



Department of
Media Software

2023 1st semester
Mobile Computing

Prof.
Gabkeun Choi Ph.D.

Mobile Computing

2nd Lecture

개발환경 구축



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Learning objective

- 각 OS 별 React native 환경 설치/설정 능력 배양
- 프로젝트 생성 및 빌드, OS 별 에뮬레이터 동작능력 배양

각 운영체제 별로 react-native 개발을 위한 환경설정과 주요 파일들을 설치하고 최초 프로젝트를 생성(프로젝트 생성시 version 충돌이 있을 수 있다. 조치사항은 강의자료에 포함됨)프로젝트 생성 후 각 운영체제 별로 기본 템플릿 코드를 실행 하여 에뮬레이터의 정상동작 여부를 확인한다.



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React Native 개발환경

- Expo CLI

준비 : Node.js, 디바이스 또는 에뮬레이터

가장 쉽게 시작할 수 있는 방법으로 React Native를 중심으로 구축된 도구 세트이다. 많은 기능 포함되어 있지만 필요 없는 기능까지 설치되어 무겁다.

- React Native CLI

준비 : Xcode(iOS) 또는 Android Studio(windows)



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Tool 설치 (Windows)

1. Node.js 설치

<https://nodejs.org/ko/download/>

2. JDK 11이상 설치

<https://www.oracle.com/kr/java/technologies/javase/jdk11-archive-downloads.html>

<https://jdk.java.net/archive/>

3. Android Studio 설치

<https://developer.android.com/studio>

4. Android SDK Platform 설치

Google APIs Intel x86 Atom System Image

Google APIs Intel x86 Atom_64 System Image

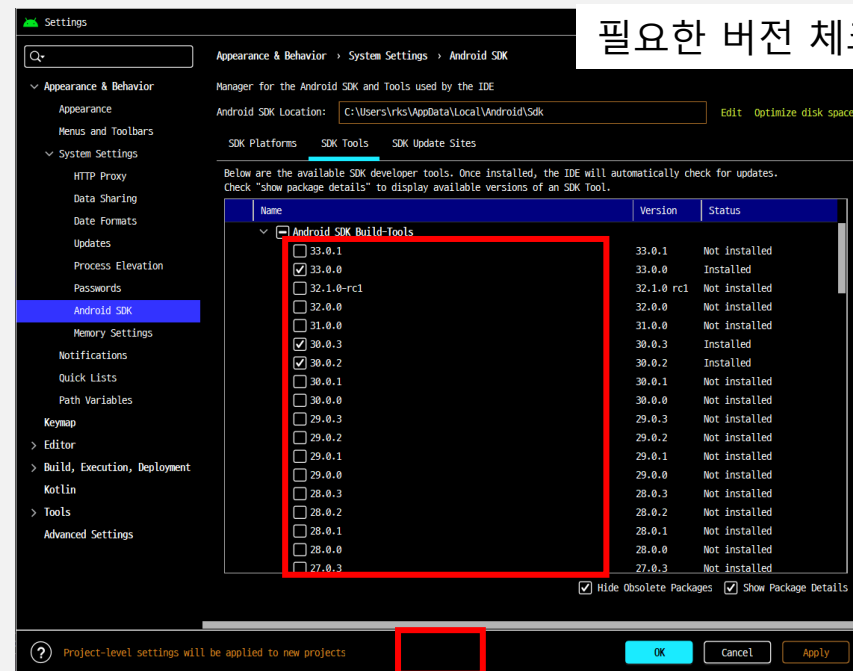
AVD 생성

6. vsCode 설치

<https://code.visualstudio.com/>



Tool 설치 (Windows)



필요한 버전 체크 후 Apply/OK

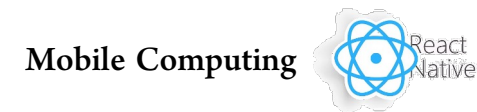


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환경 변수 설정 (Windows)

1. 사용자 변수 :

JAVA_HOME : jdk 설치 경로

NODE_HOME : node.js 설치 경로

ANDROID_HOME : appData\Local\Android\Sdk

2. 시스템 변수 : Path 설정

%JAVA_HOME%\bin\

%NODE_HOME%

%ANDROID_HOME%\platform-tools



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환경 변수 설정 (Windows)

사용자 변수 편집

변수 이름(N): JAVA_HOME

변수 값(V): C:\Java\jdk-11.0.16.1

디렉터리 찾아보기(D)... 파일 찾아보기(F)... 확인 취소

사용자 변수 편집

변수 이름(N): ANDROID_HOME

변수 값(V): C:\Users\wks\AppData\Local\Android\Sdk

디렉터리 찾아보기(D)... 파일 찾아보기(F)... 확인 취소

사용자 변수 편집

변수 이름(N): NODE_HOME

변수 값(V): C:\nodejs

디렉터리 찾아보기(D)... 파일 찾아보기(F)... 확인 취소

환경 변수 편집

C:\Program Files\Common Files\Oracle\Java\javapath
%SystemRoot%\system32
%SystemRoot%
%SystemRoot%\System32\Wbem
%SYSTEMROOT%\System32\WindowsPowerShell\v1.0\
%SYSTEMROOT%\System32\OpenSSH\
C:\Program Files\Git\cmd
%JAVA_HOME%\bin
%ANDROID_HOME%\platform-tools
%NODE_HOME%

새로 만들기(N) 편집(E) 찾아보기(B)... 삭제(D) 위로 이동(U) 아래로 이동(D) 텍스트 편집(T)...

확인 취소



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Tool 설치 (Mac)

- ✓ Terminal 실행
- ✓ AppStore에서 Xcode 설치
- ✓ Homebrew 설치 (package 관리용)
 - https://brew.sh/index_ko
 - 명령어 복사 후 Terminal 에서 실행
- ✓ VSCode 설치
 - Brew install --cask visual-studio-code
- ✓ Node.js 설치
 - Brew install node
 - Node --version
 - Npm --version 으로 설치 확인

Homebrew 설치하기

```
$ /bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
```




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Tool 설치 (Mac)

- ✓ Watchman 설치(디버그 모드에서 코드 수정시 새로 컴파일하는 utility)
 - `brew install watchman`
 - `watchman --version` 으로 설치 확인
- ✓ Cocoapod 설치(swift/objective-c 프로젝트의 종속성 관리 매니저 / 외부 library 적용/관리)
 - `sudo gem install cocoapods`
 - `pod --version` 으로 설치 확인
- ✓ 애플실리콘인 경우 => ruby ffi 설치 (애플실리콘의 경우 cocoapod 동작 이슈 발생)
 - `sudo gem install ffi`
- ✓ React-native cli 설치
 - `npm install -g react-native-cli`
 - `react-native --version` 으로 설치 확인



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Tool 설치 (Mac)

- Andorid Studio 설치
 - ✓ `brew install --cask android-studio`
- JDK 11 이상 설치
 - - ✓ Brew tap AdoptOpenJDK/openjdk
 - ✓ `brew install --cask adoptopenjdk11`
 - ✓ 설치확인
 - ✓ `java --version`
 - ✓ `javac --version`AVD (Emulator) 생성
- Xcode Emulator 설치 Setting -> Platforms 필요한 IOS 버전 설치
- SDK 설치
 - ✓ Android Studio 에서 SDK Platform 및 그에 따라 필요한 Google Api System Image CPU에 맞게 설치
 - ✓ 상단의 SDK Location 복사



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환경 변수 설정

1. Android Studio SDK Manager
 - SDK Location 복사
2. 환경변수 설정
 - 터미널에서 code `./zshrc` 후 아래 내용 입력 후 저장

```
export GEM_HOME=$HOME/.gem
export PATH=$GEM_HOME/bin:$PATH
export ANDROID_HOME={13에서 복사한 안드로이드 sdk 위치}
export PATH=$PATH:$ANDROID_HOME/emulator
export PATH=$PATH:$ANDROID_HOME/tools
export PATH=$PATH:$ANDROID_HOME/tools/bin
export PATH=$PATH:$ANDROID_HOME/platform-tools
```

- `source ./zshrc` 로 환경변수 반영

Appearance & Behavior > System Settings > Android SDK

Manager for the Android SDK and Tools used by the IDE

Android SDK Location: `/Users/airesearch/Library/Android/sdk`

SDK Platforms

SDK Tools

SDK Update Sites



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React-Native CLI 설치

1. React-Native CLI 설치

- 터미널/명령프롬프트에서
- `npm install -g react-native-cli`
- `react-native --version`

2. React-Native 프로젝트 생성

- 터미널/명령프롬프트 경로설정 후
- `npx react-native init {project_name}`
- 현재 0.69 이상 버전에서 global 옵션으로 설정할 경우
- `cli.init` is not a function 오류 발생
 - ⇒ Init에서 `-version 0.68.2` 명령어를 추가
 - ⇒ 설치 시 `-g` 제외 혹은 `-version 0.68.2`

```
Microsoft Windows [Version 10.0.19044.2251]
(c) Microsoft Corporation. All rights reserved.

C:\WINDOWS\system32>npm -g list
C:\Users\mk\AppData\Roaming\npm
-- react-devtools@4.27.0

C:\WINDOWS\system32>install -g react-native-cli
added 78 packages, and audited 79 packages in 4s
36 packages are looking for funding
  run npm fund for details
found 0 vulnerabilities

C:\WINDOWS\system32>npm -g list
C:\Users\mk\AppData\Roaming\npm
-- react-devtools@4.27.0
-- react-native@0.68.2
```

```
C:\Users\mk>react-native init newProject --version 0.68.2
This will walk you through creating a new React Native project in C:\Users\mk\react-native\newProject
yarn (1.22.1) deprecated source-map-resolve@0.5.1: See https://github.com/lydell/source-map-resolve#deprecated
yarn (1.22.1) deprecated source-map-resolve@0.5.3: See https://github.com/lydell/source-map-resolve#deprecated
yarn (1.22.1) deprecated source-map-resolve@0.5.3: See https://github.com/lydell/source-map-resolve#deprecated
yarn (1.22.1) deprecated uglify-es@3.9.0: support for ECMAScript is superseded by uglify-js as of v3.13.0
added 689 packages, and audited 690 packages in 16s
27 packages are looking for funding
  run npm fund for details
found 0 vulnerabilities
info Setting up new React Native app in C:\Users\mk\react-native\newProject
(node:22572) Warning: Accessing non-existent property 'padLevels' of module exports inside circular dependency
(Use 'node --trace-warnings ...' to show where the warning was created)
info Adding required dependencies
yarn (1.22.1) deprecated wcchrt@0.2: Use your platform's native performance.now() and performance.timeOrigin.
yarn (1.22.1) deprecated sane@4.1.0: some dependency vulnerabilities fixed, support for node < 10 dropped, and newer ECMAScript syntax/features added
yarn (1.22.1) deprecated babel-eslint@10.1.0: babel-eslint is now @babel/eslint-parser. This package will no longer receive updates.
added 475 packages, and audited 1165 packages in 20s
100 packages are looking for funding
  run npm fund for details
found 0 vulnerabilities
info Adding required dev dependencies
up to date, audited 1165 packages in 2s
100 packages are looking for funding
  run npm fund for details
found 0 vulnerabilities

Run instructions for Android:
  • Have an Android emulator running (quickest way to get started), or a device connected.
  • cd "C:\Users\mk\react-native\newProject" && npx react-native run-android

Run instructions for Windows:
  • See https://aka.ms/ReactNativeGuideWindows for the latest up-to-date instructions.

C:\Users\mk\react-native>
```



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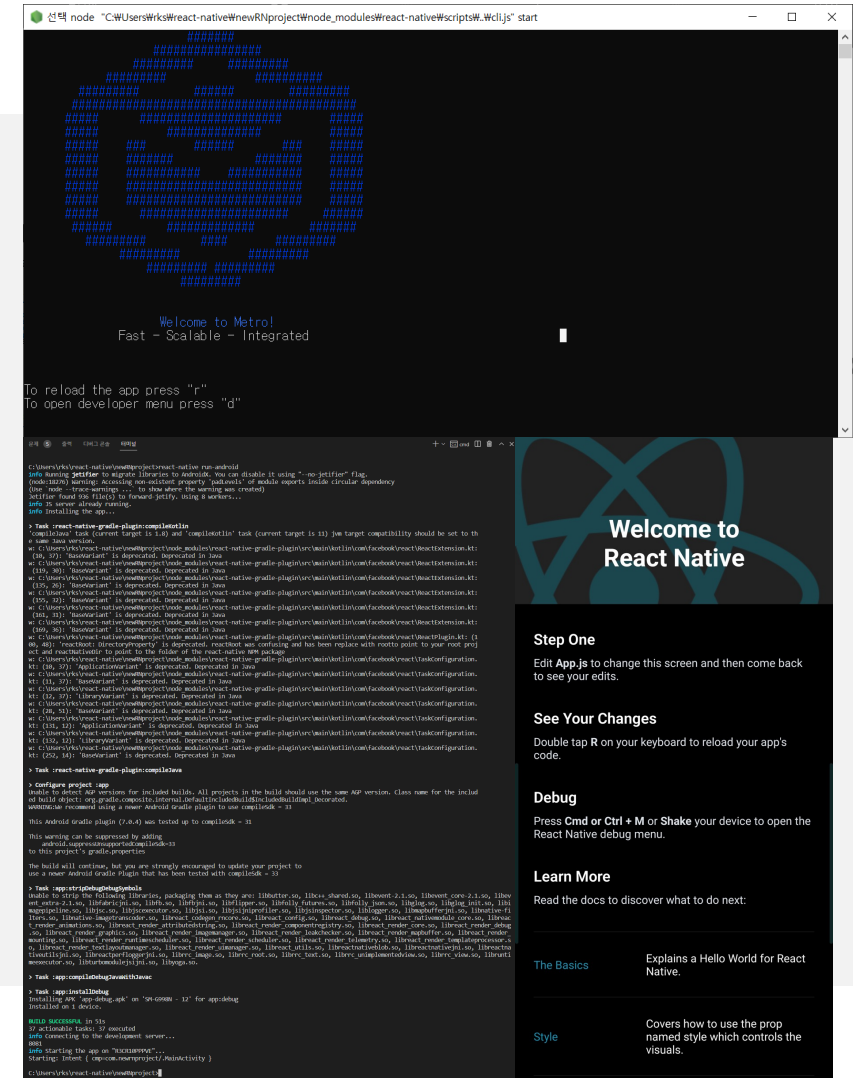
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기동

1.vsCode 에서 생성한 프로젝트 폴더 열기

- 새 터미널 생성(Ctrl+shift+` /)
- npx react-native run-android /
npx react-native run-ios

emulator 혹은 usb로 연결된 기기로 app 기동되면 완료





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Test app

```
import React from 'react';
import {Text, View, StyleSheet} from 'react-native';

const styles = StyleSheet.create({
  center: {
    alignItems: 'center',
  },
});

type GreetingProps = {
  name: string;
};

const Greeting = (props: GreetingProps) => {
  return (
    <View style={styles.center}>
      <Text>Hello {props.name}! </Text>
    </View>
  );
};
```

```
const LotsOfGreetings = () => {
  return (
    <View style={[styles.center, {top: 50}]}>
      <Greeting name="Rexxar" />
      <Greeting name="Jaina" />
      <Greeting name="Valeera" />
    </View>
  );
};

export default LotsOfGreetings;
```



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```
test1 > JS App.js > [GreetingProps]
1  import React from 'react';
2  import {Text, View, StyleSheet} from 'react-native';
3
4  const styles = StyleSheet.create({
5    center: {
6      alignItems: 'center',
7    },
8  });
9
10 type GreetingProps = {
11   name: string;
12 };
13
14 const Greeting = (props: GreetingProps) => {
15   return (
16     <View style={styles.center}>
17       <Text>Hello {props.name}!</Text>
18     </View>
19   );
20 };
21
22 const LotsOfGreetings = () => {
```

PROBLEMS 2 OUTPUT TERMINAL

gabkeunchoi@MacBook-Pro-2 test1 % react-native run-android

Ln 12, Col 2 Spaces: 2 UTF-8 LF () JavaScript



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React native command

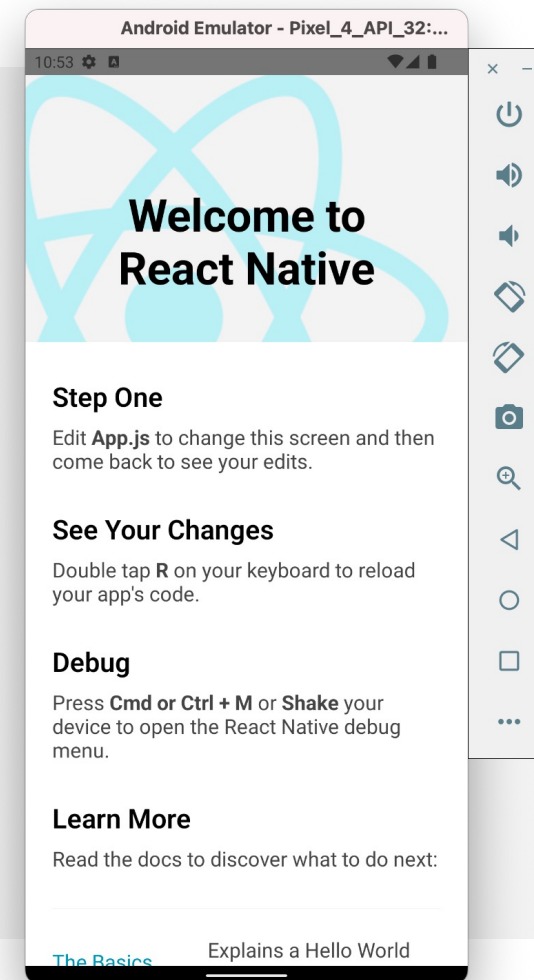
```
npx react-native init ProjectName --version 0.68.2
```

```
cd ProjectName
```

```
npx react-native run-android
```

Version 충돌이 나면 추가한다.

이 화면이 나오면 완료





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React native command

```
.flowconfig
.gitignore
JS .prettierrc.js
.ruby-version
{} .watchmanconfig
JS App.js 2
{} app.json
Babel.config.js
Gemfile
Gemfile.lock
JS index.js
JS metro.config.js
{} package.json
{} test1.code-workspace
yarn.lock

PROBLEMS 2 OUTPUT TERMINAL
zsh - test3 + v [ ] [ ] ... ^ x

ore.so, libreact_render_animations.so, libreact_render_attributedString.so, libreact_render_componentregistry.so,
libreact_render_core.so, libreact_render_debug.so, libreact_render_graphics.so, libreact_render_imageManager.so,
libreact_render_leakChecker.so, libreact_render_mapbuffer.so, libreact_render_mounting.so, libreact_render_runti
mescheduler.so, libreact_render_scheduler.so, libreact_render_telemetry.so, libreact_render_templateprocessor.so,
libreact_render_textlayoutmanager.so, libreact_render_uimanager.so, libreact_utils.so, libreactnativeblob.so, li
breactnativejni.so, libreactnativeutilsjni.so, libreactperfloggerjni.so, librrc_image.so, librrc_root.so, librrc_
text.so, librrc_unimplementedview.so, librrc_view.so, libruntimeexecutor.so, libturbomodulejsijni.so, libyoga.so.

> Task :app:installDebug
Installing APK 'app-debug.apk' on 'Pixel_4_API_32(AVD) - 12' for app:debug
Installed on 1 device.

BUILD SUCCESSFUL in 20s
37 actionable tasks: 37 executed
info Connecting to the development server...
8081
info Starting the app on "emulator-5554"...
Starting: Intent { cmp=com.test3/.MainActivity }
gabkeunchoi@MacBook-Pro-2 test3 %
```