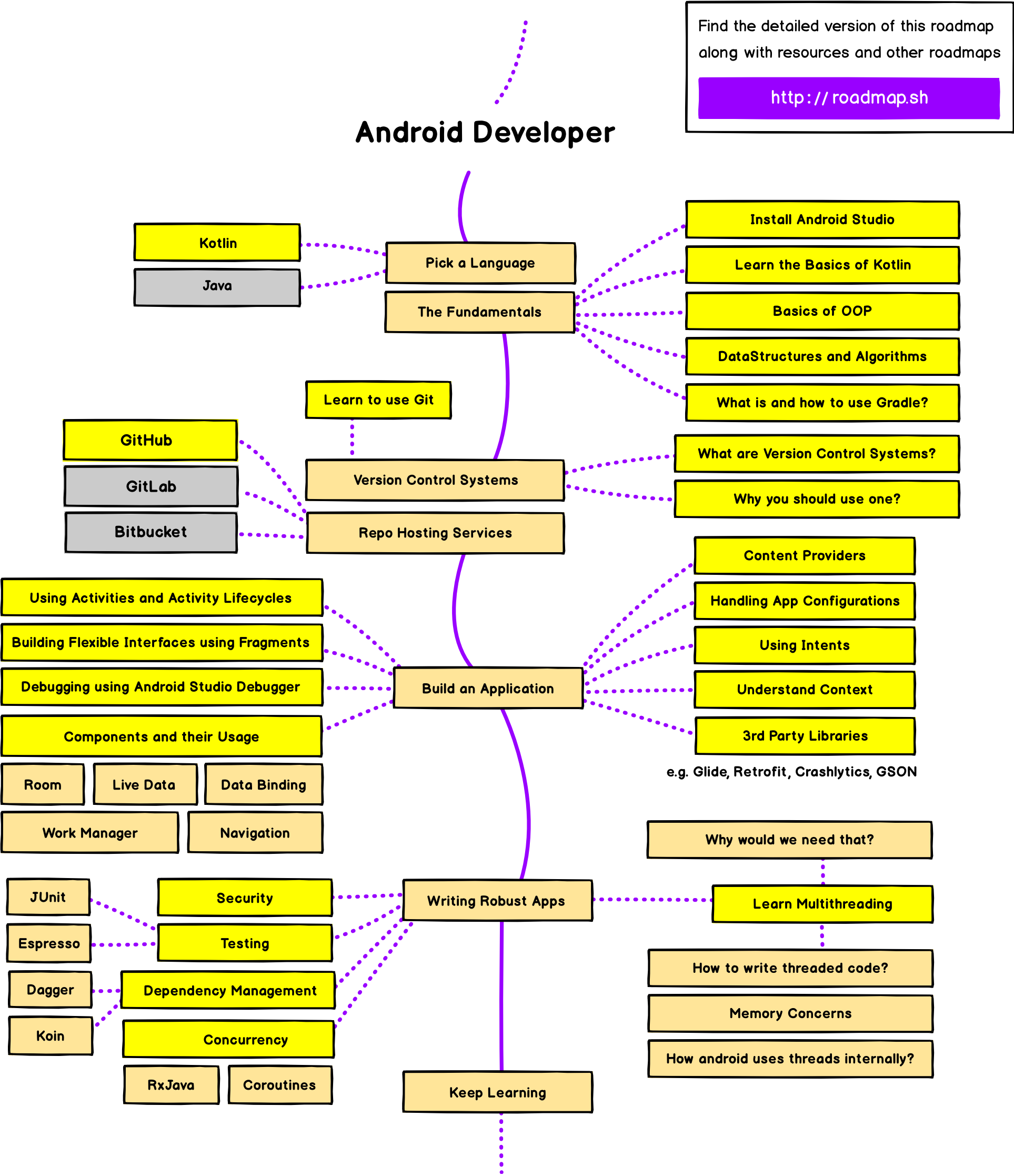


Complete Roadmap

Here is the full version of the roadmap in a single image and after that we have the broken down version with the resources and links to learn more about each of the boxes.

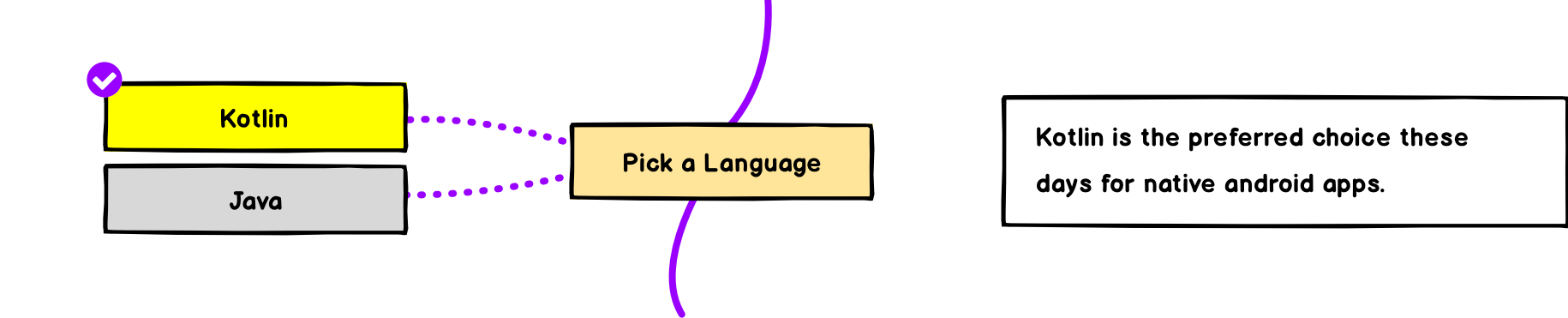


Broken Down Version

Below is the broken down version of the roadmap with links and resources to learn more about each of the items listed in the complete roadmap above.

Pick a Language

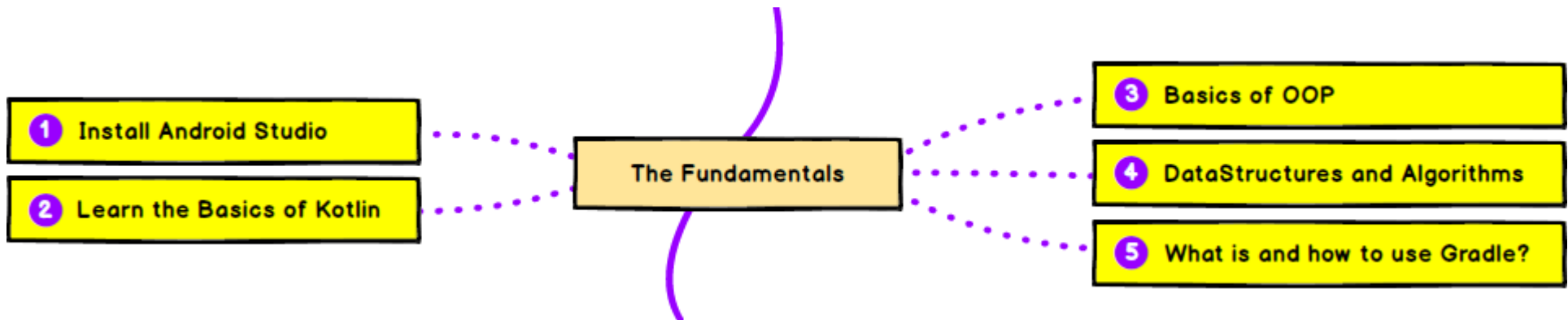
For the languages, you can develop android apps either by using Kotlin or Java.



Although, you can use both [Kotlin](#) and [Java](#) to develop native android apps, [Google announced in 2019](#) to make Kotlin the preferred way of developing android applications. If you were to start learning android development today, Kotlin should be your language of choice.

The Fundamentals

Install the [Android Studio](#) and learn the basics of Kotlin to get started.

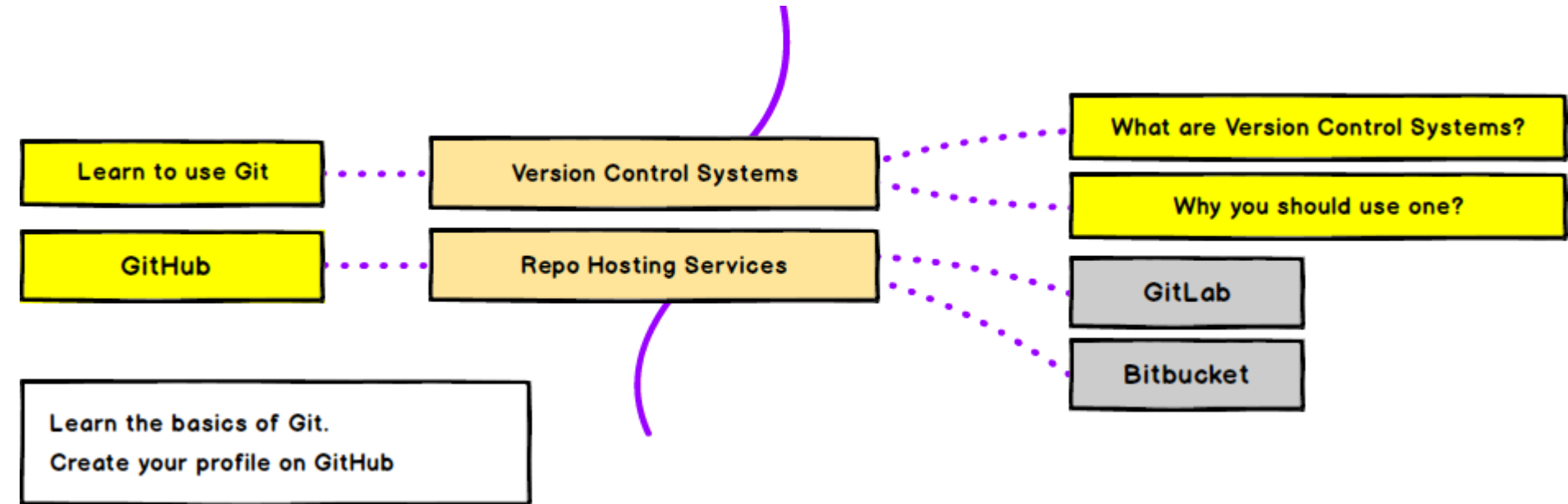


We have also listed down some free resources which you can use for the items listed in the image above. If you have some better ones, please do suggest. Also, you don't need to go through all of them, just go through them and pick what you like.

- [Learn the basics of Kotlin](#)
- [Kotlin Docs](#) and [Official Kotlin Tutorials](#)
- [Data Structures and Algorithms](#). Also [check this](#).
- [Kotlin DataStructures](#)
- [Algorithms and DataStructures in Kotlin](#)

Version Control Systems

Version control systems record your changes to the codebase and allow you to recall specific versions later. There are multiple Version Control Systems available but [Git](#) is the most common one these days.

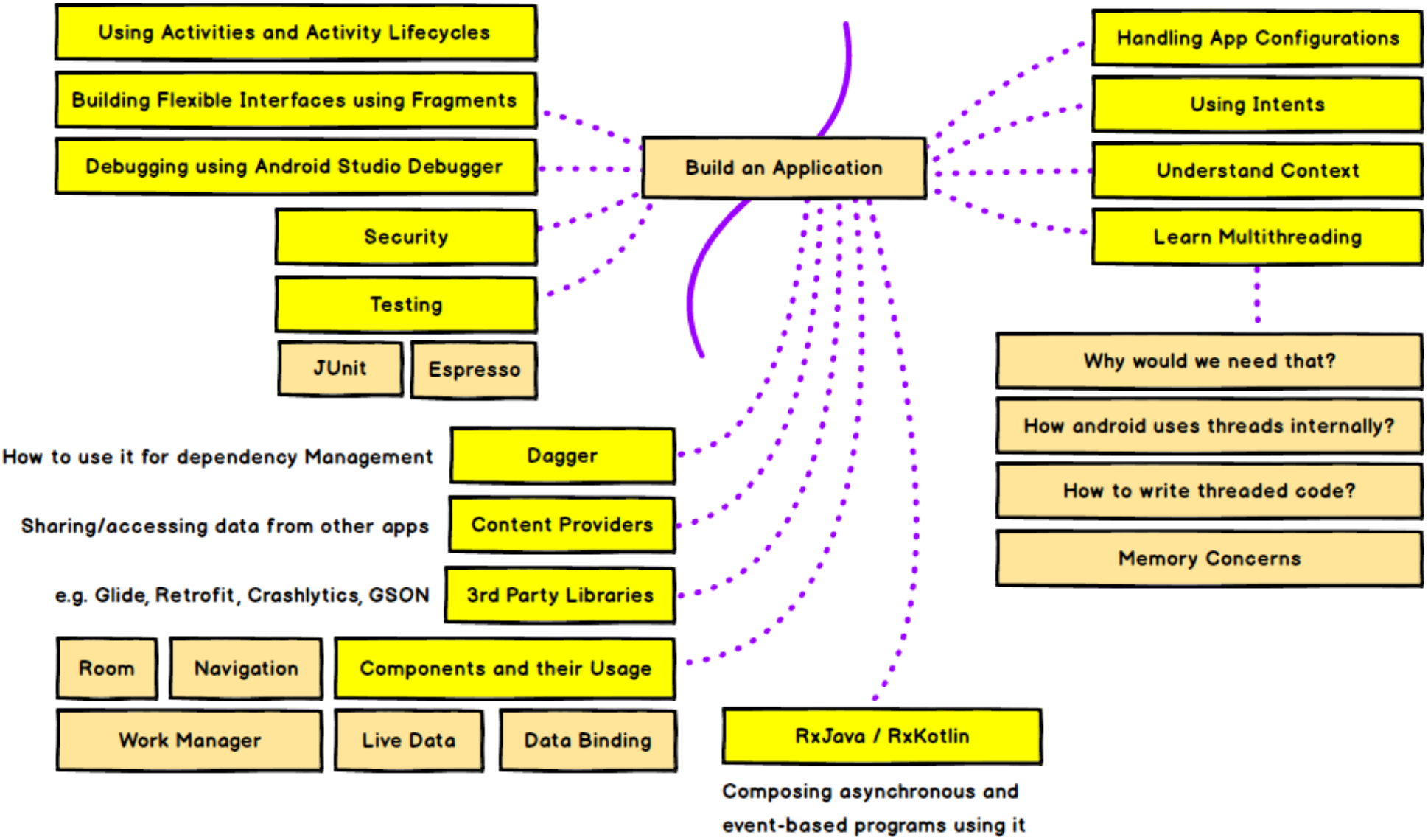


Here are some of the resources to get you started. Feel free to google and find something else that you find easier.

- [Udacity — Version Control with Git](#)
- [GitHub Hello World](#)

Building an Application

Here is the list of items that you are going to need when developing Android applications. Please note that, this is an exhaustive list, and you don't need to know it all from the get-go. Get an idea of the items listed, and just start building some apps and keep the items listed in the back of your mind and have a deep dive when using them.



To learn more about the items listed in the image above, here are the links to the relevant docs

- [Using Activities and Activity Life Cycles](#)
- Building Flexible Interfaces using [Fragments](#)
- [Debugging using Android Studio Debugger](#)
- [Handling App Configurations](#)
- [Using Intents and Intent Filters](#)
- [Understand Context](#)
- [Learn about Multithreading](#)
- [Data Privacy](#)
- [Securing Network Data](#)
- [Dependency Injection](#)
- [Content Providers](#)
- [Glide](#), [Retrofit](#), [Crashlytics](#), [GSON](#)
- [Room](#), [Navigation](#), [Work Manager](#), [LiveData](#), [Data Binding](#)
- [RxJava](#), [RxKotlin](#)
- [Memory Management Overview](#)
- [Diving deeper into context-oriented programming in Kotlin](#)

I would highly recommend watching [this free course](#) from google on Developing Android Apps with Kotlin. Also, here are some of the resources to learn more about the topics listed above.

- [Developing Android Apps with Kotlin](#)
- [Android Developer Guides](#)
- [Raywenderlich](#)

Wrap Up

That wraps it up for the android developer roadmap. Again, remember to not be exhausted by the list; just learn the basics and start working on some project, rest of the learnings will come along the way. Good luck!