ROYAL UNIVERSITY OF BHUTAN
COLLEGE OF SCIENCE AND TECHNOLOGY
PHUENTSHOLING: BHUTAN

PLAGIARISM DECLARATION FORM

Student Name: Divyash Chhetri

Student No: 02200174

Module No and Title of the module: CTE306 - Mobile Application Development
Assignment no and Title of the Assignment: Lab Work 01

Section H2 of the Royal University of Bhutan's *Wheel of Academic Law* provides the following definition of academic dishonesty:

"Academic dishonesty may be defined as any attempt by a student to gain an unfair advantage in any assessment. It may be demonstrated by one of the following:

Collusion: the representation of a piece of unauthorized group work as the work of a single candidate.

Commissioning: submitting an assignment done by another person as the student's own work.

Duplication: the inclusion in coursework of material identical or substantially similar to material which has already been submitted for any other assessment within the University.

False declaration: making a false declaration in order to receive special consideration by an Examination Board or to obtain extensions to deadlines or exemption from work.

Falsification of data: presentation of data in laboratory reports, projects, etc., based on work purported to have been carried out by the student, which have been invented, altered or copied by the student.

Plagiarism: the unacknowledged use of another's work as if it were one's own.

Examples are:

- verbatim copying of another's work without acknowledgement
- paraphrasing of another's work by simply changing a few words or altering the order of presentation, without acknowledgement
- ideas or intellectual data in any form presented as one's own without acknowledging the source(s)
- making significant use of unattributed digital images such as graphs, tables, photographs, etc. taken from test books, articles, films, plays, handouts, internet, or any other source, whether published or unpublished
- submission of a piece of work which has previously been assessed for a different award or module or at a different institution as if it were new work
- use of any material without prior permission of copyright from appropriate authority or owner of the materials used"

Student Declaration

I confirm that I have read and understood the above definitions of academic dishonesty. I declare that I have not committed any academic dishonesty when completing the attached piece of work.

Signature of Student: Divyash Chhetri

Date: 07 Aug 2022

Lab 01

CTE306 – Mobile Application Development

Date – 2nd August 2020

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Department of Information Technology
College of Science and Technology

Aim

1. Download and Install Android Studio software
2. Create New Empty Android App
3. Add Emulator
4. Setup Git Configuration and Integrate with your Android App

Theory

Android Studio

The official Integrated Development Environment (IDE) for developing Android apps is called Android Studio, and it is based on IntelliJ IDEA. In addition to the robust code editor and developer tools provided by IntelliJ, Android Studio provides additional capabilities to increase your efficiency when creating Android apps.

VCS and GitHub

A version control system, or VCS, keeps track of the changes made while individuals and groups work together on projects. Any older version of the project may always be retrieved when developers make modifications to it.

Developers can look into a project's history to learn:

- What modifications were made?
- Who changed the situation?
- What time did the adjustments occur?
- What made adjustments necessary?

A organization called GitHub provides a service for hosting Git repositories on the cloud. In essence, it makes it more simpler for both individuals and teams to utilize Git for collaboration and version control.

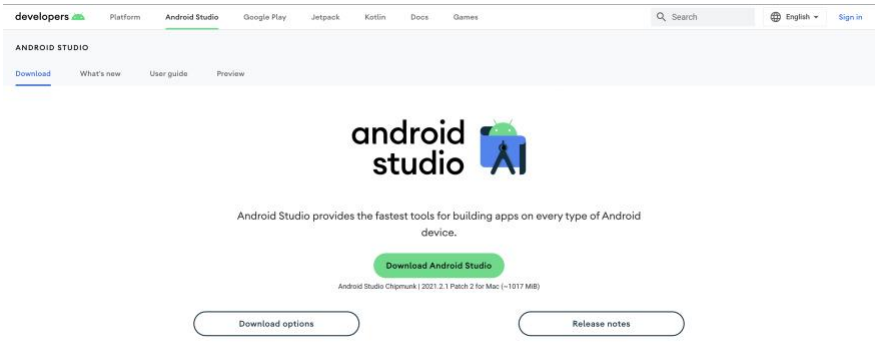
Because of GitHub's user-friendly design, even newbie programmers may benefit from Git. Without GitHub, utilizing Git often necessitates a little more command-line experience and technical know-how.

However, because GitHub is so user-friendly, some individuals even use it to handle different kinds of projects, including authoring books.

Procedures

Download and Install Android Studio

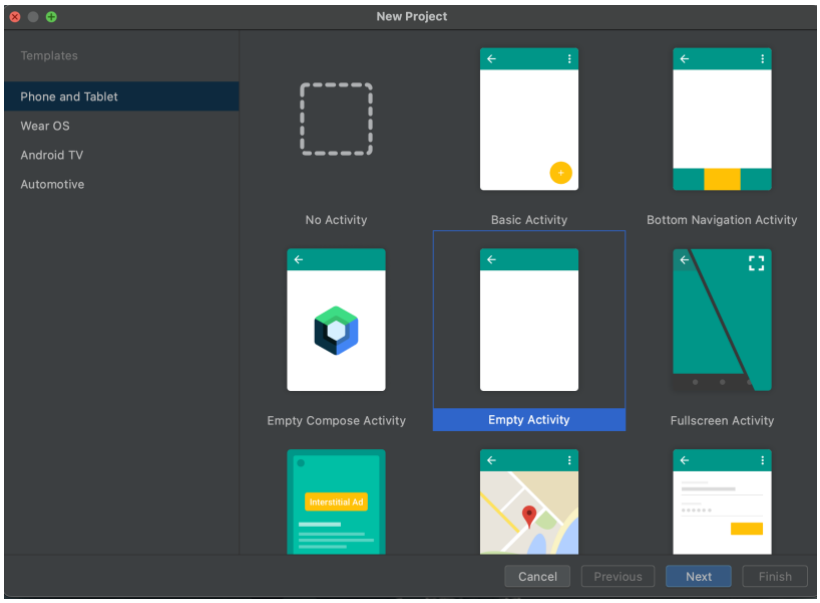
1. Download the latest version of Android Studio compatible with your machine from Android's official website (https://developer.android.com/studio)



2. Launch the Android Studio DMG file.
3. Drag and drop Android Studio into the Applications folder, then launch Android Studio.
4. The Android Studio Setup Wizard guides you through the rest of the setup, which includes downloading Android SDK components that are required for development.

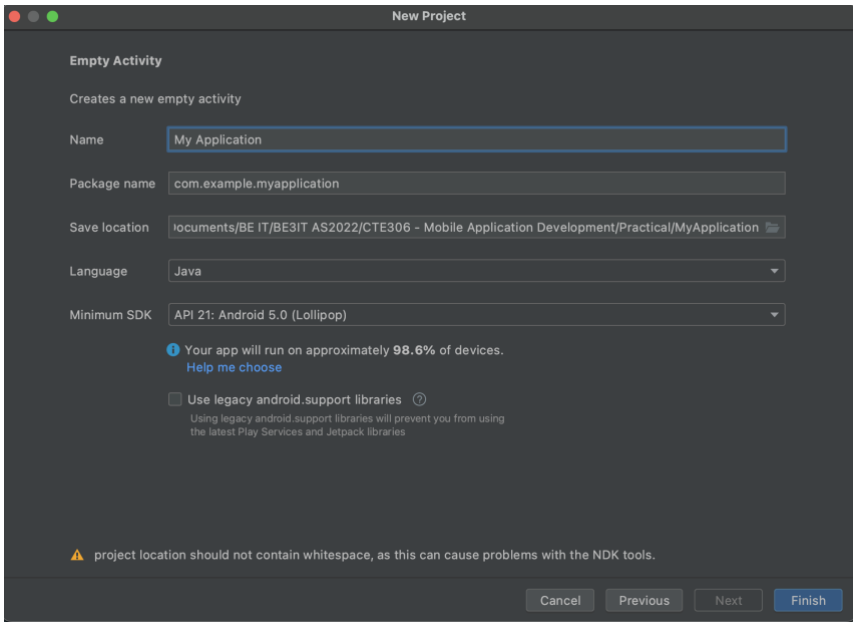
Creating a Empty New Project

1. Click on New Project
2. Choose an empty activity



3. Give an appropriate name and project location

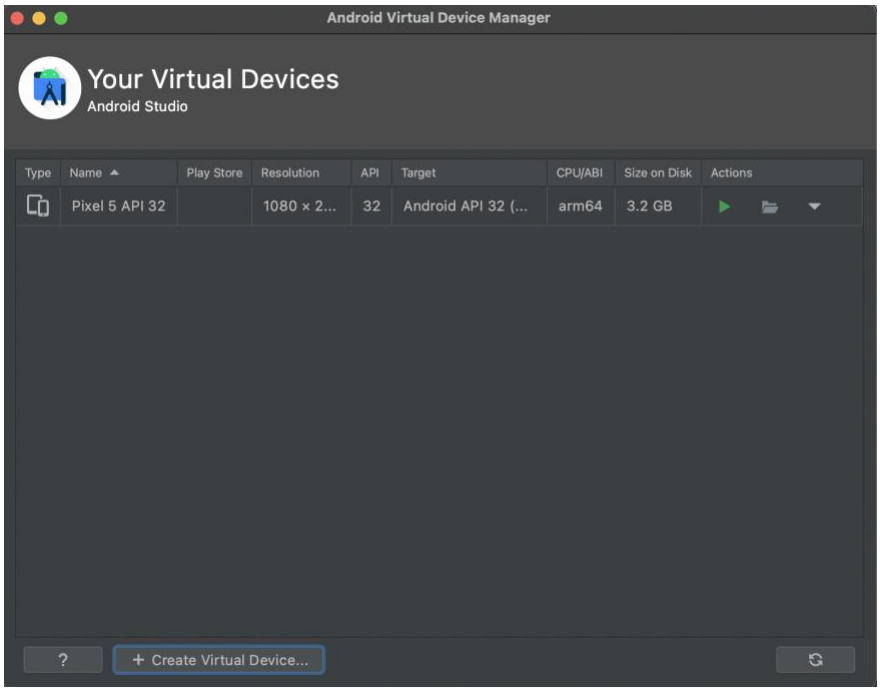
4. Choose the minimum SDK



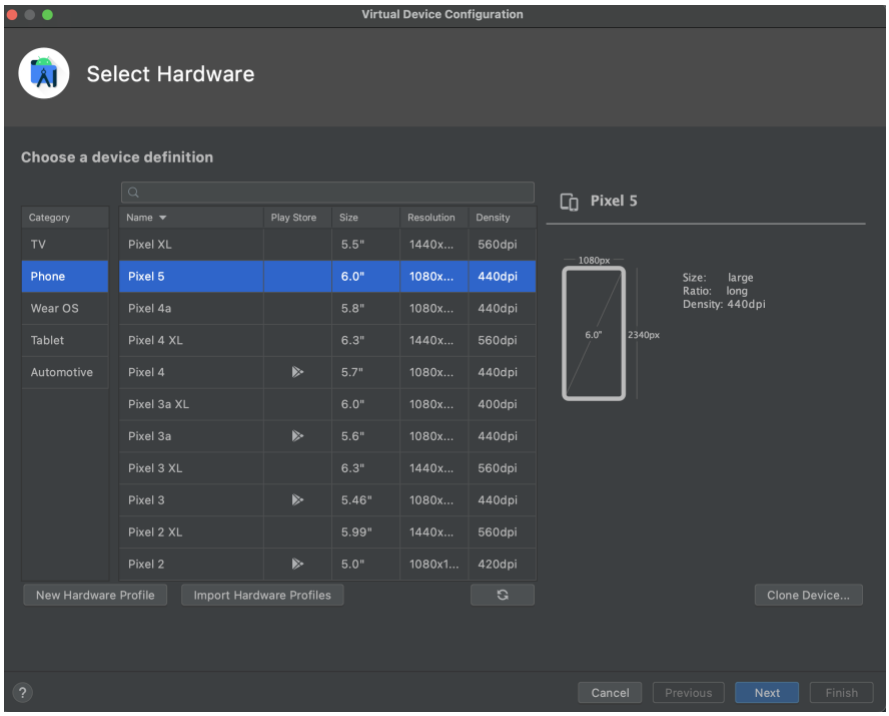
5. Click Finish

Creating an Emulator

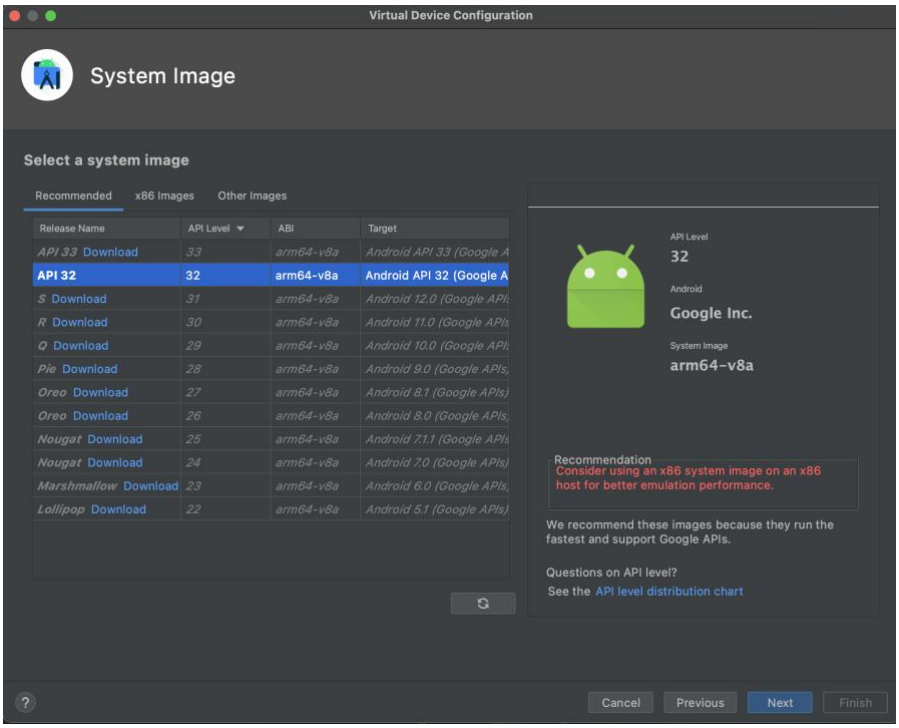
1. Open Android Virtual Device Manager
2. Click on Create Virtual Device



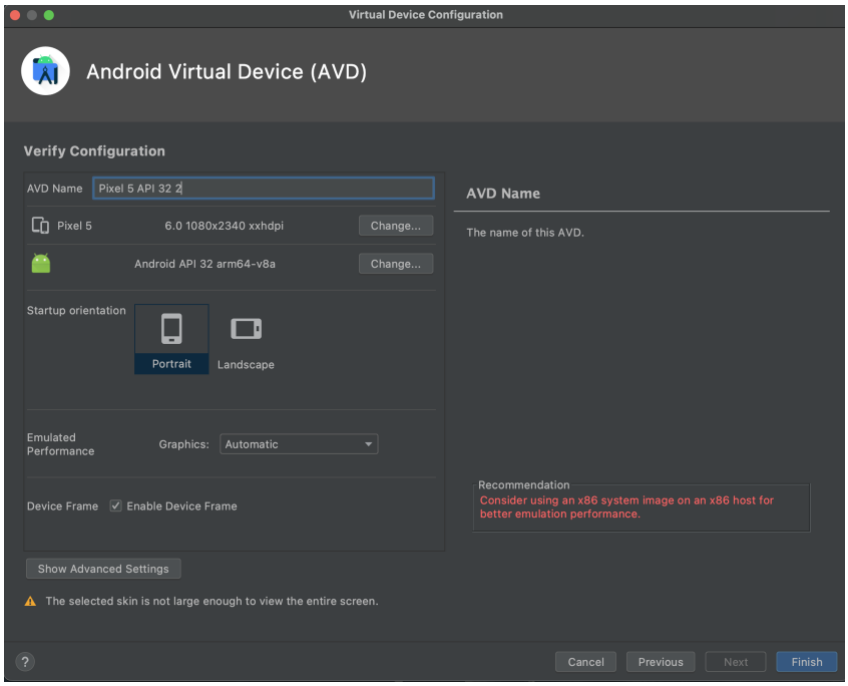
3. Choose the Device of your choice



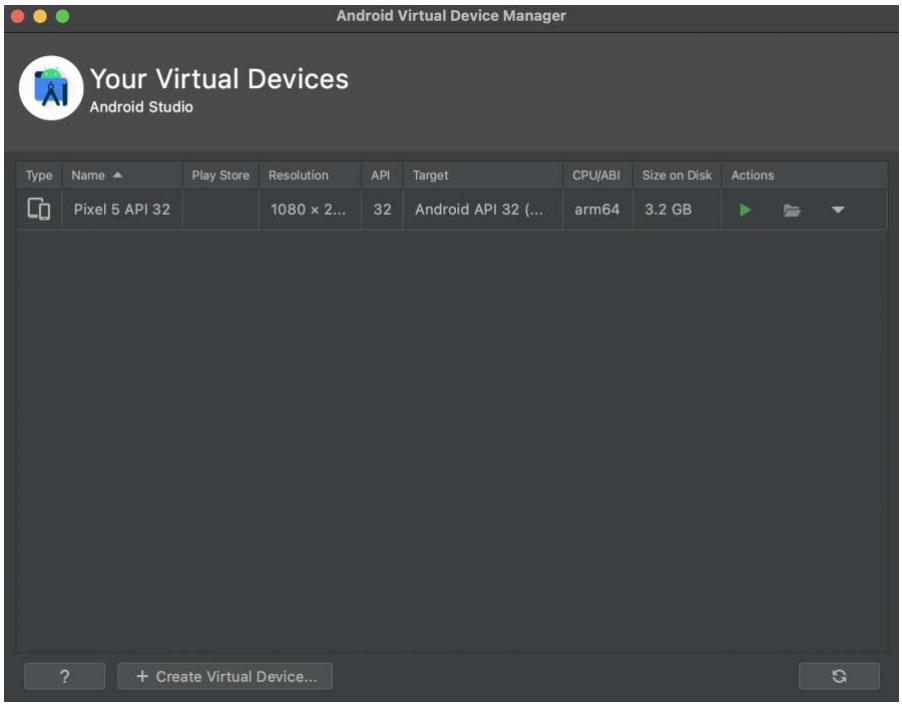
4. Select a system image



5. Configure upon your requirements

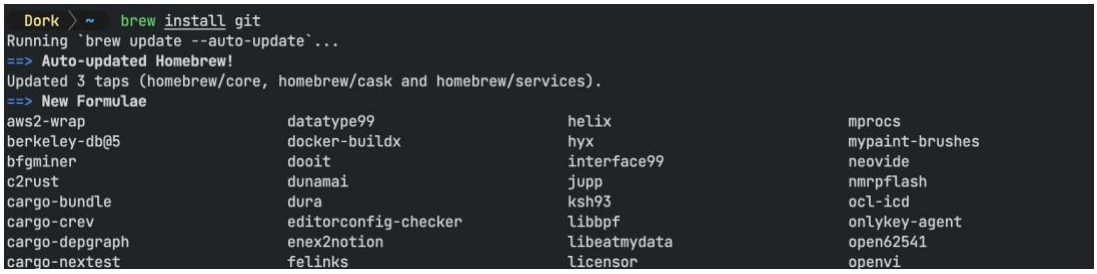


6. Device is Ready



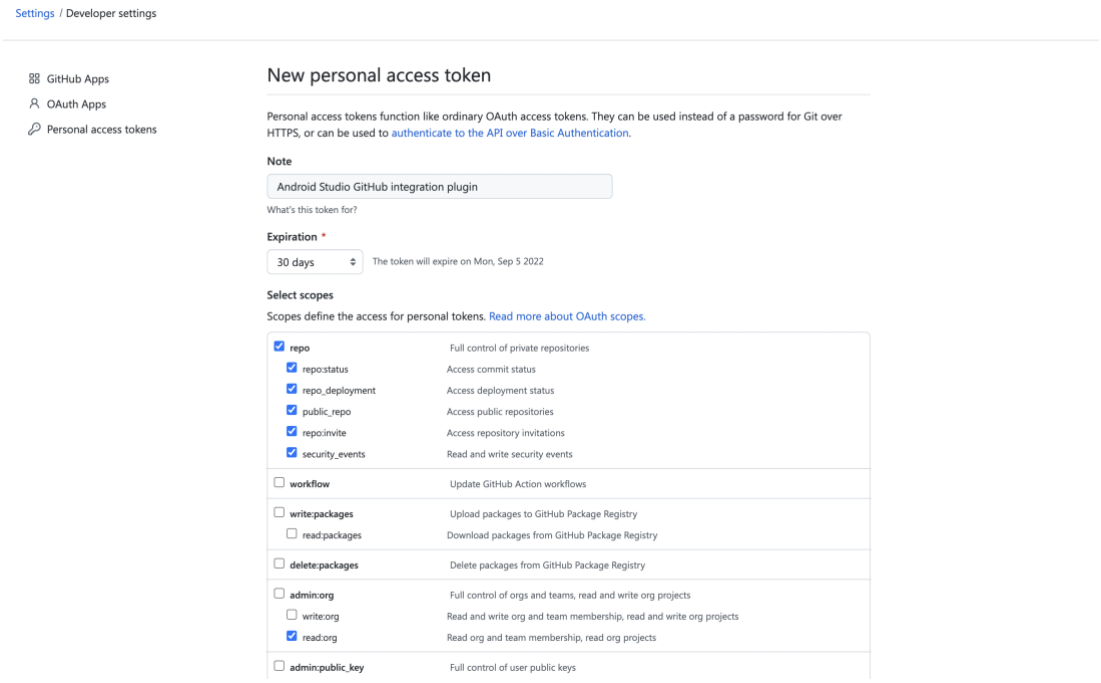
Installing Git

1. Use the `brew install git` command to install git on your machine

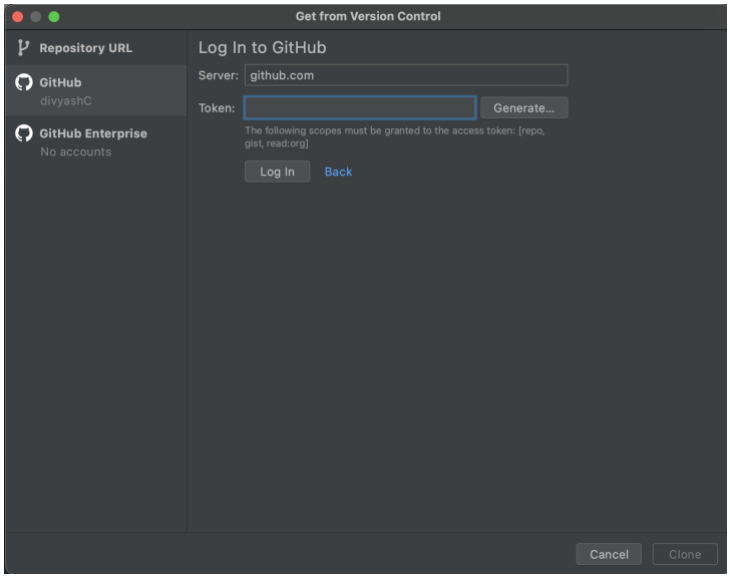


Enabling Git on Android Studio and Pushing a Repository on GitHub

1. Enable VCS on Android Studio
2. Generate a token for Android Studio from GitHub

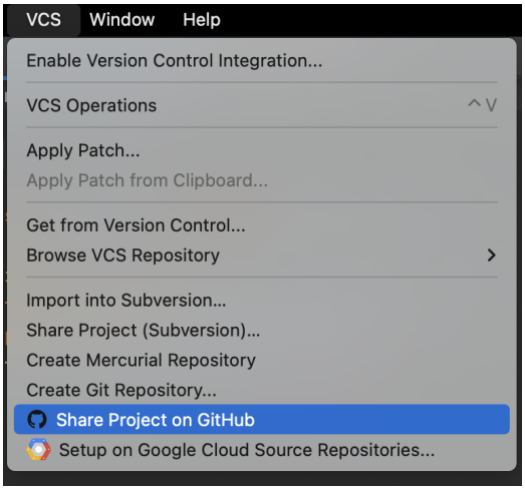


3. Login to your GitHub account using Token

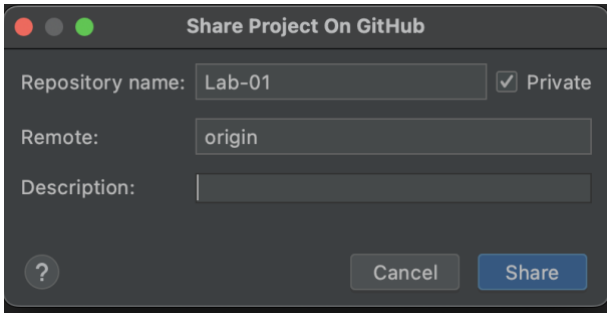


Creating a GitHub Repository

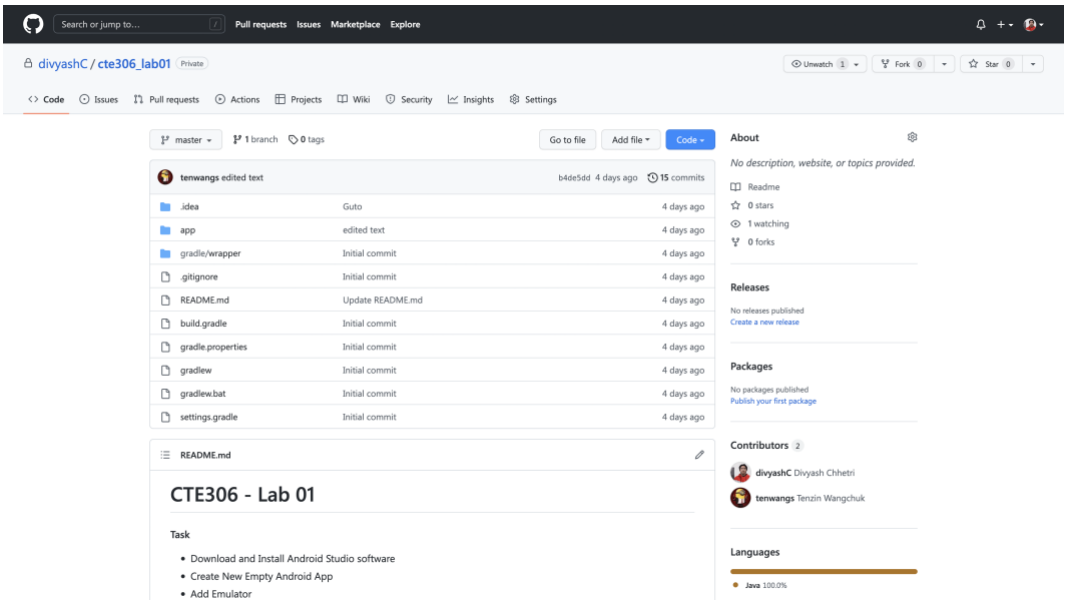
1. Click on `Share project on GitHub`



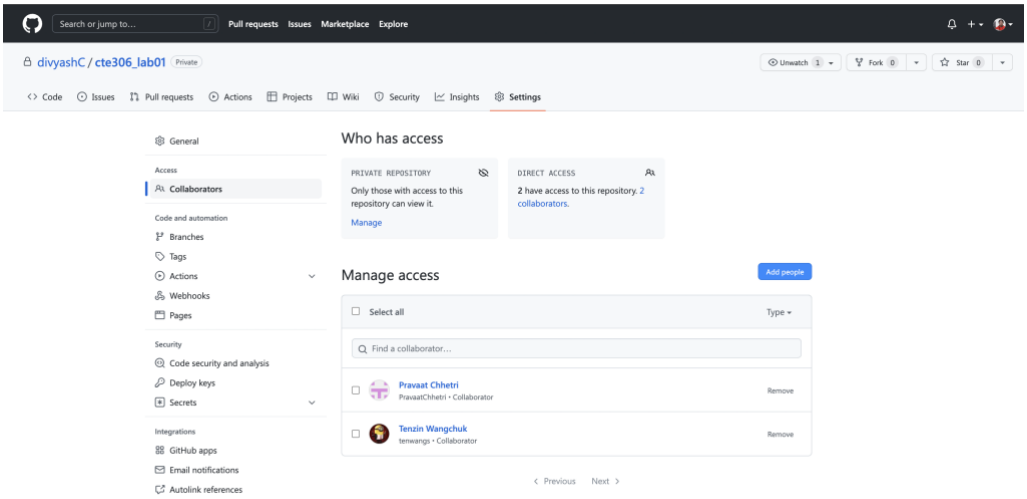
2. Fill in the Details and Click on `Share`



3. Project is published on GitHub



4. Add Collaborators from Settings > Collaborators > Add People



Git Controls using Terminal

1. Install Git and create an account in GitHub

   You need to install Git in your machine and create a GitHub account.

   WINDOWS - To install Git follow the directions on the git-scm site, just click next and proceed with the installation once you download it.
   MAC – Type `brew install git` on terminal

   Once you have installed Git, you can create a free account on GitHub.

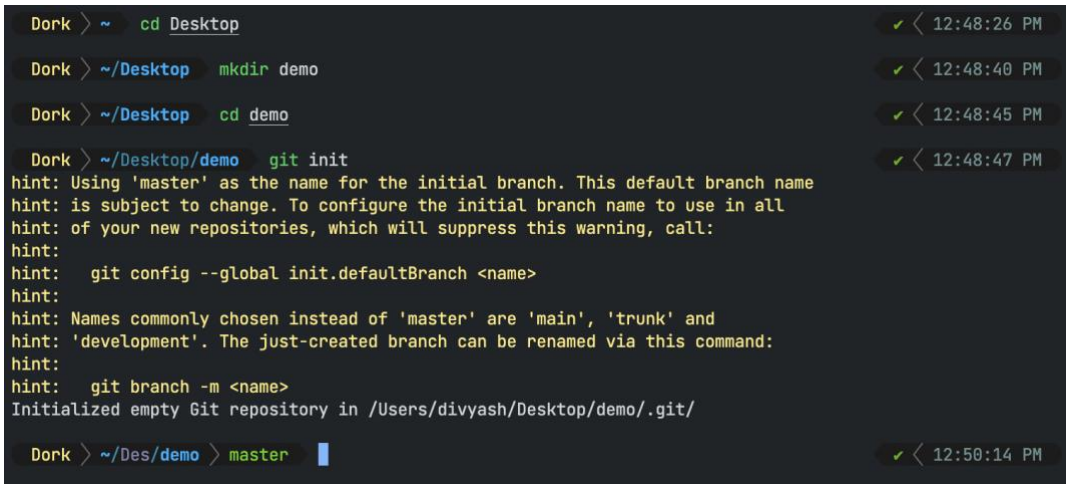
   Some basic commands are:
   cd - Change directory
   mkdir - Create new directory
   ls - List the contents of the directory
   pwd - View the present working directory
   touch - Create files

2. Create local git repository

   Once you are in your desired directory, you may create the project directory by using mkdir command and get inside the project directory.

   $ cd Desktop
   $ mkdir demo
   $ cd demo

   To initialize a git repository in the root of the folder, run the $ git init command. Once you run the $ git init command, you get some commands at the end showing that the git repository is initialized in your particular directory.



3. Add new files to the repository

   Create files using desired text editor or terminal.
   All your changes can be tracked using `git status` command.

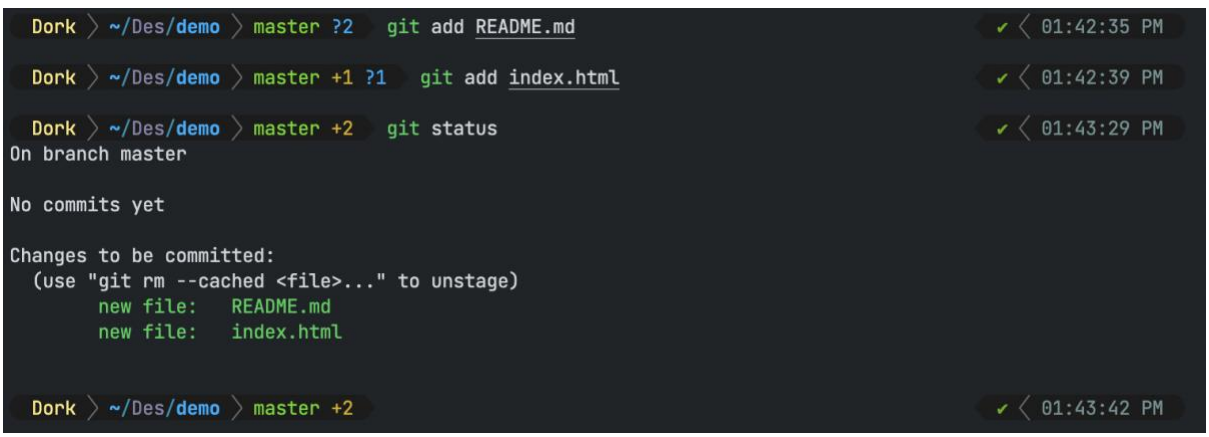
4. Add file to staging environment

   A commit is a record of when and what you did in the last state or change in the project. For example, if you add a file or modify a file in your repository you tell git to put those changes into a commit.

   The staging environment tells which changed file to push in a commit. Creating a file doesn't do anything to a commit even when we know that a file has been created.

   To add a file to a commit, first, you need to add it to the staging environment.Add a file to the staging environment by using the $ git add <filename with extension> command.

   If you see the git status the file has not been committed yet but the file has been staged for now.



5. Create a commit

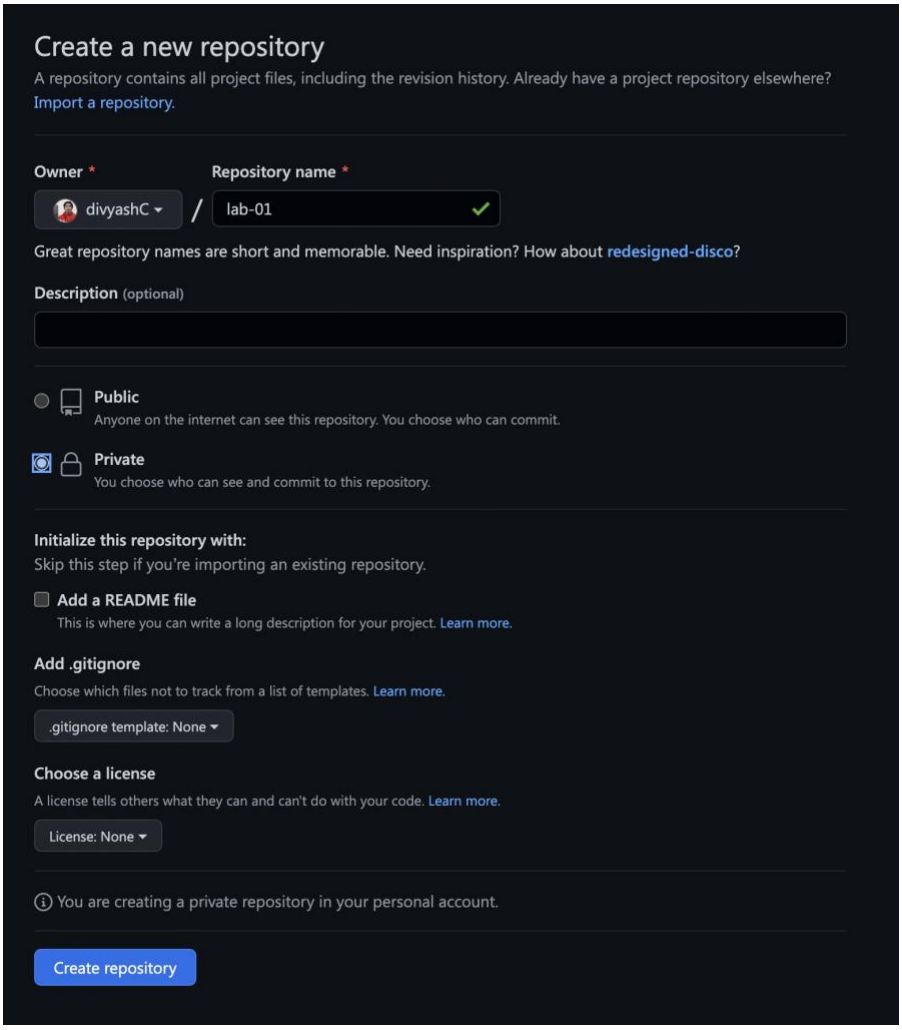
   Run a command $ git commit -m <Your commit message> to create a commit from your staged file.

```
Dork 〉~/Des/demo 〉master +2  git commit -m "First Commit"                ✔ 〈 01:43:44 PM
[master (root-commit) 9d6a9c2] First Commit
 2 files changed, 15 insertions(+)
 create mode 100644 README.md
 create mode 100644 index.html
```

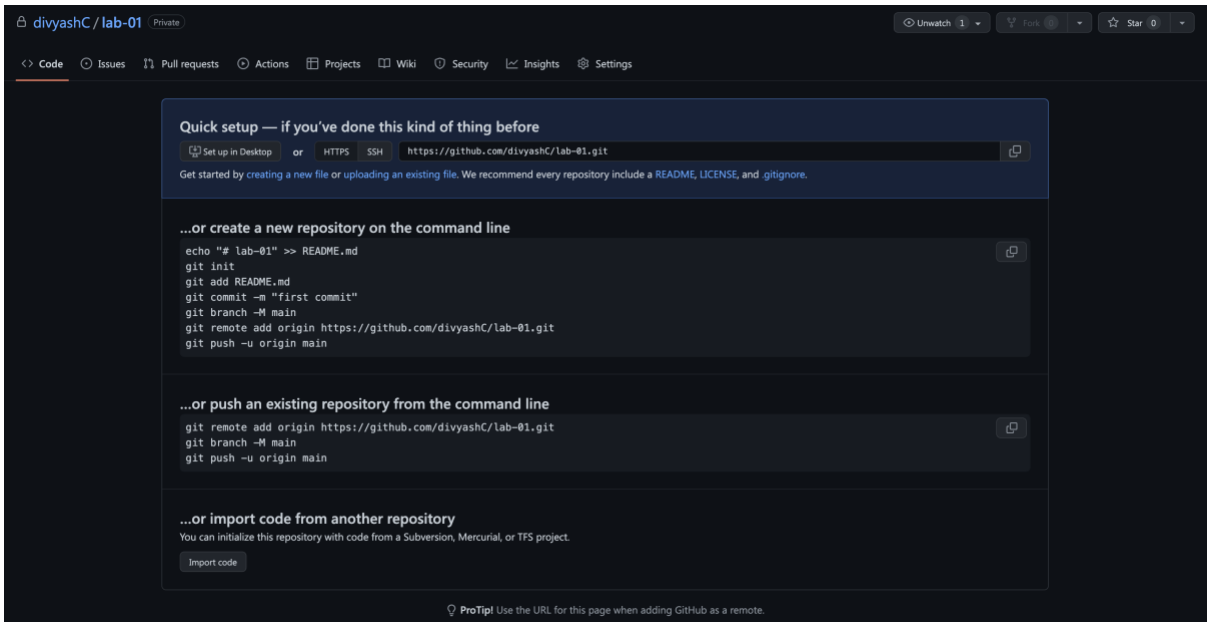
6. Configure git

```
Dork 〉~/Des/demo 〉master  git config --global user.name "divyashC"       ✔ 〈 01:45:27 PM
Dork 〉~/Des/demo 〉master  git config --global user.email "divyashchhetri@gmail.com"
```

7. Create a repository on GitHub'. Click on `Repository, then select `New` and fill in the required Details



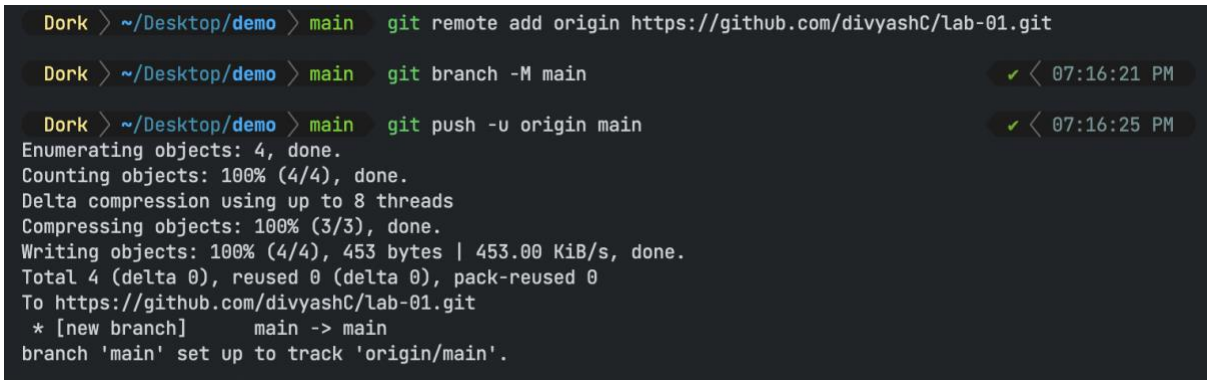
If this information pops up, it indicates that the repository is successfully created.



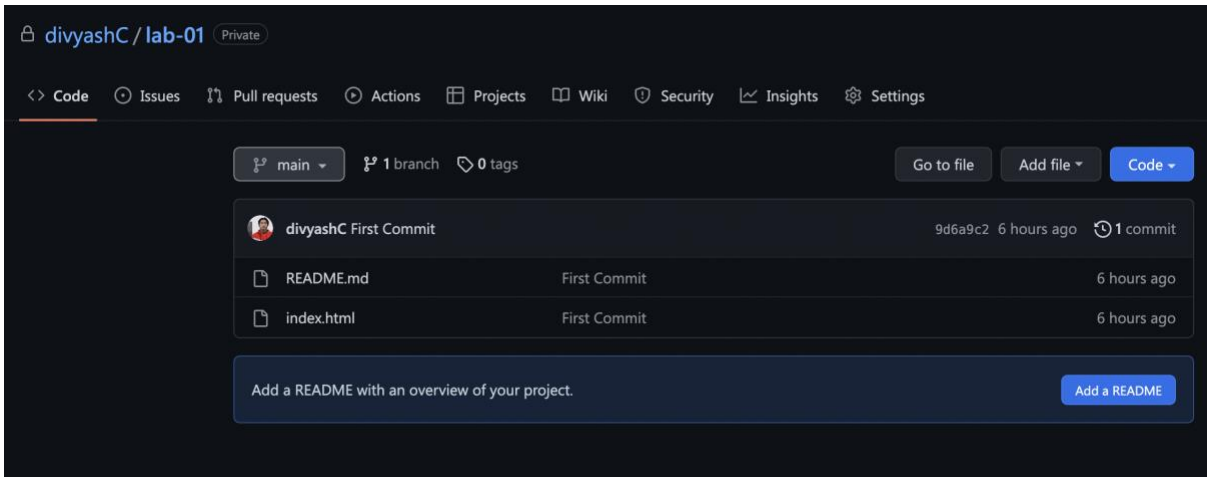
8. Push local repository to GitHub

   Once you get your own repository link, you can paste it in your bash and add origin using $ git remote add origin <your repo link> command. You need to specify the branch you are pushing to by using the $ git branch -M main command.

   Finally, you push your commit by using $ git push -u origin main. This command will push the local repository to GitHub.



Your local repository is successfully pushed to GitHub.



9. Check current status using `git status` command

Conclusion

By completing this lab, I learnt about Android and Android Studio IDE. Now I am capable enough to create a project in Android Studio and then integrate it with a VCS. I used Git VCS for the local repository and GitHub. I also became familiar with Git and GitHub and learnt to use it with Android Studio and even through the terminal.

References

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