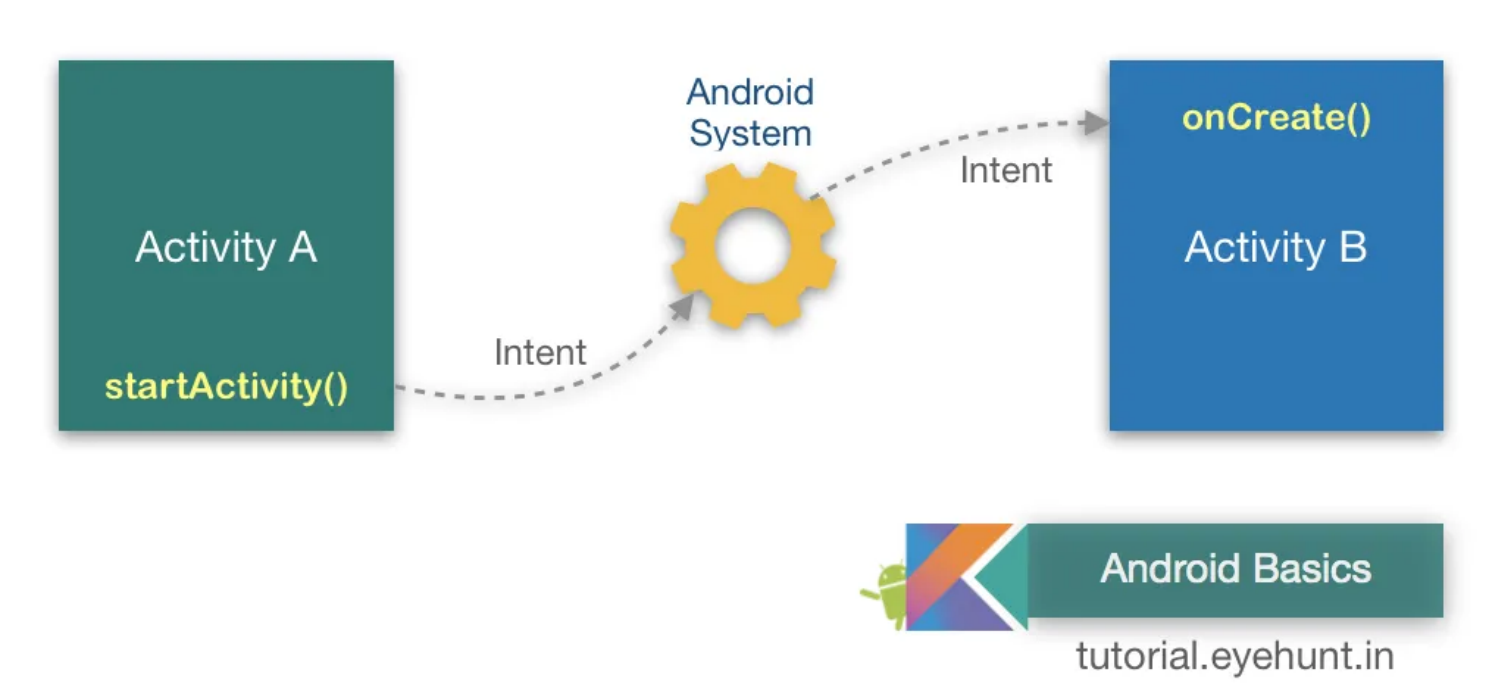
Intents

Définition



Un objet contenant les infos nécessaires à démarrer une `Activity` (en général) ➡️
Conceptuellement proche d'un lien HTML

Sert aussi (plus rarement) à démarrer un `Service` ou à envoyer un `Broadcast`

Un intent peut être "lancé" par une application ou par le système

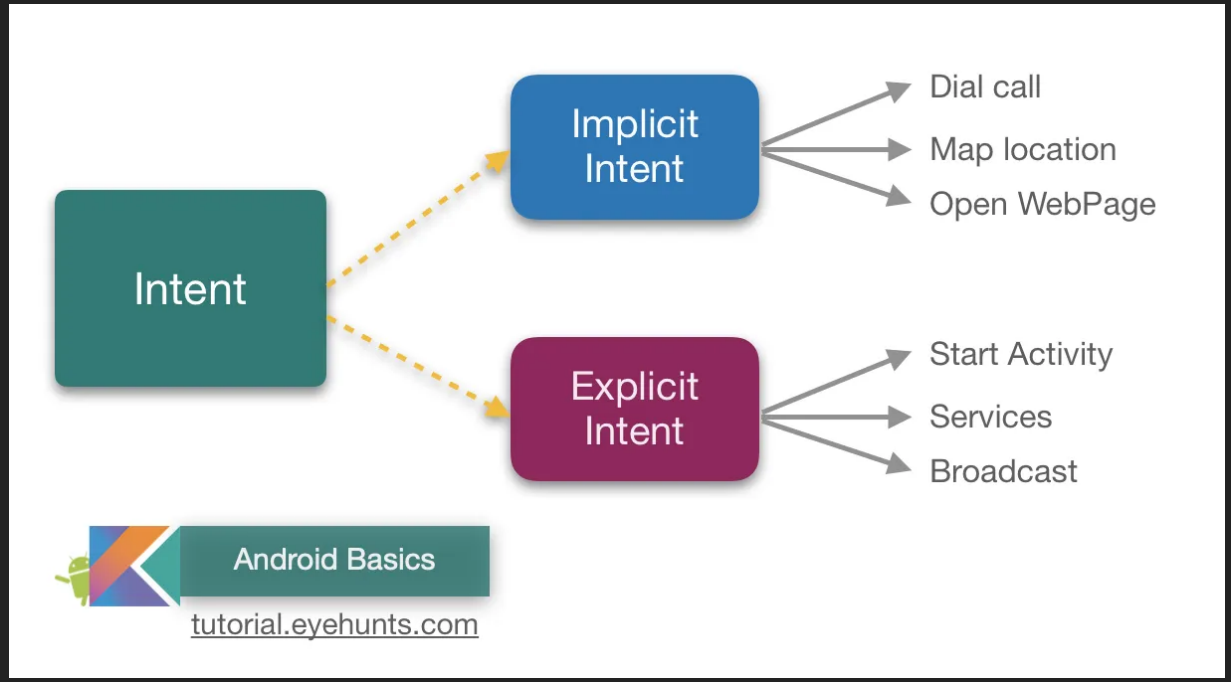
Explicit / Implicit

```
val explicitIntent = Intent(context, MyActivity::class.java)

// implicit intents:
val callButtonIntent = Intent(ACTION_CALL_BUTTON)
val urlIntent = Intent(ACTION_VIEW, "http://www.google.com")
val phoneIntent = Intent(ACTION_DIAL, "tel:8005551234")

// use:
startActivity(intent)

// To use later (ex: in Notifications)
val pendingIntent = PendingIntent.getActivity(
    context,
    REQUEST_CODE,
    intent,
    FLAG_UPDATE_CURRENT) // Parcelable
pendingIntent.send()
```



Send

```
// Preparing data in sending Activity:
val intent = Intent(this, SecondActivity::class.java)

intent.data = Uri.parse("http://www.google.com") // Web URL
intent.data = Uri.fromFile(File("/file_path/file.jpg")) // File URI
intent.putExtra("level", 406) // Int extra
val array = arrayOf("Rice", "Beans", "Fruit")
intent.putExtra("food", array) // Array extra

val bundle = Bundle() // Use bundle to prepare a lot of data
bundle.putFloat("percent", 58f) // Float data
intent.putExtras(bundle) // Put whole bundle

val UNIQUE_KEY = packageName + ".extra.MESSAGE"
intent.putExtra(UNIQUE_KEY, "Hello Activity!")

startActivity(intent)

// Getting data in receiving activity:

val uri = intent.data
val level = intent.getIntExtra("level", 0)
val food = intent.getStringArrayExtra("food")

val bundle = intent.extras
val percent = bundle.getFloat("percent")
```

Intent Filters

```
<activity android:name="ShareActivity">
    <intent-filter>
        <action android:name="android.intent.action.SEND" />
        <action android:name="android.intent.action.SEND_MULTIPLE"/>
        <category android:name="android.intent.category.DEFAULT" />
        <data android:mimeType="text/plain" />
        <data android:mimeType="image/*" />
        <data android:mimeType="video/*" />
    </intent-filter>
</activity>
<activity android:name="BrowserActivity">
    <intent-filter>
        <action android:name="android.intent.action.VIEW" />
        <category android:name="android.intent.category.BROWSABLE" />
        <data android:scheme="https" />
        <data android:host="developer.android.com" />
    </intent-filter>
    <intent-filter>
        <category android:name="android.intent.category.LAUNCHER" />
    </intent-filter>
</activity>
```

Requesting

```
// setup in requesting Activity

val intent = Intent(this, SecondActivity::class.java)
const val UNIQUE_REQUEST_CODE = 666
startActivityForResult(intent, UNIQUE_REQUEST_CODE)

public override fun onActivityResult(
requestCode: Int, resultCode: Int, data: Intent?) {
   super.onActivityResult(requestCode, resultCode, data)
   if (requestCode == UNIQUE_REQUEST_CODE && resultCode == Activity.RESULT_OK) {
        val reply = data!!.getStringExtra(SecondActivity.EXTRA_REPLY)
        // … do something with the data
    }
}

// use in requested Activity

const val EXTRA_REPLY = "reply_key"
intent.putExtra(EXTRA_REPLY, "Done !")
setResult(RESULT_OK, intent)
finish()
```

New API

```
// Asking for an image
val getContent = registerForActivityResult(GetContent()) { uri: Uri? -> // Handle the returned Uri }
// ...
getContent.launch("image/*")

// Asking for a result
val startForResult = registerForActivityResult(StartActivityForResult()) { result: ActivityResult ->
    if (result.resultCode == Activity.RESULT_OK) {
        val intent = result.data
        // Handle the Intent
    }
}
// ...
startForResult.launch(Intent(this, ResultProducingActivity::class.java))
```

Also:

- Default ActivityResultContracts
- Creating a custom contract

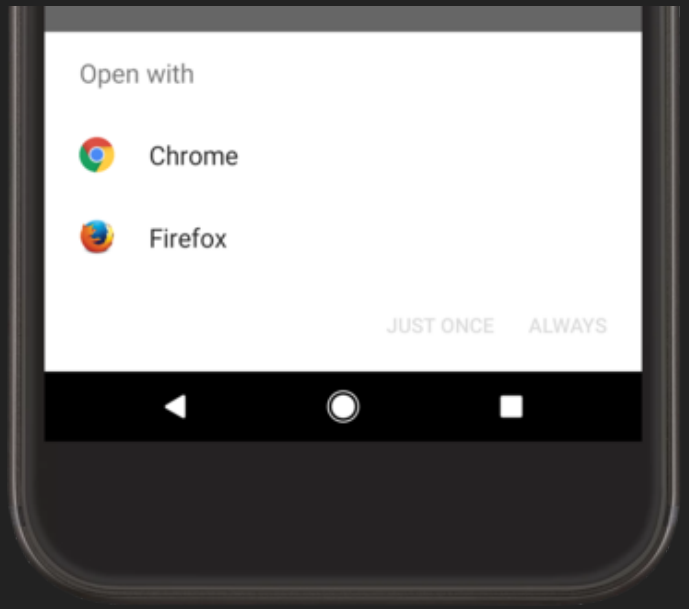
Specifying implicit intents

```
val intent = Intent(Intent.ACTION_WEB_SEARCH)
intent.putExtra(SearchManager.QUERY, "query")

val intent = Intent(Intent.ACTION_CREATE_DOCUMENT)
intent.type = "application/pdf" // set MIME type
intent.addCategory(Intent.CATEGORY_OPENABLE)
```

Resolving intents

```
// Check if that intent can be handled !
if (intent.resolveActivity(packageManager) != null) {
    startActivity(intent) // if no result needed, otherwise: ↴
    startActivityForResult(intent, ACTIVITY_REQUEST_CREATE_FILE)
}
```



Using Chooser Intent / Sharesheet


```
// using Chooser Intent / Sharesheet
val intent = Intent(Intent.ACTION_SEND)
val chooserIntent = Intent.createChooser(intent, "Chooser Title")
if (intent.resolveActivity(packageManager) != null) {
    startActivity(chooserIntent)
}
```

Permissions

Demander la permission

- Demandées “à la volée” depuis Android M
- Les permissions “dangereuses” doivent être demandées à chaque fois
- On recommande d’expliquer la raison avant (et après un refus)
- Ajouter dans le manifest:
  ```
  <uses-permission android:name="android.permission.CAMERA" />
  ```
- Vérifier si la permission a été donnée
- La demander sinon (éventuellement demander à devenir app par défaut)
- Éxecuter l’action ou expliquer pourquoi elle est impossible en cas de refus

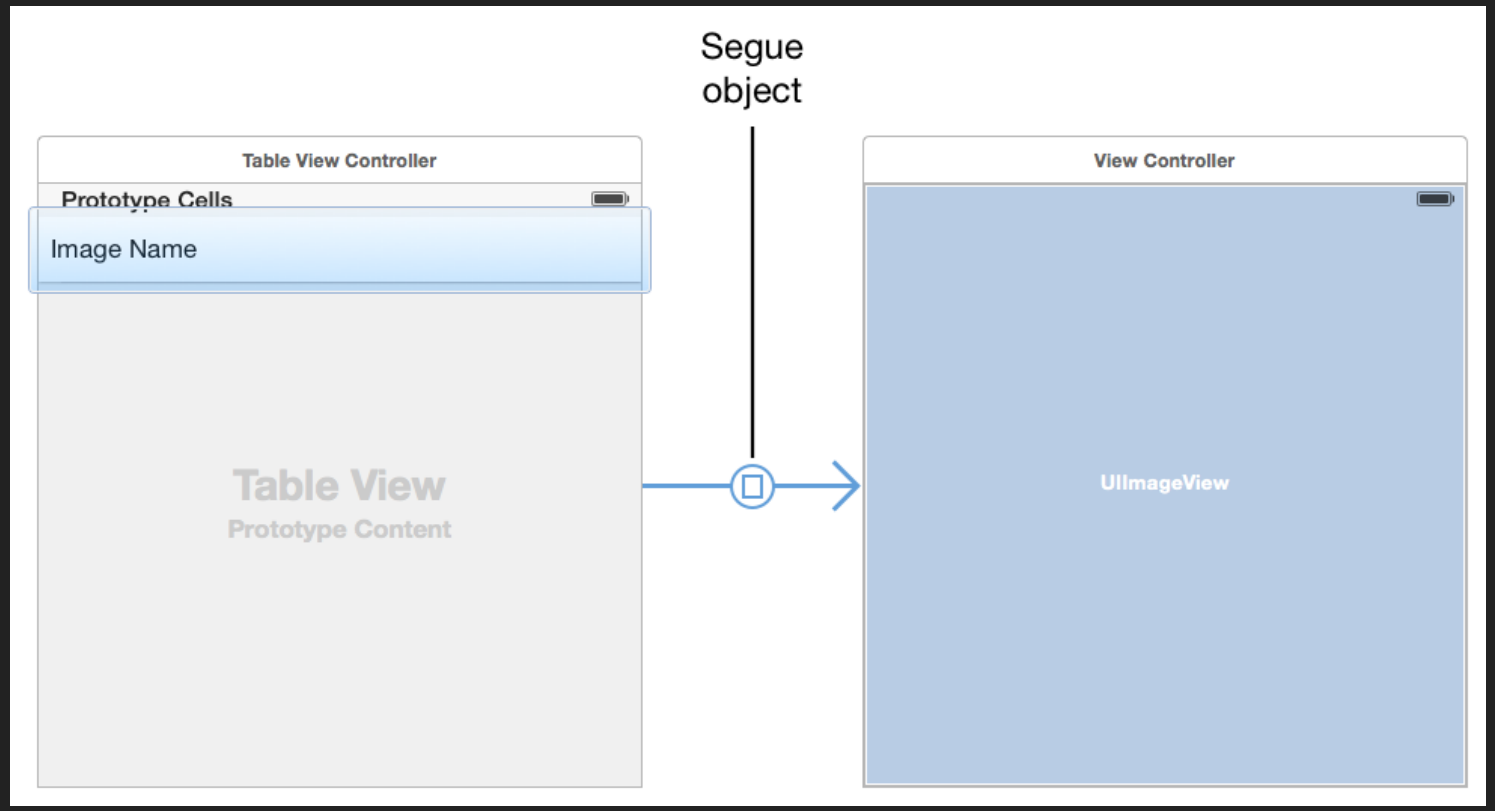
Example

```
// Register the permissions callback
val requestPermissionLauncher =
        registerForActivityResult(RequestPermission()) { isGranted ->
            if (isGranted) // Permission is granted
            else // Explain required permission the user denied
    }

// Checking for a permission, and requesting a permission from the user when necessary
when {
    ContextCompat.checkSelfPermission(context, Manifest.permission.CAMERA)
        == PackageManager.PERMISSION_GRANTED -> {
        // You can use the API that requires the permission.
    }
    shouldShowRequestPermissionRationale(...) -> {
        // Explain to the user why your app requires this permission
    }
    else -> {
        // ask for the permission
        requestPermissionLauncher.launch(Manifest.permission.CAMERA)
    }
}
```

iOS

segues




```
self.performSegue(withIdentifier: "SECOND_SCREEN_SEGUE", for sender: self)
```

Documentation

Handmade delegates for results

```
protocol ImageDelegate{
  func onImageReceived(_ picker: ImagePickerController, didReceiveValue value: UIImage)
  func onCancel(_ picker: ImagePickerController)
}

class TakePictureController : UIViewController, ImageDelegate{ ... }
```

Share Extensions

Separate module with custom ViewController

Capabilities configured with a plist file: