

## NFC\_Secure\_Element\_Example\_Java\_Card\_for\_Emulator

This is the code for the JAR file in order to emulate a smartcard (JavaCard) in the Nokia 6131 Emulator (no other emulator is supporting this example!). Click in the emulator on Internal Secure Card => Edit => and then chose the JAR compiled out of this code. Download appropriate NetBeans Project:  
[File:TicketEmulation6131.zip](#).

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

import com.nokia.phone.sdk.concept.srv.modules.nfc.cards.SecureCard;

public class TicketSmartCard extends SecureCard {
    // Command (APDU INS) for increasing the value in the wallet
    private final static byte INS_INC = 0x01;

    // Command (APDU INS) for decreasing the value in the wallet
    private final static byte INS_DEC = 0x02;

    // command (APDU INS) for reading the value in the wallet
    private final static byte INS_READ = 0x03;

    // variable holding the amount stored in the wallet.
    private byte value = (byte) 0x20;
    private static byte APDU_OK[] = {(byte) 0x90, 0x00};
    private static byte APDU_NOT_OK[] = {0x69, 0x00};

    public TicketSmartCard() {
        super();
    }

    public byte[] exchangeData(byte[] buf) {
        byte cmd = buf[1];
        switch (cmd) {
            case INS_INC:
                if (value < 0xff) {
                    value++;
                }
                return APDU_OK;

            case INS_DEC:
                if (value > 0x00) {
                    value--;
                }
                return APDU_OK;

            case INS_READ:
                byte[] outBuffer = {value, APDU_OK[0], APDU_OK[1]};
                return outBuffer;
        }

        return APDU_NOT_OK;
    }

    // Implementation of Interface SecureCard
    public void createCardUID() {
        setCardUID("abcd");
    }

    // Implementation of Interface SecureCard
    public void initSecureCard() {
        System.out.println("InnerCard initialized");
    }
}
```

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```
}
```

And here is the code for the Nokia 6212 SDK

```
/**
 * @author Gerald Madlmayr
 * NFC Research Lab Hagenberg, www.nfc-research.at
 * @version 1.0
 *
 * Simulation of a SmartCard for the Emulator
 */

package at.nfcresearch.wima.examples;

import com.nokia.nfcsdk.nfcmgr.plugin.ISmartCardPluginData;
import com.nokia.nfcsdk.nfcmgr.plugin.SmartCardPlugin;

public class TicketSmartCard extends SmartCardPlugin {
    // Command (APDU INS) for increasing the value in the wallet
    private final static byte INS_INC = 0x01;

    // Command (APDU INS) for decreasing the value in the wallet
    private final static byte INS_DEC = 0x02;

    // command (APDU INS) for reading the value in the wallet
    private final static byte INS_READ = 0x03;

    // variable holding the amount stored in the wallet.
    private byte value = (byte) 0x20;

    private static byte APDU_OK[] = {(byte)0x90, 0x00};
    private static byte APDU_NOT_OK[] = {0x69, 0x00};

    public TicketSmartCard() {

    }

    public byte[] exchangeData(byte[] buf) throws Exception {
        byte cmd = buf[1];
        switch(cmd) {
            case INS_INC:
                if (value < 0xff)
                    ++;
                return APDU_OK;

            case INS_DEC:
                if (value > 0x00)
                    --;
                return APDU_OK;

            case INS_READ:
                byte[] outBuffer = {value, APDU_OK[0], APDU_OK[1]};
                return outBuffer;
        }

        return APDU_NOT_OK;
    }

    public String getName() {
```

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```
return "TicketSmartCard";  
}
```

```
public void initialize(ISmartCardPluginData data) throws Exception {  
    super.initialize(data);  
}
```

```
public void uninitialized() {  
}  
}
```