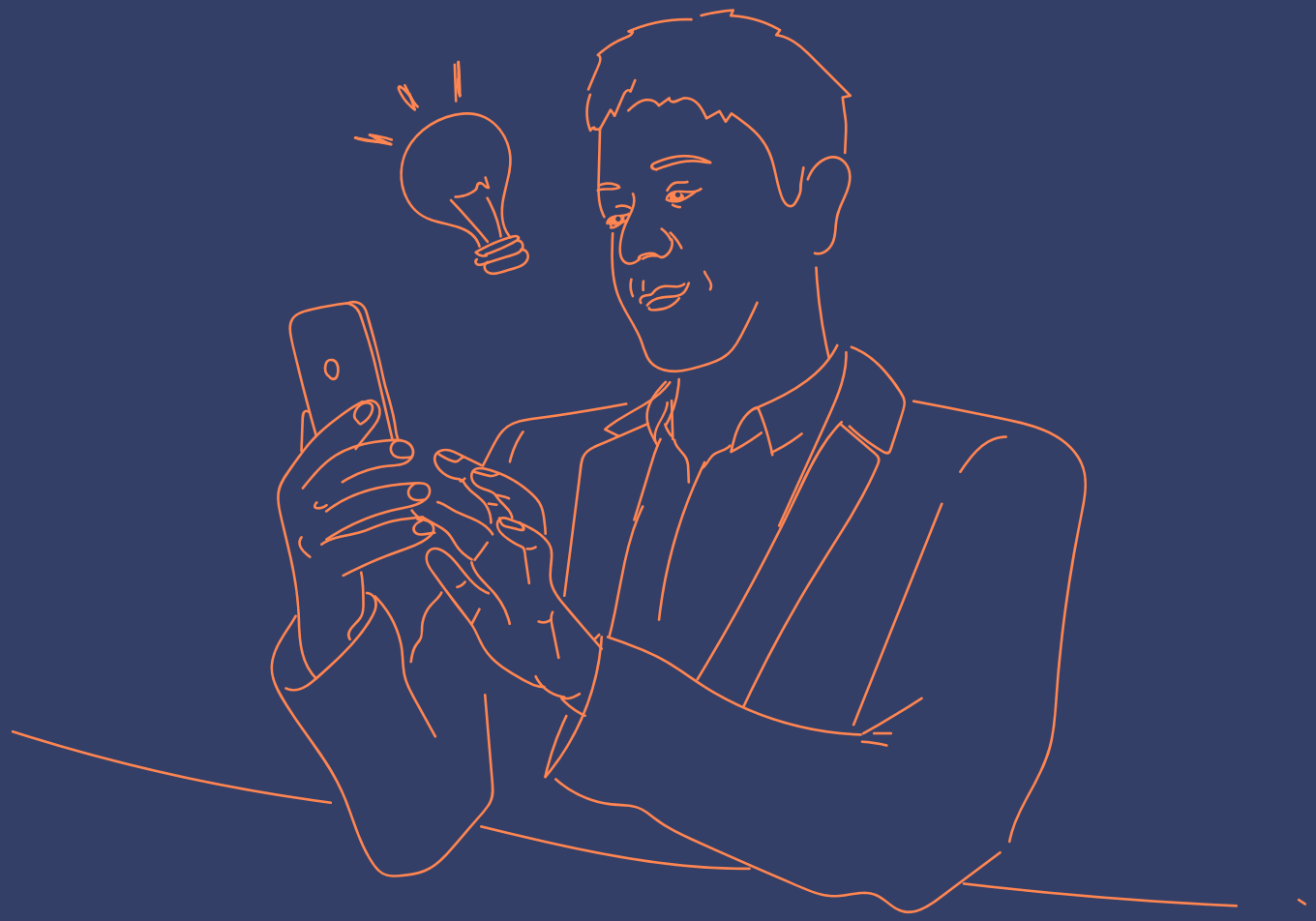
GOFORE

React Native CI/CD

Dev

Customer



Juha Linnanen

Head of mobile development
at GOFORE

Twitter @pillar15

Github @eduplus

Automate automation

1

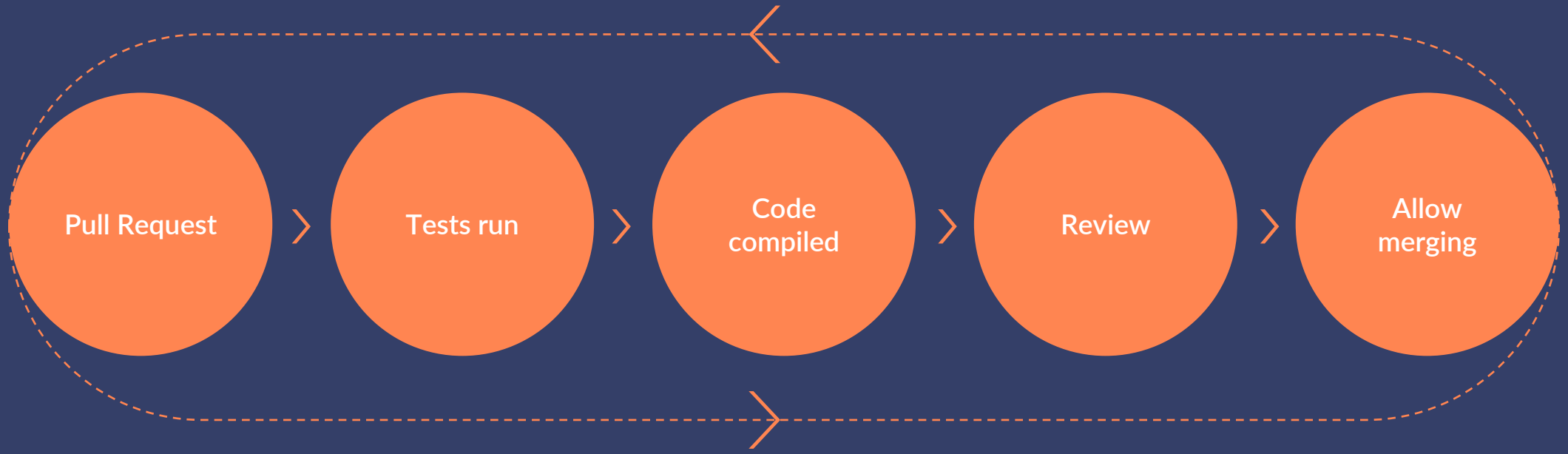
Continuous integration

2

Continuous deployment

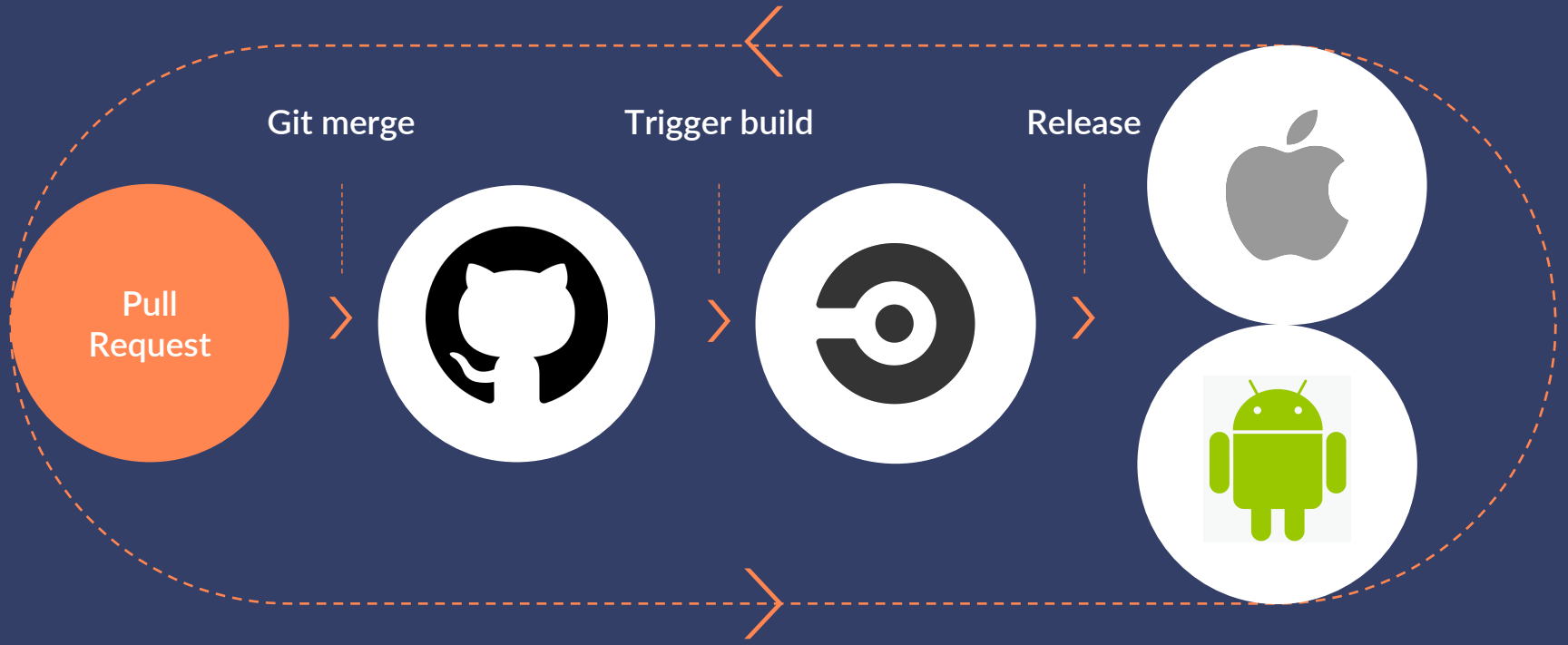
Continuous Integration

- Merging code in small increments
- Goal is to prevent integration problems



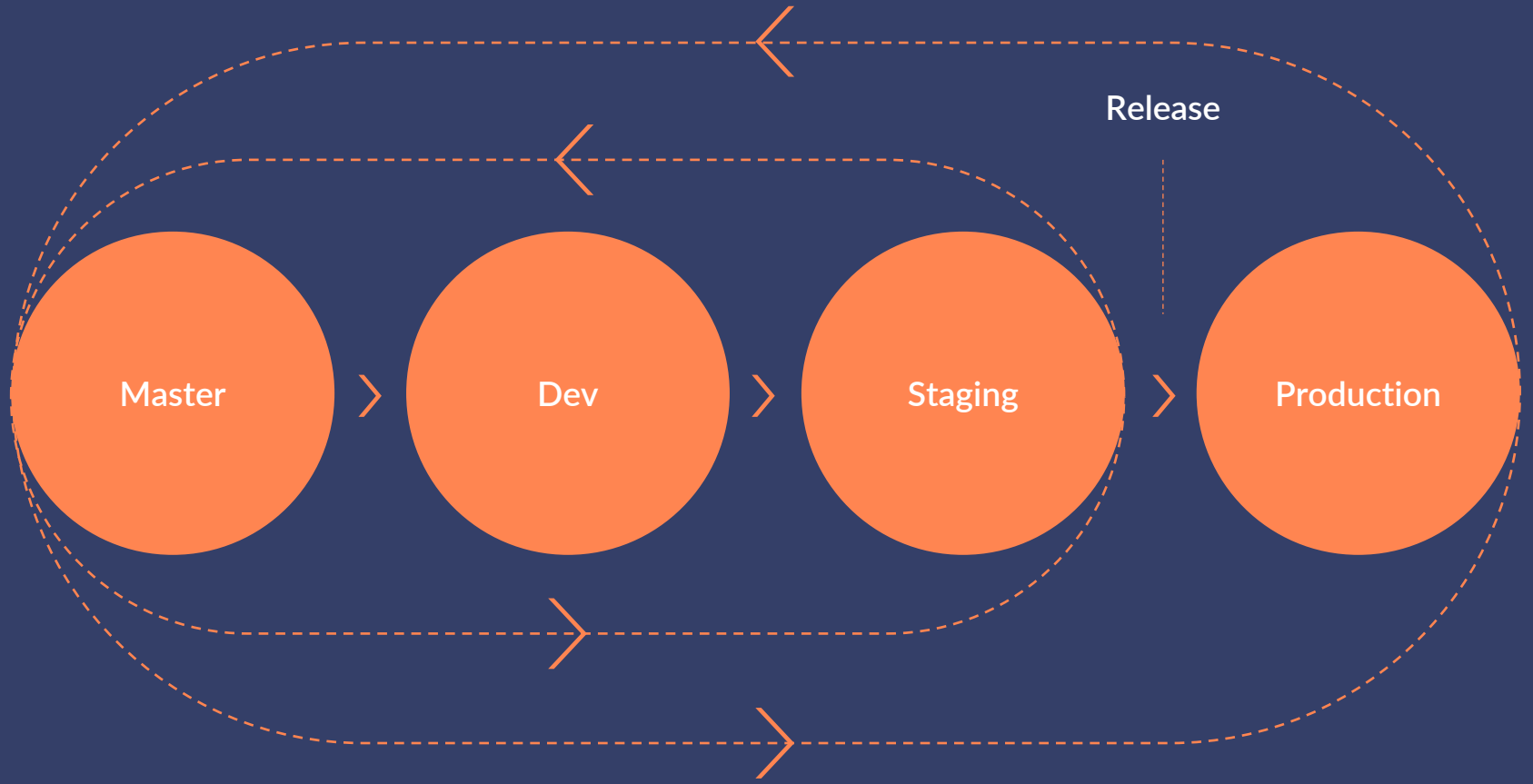
Continuous deployment

- Automated deployment
- Produces end product



Build flavors

- Dev
- Staging
- Production



Cloud services

Circle CI

Travis

AppCenter

Gitlab CI/CD

Nevercode

Bitrise

Benefits

1

Automated
repeatable process

2

Quick
Feedback loop

3

Time saving &
Cost reduction

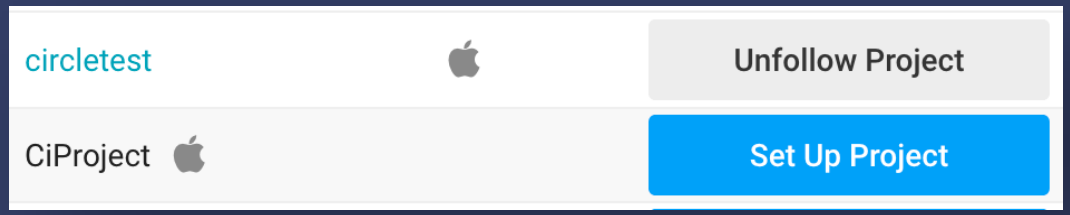
React Native CI/CD

Setup process - Steps

1. Integrate CI/CD Server to version control
2. Configure CI/CD Server pipelines
3. Add build flavors to app
4. Sharing secrets
5. Setup app signing & certificates
6. Handle version numbering
7. Icon badges for dev and staging builds
8. Deployment to app store

Integrate CI/CD Service to version control

- Cloud service specific
- CircleCI follow button



Configure CI/CD Server pipelines

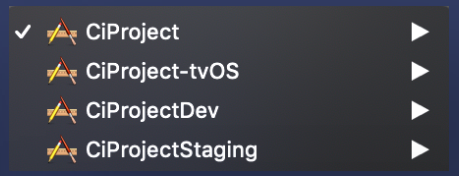
- Config file
- CircleCI .circleci/config.yml

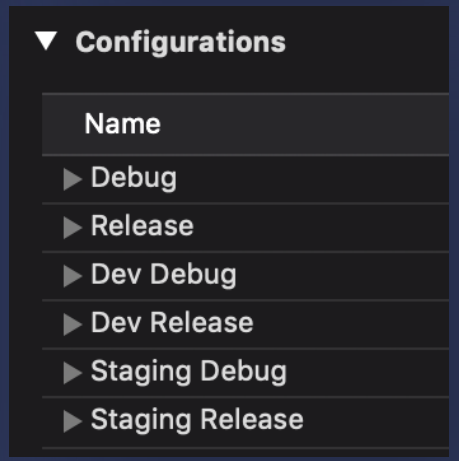
```yaml
workflows:
  version: 2
  node-android-ios:
    jobs:
    - test

    - android:
        requires:
        - test
        filters:
          branches:
            ignore:
              - master
              - staging

    - build_deploy_android_dev:
        filters:
          branches:
            only: master

    - build_deploy_android_staging:
        filters:
          branches:
            only: staging
```

Implementing build flavors

- Android: product flavors
- iOS: Schemes + Build configurations
- iOS: react-native-schemes-manager

```
flavorDimensions "env"
productFlavors {
    dev {
        dimension "env"
        applicationIdSuffix ".dev"
        versionNameSuffix "-DEV"
    }
    staging {
        dimension "env"
        applicationIdSuffix ".staging"
        versionNameSuffix "-STAGING"
    }
    prod {
        dimension "env"
    }
}
```





Implementing build flavors

- React Native: react-native-config
- Env file for each build flavor

```
ENV=DEV
API_URL=localhost:8080
```

```
import Config from 'react-native-config'

Config.API_URL  // 'https://myapi.com'
```

Sharing secrets

- Options:
  1) Private storage
  2) Encoded variables
- CircleCI Environmental Variables

Name	Value
GOOGLE_PLAY_JSON	xxxxfQo=
KEYSTORE	xxxxAYag
KEYSTORE_PROPERTIES	xxxxNDU2
MATCH_PASSWORD	xxxxo4fk

Signing & Certificates

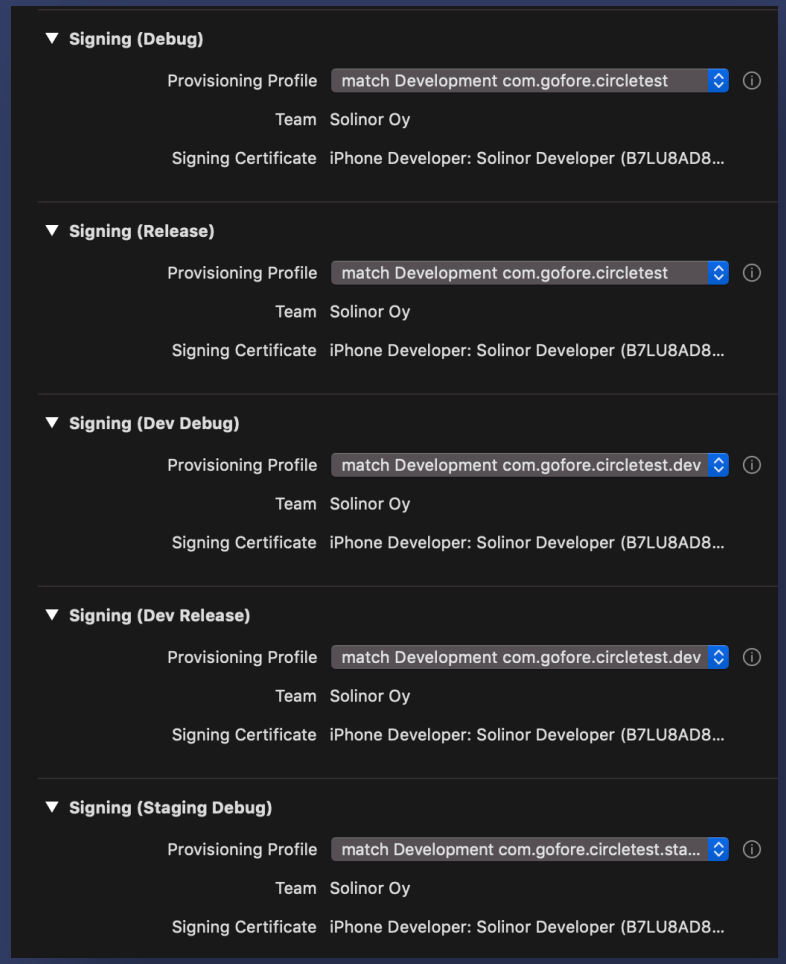
- Android: Keystore + keystore property file

```
storePassword=myStorePassword
keyPassword=mykeyPassword
keyAlias=myKeyAlias
storeFile=myStoreFileLocation
```

```
android {
    signingConfigs {
        config {
            keyAlias keystoreProperties['keyAlias']
            keyPassword keystoreProperties['keyPassword']
            storeFile file(keystoreProperties['storeFile'])
            storePassword keystoreProperties['storePassword']
        }
    }
    ...
}
```

Signing & Certificates

- iOS: Fastlane match



Version numbers

- Auto increment
- Multiple options:
  1) Use CI/CD servicers build number
  2) Number of commits

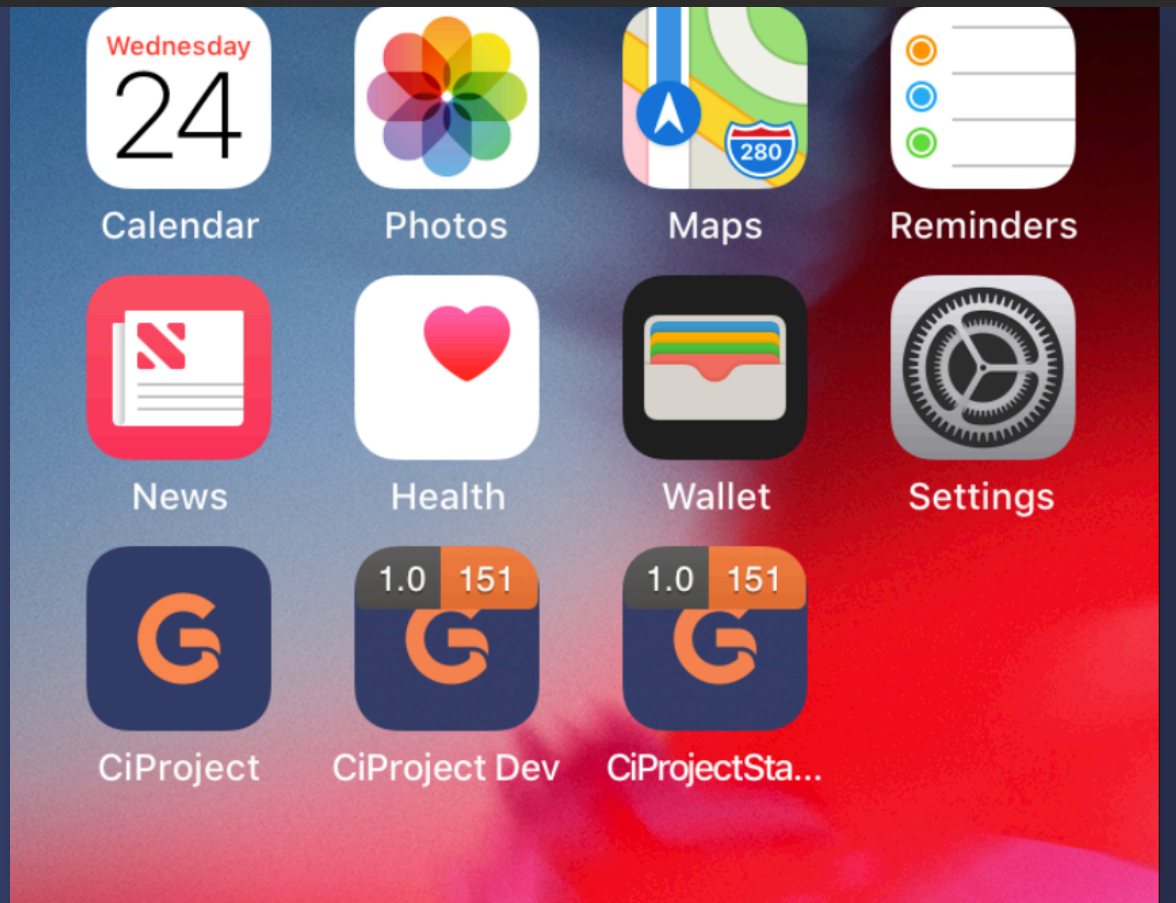
```
build_number = number_of_commits()
gradle(
  task: 'assemble',
  build_type: build_type,
  properties: {
    "VERSION_CODE" => build_number
  }
)
```

```
build_number = number_of_commits()
increment_build_number(
  build_number: build_number,
  xcodeproj: "CiProject.xcodeproj"
)
```

Icon badges

- Fastlane plugin
- Extra info to app icon
- Dev & Staging builds
- Version name + Build number

```
add_badge(
  shield: "#{IOS_VERSION_NUMBER}-#{ENV["CIRCLE_BUILD_NUM"]}-orange",
  no_badge: true
)
```



Deploying to app stores

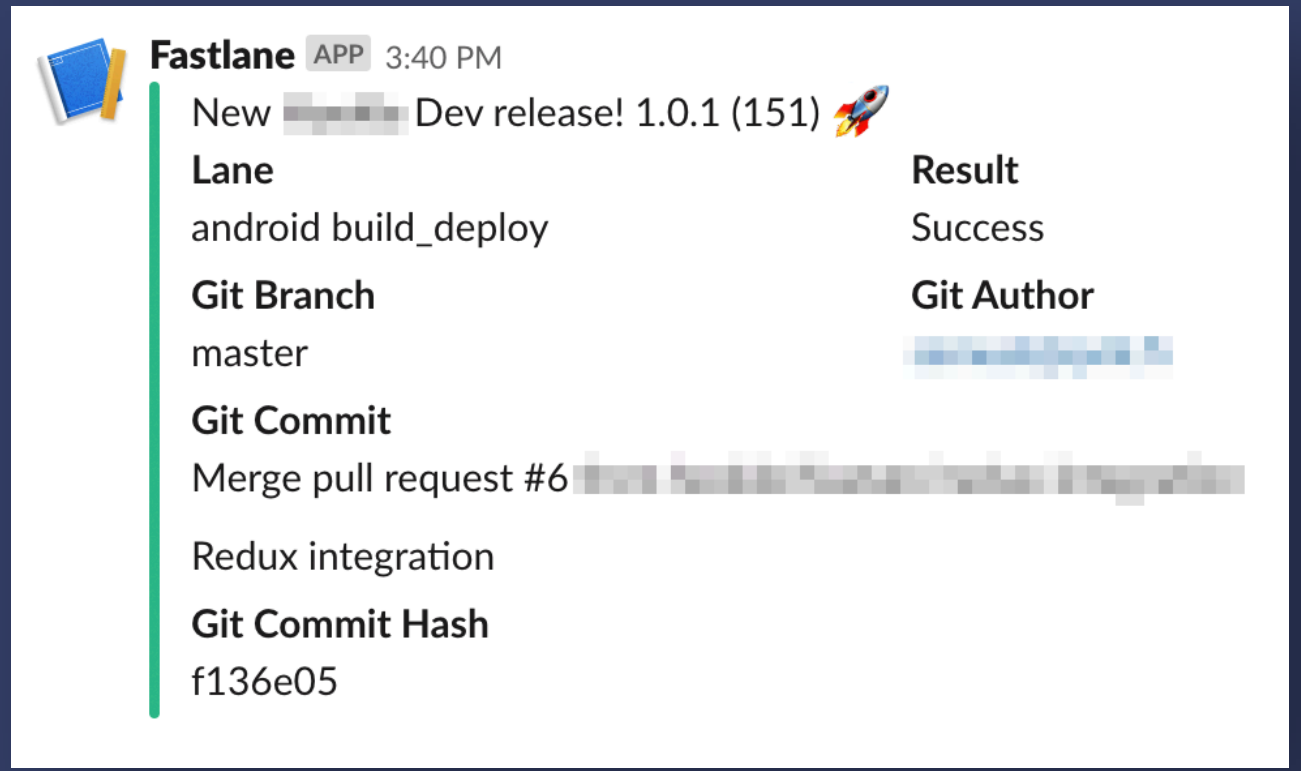
- Android: Play store internal test track
- iOS: Testflight
- Fastlane automation

```
upload_to_play_store(
  package_name:  "com.gofore.circletest#{package_name_postfix}",
  track: 'internal',
  apk: "./app/build/outputs/apk/#{env}/release/app-#{env}-release.apk"
)
```

```
upload_to_testflight(wait_processing_interval: 60)
```

Slack notification

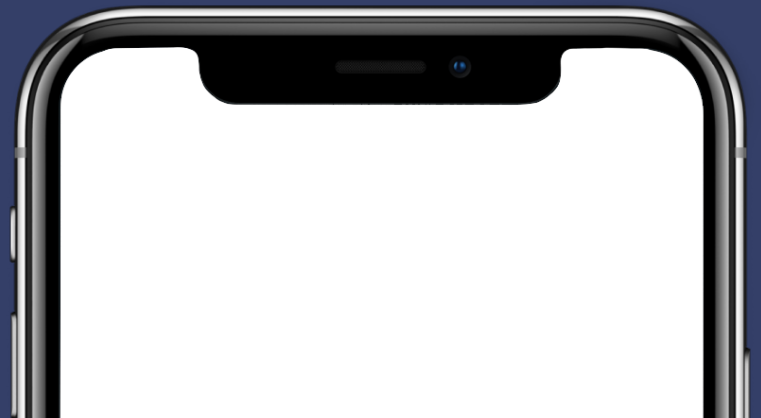
- Bonus: Notify your team



Experience

Investigation & manual

2 weeks



Manual

2 days

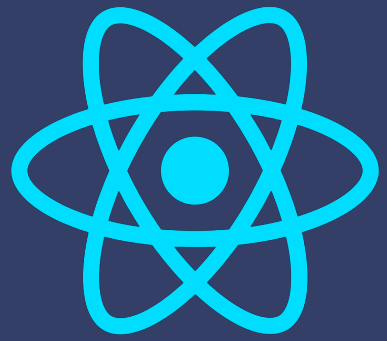
DEMO

```
juhalinnanen@Linnamac:~/git/CiProject (master)$
```

Fully automated

2 minutes

react-native-ci



github.com/solinor/react-native-ci

Implementation

- CLI built with Gluegun
- Opinionated stack
- Contribute to offer other choices

Experimental

Github

Circle CI

Flavors:
Dev, staging, production

TestFlight

Play store
Internal track

Thank you!

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