

# Exercise (Instructions): Basic Git Commands

## Objectives and Outcomes

In this exercise you will get familiar with some basic Git commands. At the end of this exercise you will be able to:

- Set up a folder as a Git repository
- Perform basic Git operations on your Git repository

## Basic Git Commands

- At a convenient location on your computer, create a folder named **git-test**.
- Open this git-test folder in your favorite editor.
- Add a file named *index.html* to this folder, and add the following HTML code to this file:

```
1  <!DOCTYPE html>
2  <html>
3      <head></head>
4
5      <body>
6          <h1>This is a Header</h1>
7      </body>
8  </html>
```

## Initializing the folder as a Git repository

- Go to the git-test folder in your cmd window/terminal and type the following at the prompt to initialize the folder as a Git repository:

```
1  git init
```

## Checking your Git repository status

- Type the following at the prompt to check your Git repository's status:

```
1  git status
```

## Adding files to the staging area

- To add files to the staging area of your Git repository, type:

```
1  git add .
```

## Committing to the Git repository

- To commit the current staging area to your Git repository, type:

```
1  git commit -m "first commit"
```

### Checking the log of Git commits

- To check the log of the commits to your Git repository, type

```
1 git log --oneline
```

- Now, modify the *index.html* file as follows:

```
1 <!DOCTYPE html>
2 <html>
3   <head></head>
4
5   <body>
6     <h1>This is a Header</h1>
7     <p>This is a paragraph</p>
8   </body>
9 </html>
```

- Add a sub-folder named **templates** to your **git-test** folder, and then add a file named *temp.html* to the templates folder. Then set the contents of this file to be the same as the *index.html* file above.
- Then check the status and add all the files to the staging area.
- Then do the second commit to your repository
- Now, modify the *index.html* file as follows:

```
1 <!DOCTYPE html>
2 <html>
3   <head></head>
4
5   <body>
6     <h1>This is a Header</h1>
7     <p>This is a paragraph</p>
8     <p>This is a second paragraph</p>
9   </body>
10 </html>
```

- Now add the modified *index.html* file to the staging area and then do a third commit.

### Checking out a file from an earlier commit

- To check out the *index.html* from the second commit, find the number of the second commit using the git log, and then type the following at the prompt:

```
1 git checkout <second commit's number> index.html
```

### Resetting the Git repository

- To discard the effect of the previous operation and restore *index.html* to its state at the end of the third commit, type:

```
1 git reset HEAD index.html
```

- Then type the following at the prompt:

```
1 git checkout -- index.html
```

- You can also use *git reset* to reset the staging area to the last commit without disturbing the working directory.

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## Exercise (Instructions): Online Git Repositories

### Objectives and Outcomes

In this exercise you will learn about how to set up and use an online Git repository and synchronize your local Git repository with your online repository. At the end of this exercise, you will be able to:

- Set up the online repository as a remote repository for your local Git repository
- Push your commits to the online repository
- Clone an online Git repository to your computer

### Setting up an Online Git repository

- Sign up for an account either at Bitbucket (<https://bitbucket.org>) or GitHub (<https://github.com>). Note that private repositories on GitHub requires a paid account, and is not available for free accounts.
- Then set up an online Git repository named **git-test**. Note the URL of your online Git repository.

### Set the local Git repository to set its remote origin

- At the prompt, type the following to set up your local repository to link to your online Git repository:

```
1 git remote add origin <repository URL>
```

### Pushing your commits to the online repository

- At the prompt, type the following to push the commits to the online repository:

```
1 git push -u origin master
```

### Cloning an online repository

- To clone an online repository to your computer, type the following at the prompt:

```
1 git clone <repository URL>
```

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