

Homework 2

Deliverables:

Think of a simple challenge/response protocol that you wish to portray.

Apply your own customized version of Assignment 3 showing both Server and Client programs.

1. Challenge/response scenarios
2. IPv4 versus IPv6
3. Joke telling and riddles?
4. Message of the Day (MOTD)
5. Variations on a theme, protocol handshaking
6. Connecting two different hosts - chat
7. Something for your thesis!

Include comments describing your modifications (aka Documentation).

Include documentation of one or more sessions, including operation.

Create a simple illustration of the communications exchange in a UML Sequence Diagram.

Client/Server Modification (Server running...)

```

1  /*
2   * To change this license header, choose License Headers in Project Properties.
3   * To change this template file, choose Tools | Templates
4   * and open the template in the editor.
5   */
6   package MV3500Cohort2018JulySeptember.homework2.Ayres;
7
8   import java.io.BufferedReader;
9   import java.io.IOException;
10  import java.io.InputStream;
11  import java.io.InputStreamReader;
12  import java.io.OutputStream;
13  import java.io.PrintWriter;
14  import java.net.Socket;
15
16  /**
17   *
18   * @author kjayr
19   */
20  public class Ayres_Client {
21
22      public final static String LOCALHOST = "0:0:0:0:0:0:0:0"; // String constant
23
24      public static void main(String[] args) {
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5   */
6   package MV3500Cohort2018JulySeptember.homework2.Ayres;
7
8   import java.io.BufferedReader;
9   import java.io.IOException;
10  import java.io.InputStream;
11  import java.io.InputStreamReader;
12  import java.io.OutputStream;
13  import java.io.PrintWriter;
14  import java.net.InetAddress;
15  import java.net.ServerSocket;
16  import java.net.Socket;
17
18  /**
19   *
20   * @author kjayr
21   */
22  public class Ayres_Server {
23
24      @SuppressWarnings("ConvertToTryWithResources")
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26
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```

```

NetworkedGraphics\MV3500 - C:\Users\kjayr\Desktop\NetworkedGraphics\MV3500\NetworkedGraphics\MV3500 x MV3500_Deliverables (run-single) x
ant -f C:\Users\kjayr\Desktop\NetworkedGraphics\MV3500\NetworkedGraphics\MV3500\deliverables -Djavac.includes=MV3500Cohort2018JulySeptember\homework2\Ayres\Ayres_Server.java -l
init:
Deleting: C:\Users\kjayr\Desktop\NetworkedGraphics\MV3500\NetworkedGraphics\MV3500\deliverables\build\build-jar.properties
deps-jar:
Updating property file: C:\Users\kjayr\Desktop\NetworkedGraphics\MV3500\NetworkedGraphics\MV3500\deliverables\build\build-jar.properties
Compiling 1 source file to C:\Users\kjayr\Desktop\NetworkedGraphics\MV3500\NetworkedGraphics\MV3500\deliverables\build\classes
compile-single:
run-single:
TopServer has started...

```

Server Output (Message to client)

The screenshot shows an IDE with two source files and an output window.

Ayres_Client.java

```
1  /*
2  * To change this license header, choose License Headers in Project Properties.
3  * To change this template file, choose Tools | Templates
4  * and open the template in the editor.
5  */
6  package MV3500Cohort2018JulySeptember.homework2.Ayres;
7
8  import java.io.BufferedReader;
9  import java.io.IOException;
10 import java.io.InputStream;
11 import java.io.InputStreamReader;
12 import java.io.OutputStream;
13 import java.io.PrintStream;
14 import java.net.Socket;
15
16 /**
17 *
18 * @author kjayr
19 */
20 public class Ayres_Client {
21
22     public final static String LOCALHOST = "0:0:0:0:0:0:0:1"; // String constant
```

Ayres_Server.java

```
1  /*
2  * To change this license header, choose License Headers in Project Properties.
3  * To change this template file, choose Tools | Templates
4  * and open the template in the editor.
5  */
6  package MV3500Cohort2018JulySeptember.homework2.Ayres;
7
8  import java.io.BufferedReader;
9  import java.io.IOException;
10 import java.io.InputStream;
11 import java.io.InputStreamReader;
12 import java.io.OutputStream;
13 import java.io.PrintStream;
14 import java.net.InetAddress;
15 import java.net.ServerSocket;
16 import java.net.Socket;
17
18 /**
19 *
20 * @author kjayr
21 */
22 public class Ayres_Server {
```

Output

```
NetworkedGraphicsMV3500 - C:\Users\kjayr\Desktop\NetworkedGraphics\MV3500\NetworkedGraphics\MV3500 x MV3500_Deliverables (run-single) x MV3500_Deliverables (run-single) #2 x
The message the server sent was **Strong connection to Server** Client operating...
TopClient creating socket...
=====
Server is up and waiting
The message the server sent was **Strong connection to Server** Client operating...
TopClient creating socket...
=====
Server is up and waiting
The message the server sent was **Strong connection to Server** Client operating...
TopClient creating socket...
=====
Server is up and waiting
The message the server sent was **Strong connection to Server** Client operating...
```

Client Output (Message to server)

The screenshot shows an IDE with two source files and an output window.

Ayres_Client.java

```
1  /*
2  * To change this license header, choose License Headers in Project Properties.
3  * To change this template file, choose Tools | Templates
4  * and open the template in the editor.
5  */
6  package MV3500Cohort2018JulySeptember.homework2.Ayres;
7
8  import java.io.BufferedReader;
9  import java.io.IOException;
10 import java.io.InputStream;
11 import java.io.InputStreamReader;
12 import java.io.OutputStream;
13 import java.io.PrintStream;
14 import java.net.Socket;
15
16 /**
17 *
18 * @author kjayr
19 */
20 public class Ayres_Client {
21
22     public final static String LOCALHOST = "0:0:0:0:0:0:0:1"; // String constant
```

Ayres_Server.java

```
1  /*
2  * To change this license header, choose License Headers in Project Properties.
3  * To change this template file, choose Tools | Templates
4  * and open the template in the editor.
5  */
6  package MV3500Cohort2018JulySeptember.homework2.Ayres;
7
8  import java.io.BufferedReader;
9  import java.io.IOException;
10 import java.io.InputStream;
11 import java.io.InputStreamReader;
12 import java.io.OutputStream;
13 import java.io.PrintStream;
14 import java.net.InetAddress;
15 import java.net.ServerSocket;
16 import java.net.Socket;
17
18 /**
19 *
20 * @author kjayr
21 */
22 public class Ayres_Server {
```

Output

```
NetworkedGraphicsMV3500 - C:\Users\kjayr\Desktop\NetworkedGraphics\MV3500\NetworkedGraphics\MV3500 x MV3500_Deliverables (run-single) x MV3500_Deliverables (run-single) #2 x
=====
The message the client sent was **Client operating**...Client-Server Connection Successful
Socket pair: (( /0:0:0:0:0:0:0:1, 2317 ), ( /0:0:0:0:0:0:0:1, 63756 ))
=====
The message the client sent was **Client operating**...Client-Server Connection Successful
Socket pair: (( /0:0:0:0:0:0:0:1, 2317 ), ( /0:0:0:0:0:0:0:1, 63757 ))
=====
The message the client sent was **Client operating**...Client-Server Connection Successful
Socket pair: (( /0:0:0:0:0:0:0:1, 2317 ), ( /0:0:0:0:0:0:0:1, 63758 ))
=====
The message the client sent was **Client operating**...Client-Server Connection Successful
Socket pair: (( /0:0:0:0:0:0:0:1, 2317 ), ( /0:0:0:0:0:0:0:1, 63759 ))
=====
```

HOMEWORK 2 UML DIAGRAM

AYRES

