Qualcomm® Snapdragon™ Profiler
Quick Start Guide

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Set Up and Configure Snapdragon Profiler

Follow the steps below to set up and configure Snapdragon Profiler. Skip to Step 4 if the mobile device is already connected to a computer and communicating via ADB.

1. Connect the Android device to a computer where Snapdragon Profiler is installed.

2. Choose Android Settings > Developer Options to ensure the device has Developer Options enabled.

   If Developer Options is not visible, go to Android Settings > About phone > Software info, and continuously tap the Build number until Developer Options is enabled. Go back one step to Android Settings to confirm that the Developer Options menu item is available.

3. On the Windows PC (or terminal on OS X or Linux), open a command prompt and run adb devices to confirm that the device is recognized (appears in the List of devices attached).

   a. If ADB does not recognize the device, confirm that the USB connection is in place or ADB has been set up over Wi-Fi. Also verify that the latest ADB USB drivers for the device are installed.

   b. If ADB recognizes the device, but it shows as Unauthorized, the computer will need to be authorized through a pop-up window on the device.

4. Launch Snapdragon Profiler:

   a. For Windows, go to Start > Programs > Qualcomm > Snapdragon Profiler or double-click on the desktop icon.

   b. For Mac OS X, go to Finder > Applications folder and double-click Snapdragon Profiler.

   c. For Ubuntu Linux, execute the run_sdp.sh script from the root Snapdragon Profiler directory.
5. After launching Snapdragon Profiler, go to **File > Connect**, or click **Connect to a Device** from the **Start Page** as shown:

![Snapdragon Profiler Start Page](image1)

6. The **Connection** window slides open from the top of the main window as shown. Any devices connected to the computer via ADB over USB or Wi-Fi are auto-detected.

![Snapdragon Profiler Connection Window](image2)

7. In the **Connection** window, select the device to connect to and click **Connect**. A progress wheel displays while Snapdragon Profiler is connecting to the device followed by a green check to indicate the connection process is complete.

![Snapdragon Profiler Connection Success](image3)

8. The **Connection** window minimizes.

Once connected, use Snapdragon Profiler in one of three modes: Realtime, Trace Capture, or Snapshot Capture.
Use Realtime Mode

1. From the Start Page, click Realtime, or click the Realtime tab to select and visualize realtime metrics for the application or device. Realtime metrics can be gathered for CPU, GPU, memory, network, power, and thermal.

Here is a sample view of the Realtime tab:
2. On the left of the Realtime tab, System metrics can be selected from the Metrics tree view in the Data Sources panel.

To add a new metric graph, double-click the category (to add all the metrics in a category) or an individual metric, or drag-and-drop the category or metric into the Graph pane on the right:
3. Application, or per-process, metrics can be viewed by first clicking on a process in the **Process** list shown in the top area of the **Data Sources** panel. The **Process** list shows all active user processes. When a process is selected, metrics available for that process appear in the **Metrics** list.

Adding process metrics to the **Graph** pane is the same as with system metrics – double-click, or drag-and-drop, the category or an individual metric into the pane.
4. System and process metrics can be viewed in the **Graph** pane at the same time. Multiple processes can also be viewed. The more metrics selected and displayed, the more intrusive Snapdragon Profiler is on application performance.
Use Trace Capture Mode

1. From the Start Page, click New Trace Capture or choose Capture > New Trace to view trace-level performance data for the application or device.

A new Capture tab is created. When this tab is selected, a view similar to Realtime is displayed except traces have Start Capture and Stop Capture buttons.
2. From the **Data Sources** panel, choose the metrics to view. Choose a process from the **Process** list to view metrics specific to that process, if any exist.

3. Once the metrics are selected, click **Start Capture** to start the trace capture.
4. Click **Stop Capture** to stop the trace capture. Note that Snapdragon Profiler does not allow trace captures longer than 10 seconds.
Use Snapshot Capture Mode

1. From the Start Page, click New Snapshot Capture or choose Capture > New Snapshot to open a view that allows a single frame of the graphics application to be captured. A new Snapshot tab is displayed:

   NOTE: Snapdragon Capture mode currently works only on mobile devices with a Qualcomm Snapdragon 805 (or later) processor and Android 6.0 (or later)

2. From the Snapshot tab, scroll through the Data Sources list and choose a process. The metrics available for the process appear in the Processes list on the lower left:
3. Click the metrics to view in the snapshot, then click **Snapshot Capture** to capture the frame. Once captured, view the captured data and step through the frame rendering drawcall-by-drawcall.