

UG10387

i.MX Linux Yocto Build Accelerator

Rev. 2.1 — 9 September 2026

User guide

Document information

Information	Content
Keywords	UG10387, i.MX, Linux, LF6.18.2_1.0.0, sstate-cache, Yocto Build Acceleration
Abstract	The i.MX Linux Yocto Build Accelerator is a solution that reduces the time to build Yocto-based images for i.MX MPU platforms.



1 Introduction

The i.MX Linux Yocto Build Accelerator is a solution that reduces the time to build Yocto-based images for i.MX MPU platforms.

By using the caching and mirroring mechanisms of Yocto, the build duration can be reduced from approximately 4 hours to 10 minutes. The build duration depends on the chosen machine configuration and the presence of the prebuilt artifacts.

2 Description

The Build Accelerator consists of two archives that can be used independently or together:

- [LF_6.18.2-1.0.0_YOCTO-DOWNLOADS.tar](#) contains:
 - The Yocto layers repositories.
 - The source tarballs downloaded during the BitBake `fetch` process. It contains all sources required to build the `imx-image-full`, `imx-image-multimedia`, `imx-image-core`, or `core-image-minimal` image and the corresponding SDK. This enables the Yocto to build the above images offline, with no additional downloads required.
- [LF_6.18.2-1.0.0_YOCTO-SSTATE-CACHE.tar](#) contains:
 - The Yocto layers repositories.
 - The Yocto shared-state cache of prebuilt packages. This cache enables Yocto to build `core-image-minimal`, `imx-image-core`, and the corresponding SDK without any compilation, and to accelerate the build of other images/SDKs.
 - The Hash Equivalence database: enables BitBake to use the shared-state cache.

Note: Due to the large size of the archives, use the download manager.

3 Fully accelerated configurations

The following configurations are fully accelerated, but other configurations can benefit as well.

- MACHINE

Table 1. Fully accelerated MACHINE

i.MX 8	i.MX 9
• <code>imx8qmmek</code> • <code>imx8qxp0mek</code> • <code>imx8mq-evk</code> • <code>imx8mm-lpddr4-evk</code> • <code>imx8mm-ddr4-evk</code> • <code>imx8mn-lpddr4-evk</code> • <code>imx8mn-ddr4-evk</code> • <code>imx8mp-lpddr4-evk</code> • <code>imx8mp-ddr4-evk</code> • <code>imx8ulp-lpddr4-evk</code> • <code>imx8ulp-9x9-lpddr4x-evk</code>	• <code>imx91-11x11-lpddr4-evk</code> • <code>imx91-9x9-lpddr4-qsb</code> • <code>imx91-11x11-lpddr4-frdm</code> • <code>imx93-11x11-lpddr4x-evk</code> • <code>imx93-14x14-lpddr4x-evk</code> • <code>imx93-9x9-lpddr4-qsb</code> • <code>imx93-11x11-lpddr4x-frdm</code> • <code>imx943-19x19-lpddr5-evk</code> • <code>imx943-19x19-lpddr4-evk</code> • <code>imx95-15x15-lpddr4x-evk</code> • <code>imx95-15x15-lpddr4x-frdm</code> • <code>imx95-19x19-lpddr5-evk</code>

- DISTRO
 - fsl-imx-xwayland
- IMAGE
 - core-image-minimal
 - imx-image-core

4 Usage

1. Create your development directory. For example:

```
mkdir imx-yocto-accelerator
cd imx-yocto-accelerator
```

2. Install Yocto + package sources and/or precompiled cache. Install at least one of the package sources or precompiled cache.

- a. To use the LF_6.18.2-1.0.0_YOCTO-DOWNLOADS.tar (package sources):

```
tar xvf LF_6.18.2-1.0.0_YOCTO-DOWNLOADS.tar
```

- b. To use the LF_6.18.2-1.0.0_YOCTO-SSTATE-CACHE.tar (prebuilt binaries):

```
tar xvf LF_6.18.2-1.0.0_YOCTO-SSTATE-CACHE.tar
```

3. Set up your MACHINE, DISTRO, and build directory. For example:

```
cd imx-yocto-bsp
DISTRO=fsl-imx-wayland MACHINE=imx8mp-lpddr4-evk source imx-setup-release.sh
-b build
```

4. Add the following configurations into your conf/local.conf file:

```
DL_DIR = "${BSPDIR}/downloads"
SSTATE_DIR = "${BSPDIR}/sstate-cache"
PERSISTENT_DIR = "${BSPDIR}/persistent"
```

Explanation of key variables:

DL_DIR: Sets the central storage location for downloaded sources.

SSTATE_DIR: Directory for the sstate cache used to accelerate builds.

PERSISTENT_DIR: Contains the Hash Equivalence database.

5. Build your preferred image. For example:

```
bitbake imx-image-core
```

6. If needed, build the SDK for your preferred image. For example:

```
bitbake -c populate_sdk imx-image-core
```

5 Acronyms

[Table 2](#) lists the acronyms used in this document.

Table 2. Acronyms

Acronym	Description
BSP	Board Support Package
MPU	Microprocessor Unit

6 References

[Table 3](#) lists the references used to supplement this document.

Table 3. Related documentation/resources

Document	Link/how to access
i.MX Yocto Project User's Guide (document UG10164)	UG10164

7 Note about the source code in the document

Example code shown in this document has the following copyright and BSD-3-Clause license:

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8 Revision history

[Table 4](#) summarizes the revisions to this document.

Table 4. Revision history

Document ID	Release date	Description
UG10387 v.2.1	9 September 2026	Updated the file names in Section 4 to be uppercase.
UG10387 v.2.0	27 August 2026	Applicable to the Linux BSP release LF6.18.2_1.0.0.
UG10387 v.1.0	12 May 2026	Initial public release, applicable to the Linux BSP release LF6.12.49_2.2.0.

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