

# Android – Application Development II

Course code: ANDROID2

The course is intended for all developers who want to learn advanced methods of developing applications on the Android platform, such as working in the background and communicating with remote web services. You will also try working with sensors, device location and Google Maps. To work with Google Maps, it is advisable to use your own Android device (it is not a requirement).

Affiliate	Duration	Course price	ITB
Praha	2	9 000 Kč	20
Brno	2	9 000 Kč	20
Bratislava	2	400 €	20

The prices are without VAT.

## Course terms

Date	Duration	Course price	Type	Course language	Location
10.10.2024	2	8 100 Kč	Presence	CZ/SK	GOPAS Praha
05.12.2024	2	400 €	Presence	CZ/SK	GOPAS Bratislava prezenčne
09.12.2024	2	9 000 Kč	Presence	CZ/SK	GOPAS Brno
10.02.2025	2	9 000 Kč	Presence	CZ/SK	GOPAS Praha
16.04.2025	2	9 000 Kč	Presence	CZ/SK	GOPAS Brno
19.05.2025	2	9 000 Kč	Presence	CZ/SK	GOPAS Praha

The prices are without VAT.

## What we will teach you

- Work with background data and UI
- Network communication in android
- Integration with web services and applications (Google maps, Push notifications, Firebase Console)
- Advanced work with hardware in the device (sensors, modern location services FusedLocationAPI)
- Services, AIDL
- Broadcasts, Alarms, Widgets

## Required entry skills

- The course assumes knowledge and experience with programming in Kotlin at the level of the course [KOTLIN1]
- The course assumes knowledge and experience with programming on the Android platform at the level of the course [ANDROID1]

## Teaching methods

- Expert interpretation with practical examples, exercises on computers. The course is led by a lecturer with developer experience

## Studying materials

- Presentation of the material discussed in printed or online form

## Syllabus:

Working with background data and UI

- Main Thread, Handler and Looper
- Threads and AsyncTask, TimerTask

### GOPAS Praha

Kodaňská 1441/46  
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## Working with the network

- TCP/IP, HTTP
- Web services - Google Cloud Messaging and push notifications
- XML and JSON parsing and creation

## Google Maps

- SDK settings
- API registration, use

## Locations and sensors

- Device location via GPS and network
- Fused location API versus LocationManager
- Reading data from sensors and law

## WebView component

- Using, calling methods on Java objects via JavaScript

## Services

- started and bounded services
- IntentService and its usage
- Binding services and AIDL

## Broadcast receivers

- Creation of a broadcast receiver and its use

## Alarms

- Use of alarm
- Reset the alarm when the device starts
- setting the exact repeat alarm in the new SDKs

## Notification

- Pending Intent
- Creating a notification in the system bar

## Optional topics

- Desktop widgets
- Publication of applications, Google Play
- Audio and video

## Something extra

- Parcelable vs. Serializable
- 9-patch, image caching
- Sparse array

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