

# Installation of De-Googled Android on Smartphones

Gautam Singh

## CONTENTS

<b>1</b>	<b>Important Disclaimer</b>	1
<b>2</b>	<b>Requirements</b>	1
<b>3</b>	<b>Setting Up</b>	1
<b>4</b>	<b>Unlocking the Bootloader</b>	2
<b>5</b>	<b>Flashing and Booting Custom ROMs</b>	2

**Abstract**—This document contains an illustration of the process to install De-Googled Android-based operating systems.

## 1 IMPORTANT DISCLAIMER

- 1.1 The steps presented in this manual may vary for different phones and OEMs. Here, we have considered a **OnePlus 6** (*enchilada*) and presented the corresponding steps.
- 1.2 This guide is **not** a substitute for any official documentation from the OEM of the phone or the communities behind the custom ROMs. Please consult the official installation guides from the respective websites.
- 1.3 The author(s) of this document are **not** responsible for bricked devices, dead SD cards, thermonuclear war, or you getting fired because the alarm app failed.
- 1.4 Your warranty will be void if you tamper with any part of your device/ software.
- 1.5 This document deals with the installation of LineageOS and /e/OS on phones that ship with stock Android ROMs.

## 2 REQUIREMENTS

- 2.1 An Android phone.
- 2.2 A laptop/desktop, preferably running Windows or MacOS. Linux may work, but not always, since drivers released by the OEM are usually not compatible with Linux.

2.3 A USB C to USB cable (essentially the charging cable) of your phone.

2.4 (Optional) USB 2.0/3.0 hub. Some phones may work only on older USB ports, so this might be handy.

## 3 SETTING UP

3.1 Download the appropriate drivers for your phone from the website of the OEM.

3.2 Download the latest Android SDK platform tools

```
$ wget https://dl.google.com/android/
repository/platform-tools-latest-darwin.
zip -O ~/Downloads/platform-tools.zip
```

Unzip the downloaded `platform-tools.zip` file, which contains the fastboot and adb binaries.

3.3 Download the script to ensure consistency of partitions

```
$ wget https://mirrortables.lineageos.org/tools/
copy-partitions-20220613-signed.zip
```

3.4 Download the recovery and rootfs .img files to flash onto your phone, as shown:

### a) LineageOS

```
$ wget https://mirrortables.lineageos.org/
recovery/enchilada/20230124/lineage
-20.0-20230124-recovery-enchilada.
img
```

```
$ wget https://mirrortables.lineageos.org/full/
enchilada/20230124/lineage
-20.0-20230124-nightly-enchilada-
signed.zip
```

### b) /e/ OS

```
$ wget https://images.ecloud.global/dev/
enchilada/recovery-e-1.7-s
-20230111250406-dev-enchilada.img
```

```
$ wget https://images.ecloud.global/dev/
enchilada/e-1.7-s-20230111250406-
dev-enchilada.zip
```

3.5 Finally, do not forget to take a backup of all your data on the phone (if needed).

#### 4 UNLOCKING THE BOOTLOADER

**Note:** If you have already unlocked the bootloader, please skip this section.

4.1 In your Android phone, go to

Settings → About Phone.

4.2 Tap on Build Number 7 times (or as many times as required by the phone) to enable developer mode. See Fig. 1

4.3 Navigate to

Settings → Developer Options

and toggle the following options:

- a) OEM Unlocking (Fig. 2)
- b) USB Debugging (Fig. 3)

4.4 Plug in the phone to your laptop and open a terminal window.

4.5 Run the following commands and approve USB debugging when the pop-up appears on the phone, as in Fig. 4

```
$ adb kill-server
$ adb reboot bootloader
```

4.6 The phone will then reboot to its bootloader, as shown in Fig. 5. To verify this, in the same terminal, run

```
$ fastboot devices
```

A serial number corresponding to your device should appear.

4.7 To unlock the bootloader, run

```
$ fastboot oem unlock
```

and navigate to the option to unlock the bootloader using volume keys, as in Fig. 6. To enter your choice, press the power button.

4.8 The phone will reboot into Android after performing a full wipe of the data. Enable USB debugging as before and reboot into the bootloader.

#### 5 FLASHING AND BOOTING CUSTOM ROMS

5.1 Flash the recovery file to the boot partition.

```
$ fastboot flash boot /path/to/recovery.img
```

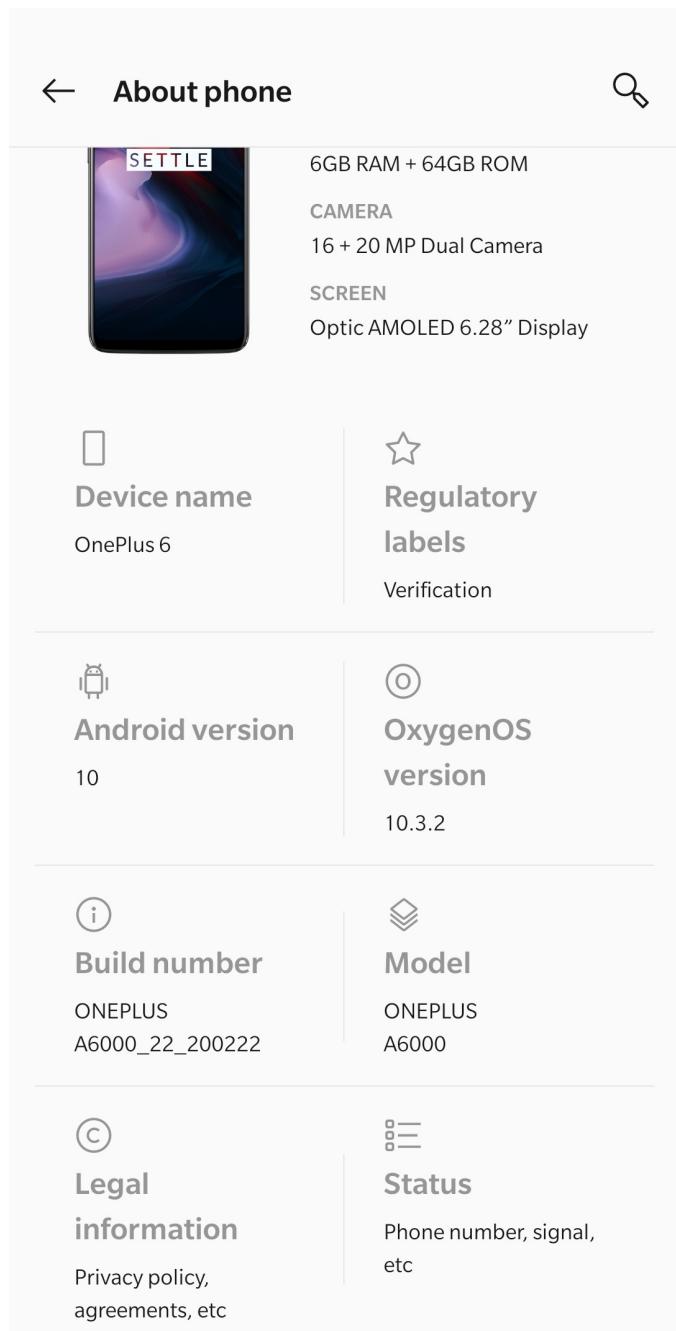


Fig. 1: Build number of the phone in Android.

5.2 Reboot to recovery mode, using any one of the following (see Fig. 7).

a) From fastboot, either using

```
$ fastboot reboot recovery
```

or navigating to Recovery Mode using the volume and power keys.

b) By long pressing the power and volume up button when the device powered off.

5.3 Once booted to recovery, as in either Fig. 9 or

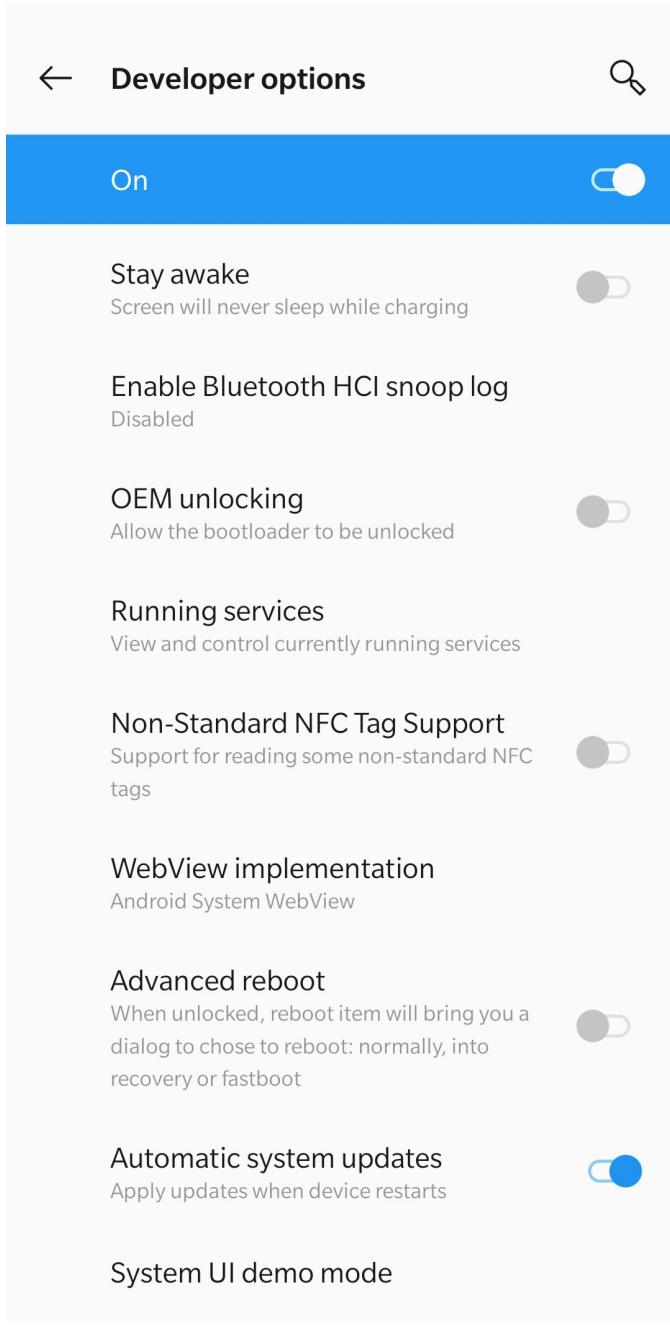


Fig. 2: OEM unlocking in developer options.

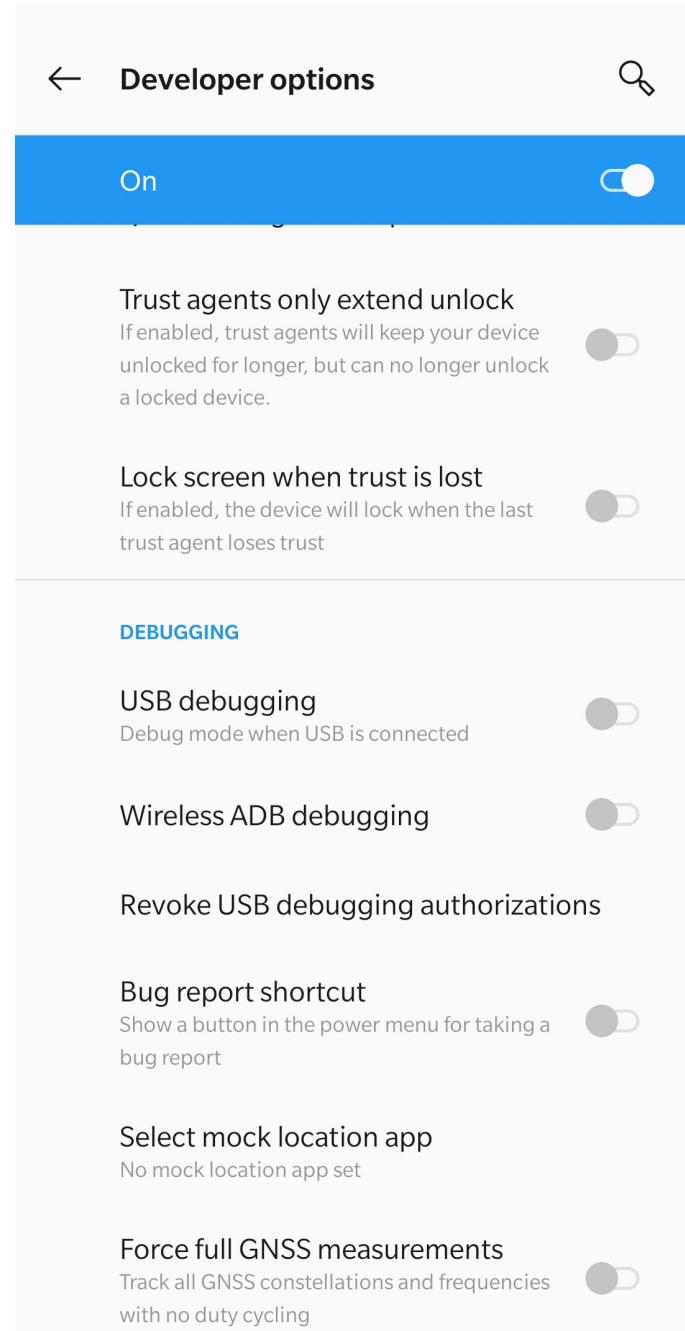


Fig. 3: USB debugging in developer options.

Fig. 8, navigate to

Apply Update → Apply From ADB → ADB Sideload

From the computer terminal, type

\$ adb sideload /path/to/copy-partitions.zip

When the file is uploaded, exit status 0 displays on the phone, and on the computer Total xfer: 1.00x will appear on the terminal.

5.4 Go to recovery, and navigate to

Advanced → Reboot to Recovery

to reboot to recovery again.

- 5.5 Once back in recovery, sideload the rom zip file as in step 5.3. Optionally, you may choose to flash a root patch such as SuperSU or Magisk to root your phone at this point.
- 5.6 When the sideload is done, go back to the main menu, and press Reboot System Now to reboot to the new OS. See Fig. 10 and Fig. 11.

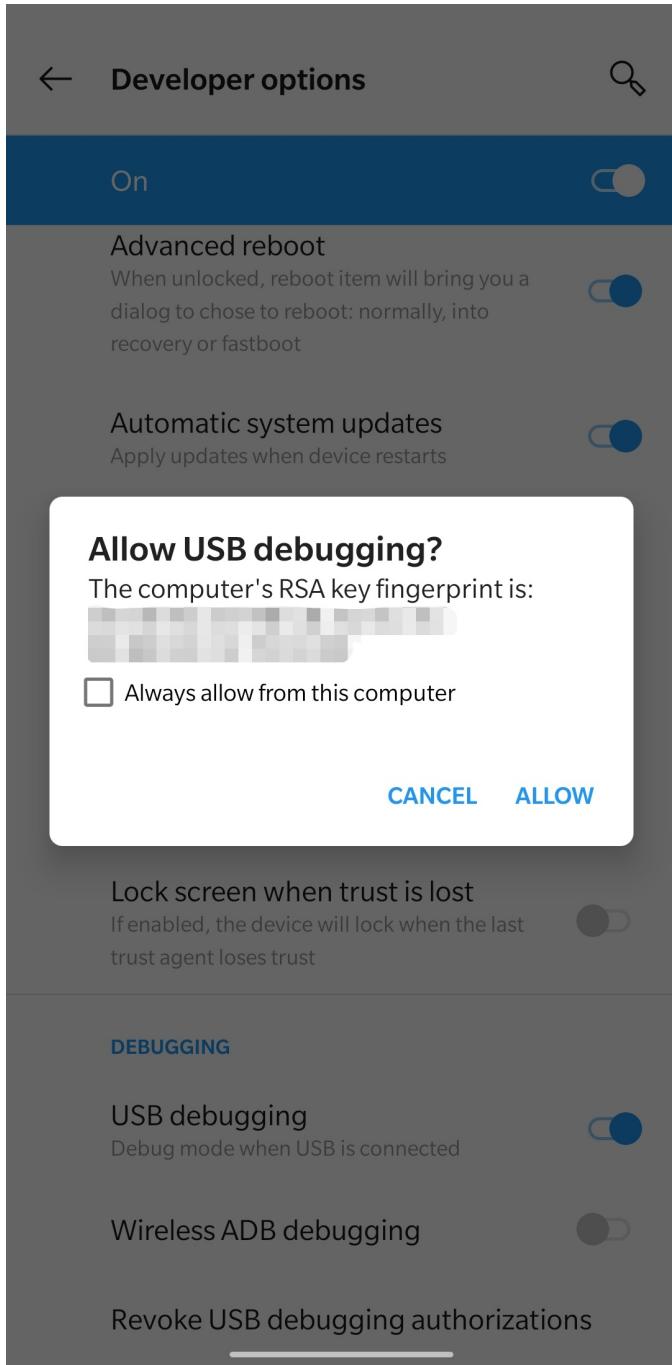


Fig. 4: Pop-up dialog to approve USB debugging from a system.

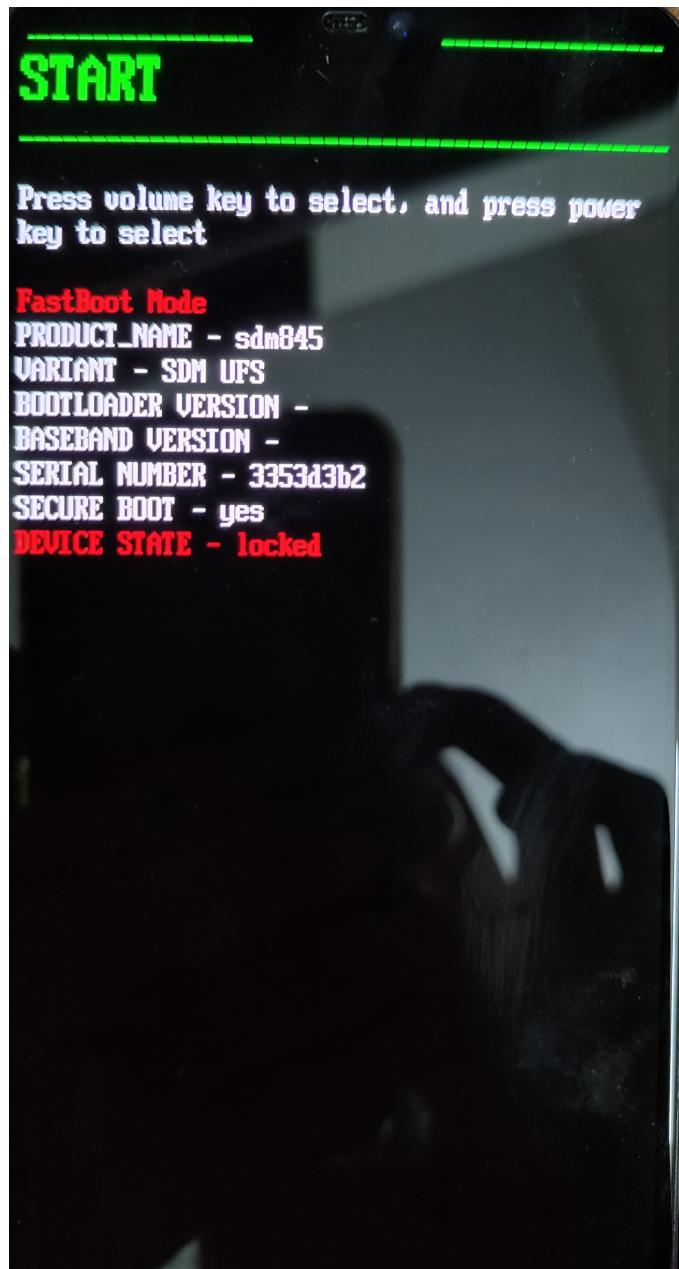


Fig. 5: The bootloader of the OnePlus 6 (enchilada).

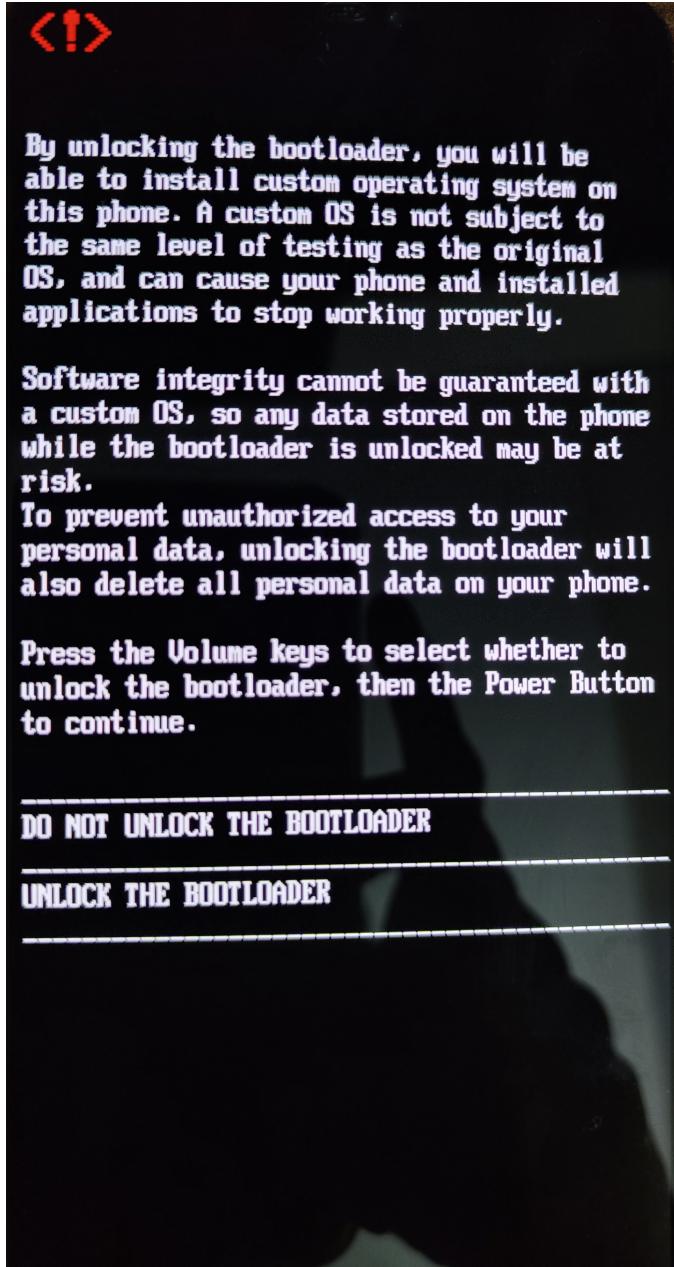


Fig. 6: Unlocking the bootloader of the OnePlus 6 (enchilada).

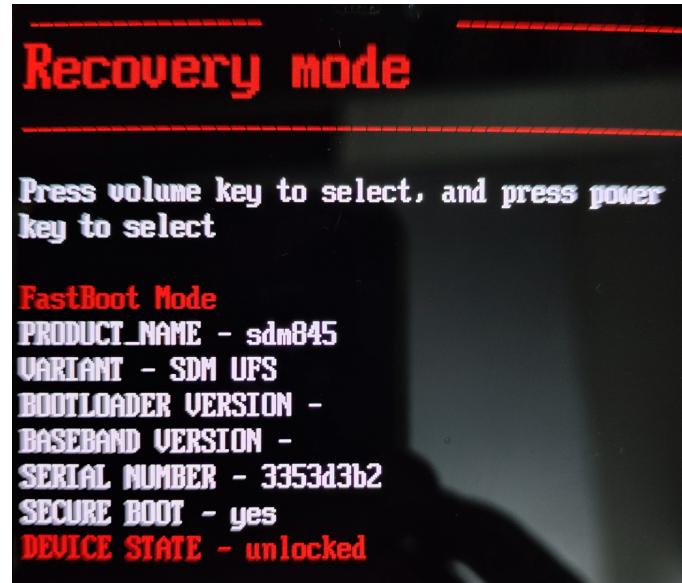


Fig. 7: Toggle to recovery mode in fastboot.

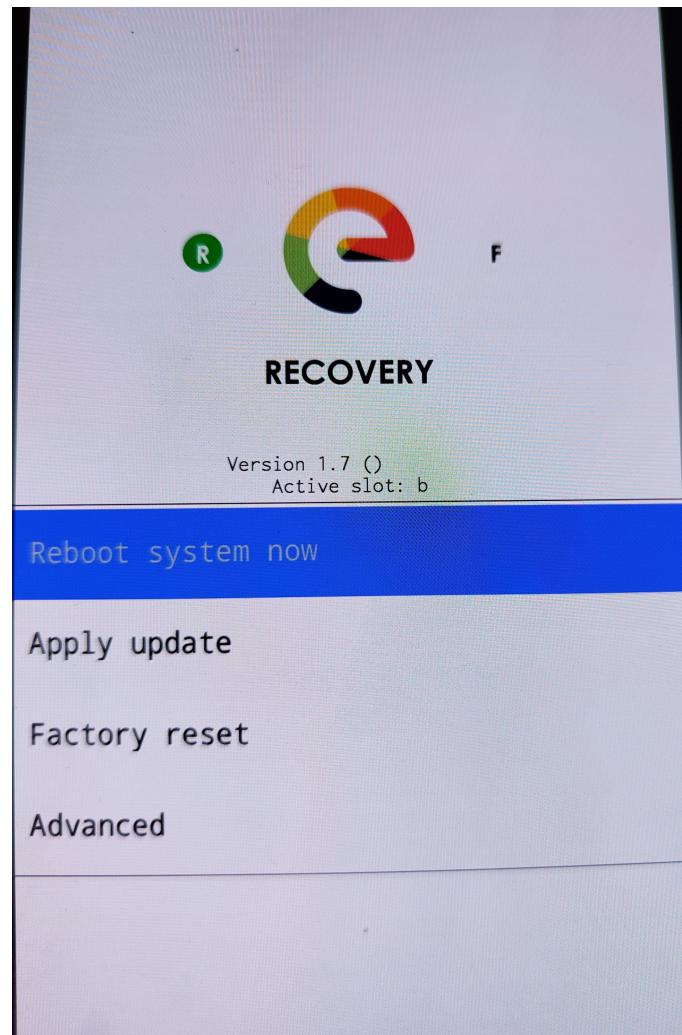


Fig. 8: /e/OS recovery interface.

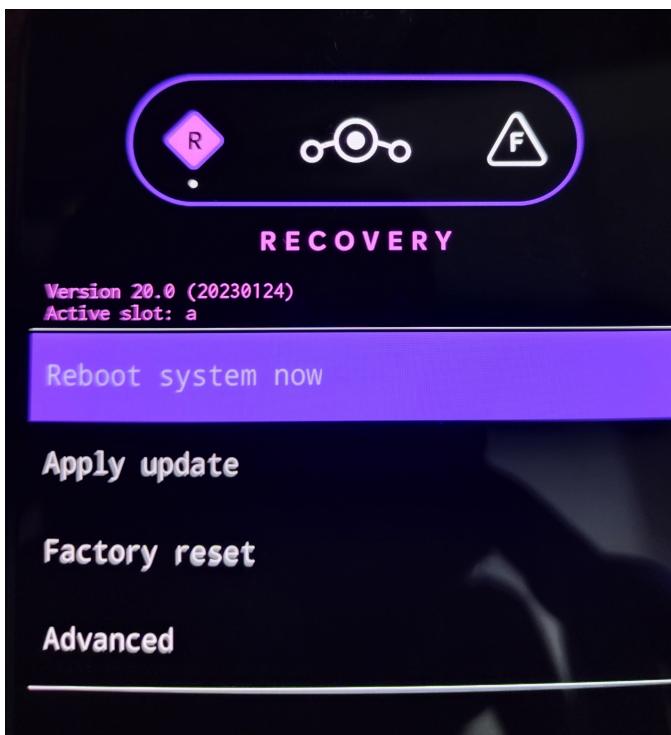


Fig. 9: LineageOS recovery interface.

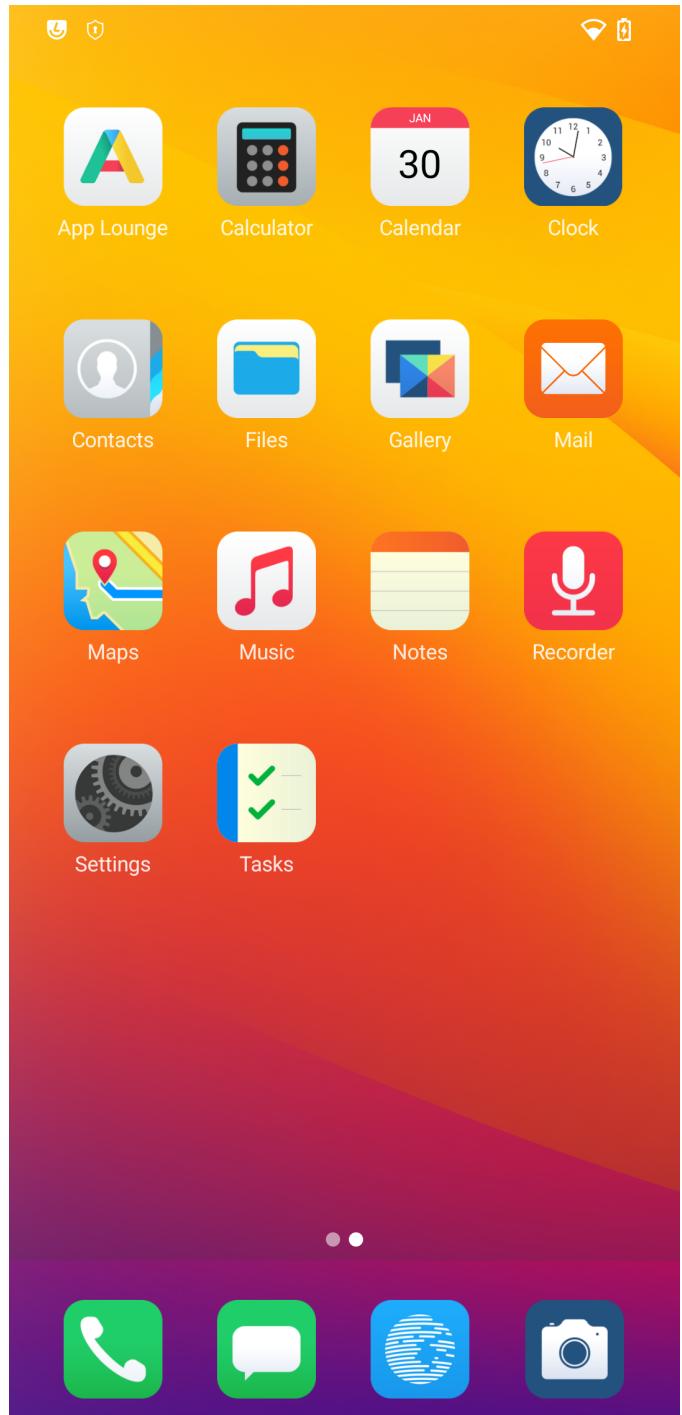


Fig. 10: /e/OS interface.

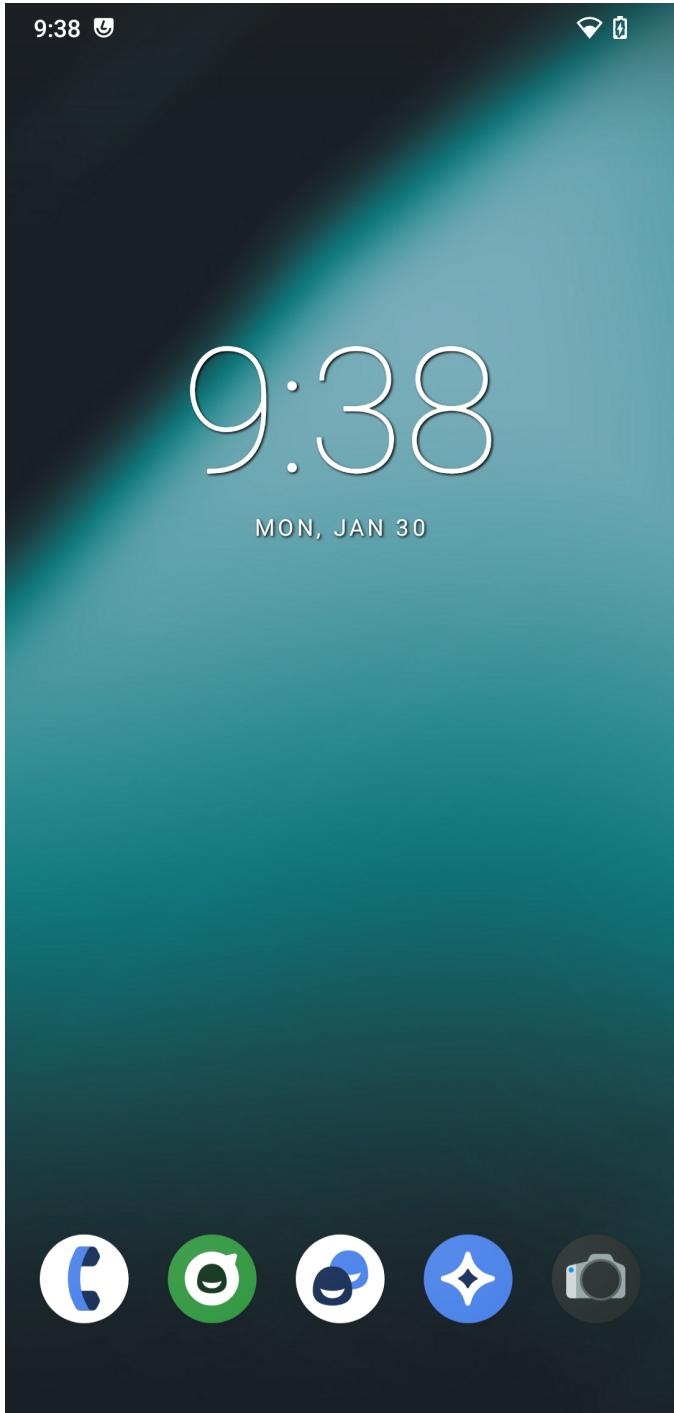


Fig. 11: LineageOS interface.