



## How to populate and boot a board with OP-TEE



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CLASS: STM32L5 - PROTECTED DOCUMENT - STM32L5 - PROTECTED

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## 1 Introduction

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OP-TEE overview can be found in [OP-TEE\\_overview](#) wiki page.

OP-TEE is a combined feature from Open Embedded point of view.

A combined feature is a combination of 2 Yocto variables MACHINE\_FEATURES and DISTRO\_FEATURES.

So a combined feature is activated only after these two variables are set.

Once the machine is defined with **MACHINE\_FEATURES += "optee"** and the distro is set with **DISTRO\_FEATURES\_append = "optee"**, building the OpenSTLinux distribution will provide all necessary binaries to populate and boot with OP-TEE feature.

As a reminder, STMicroelectronics machine configuration files are located here:

- `meta-st/meta-st-stm32mp/conf/machine/*.conf`

and STMicroelectronics distribution configuration file here:

- `meta-st/meta-st-openstlinux/conf/distro/include/openstlinux.inc`



## 2 Usage

### 2.1 Programming the built image with OP-TEE

Inside the build-<distro>-<machine>/tmp-glibc/deploy/images/stm32mp1/flashlayout\_st-image-weston folder, one of the OP-TEE Flash layout file must be selected:

```
Flashlayout_*-optee.tsv
```

Several devices to program (microSD, eMMC...) are available on the board.

Once the Flash layout file has been selected, the STM32CubeProgrammer tool can be used as usual.

#### Information

For microSD card and Evaluation board, the correct Flash layout file to use is: **FlashLayout\_sdcard\_stm32mp157c-ev1-optee.tsv**

### 2.2 Booting the built image with OP-TEE

During boot sequence, the OP-TEE integration trace should be displayed on the UART console log. The OP-TEE core boot stage trace should look like this:

```
I/TC: Pager is enabled. Hashes: 1184 bytes  
I/TC: OP-TEE version: openstlinux-18-06-01  
I/TC: Initialized
```

The Linux kernel boot trace should show the successful probing of the OP-TEE Linux kernel driver:

```
optee: probing for conduit method from DT.  
optee: initialized driver
```

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Device Tree