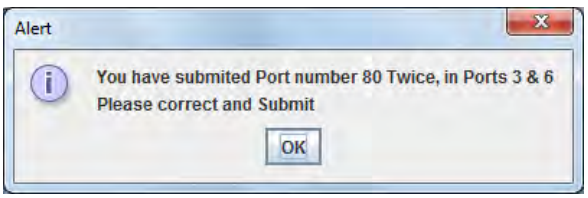
A Relevant action is triggered when negative values applied providing adequate instructions trace and handle the false activity efficient



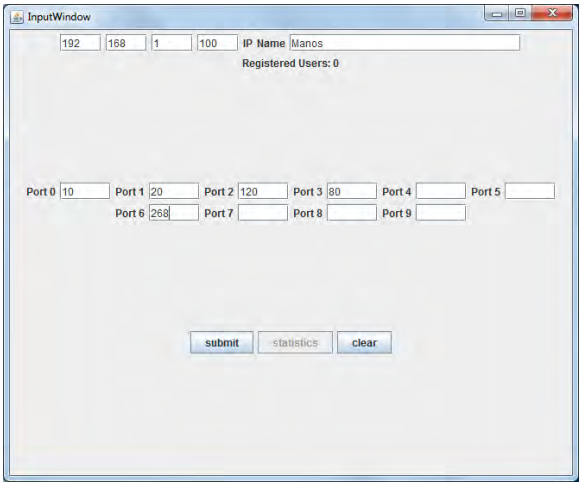



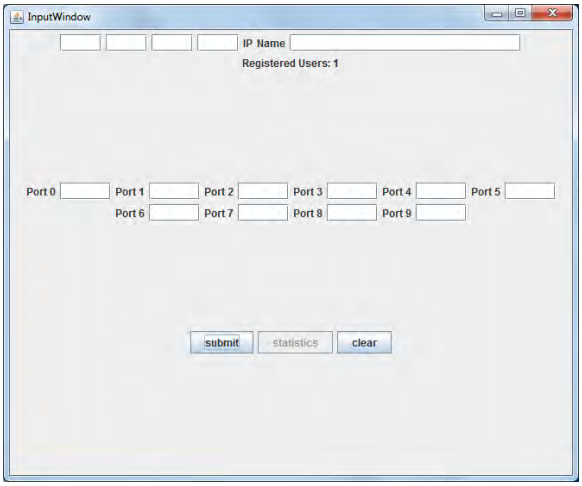

As also when duplicate port numbers where applied by users, the application displays a comprehensive message describing the false action complemented with the number that was submitted twice and the port label numbers that carries the duplicates



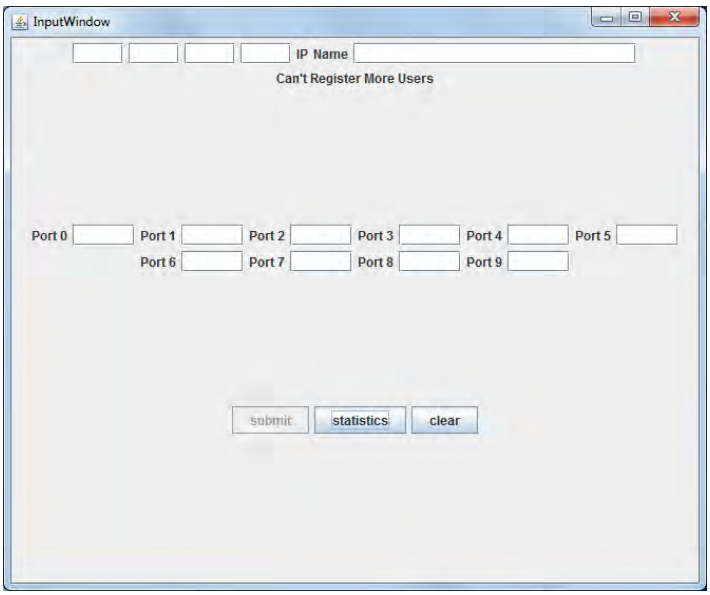



In contrast when all inputs are handled appropriate the application registers the user, cleans all inputs and update the sign of registered users to 1



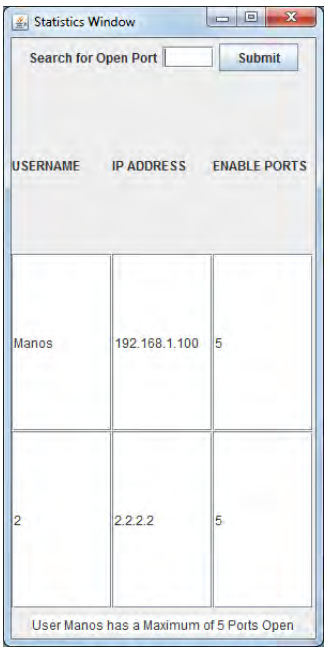




**e.** All users have successfully been registered. The application informs that no more users can be registered, disables the “submit” button and enables the “statistics” one

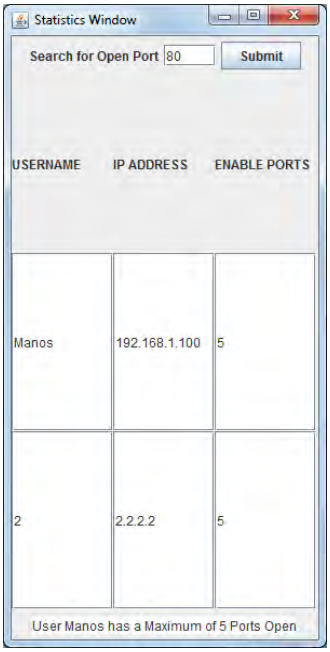


**f.** The button “statistics” is pressed. A new “Statistics Window” appears that displays records of registered users. At this example the users have been adjusted only to 2 but this is adjusted handily based on individual criteria. When the user asks for a certain port number a pop-up window displays the results.

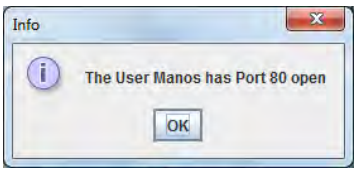
**i.**




**ii.**




**Iii.**




*** The methodology & function of the application is described in detail commenting every step in the Source Code provided in the appendix**