

Ludovic Rousseau's blog

My activities related to smart card and Free Software (as in free speech).

Tuesday, June 22, 2010

PCSC sample in Java

Here is the PCSC sample in Java language I promised in PC/SC sample in different languages.

Installation

Since Java 1.6 the JRE includes the package `javax.smartcardio` which was defined in the [JSR 268](#). No need to compile additional source code.

For the example I used Eclipse Galileo and the Java 1.6 provided by Apple on a Mac OS X Snow Leopard (10.6.4).

Source code

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

public class Blog {
    public static void main(String[] args) {
        try {
            // Display the list of terminals
            TerminalFactory factory = TerminalFactory.getDefault();
            List<CardTerminal> terminals = factory.terminals().list();
            System.out.println("Terminals: " + terminals);

            // Use the first terminal
            CardTerminal terminal = terminals.get(0);

            // Connect with the card
            Card card = terminal.connect("*");
            System.out.println("card: " + card);
            CardChannel channel = card.getBasicChannel();

            // Send Select Applet command
            byte[] aid = {(byte)0xA0, 0x00, 0x00, 0x00, 0x62, 0x03, 0x01, 0x0C, 0x06, 0x01};
            ResponseAPDU answer = channel.transmit(new CommandAPDU(0x00, 0xA4, 0x04, 0x00,
            aid));
            System.out.println("answer: " + answer.toString());

            // Send test command
            answer = channel.transmit(new CommandAPDU(0x00, 0x00, 0x00, 0x00));
            System.out.println("answer: " + answer.toString());
            byte r[] = answer.getData();
            for (int i=0; i<r.length; i++)
                System.out.print((char)r[i]);
            System.out.println();

            // Disconnect the card
            card.disconnect(false);
        } catch (Exception e) {
            System.out.println("Ouch: " + e.toString());
        }
    }
}
```

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Output

```
Terminals: [PC/SC terminal Gemplus GemPC Twin 00 00]
card: PC/SC card in Gemplus GemPC Twin 00 00, protocol T=1, state OK
answer: ResponseAPDU: 2 bytes, SW=9000
answer: ResponseAPDU: 14 bytes, SW=9000
Hello world!
```

Conclusion

Nothing special to add. The major advantage here is that the *wrapper* is included in the runtime. So you do not have to install much on a system before you can use your program, just the JRE :-)



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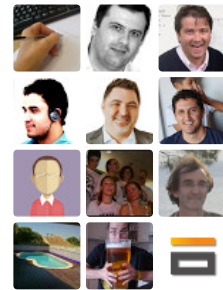


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