

How to set HSM in Development Mode

Life Cycle is represented in ASW via variable **curState_u32**,
in CB - via **cbutil_Guam_EcuMode.LfCycState**.

Series mode activation for XCP is visible in variable **XcpAppl_stActvn**.

To set HSM from Series to Development mode please use the following steps:

1. Start Address Identification of PIB (Password Import Block)

Please check the start address of PIB in **ecy_hsm_export.xml**:

```
<BLOCK>

    <BLOCK_NAME>HSM_PIB</BLOCK_NAME>

    <BLOCK_ADR>0x8004ff00</BLOCK_ADR>

    <BLOCK_LEN>0x0100</BLOCK_LEN>

</BLOCK>
```

Example of PIB context and structure:

```
Block Präfix    = 0xAA5555AA
Block-ID        = 0x0001
Block Length    = 0x0010 → 16 bytes
NextLifeCycle   = 0x01000000 → here "InField 1" state for Serial Device.
Block Suffix    = 0xCC3333CC
```

2. Update PIB to Development Mode

Please load the hex file in **HexmodX**-tool and update the **NextLifeCycle** value under address HSM_PID + offset 8 to value 0x05000000 for Development Device "PrivModeDev".

```
typedef enum ecy_hsm_Csai_LifecycleStateTag
{
    ecy_hsm_CSAI_LC_STATE_INFIELD1 = 0x01000000UL, /* Lifecycle State InField 1 */
    ecy_hsm_CSAI_LC_STATE_INFIELD2 = 0x02000000UL, /* Lifecycle State InField 2 */
    ecy_hsm_CSAI_LC_STATE_TEMPORARY = 0x03000000UL, /* Lifecycle State Temporary */
    ecy_hsm_CSAI_LC_STATE_PRIVMODESERIAL = 0x04000000UL, /* Lifecycle State PRIVMODESERIAL */
    ecy_hsm_CSAI_LC_STATE_PRIVMODEDEV = 0x05000000UL, /* Lifecycle State PRIVMODEDEV */
    ...
} ecy_hsm_Csai_LifecycleStateT;
```

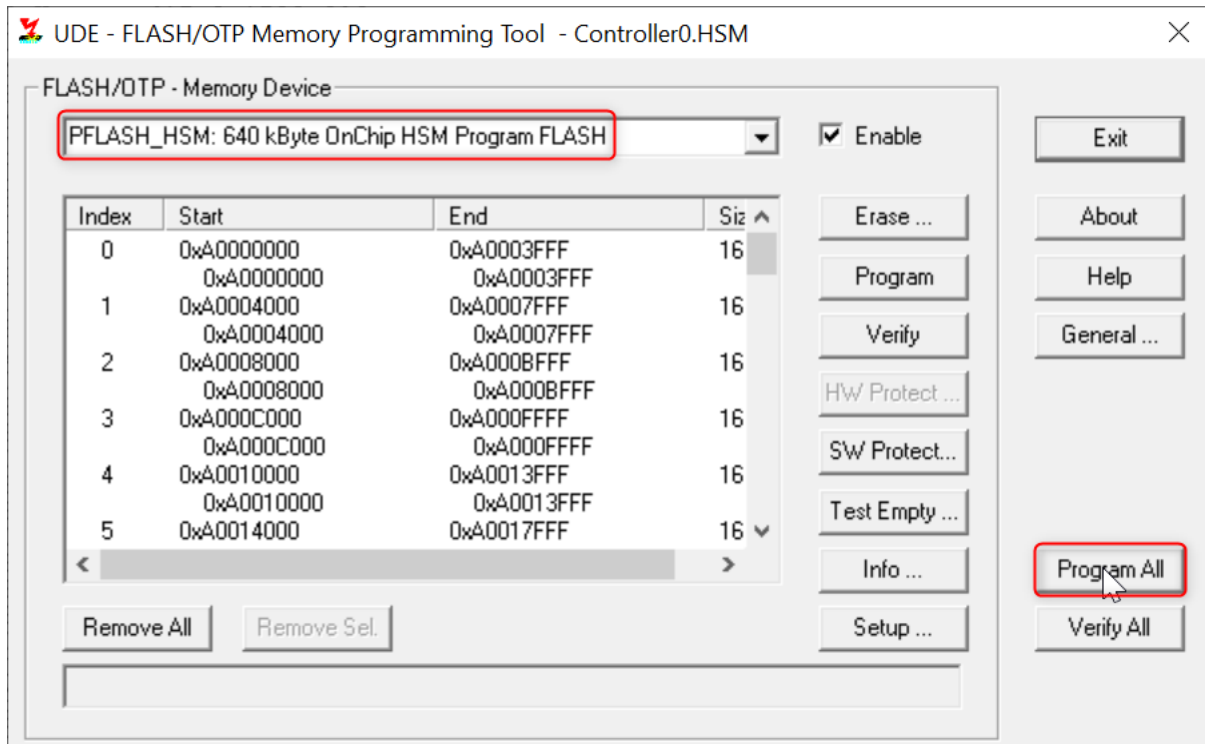
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S:\..\2022-03-07_SecuMgr_HSM_to_Development\MD1CV_P1481_MD1CE100_7_0_2_HSM-SeriesMode.hex																		HSM series mode	
Address	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	Checks...	0F			
8004FF00	AA	55	55	AA	00	01	00	10	01	00	00	00	CC	33	33	CC	^		

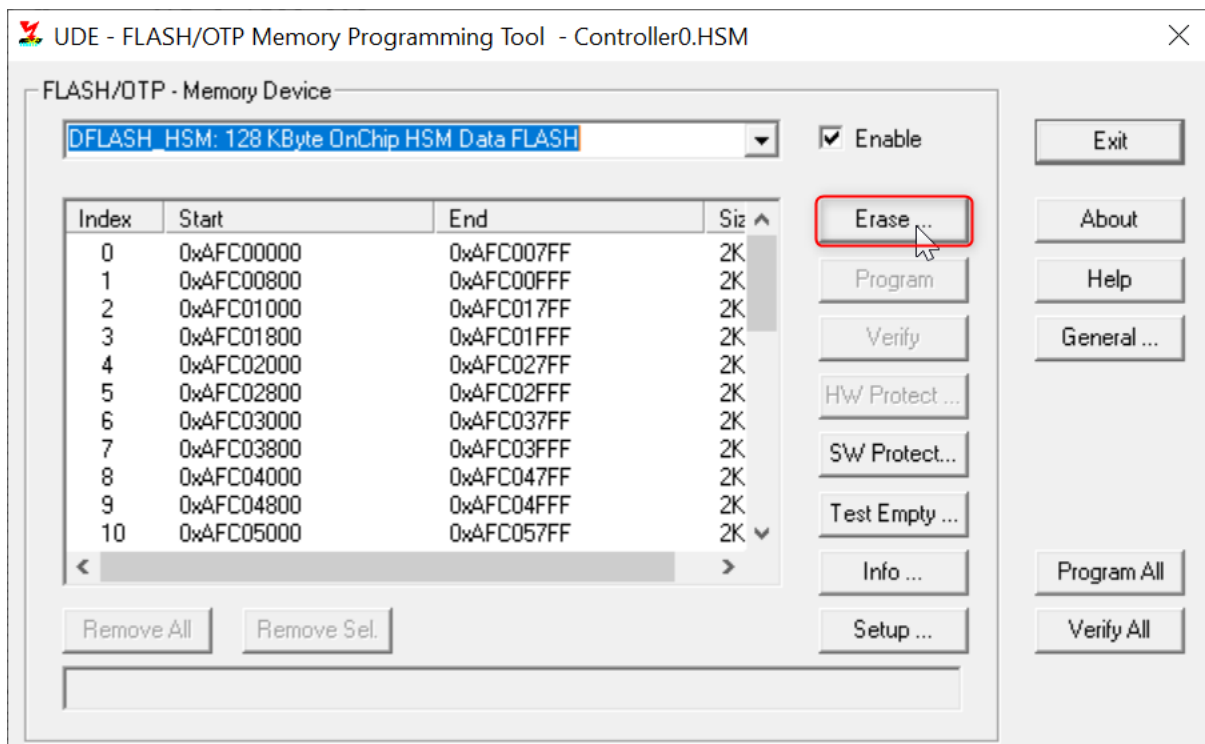
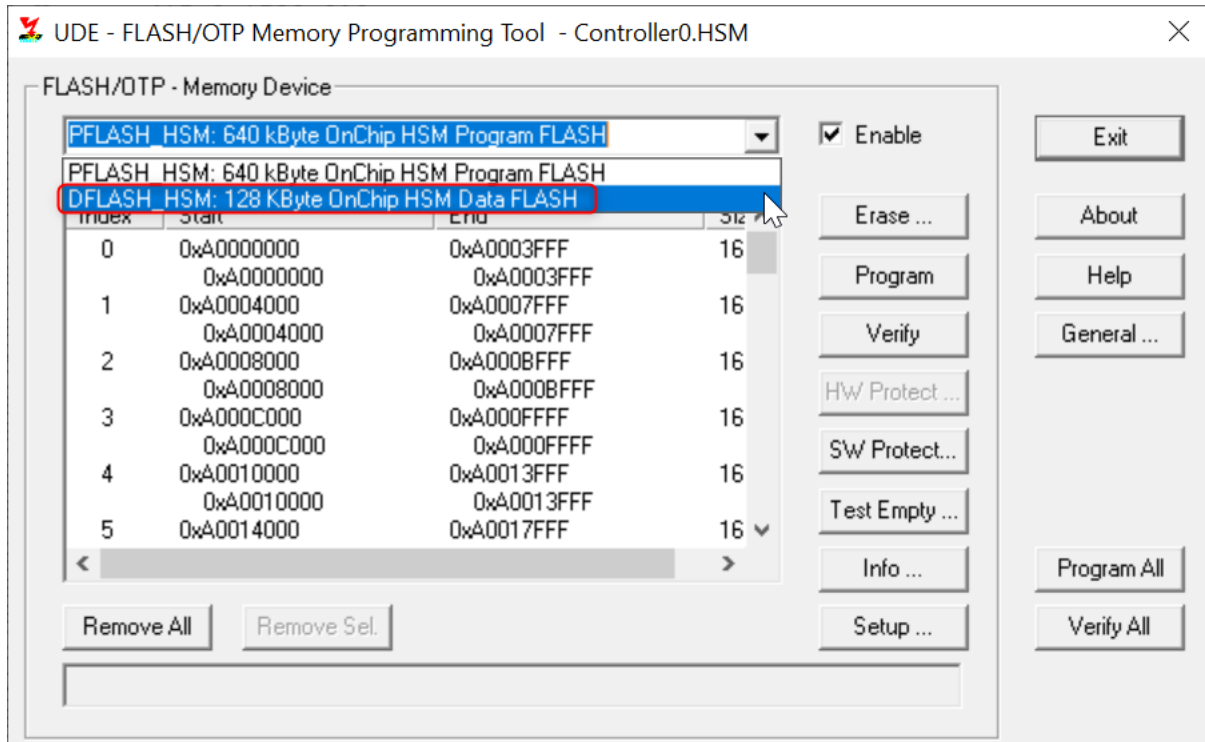
S:\..\2022-03-07_SecuMgr_HSM_to_Development\MD1CV_P1481_MD1CE100_7_0_2_HSM-Development.hex																		HSM Development	
Address	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	Checks...	0F			
8004FF00	AA	55	55	AA	00	01	00	10	05	00	00	00	CC	33	33	CC	^		

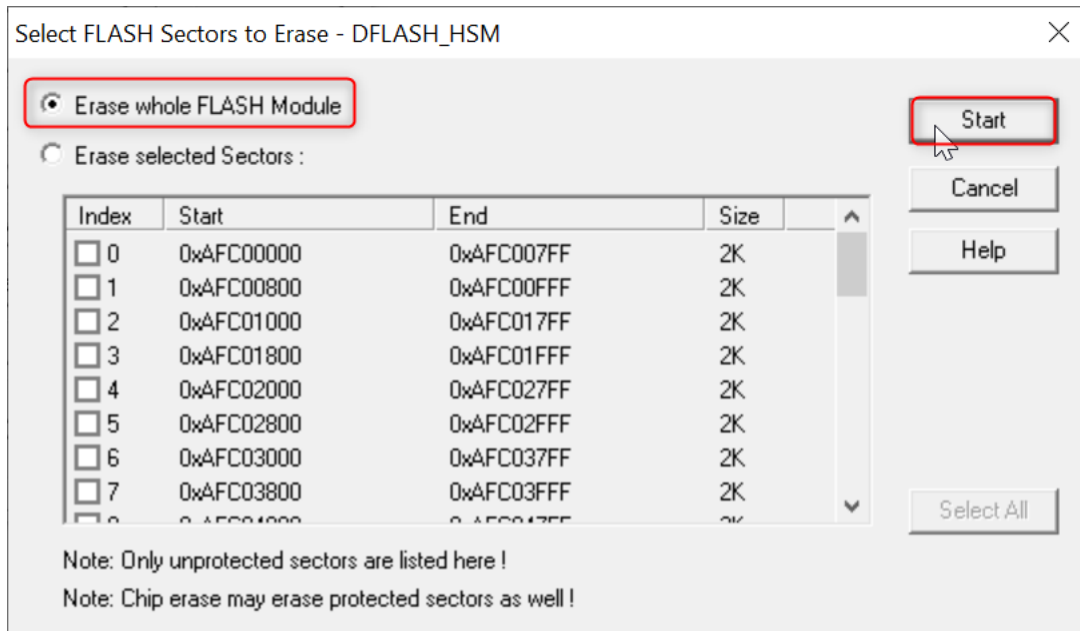
Please create/save a new hex file with updated PIB and load it in debugger tool (UDE).

3. Program HSM P-Flash



4. Erase HSM D-Flash





Hint 1: If the HSM D-Flash is not erased after reprogramming of HSM P-Flash, the device mode will not be updated.

Hint 2: If the series mode cannot be deactivated, please check whether the **TRUSTED_BOOT_TABLE** is configured for SB in **ecy_hsm_ecucvalues.arxml** as static internal data - **INT_DATA**.