

NFC_Secure_Element_Example_External_Reader

This example show the use of JDK 6.0 and the javax.smartcardio.* package in order to communicate with the Java Card Applet in the secure element of the handset. Download appropriate NetBeans Project:

[File:ReaderApplication.zip](#).

Make sure you have JDK 6.0 and a PC/SC Reader (NOT NXP's PEGODA!) installed.

```
package at.nfcresearch.wima.examples;

import javax.smartcardio.*;
import java.util.List;
import java.util.ListIterator;

public class Main {

    private static byte[] SELECT = {(byte) 0x00, (byte) 0xA4, (byte) 0x04, (byte) 0x00, (byte) 0x00};
    private static byte[] INS_INC = {(byte) 0x00, (byte) 0x01, (byte) 0x00, (byte) 0x00};
    private static byte[] INS_DEC = {(byte) 0x00, (byte) 0x02, (byte) 0x00, (byte) 0x00};
    private static byte[] INS_READ = {(byte) 0x00, (byte) 0x03, (byte) 0x00, (byte) 0x00, (byte) 0x00};
    private static CommandAPDU SELECT_APDU = new CommandAPDU(SELECT);
    private static CommandAPDU INC_APDU = new CommandAPDU(INS_INC);
    private static CommandAPDU DEC_APDU = new CommandAPDU(INS_DEC);
    private static CommandAPDU READ_APDU = new CommandAPDU(INS_READ);

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        // TODO code application logic here
        TerminalFactory tf = TerminalFactory.getDefault();
        CardTerminals ct = tf.terminals();
        List<CardTerminal> l = null;
        Card card = null;

        try {
            l = ct.list();
        } catch (Exception e) {
            System.out.println("Error listing Terminals: " + e.toString());
        }

        System.out.println("List of PC/SC Readers connected:");
        ListIterator i = l.listIterator();
        while (i.hasNext()) {
            System.out.println("Reader: " + ((CardTerminal) i.next()).getName());
        }

        // IMPORTANT: change this to the PC/SC Name of your reader!!
        CardTerminal c = ct.getTerminal("OMNIKEY CardMan 5x21-CL 0");
        System.out.println("Terminal fetched");

        try {
            while (c.isCardPresent()) {

                try {
                    Thread.sleep(100);
                } catch (Exception e) {
                    System.out.print("Error Sleep");
                }

                try {
                    card = c.connect("T=1");
                    System.out.println("Terminal connected");
                } catch (Exception e) {
```

