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# **LEDGE reference platform user guide**

*Release unknown-rev*

**Linaro Limited and Contributors**

*unknown-rev*

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PO Box 1866, Mountain View, CA 94042, USA.

Table 1: Revision History

Date	Issue	Changes
17 February 2020	0.1	<ul style="list-style-type: none"><li>Initial version</li></ul>

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## LEDGE RP USER GUIDE

### 1.1 Introduction

This document describes minimal steps to run LEDGE RP precompiled images in virtual environment and play with it. It's recommended to walk over steps in this document for initial introduction with the Reference Platform. Steps describe howto set up environment and run binaries and login to the shell. For more technical details and developer environment refer to LEDGE RP Developer Howto document.

Comments or change requests can be sent to [team-ledge@linaro.org](mailto:team-ledge@linaro.org)

### 1.2 Supported platforms

- armv7/ledge-multi-armv7 (QEMU)
- armv8/ledge-multi-armv8 (QEMU)
- x86-64 (QEMU)

### 1.3 Steps

#### 1.3.1 Download LEDGE RP binaries:

Download into current directory following files, depending on CPU architecture:

```
├─ firmware.uefi.uboot.bin
├─ firmware.uefi-edk2.bin
├─ ledge-iot-ledge-qemuarm-<ts>.rootfs.wic.gz
├─ ledge-kernel-uefi-certs.ext4.img
```

Development daily builds can be found at:

<https://snapshots.linaro.org/components/ledge/oe/>

(Linaro login required)

Stable releases can be found at:

<http://releases.linaro.org/components/ledge/>

#### 1.3.2 Download QEMU run script:

Download helper script to run QEMU with all required parameters.

```
git clone https://git.linaro.org/ledge/scripts.git/  
cd scripts/qemu
```

### 1.3.3 Unpack rootfs image:

```
gunzip ledge-*rootfs.wic.gz
```

### 1.3.4 Run virtual machine:

Depending on your CPU architecture and firmware (UEFI-EDK2 or UEFI-UBOOT) select one of the following options to run LEDGE RP under virtual machine:

- armv7 with TF-A, OP-TEE and U-Boot:

```
./run_qemu.sh arm ledge-iot-ledge-qemuarm-<ts>.rootfs.wic
```

- armv7 with EDK2:

```
./run_qemu.sh arm ledge-iot-ledge-qemuarm-<ts>.rootfs.wic ovmf
```

- armv8 with TF-A, OP-TEE and U-Boot:

```
./run_qemu.sh aarch64 ledge-iot-ledge-qemuarm64-<ts>.rootfs.wic
```

- armv8 with EDK2:

```
./run_qemu.sh aarch64 ledge-iot-ledge-qemuarm64-<ts>.rootfs.wic ovmf
```

- x86\_64 with EDK2:

```
./run_qemu.sh x86_64 ledge-iot-ledge-qemuarm64-<ts>.rootfs.wic ovmf
```

You should see prints on console that firmware, bootloader, linux boots.

### 1.3.5 Login to the system

Default user is 'ledge' with the same 'ledge' password. User is added to sudoers.