Remote Signaling Case Guide (Binary Input Acquisition, Modbus Function Code 01/02)

This section introduces various remote signaling (status acquisition) scenarios. Each case's project files can be found in the provided "Example Project Files." Choose the closest match and modify as needed.

Case 1: Acquire one device with 4 IO input channels

(1) Modify `main.lua`

Configure `YX_List`

```
-- IEC61850 remote signaling data point definitions
YX_List =
{
  -- Modbus IO input monitor #1 (4 input channels)
  {"RTU/GGIO1.Ind1", ".stVal"}, -- binary IO input, 0 or 1
  {"RTU/GGIO1.Ind2", ".stVal"}, -- binary IO input, 0 or 1
  {"RTU/GGIO1.Ind3", ".stVal"}, -- binary IO input, 0 or 1
  {"RTU/GGIO1.Ind4", ".stVal"}  -- binary IO input, 0 or 1
}
```

Configure `MB_List`

```
-- Modbus remote signaling data point definitions
MB_List =
{
  -- Modbus IO input monitor #1 (4 inputs)
  {
    -- 9600 bps, no parity, 1 stop bit, function code "01", modbus address 0x05, max
response 100 ms, inter-packet 1000 ms
    com = {"BAUDRATE_9600","NoneParity","StopBit_1","01",0x05,100,1000},
    data =
    {
      {"RTU/GGIO1.Ind1",0x0000,"BIT",0}, -- read coil, returns 0 or 1
```

```
        {"RTU/GGIO1.Ind2",0x0001,"BIT",0}, -- read coil, returns 0 or 1
        {"RTU/GGIO1.Ind3",0x0002,"BIT",0}, -- read coil, returns 0 or 1
        {"RTU/GGIO1.Ind4",0x0003,"BIT",0}  -- read coil, returns 0 or 1
    }
  }
}
```

Note: Lua syntax — no trailing comma after the last `}`.

(2) Modify `rtu.cid`

Define logical node (IO monitor, 4 channels)

```
<LNodeType desc="IO monitor (4 channels)" id="GGIO_TYPE_4IO" lnClass="GGIO">
  <DO desc="Mode" name="Mod" type="ENC_Mod" />
  <DO desc="Behavior" name="Beh" type="ENS_Beh" />
  <DO desc="Health" name="Health" type="ENS_Health" />
  <DO desc="Nameplate" name="NamPlt" type="LPL_2_NamPlt" />
  <DO desc="Signaling input 1" name="Ind1" type="SPS_State" />
  <DO desc="Signaling input 2" name="Ind2" type="SPS_State" />
  <DO desc="Signaling input 3" name="Ind3" type="SPS_State" />
  <DO desc="Signaling input 4" name="Ind4" type="SPS_State" />
</LNodeType>
```

Add logical node instance

```
<LN desc="IO monitor #1 (4 ch)" lnClass="GGIO" lnType="GGIO_TYPE_4IO" inst="1" prefix=""
/>
```

Configure DataSet

```
<DataSet name="YX_RS" desc="YX_RS">
  <FCDA ldInst="RTU" lnClass="GGIO" fc="ST" lnInst="1" doName="Ind1" daName="stVal" />
  <FCDA ldInst="RTU" lnClass="GGIO" fc="ST" lnInst="1" doName="Ind2" daName="stVal" />
  <FCDA ldInst="RTU" lnClass="GGIO" fc="ST" lnInst="1" doName="Ind3" daName="stVal" />
  <FCDA ldInst="RTU" lnClass="GGIO" fc="ST" lnInst="1" doName="Ind4" daName="stVal" />
</DataSet>
```

DataSet is for the Report service and is optional.

Case 2: Acquire multiple devices, each with 4 IO input channels

Repeat the configuration for devices #1, #2, and #3 in both `YX_List` and `MB_List`, and declare corresponding LNs/instances/DataSet entries in `rtu.cid` as shown in the original examples, with comments translated.