Preparing macOS command-line tools for distribution

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Creation

```
swift package init --type executable

swift package init --type tool
```

```swift
import ArgumentParser


@main
struct MyAwesomeTool: ParsableCommand {
    mutating func run() throws {
        /* your code here */
    }
}
```

Local Execution

```
swift run


swift package experimental-install

      ~/.swiftpm/bin/MyAwesomeTool


swift build --configuration release --arch arm64 --arch x86_64

      ./.build/apple/Products/Release/MyAwesomeTool
```

Distribution

- Code Signing

- Notarization

Code Signing

- Use "Developer ID Application" certificate

- A command-line tool is not a bundle: no embedded Info.plist file

- Options

  - Create a linker section containing Info.plist

  - Provide identifier explicitly when signing

Code Signing

```
codesign --force

    --entitlements /path/to/entitlements/file

    --options runtime

    --sign identity_or_certificate_hash

    --identifier com.mydomain.MyAwesomeTool

    /path/to/MyAwesomeTool
```

Notarization

- notarytool input

  - disk image

  - installer package

  - zipped application

Installer package

- Needs to be signed

  - "Developer ID Installer" certificate

  - Can reuse identifier

- Create filesystem path

  - installer_root/usr/local/bin/MyAwesomeTool

Installer package

```
pkgbuild

    --identifier com.mydomain.MyAwesomeTool

    --version 1.0

    --root installer_root

    --sign identity_or_certificate_hash

    MyAwesomeTool.pkg
```

Notarization

- Keychain Profile

  - Generate app-specific password (https://appleid.apple.com)

  - `xcrun notarytool store-credentials MyNotaryProfile`

- `xcrun notarytool submit MyAwesomeTool.pkg`
  `--keychain-profile MyNotaryProfile --wait`

- `xcrun stapler staple -v MyAwesomeTool.pkg`

Summary

- swift build

- codesign

- pkgbuild

- notarytool submit

- notarytool staple

swift-export.pkg

https://github.com/franklefebvre/swift-export

```
cd /path/to/your/project

swift export
```