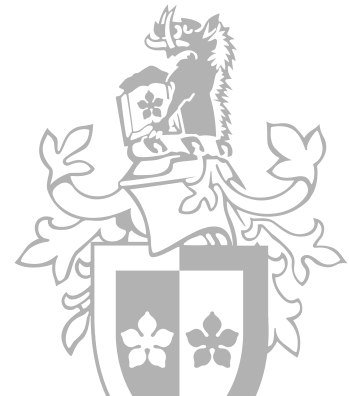


COS30041 Create Secure and Scalable Software

Semester 1, 2022



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Aims

- To introduce techniques and technologies used in constructing enterprise software solutions
- Language used: Java
- Framework used: Java EE

COS30041 Learning Outcomes

- Build and deploy secure and scalable application using contemporary frameworks (Java EE)
- Explain and apply strategies, patterns and frameworks to address a range of scalability issues
- Explain and apply strategies, patterns and framework to address a range of security issues
- Use contemporary tools to evaluate the scalability and security of applications

Portfolio Assessment (100%)

Learning Summary Report

- A reflection of your learning
- Discussion of how you address the intended learning outcomes to the satisfaction of the assessment panel

Pieces of Work

- [Pass] Base Work
- [C or above] Extension Work
- [D or above] A program of your own choice, its design and justifications
- [HD] A research report

See Unit Outline for detailed assessment guideline

Portfolio Tasks [P]

- Various weekly portfolio tasks
- Each focusing on the major concepts in Enterprise Development

Work vs Grade

→Grade	Work	Items
P	Base	Learning Summary Report Glossary Programming Exercises
C	P + software extension	Feature extension of your own choice with design justifications
D	C + a program	A program of your own choice
HD	D + a research report	A research report comparing two different ways of programming a certain piece of software

Pre-requisites

COS20007 Object-Oriented Programming or SWE20004
Technical Software Development

AND

COS10005 Web Development or COD10011 Creating Web
Applications or COS20001 User-Centred Design

You should have knowledge and skills in **Object-Oriented
Programming**

If you only studied SWE20004 Technical Software Development,
you should consider carefully if you should select this unit.

Development Tool (Windows Lab)

- Apache NetBeans 12.2 (or 12.5) [according to Swinburne ITS]
 - With GlassFish Server Open Source Edition 5.1.0
- Eclipse – GlassFish Server plugins discontinued long time ago
- IntelliJ – Your own risk

Note:

- Use Apache NetBeans 12.2 (or 12.5)
- Should not use the version 12.6:

Apache NetBeans can also be installed as a self-contained [snap package](#) on Linux.

Deployment Platforms

The Apache NetBeans 12.6 binary releases require JDK 11+, and officially support running on JDK 11 and JDK 17.



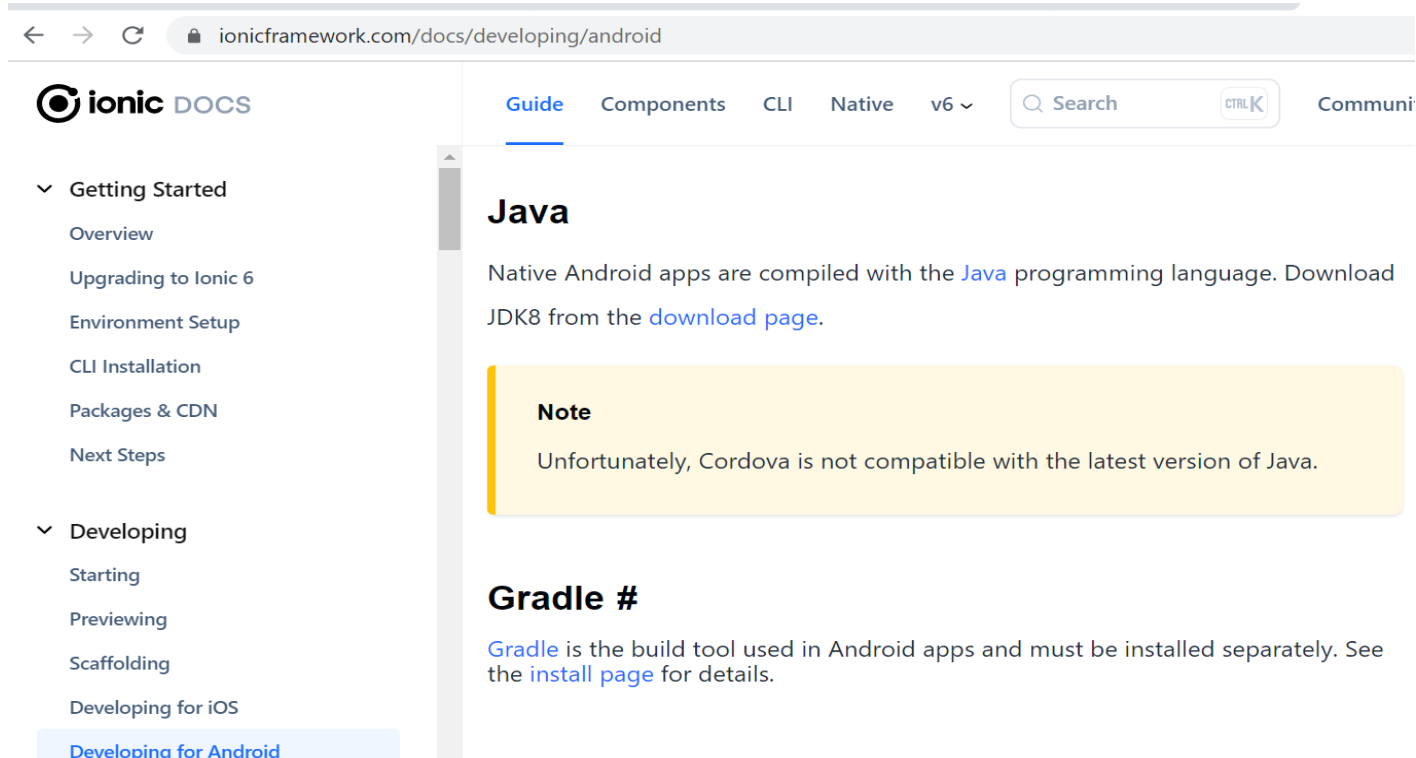
Apache NetBeans 12.6 can be run on JDK 8, with some features disabled, if built from source using JDK 8.



The current JDKs have an issue on macOS Big Sur, that causes freezes on dialogs. That could be fixed by applying the workaround described at [NETBEANS-5037](#).

Note:

- Most of frameworks use JDK 8, e.g. ionic framework:



The screenshot shows the Ionic Framework documentation website. The browser address bar displays `ionicframework.com/docs/developing/android`. The page header includes the Ionic logo, the word "DOCS", and navigation links for "Guide", "Components", "CLI", "Native", and "v6". A search bar and a "Communi" link are also present. The left sidebar contains a table of contents with sections for "Getting Started" and "Developing". The "Developing" section is expanded, showing sub-links like "Starting", "Previewing", "Scaffolding", "Developing for iOS", and "Developing for Android", which is currently selected. The main content area is titled "Java" and explains that Native Android apps are compiled with Java. It includes a "Note" box stating that Cordova is not compatible with the latest version of Java. Below this, the "Gradle #" section mentions that Gradle is the build tool used in Android apps and must be installed separately, with a link to the "install page" for details.

ionicframework.com/docs/developing/android

ionic DOCS

Guide Components CLI Native v6 Search CTRL K Communi

Getting Started

- Overview
- Upgrading to Ionic 6
- Environment Setup
- CLI Installation
- Packages & CDN
- Next Steps

Developing

- Starting
- Previewing
- Scaffolding
- Developing for iOS
- Developing for Android

Java

Native Android apps are compiled with the [Java](#) programming language. Download JDK8 from the [download page](#).

Note

Unfortunately, Cordova is not compatible with the latest version of Java.

Gradle

[Gradle](#) is the build tool used in Android apps and must be installed separately. See the [install page](#) for details.

See: Lab_01a_Setup_NB12_2_GF5

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2022 Semester 1

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Lab - 01

- [Lab_01a_Setup_NB12_2_GF5.html](#) ↓
 - [OpenJDK8-Installation.pdf](#) ↓
 - [Lab_01b_Using_NetBeans_for_Java_programming.pdf](#) ↓
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