Ex. No. 3	**Git & BitBucket**
07/08/2024	

AIM

Algorithm for Implementing Bitbucket Operations using Git

Algorithm

1. **Creating a Repository**:

   - Log into your Bitbucket account.
   - Click on the `Repositories` tab in the sidebar.
   - Click on the `Create repository` button.
   - Fill in the repository details and set the access level.
   - Click on the `Create repository` button.

2. **Cloning a Repository**:

   - Copy the repository URL from Bitbucket.
   - Open the terminal.
   - Clone the repository using the URL.

3. **Making Changes and Creating a Branch**:

   - Navigate into the cloned repository.
   - Create a new text file named `test.txt`.
   - Add content to the `test.txt` file.
   - Check the repository status.
   - Stage the changes for commit.
   - Commit the changes with a message.
   - Create a new branch named `feature`.
   - Switch to the `feature` branch.

4. **Pushing Changes to Bitbucket**:

   - Add the repository URL to a variable.
   - Push the `feature` branch to Bitbucket.
   - Confirm the new branch is available in the Bitbucket repository.

5. **Collaborating through Pull Requests**:

   - Go to the repository on Bitbucket.
   - Click on `Create pull request`.
   - Choose the source branch (`feature`) and the target branch (`main`).
   - Review the changes and create the pull request.
   - Review and merge the pull request.

6. **Syncing Changes**:

    ◦ After merging, update the local repository with the latest changes from the remote repository.

Input

```
# Task 1: Creating a Repository
# 1. Log into your Bitbucket account.
# 2. Click on the `Repositories` tab in the sidebar.
# 3. Click on the `Create repository` button.
# 4. Fill in the repository details:
#    - Repository name: `example-repo`
#    - Access level: Choose between Private or Public.
# 5. Click on the `Create repository` button.

# Task 2: Cloning a Repository
# 1. Copy the repository URL.
# 2. Open terminal.
git clone https://nakshathragreeneem@bitbucket.org/devops-example-72/devops-
ex3.git

# Task 3: Making Changes and Creating a Branch
cd devops-ex3
echo "This is a test file." > test.txt
git status
git add test.txt
git commit -m "Edited test.txt"
git branch feature
git checkout feature

# Task 4: Pushing Changes to Bitbucket
git push -u origin feature

# Task 5: Collaborating through Pull Requests
# 1. Go to the Bitbucket repository.
# 2. Click on `Create pull request`.
# 3. Choose the source branch (`feature`) and the target branch (`main`).
# 4. Review the changes and create the pull request.
# 5. Add a title and description for the pull request.
# 6. Assign reviewers if needed.
# 7. Once the pull request is approved, merge it into the target branch.

# Task 6: Syncing Changes
git checkout main
git pull origin main
```
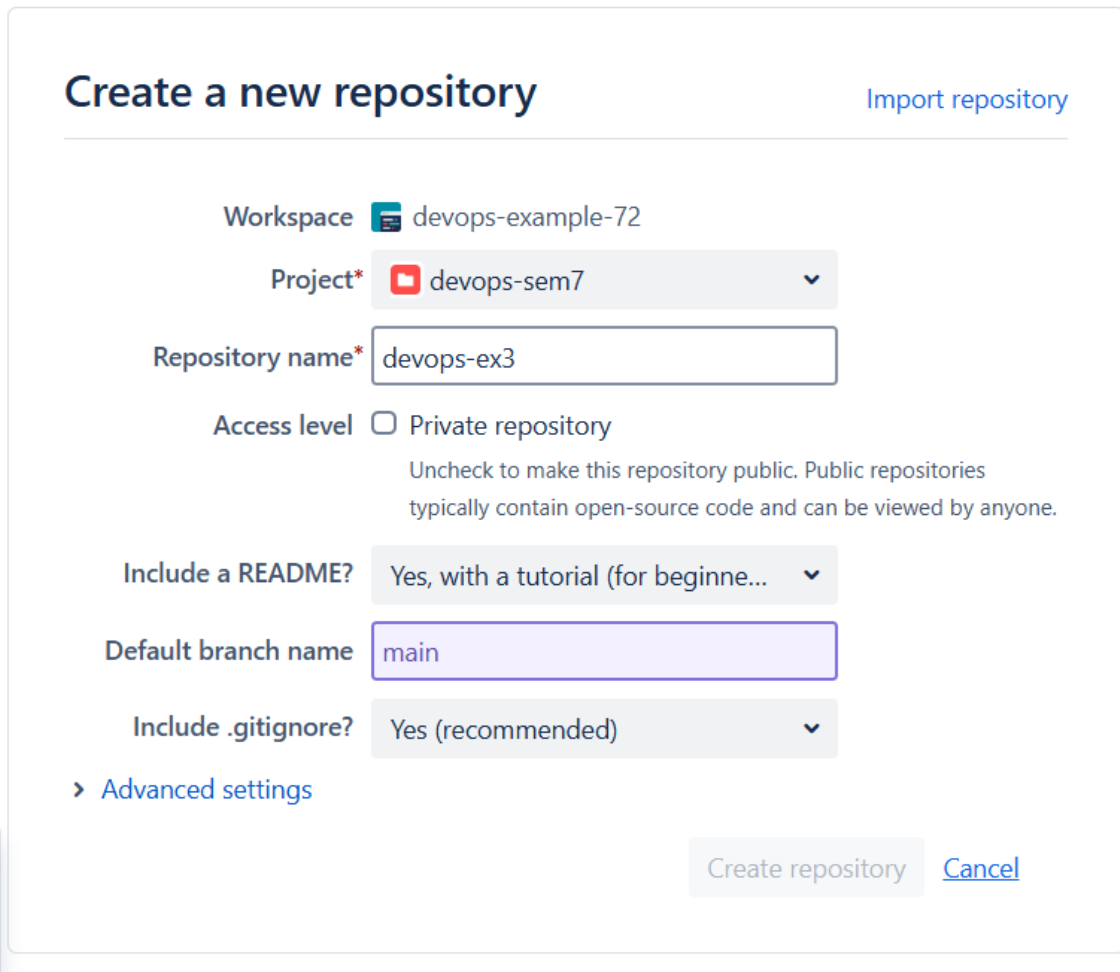
Output

1. **Creating a Repository**:

○ A new Bitbucket repository named `devops-ex3` is created with the specified details.

2. **Cloning a Repository**:

○ The repository is successfully cloned to the local machine.

```
C:\Users\naksh\Downloads>cd DevOpsCode

C:\Users\naksh\Downloads\DevOpsCode>git clone https://nakshathragreeneem@bitbucket.or
g/devops-example-72/devops-ex3.git
Cloning into 'devops-ex3'...
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 4 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (4/4), 1.73 KiB | 1.73 MiB/s, done.

C:\Users\naksh\Downloads\DevOpsCode>cd devops-ex3

C:\Users\naksh\Downloads\DevOpsCode\devops-ex3>
```

3. **Making Changes and Creating a Branch**:

○ Navigated into the cloned repository.
○ `test.txt` file created and modified.
○ Changes staged and committed.

- New branch feature created and switched to.

```
C:\Users\naksh\Downloads\DevOpsCode\devops-ex3>git branch
* main

C:\Users\naksh\Downloads\DevOpsCode\devops-ex3>echo "This is a test file." > test.txt

C:\Users\naksh\Downloads\DevOpsCode\devops-ex3>ls
'ls' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\naksh\Downloads\DevOpsCode\devops-ex3>dir
 Volume in drive C is Windows-SSD
 Volume Serial Number is 101D-CF9E

 Directory of C:\Users\naksh\Downloads\DevOpsCode\devops-ex3

20-11-2024  18:32    <DIR>          .
20-11-2024  18:27    <DIR>          ..
20-11-2024  18:27               674 .gitignore
20-11-2024  18:27             2,666 README.md
20-11-2024  18:32                25 test.txt
               3 File(s)          3,365 bytes
               2 Dir(s)  140,980,707,328 bytes free
```

```
C:\Users\naksh\Downloads\DevOpsCode\devops-ex3>git status
On branch main
Your branch is up to date with 'origin/main'.

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        test.txt

nothing added to commit but untracked files present (use "git add" to track)

C:\Users\naksh\Downloads\DevOpsCode\devops-ex3>git add test.txt

C:\Users\naksh\Downloads\DevOpsCode\devops-ex3>git commit -m "Edited test.tx
t"
[main 214dd99] Edited test.txt
 1 file changed, 1 insertion(+)
 create mode 100644 test.txt

C:\Users\naksh\Downloads\DevOpsCode\devops-ex3>git branch feature

C:\Users\naksh\Downloads\DevOpsCode\devops-ex3>git checkout feature
Switched to branch 'feature'

C:\Users\naksh\Downloads\DevOpsCode\devops-ex3>git push -u origin feature
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 342 bytes | 342.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create pull request for feature:
remote:   https://bitbucket.org/devops-example-72/devops-ex3/pull-requests/n
ew?source=feature&t=1
remote:
To https://bitbucket.org/devops-example-72/devops-ex3.git
 * [new branch]      feature -> feature
branch 'feature' set up to track 'origin/feature'.
```

4. **Pushing Changes to Bitbucket**:

- feature branch pushed to Bitbucket.
- Verified the new branch feature is available in the Bitbucket repository.

5. **Collaborating through Pull Requests**:

   ○ Pull request created, reviewed, and merged on Bitbucket.

6. **Syncing Changes**:

- ○ Local repository updated with the latest changes from the remote repository.

```
C:\Users\naksh\Downloads\DevOpsCode\devops-ex3>git checkout main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

C:\Users\naksh\Downloads\DevOpsCode\devops-ex3>git pull origin main
remote: Enumerating objects: 1, done.
remote: Counting objects: 100% (1/1), done.
remote: Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (1/1), 230 bytes | 57.00 KiB/s, done.
From https://bitbucket.org/devops-example-72/devops-ex3
 * branch            main        -> FETCH_HEAD
   7474f79..1c39406  main        -> origin/main
Updating 214dd99..1c39406
Fast-forward

C:\Users\naksh\Downloads\DevOpsCode\devops-ex3>
```