BASIC GIT WORKFLOW

PROJECT REPORT

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BONAFIDE CERTIFICATE

Certified that project documentation of "**Basic GIT Workflow"** is the bonafide work of **"GOKUL R (22CDR026), AJAI G(22CDL120)"** who carried out the project under my supervision. Certified further that to the best of my knowledge the work reported here in does not form part of my other these is or dissertation on the basis of which a degree or awarded was conferred on an earlier occasion on this or any other candidate.

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SIGNATURE   **SIGNATURE**

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Basic GIT Workflow

AIM

To perform a basic Git workflow in an Ubuntu environment running in VirtualBox. This includes installing Google Chrome, cloning an existing GitHub repository, and pushing a project into the user's own GitHub repository.

ABSTRACT

The project demonstrates a basic Git-based workflow on Ubuntu running inside VirtualBox. In Ubuntu install Google Chrome, log into GitHub, clone the existing repository and push the project into our repository by creating a branch.

SCOPE AND OBJECTIVES

- Set up a functional development environment by installing Ubuntu on VirtualBox.

- Install essential software like Google Chrome to easily access GitHub through the browser.

- Use GitHub to manage the source code and keep track of changes throughout the project.

- Clone an existing repository from GitHub to the local Ubuntu environment.

- Add the necessary project files, commit the changes, and push them to your own GitHub repository.

HARDWARE & SOFTWARE REQUIREMENTS

Hardware Requirements:

- At least 4 GB RAM and 20 GB of available disk space

Software Requirements:

- Oracle VirtualBox
- Ubuntu (version - 20.04 or later)
- Google Chrome browser
- GitHub account for repository management

EXISTING SYSTEM

Version control and project collaboration are often done manually or through basic file-sharing methods, which can lead to confusion, loss of data, and difficulty in tracking changes.

DRAWBACKS

- No centralized version control or history tracking
- Difficulty in collaborating with others on the same project
- Manual file management leads to a higher risk of overwriting or losing work
- Limited visibility into what changes were made, when, and by whom

PROPOSED SYSTEM

1. **Basic Git Workflow Implementation**
   - Use Git for efficient version control and project tracking.
   - Clone existing repositories and push updates to personal GitHub repositories for easy access and collaboration.

2. **Virtual Environment Setup Using VirtualBox**
   - Run Ubuntu OS inside VirtualBox to simulate a clean development environment.
   - Helps in testing code and managing platform-independent projects.

3. **Browser and GitHub Integration**
   - Install Google Chrome to access GitHub conveniently via the web.
   - Log in and manage repositories through the browser interface.

ADVANTAGES

- Easy tracking of code changes over time
- Secure and centralized version control
- Error free coding while cloning

PROJECT DESIGN

- **Environment Setup**: Access the project folder by navigating to the Bird_Shop directory in Ubuntu.

- **Repository Initialization**: Use git init to initialize a new local Git repository in the project folder.

- **Remote Repository Linking**: Connect the local repository to a GitHub repo using git remote add origin.

- **Code Management**: Stage project files using git add . and commit them with a message using git commit -m.

- **Branch Setup**: Rename the default branch to main using git branch -M main.

- **Push Changes**: Push the local project to the remote repository on GitHub with git push -u origin main --force.

IMPLEMENTATION OF THE PROJECT

- **Step 1: Install Ubuntu in VirtualBox**

    Install and configure Ubuntu as a virtual machine environment for development.

- **Step 2: Install Git**

    - sudo apt update
    - sudo apt install git

- **Step 3: Clone an existing GitHub Repository**

    - git clone
      https://github.com/Dhanushree1401/Bird_Shop.git
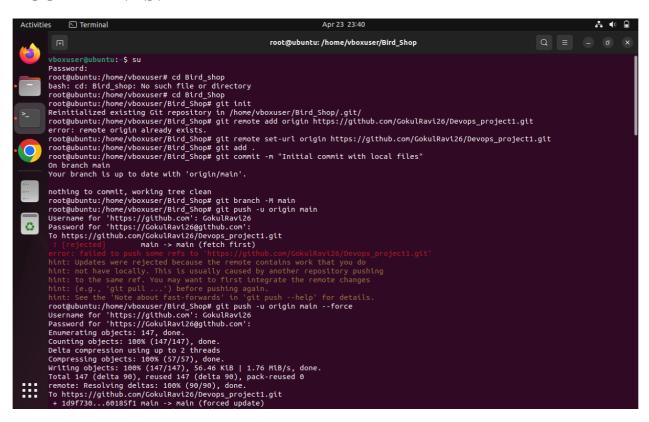   - cd Bird_Shop
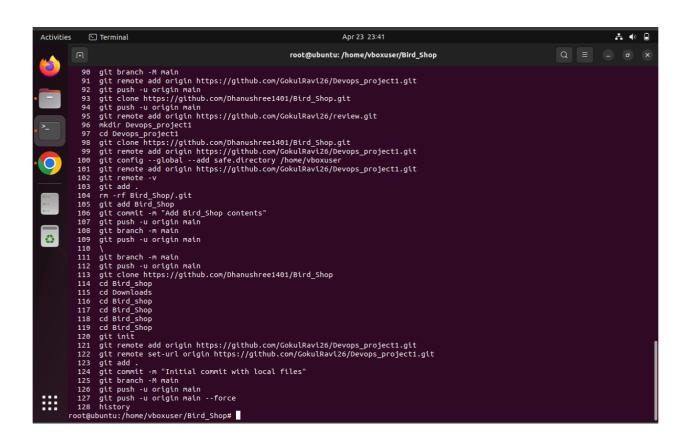
- **Step 4: Commit and Push Changes**

  - git init
  - git remote add origin

    https://github.com/GokuRavi126/Devops_project1.git
  - git remote set-url origin

    https://github.com/GokuRavi126/Devops_project1.git
  - git add .
  - git commit -m "Initial commit with local files"
  - git branch -M main
  - git push -u origin main --force

CONCLUSION

The project shows how to use Git in Ubuntu on VirtualBox to manage software development. It helps with easy tracking of changes, safe code storage, and better teamwork using GitHub. The setup is simple, reliable, and useful for both individuals and teams.

COMMANDS: