

## Camera2

⇒ Camera 2 is the latest Android camera framework API that replaces the deprecated Camera framework libraries.

⇒ Camera2 provides in-depth controls for complex use cases but requires you to manage device-specific configurations.

⇒ For most developers, we recommend you use the CameraX Jetpack library for a consistent and easy to use API surface that works across all Android devices starting from Android 5.0.

↳ {API level 21}

### ★ Camera capture sessions and requests

⇒ A single Android device can have multiple cameras.

⇒ Each camera is a CameraDevice.

⇒ CameraDevice can output more than one stream simultaneously.

↳ One reason to do this is so that one stream is optimized for specific use-case.

⇒ The streams acts as parallel pipelines that process raw frames coming out.

⇒ Each pipeline has its own output format.

⇒ The raw data coming in is automatically transformed into the appropriate output format by implicit logic associated with each pipeline.



⇒ You can use the CameraDevice to create a CameraCaptureSession, which will be specific to that CameraDevice.

⇒ A CameraDevice must receive a frame configuration for each new frame via the CameraCaptureSession.

⇒ Configuration specifies camera attributes:

- auto focus
- aperture
- effects
- exposure

⇒ Due to hardware constraints, only a single configuration can be active in the camera sensor at any given time.

↳ This configuration is called the active configuration.

⇒ A CameraCaptureSession describes all the possible pipeline bound to the CameraDevice.

⇒ The CameraCaptureSession maintains a queue of CaptureRequests, which becomes the active configuration.

⇒ A CaptureRequest adds a configuration to the queue and select one, more than one, or all of the available pipeline to receive a frame from the CameraDevice.



## \* Creating a CameraCapture Session

⇒ To create a Camera session, provide it with one or more output target buffers your app can write output frames to.

⇒ Each buffer represents a pipeline.