

asn1c:

asn1c (c = compiler) – tool generates C code for parsing ASN1 (BER, DER, ...)

read more: [asn1c-usage.pdf](#), [asn1c-quick.pdf](#)

asn1c installation:

Install on own computer (Unix)

```
sudo apt-get update -y
```

```
sudo apt-get install -y asn1c
```

Or install from: <https://github.com/vlm/asn1c>

Install on aisa (from Windows)

Connect to **aisa.fi.muni.cz** using Putty or ssh, with **xlogin** and faculty password

Create `home/local`(if does not exist), `home/Lab4` (use `mkdir`)

Copy **copy_to_aisa.zip** to your **home/local** (use WinSCP to copy, or scp)

Change directory **cd Lab4**

Unzip with: **unzip copy_to_aisa.zip**

Change access permissions: **chmod 777 asn1-install.sh**

Install compiler with: **./asn1-install.sh**

Test whether installed properly: **asn1c -help**

asn1c – basic usage:

0. Define ASN1 grammar - created example **sod.asn1**
1. Prepare the C and H files (using asn1 compiler) for the ASN.1 structures:

```
asn1c -fnative-types sod.asn1  
  Compiled AlgorithmIdentifier.c  
  Compiled AlgorithmIdentifier.h  
  Compiled LDSSecurityObjectVersion.c  
  Compiled LDSSecurityObjectVersion.h  
  Compiled DigestAlgorithmIdentifier.c  
  Compiled DigestAlgorithmIdentifier.h  
  Compiled LDSSecurityObject.c  
  Compiled LDSSecurityObject.h  
  Compiled DataGroupHash.c  
  Compiled DataGroupHash.h  
  Compiled DataGroupNumber.c  
  Compiled DataGroupNumber.h  
  Symlinked /usr/local/share/asn1c/ANY.h -> ANY.h  
  Symlinked /usr/local/share/asn1c/ANY.c -> ANY.c  
  Symlinked /usr/local/share/asn1c/INTEGER.h -> INTEGER.h  
  Symlinked /usr/local/share/asn1c/NativeEnumerated.h -> NativeEnumerated.h  
  Symlinked /usr/local/share/asn1c/INTEGER.c -> INTEGER.c
```

2. Use structures in program - **sod_sample.c**

3. Compile a sample application:

```
Remove converter_example.c: rm converter_example.c  
Compile: gcc *.c -o LDSview -I. -DPDU=LDSSecurityObject  
And execute: ./LDSview
```

LDSview will parse lds.bin according structure defined in sod.asn1