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Taming SwiftLint in CI

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CocoaHeads Aachen, 29.11.2018

Taming SwiftLint in CI

From https://github.com/realm/SwiftLint:

Shell /bin/sh

```
1 if which swiftlint >/dev/null; then
2     swiftlint
3 else
4     echo "warning: SwiftLint not installed, download from https://github.com/realm/SwiftLint"
5 fi
```

☑ Show environment variables in build log

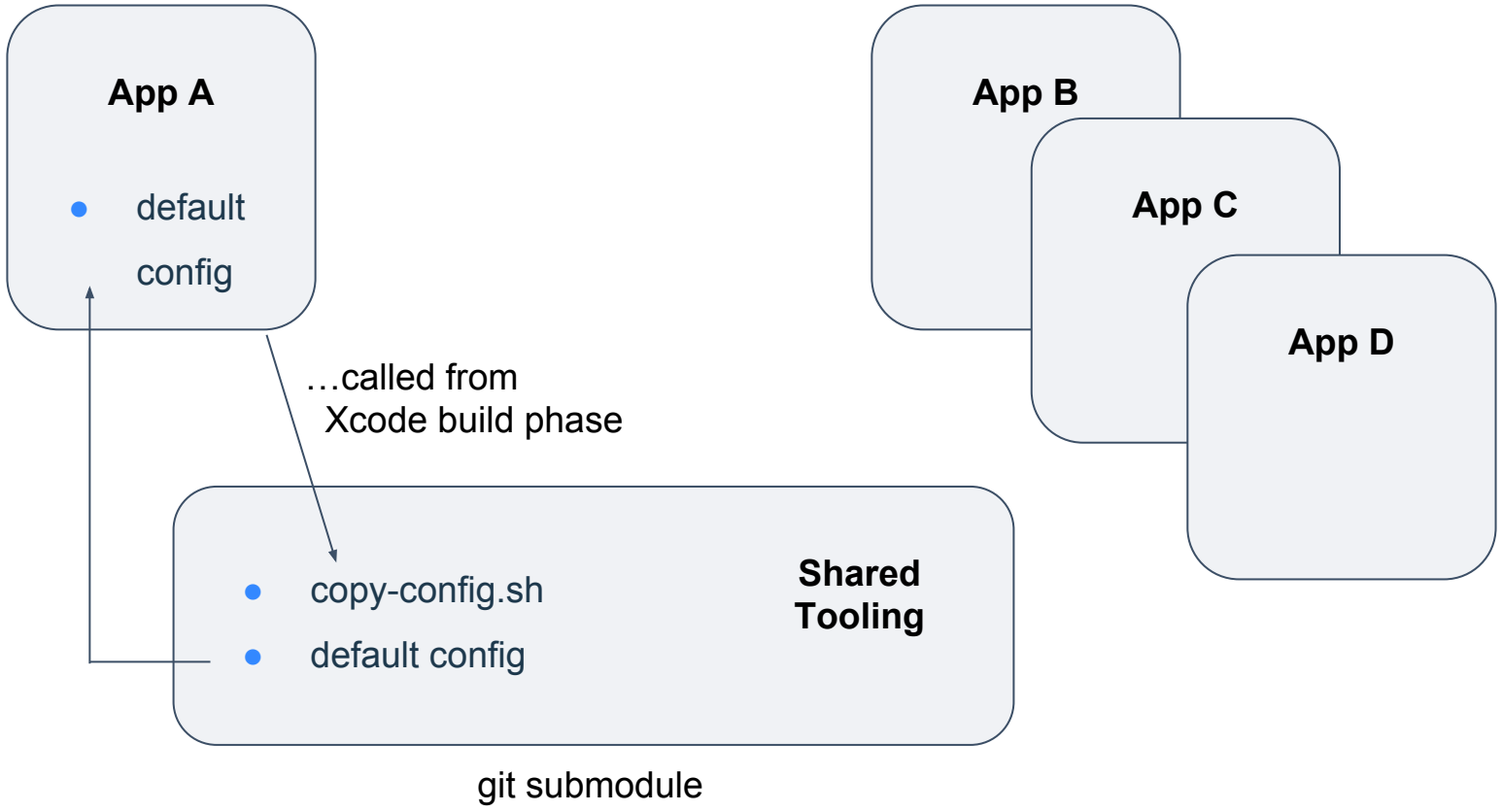
☐ Run script only when installing

1 Sharing a Linter Configuration

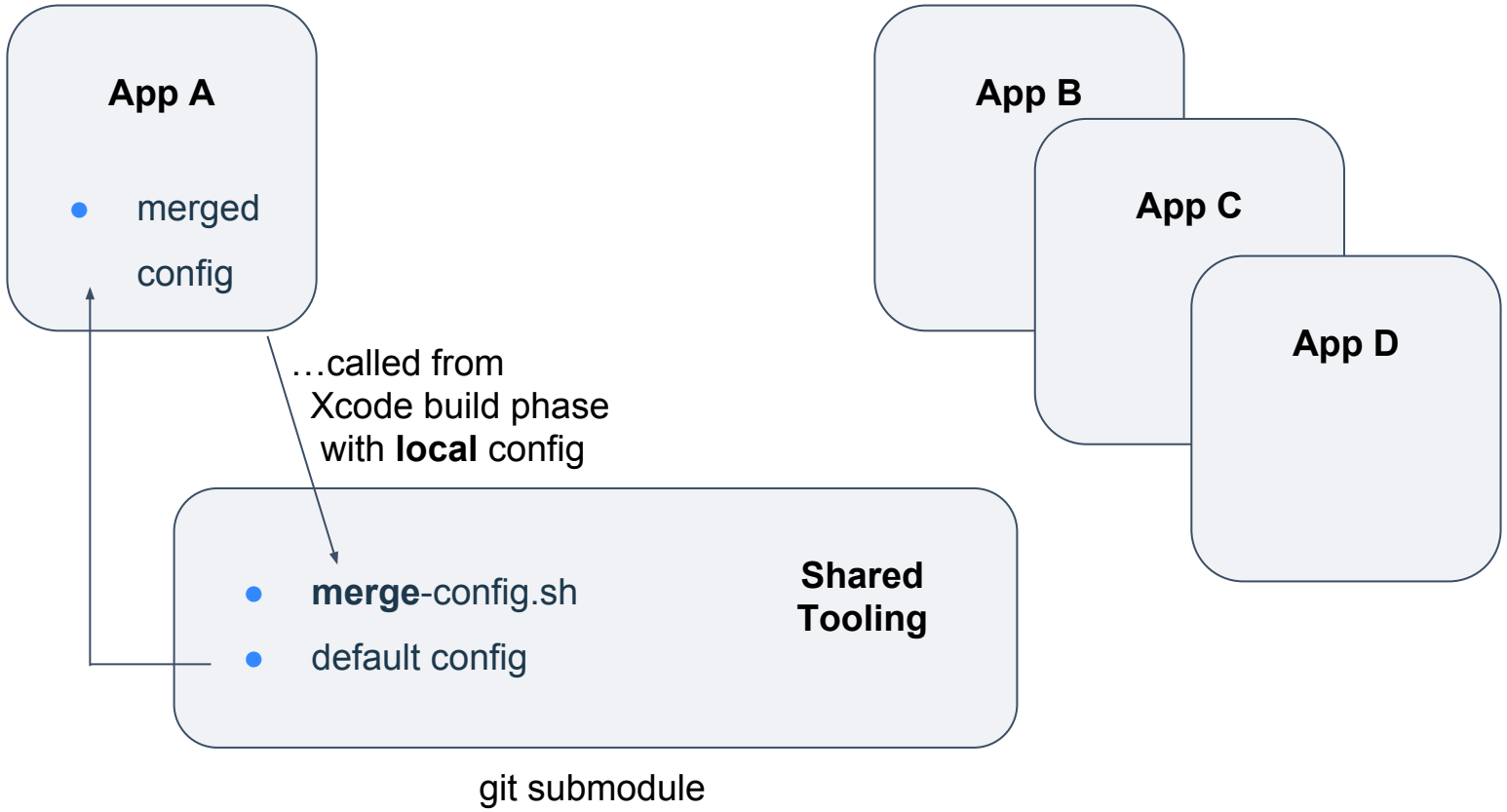
- **Goal**: One config for all projects
  - Discuss style once
  - Share code between projects without changes

- **Challenge**: Config has to live in project root directory (where `swiftlint` is called from)

1 Sharing a Linter Configuration



1.1 Sharing a Linter Configuration

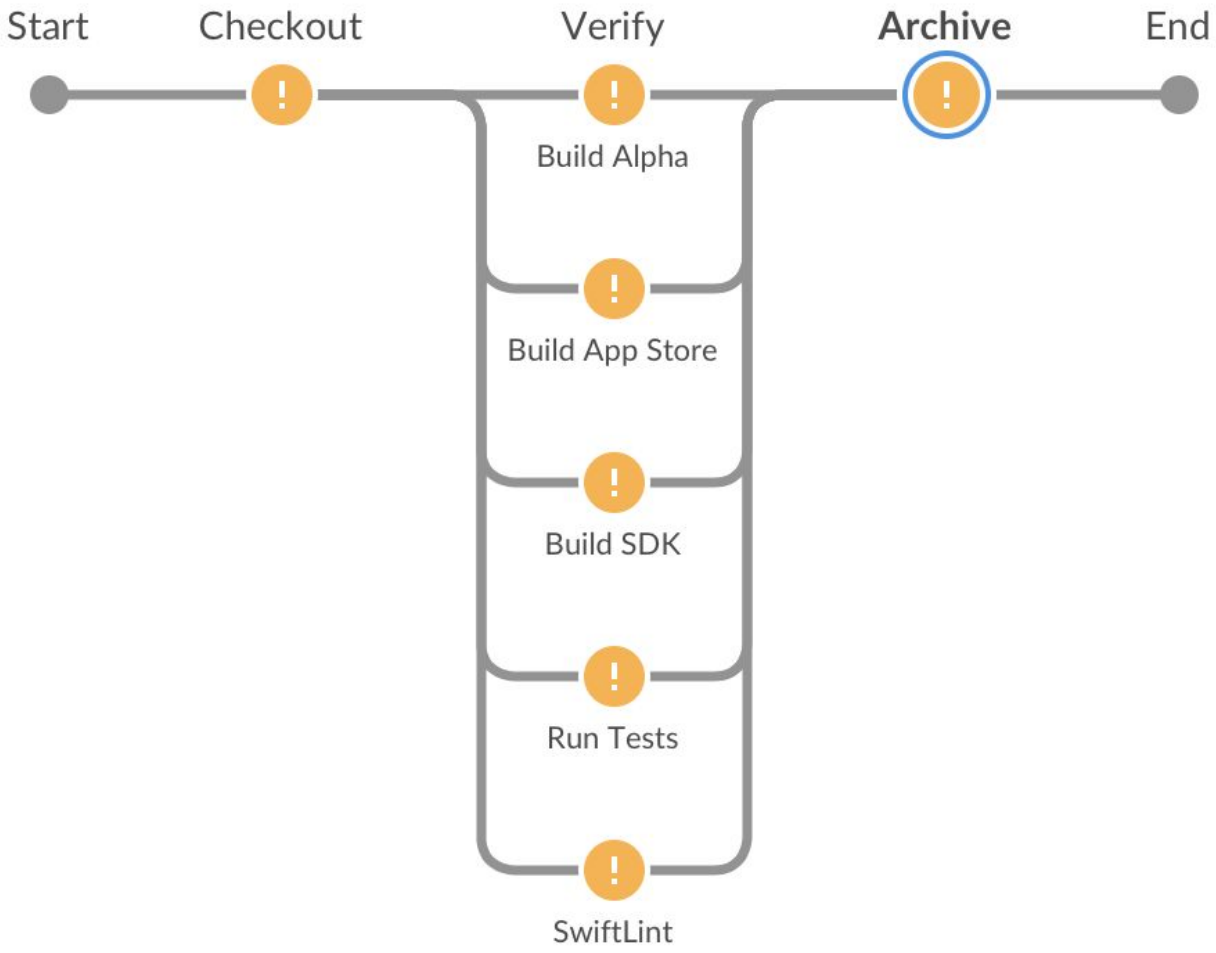


2 Calling `swiftlint`

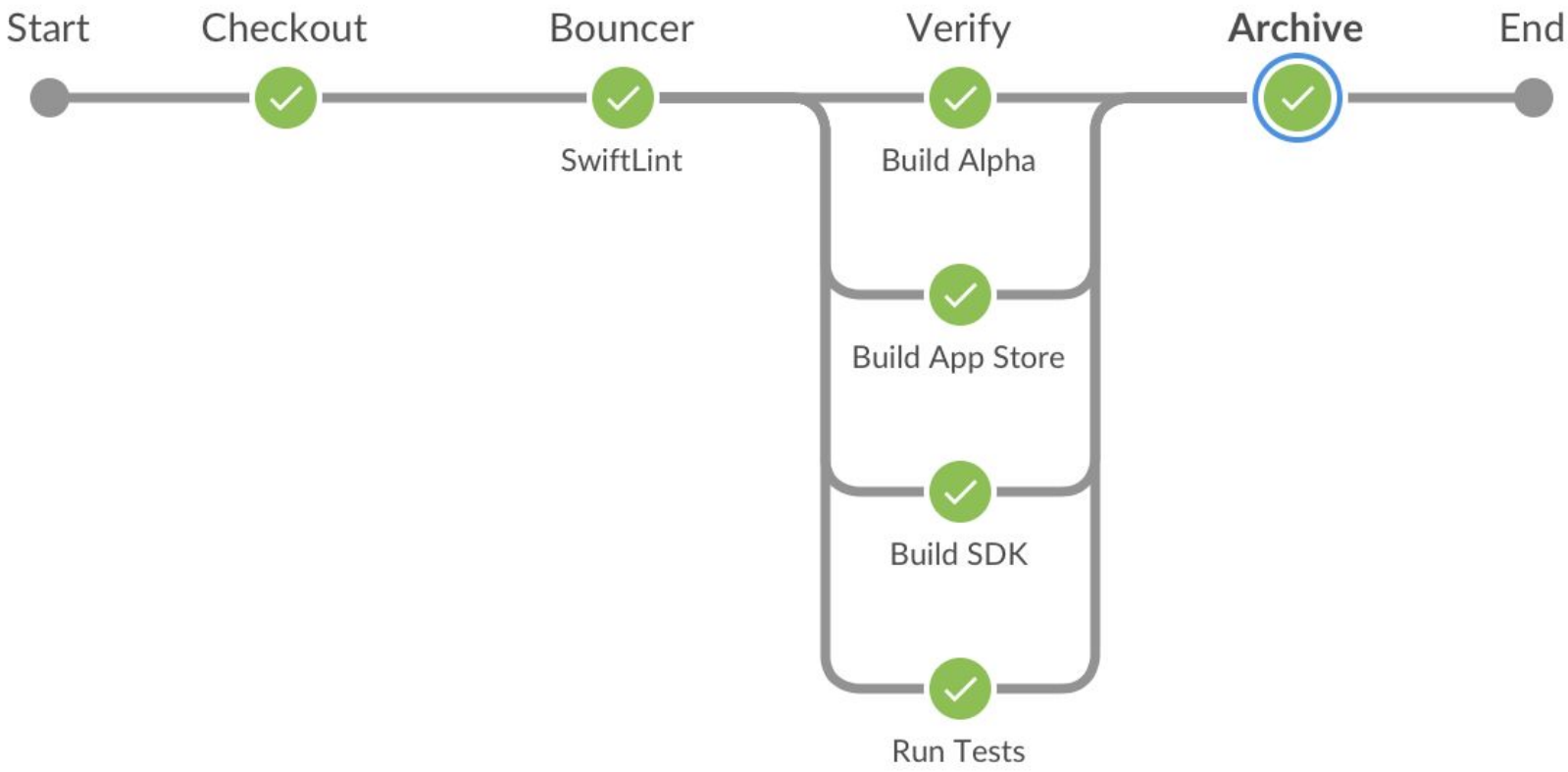
- Linter has to be called from project root directory (where config file lives)
- Different output format for local Xcode builds and Jenkins (checkstyle XML)

```
1 if [ ! -z "${JENKINS_URL+x}" ]; then
2     echo "SwiftLint: Jenkins build, skipping linter."
3     exit 0
4 else
5     swiftlint
6 fi
```

3 Adding a Bouncer



3 Adding a Bouncer



4 Pinning Down the SwiftLint Version

- **Goal**: Consistent reporting in local and CI builds

- Make use of new rules and enforce them consistently
  - Older SwiftLint versions ignore unknown rules
- Newer versions may include fixes that surface previously ignored issues
- Actual `swiftlint` call is wrapped in (shared) script that enforces SwiftLint version
  - Still needs to be called from project root
  - Script forwards all arguments to `swiftlint` invocation
  - Don’t `echo` to stdout: Reserved for linter output

4 Pinning Down the SwiftLint Version

```
if ! [ -x "$(command -v swiftlint)" ]; then
    echo "error: SwiftLint not installed, download from https://github.com/realm/SwiftLint"
    return 4
fi

# minimum swiftlint version:
# script will fail if version is lower than this
LINTER_VERSION_MIN='0.27'
INSTALLED_LINTER_VERSION=$(swiftlint version)

printf '%s\n' ${LINTER_VERSION_MIN} ${INSTALLED_LINTER_VERSION} | sort --version-sort --check

echo "Running swiftlint from ${PWD}." 1>&2
swiftlint "$@"
```

5 Pinning Down the Xcode Version

- **Issue**: Remaining reporting inconsistencies

- SwiftLint relies on current Xcode installation (as per `xcode-select`) and its Swift libraries
- Newer SwiftLint versions may require certain minimum Swift lib versions

- **Solution**:
  - Pin down Xcode version in shared linter invocation script by setting/exporting `DEVELOPER_DIR`
  - Move linter invocation to separate target (instead of build phase)
    - Xcode version for linting not necessarily the Xcode version that builds the app

5 Pinning Down the Xcode Version

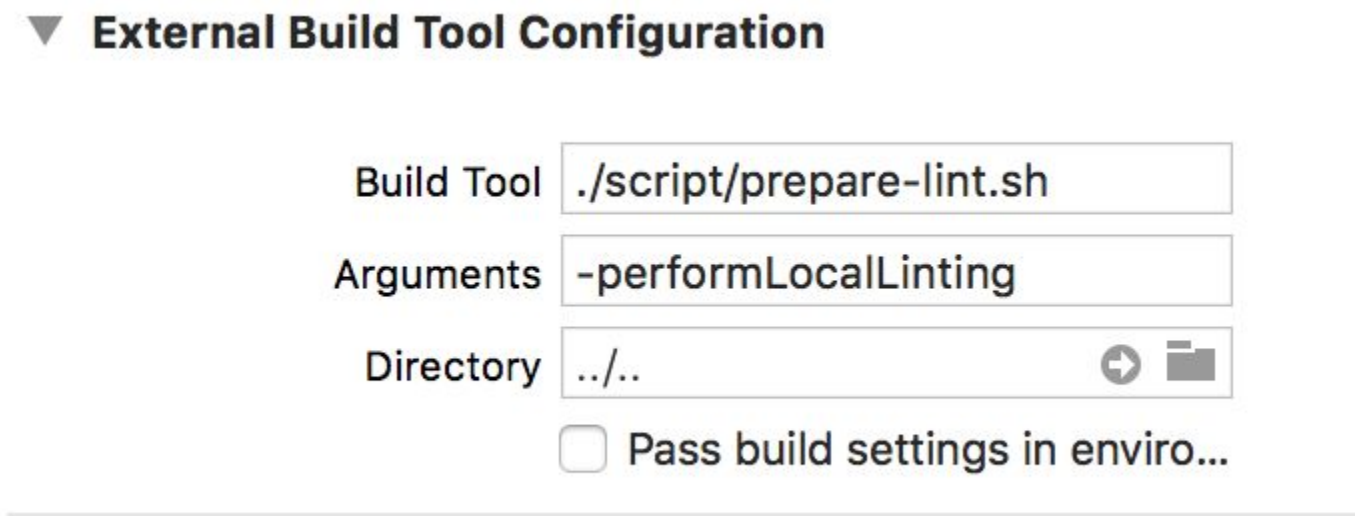
```
# … linter version pinning up here …

BASE=$(cd "$(dirname "$0")" && pwd)
XCODE_VERSION=10.0

. "${BASE}/xcode-enforce.sh" 1>&2
xcode_enforce ${XCODE_VERSION} 1>&2

echo "Running swiftlint from ${PWD}." 1>&2
swiftlint "$@"
```

5 Pinning Down the Xcode Version



6 Future Improvements

- Allow proper merging of local/shared configurations
  - We currently only append files, assuming they are mutually exclusive
  - Will allow us to provide custom per-project rules

Thanks for your attention.

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