

1. Use SNMP4J to interact with the device using SNMP.

Ensure that **SNMP4J** is added to project. Add it through Maven with:

```
<dependency>
  <groupId>org.snmp4j</groupId>
  <artifactId>snmp4j</artifactId>
  <version>2.8.6</version>
</dependency>
```

SNMP Get Request Example

```
import org.snmp4j.*;
import org.snmp4j.event.ResponseEvent;
import org.snmp4j.mp.SnmpConstants;
import org.snmp4j.smi.*;
import org.snmp4j.transport.DefaultUdpTransportMapping;
import org.snmp4j.PDU;

public class SNMPManager {

    private Snmp snmp;
    private String address;

    public SNMPManager(String address) {
        this.address = address;
    }

    // Initialize SNMP
    public void start() throws Exception {
        TransportMapping<?> transport = new DefaultUdpTransportMapping();
        snmp = new Snmp(transport);
        transport.listen();
    }

    // Send SNMP GET request
    public String getAsString(OID oid) throws Exception {
        PDU pdu = new PDU();
        pdu.add(new VariableBinding(oid));
        pdu.setType(PDU.GET);

        ResponseEvent event = snmp.send(pdu, getTarget(), null);
        if (event != null && event.getResponse() != null) {
            return event.getResponse().get(0).getVariable().toString();
        } else {
            throw new RuntimeException("SNMP GET timed out or failed.");
        }
    }

    // Configure SNMP target
    private Target getTarget() {
        Address targetAddress = GenericAddress.parse(address);
        CommunityTarget target = new CommunityTarget();
        target.setCommunity(new OctetString("public"));
    }
}
```

```
        target.setAddress(targetAddress);
        target.setRetries(2);
        target.setTimeout(1500);
        target.setVersion(SnmpConstants.version2c);
        return target;
    }

    public static void main(String[] args) {
        try {
            SNMPManager manager = new SNMPManager("udp:127.0.0.1/161");
            manager.start();

            // Replace this with the OID you want to query
            OID oid = new OID("1.3.6.1.2.1.1.1.0");
            String result = manager.getAsString(oid);

            System.out.println("Response: " + result);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
}
```