Feature Branches

- Developers will work on local feature branches and they create a merge/pull request to development branch
- In many cloud hosted repositories, we clone the code

Pull request

- Major cloud hosted git repositories support forks Refer Here
- Refer Here for official docs

Steps to Recover a Deleted Commit

1. **Open your terminal** and navigate to the repository where the commit was deleted.

2. **Run the reflog command**:

   ```
   git reflog
   ```

   This command will display a list of recent commits, including those that have been deleted. Each entry will have an associated SHA identifier.

3. **Identify the commit** you want to recover from the reflog output. Look for the commit message or the SHA that corresponds to the deleted commit.

4. **Reset to the desired commit**: If you want to restore your working directory to that commit, use:

   ```
   git reset --hard <commit-SHA>
   ```

   Replace `<commit-SHA>` with the SHA identifier of the commit you want to recover. Note that this will overwrite any changes in your working directory that have not been committed.

5. **Alternatively, cherry-pick the commit**: If you want to apply the changes from the deleted commit without resetting your entire branch, you can use:

   ```
   git cherry-pick <commit-SHA>
   ```

   This will create a new commit on top of your current branch with the changes from the specified commit.

Important Considerations

- **Local Only**: Reflogs are stored locally, which means they cannot be accessed from remote repositories. If you have pushed the changes to a remote repository after the deletion, the reflog will not help you

If you have pushed the changes to a remote repository after the deletion, the reflog will not help you recover those commits from the remote.

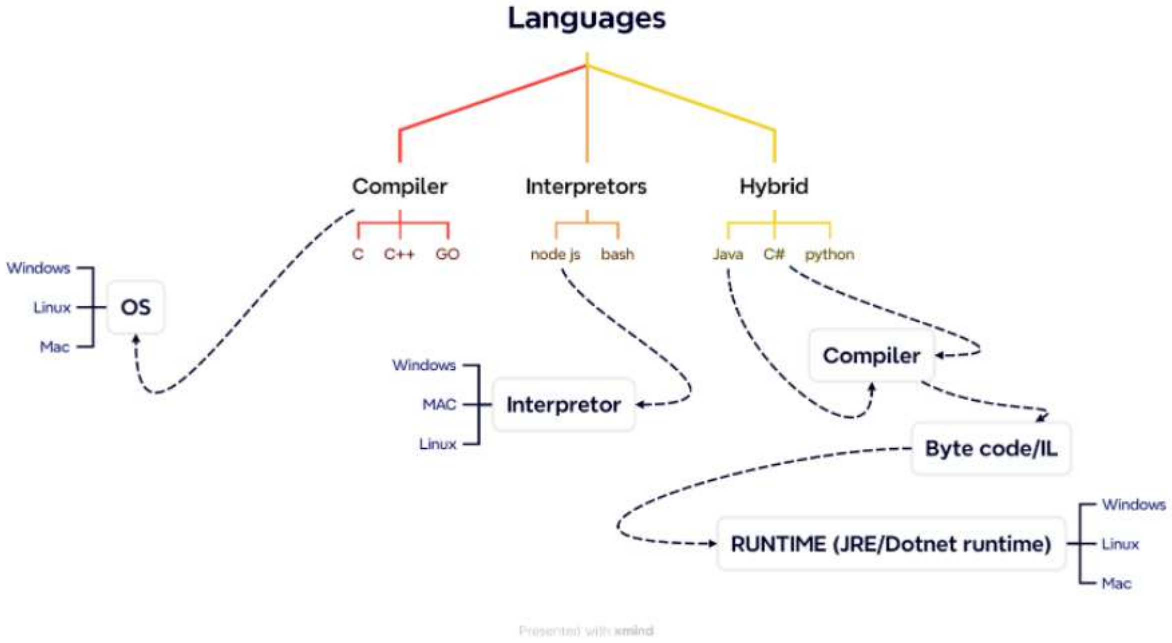
- **Expiration**: Reflog entries may expire after a certain period or may be cleaned up, so it's best to act quickly after realizing a commit has been deleted.
- **Backup**: Regularly backing up your repository can help prevent data loss in the future

Exercise

- Moving code from github to aws code commit/azure source repos
- What are the cases where you need to force the push

Building the code

- Language Types



- As a devops engineer, we are supposed to build and package the code, this is very much technology dependent
    - Java Packages contain byte code
    - Dotnet packages contain IL
    - C/C++ we directly create package which can execute directly
    - node js/python/shell we copy code to the desired systems
- Next steps:
    - Dependencies
    - Package formats
        - java
            - jar
            - war
        - dotnet

      - exe
    - C/C++
      - exe
  - Build tools
    - make
    - ant
    - maven
    - msbuild