L’Internet

HTTP Protocol Tells the Server What to Do

Example Operations:

- GET - Get data from server
- POST/PUT - Put new data in the server
- DELETE - Delete data from the server

Permissions in AndroidManifest

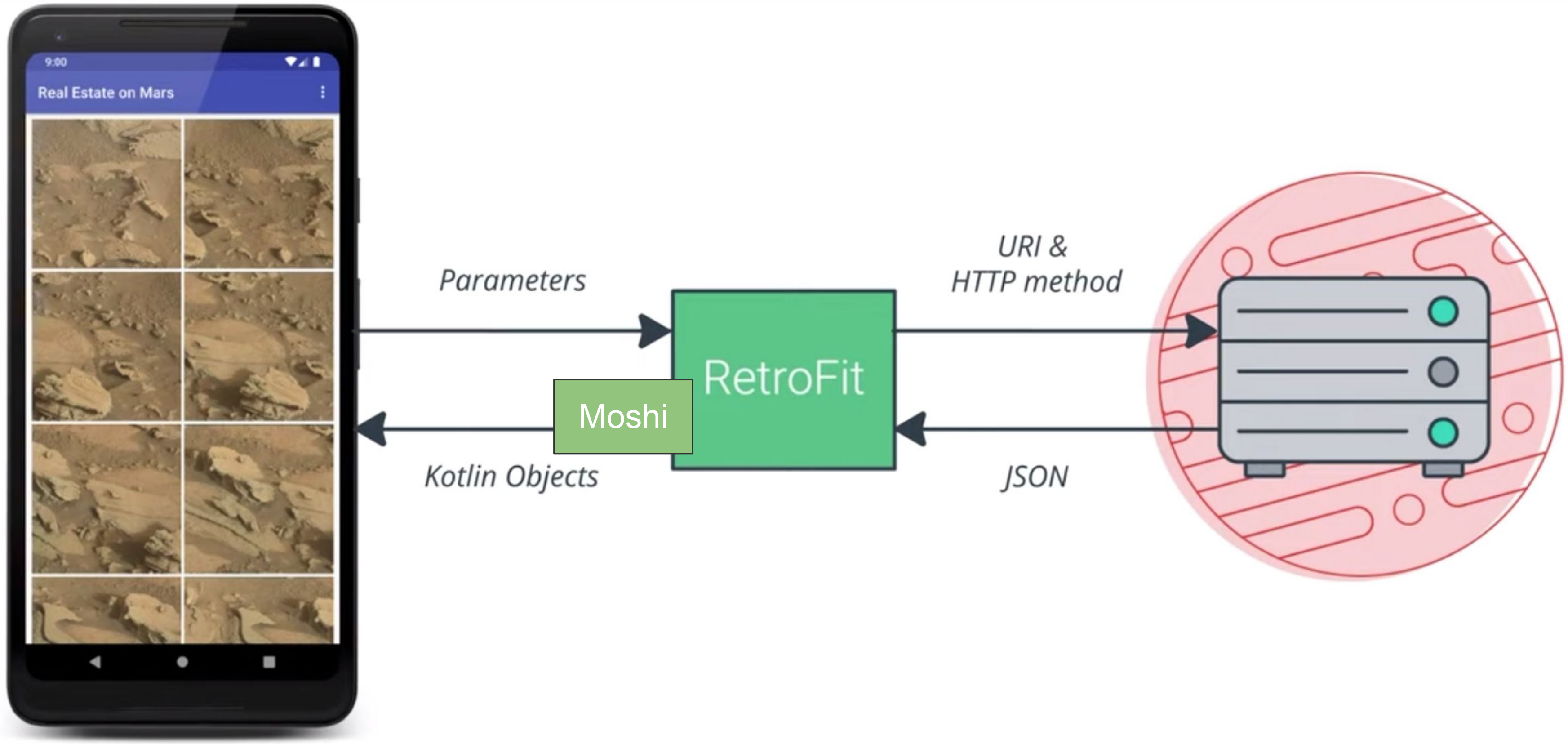
```
// Necessary to make HTTP requests
<uses-permission android:name="android.permission.INTERNET"/>

// Necessary to get wifi, ethernet or mobile data status
<uses-permission
    android:name="android.permission.ACCESS_NETWORK_STATE"/>
```

Check if network is available

```kotlin
val connectionManager =
     getSystemService(Context.CONNECTIVITY_SERVICE) as ConnectivityManager

val networkInfo = connectionManager.activeNetworkInfo

if (networkInfo != null && networkInfo.isConnected) doNetworkStuff()
else textView.setText("No network connection available.")

val isWifiConnected =

     connectionManager.getNetworkInfo(ConnectivityManager.TYPE_WIFI).isConnected
val mobileConnected =

     connectionManager.getNetworkInfo(ConnectivityManager.TYPE_MOBILE).isConnected
```

Threading

- AsyncTask: tâche courte, ou ne renvoyant pas de résultats à l’UI
- ~~AsyncTaskLoader: tâche longue, renvoyant des résultats à l’UI~~ ➡️ Deprecated
- Background Service: tâche longue, sans UI
- WorkManager: “nouvelle” façon de gérer les tâches longues et indépendantes du cycle de vie de l’app
- LiveData: Nouvelle façon de récupérer les résultats de tâches parallèles


9:00
Real Estate on Mars
Parameters
URI &
HTTP method
RetroFit
Moshi
Kotlin Objects
JSON

RESTful

Build a URI for the request

```kotlin
val BASE_URL = "https://www.googleapis.com/books/v1/volumes?"
val QUERY_PARAM = "q"
val MAX_RESULTS = "maxResults"
val PRINT_TYPE = "printType"
val uri = Uri.parse(BASE_URL).buildUpon()
        .appendQueryParameter(QUERY_PARAM, "pride+prejudice")
        .appendQueryParameter(MAX_RESULTS, "10")
        .appendQueryParameter(PRINT_TYPE, "books")
        .build()
val requestURL = URL(uri.toString())
```

Moshi: JSON parser

```kotlin
val movieJson = "{"id": 19404, "title": "Example Movie", "image_path":
"/example-movie-image.jpg" }"

val moshi: Moshi = Moshi.Builder().build()

val adapter: JsonAdapter<Movie> = moshi.adapter(Movie::class.java)

// Annotation to use Codegen instead of this ⤴️
@JsonClass(generateAdapter = true)
data class Movie (
       val id: Int,
       val title: String,
       @Json(name = "image_path")
       val imagePath: String? = null,
)
```

OkHttp

```kotlin
private val okHttpClient by lazy {
    OkHttpClient.Builder()
        .addInterceptor { chain ->
            val newRequest = chain.request().newBuilder()
                .addHeader("Authorization", "Bearer $TOKEN")
                .build()
            chain.proceed(newRequest)
        }
        .build()
}
```

Retrofit

```kotlin
object MovieApi {
   private const val BASE_URL = "https://movies.com/API/"

   private val okHttpClient by lazy {...}

   private val moshi = Moshi.Builder().build()

   private val retrofit = Retrofit.Builder()
           .client(okHttpClient)
           .baseUrl(BASE_URL)
           .addConverterFactory(MoshiConverterFactory.create(moshi))
           .build()

   val movieService: MovieService by lazy { retrofit.create(MovieService::class.java) }
}

interface MovieService {
   @GET("movies/{user_id}")
   suspend fun getMovies(@Path("user_id") userId: String): Response<List<Movie>>
}
```