

GitHub and Repository Management

Command Line and Git

Workbook 3

Version 6.1 Y

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Module 1

GitHub - Collaborating with Others

Section 1–1

Migrating a Local Repository to GitHub

Migrating a Local Repository

- **Often you will have a project that was started before the GitHub repository was created**
 - `git clone` will not allow you to clone a new repository into an existing folder
- **You can create a new EMPTY repository on GitHub, and then configure your project to point to the empty repo**
 - There cannot be any files in the repo when you create it
 - * Not even a `README.md` or a `.gitignore`

Creating an EMPTY Remote Repository

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

The screenshot shows the GitHub 'Create a new repository' form. The 'Owner' field is set to 'gdzierzon' and the 'Repository name' field is 'empty-project', which is marked as available. The 'Description' field is empty. The 'Public' option is selected. The 'Initialize this repository with' section has three items highlighted with red boxes and lines pointing to a central red circle: 'Add a README file' (unchecked), '.gitignore template: None', and 'License: None'. The central red circle contains the text 'Don't add ANY files to this'. At the bottom, there is a blue 'Create repository' button and a note: 'You are creating a public repository in your personal account.'

Owner * / Repository name *

gdzierzon / empty-project ✓

Great repository names are empty-project is available. Need inspiration? How about [shiny-octo-carnival](#)?

Description (optional)

☒ Public
Anyone on the internet can see this repository. You choose who can commit.

☐ Private
You choose who can see and commit to this repository.

Initialize this repository with:
Skip this step if you're importing an existing repository.

☐ Add a README file
This is where you can write a long description for your project. [Learn more.](#)

Add .gitignore
Choose which files not to track from a list of templates. [Learn more.](#)

.gitignore template: None

Choose a license
A license tells others what they can and can't do with your code. [Learn more.](#)

License: None


Don't add ANY files to this

📘 You are creating a public repository in your personal account.

- **After clicking the New button, you can:**
 - Name the repo
 - Set the visibility of the repo (public / private)
 - DO NOT add a README file or gitignore file
 - DO NOT specify licensing
 - Accept the default main branch name as 'main' or change it to something else
 - * Until recently, it defaulted to 'master'

- There may be small differences on your internal GitHub
- After creating an empty repo - GitHub displays instructions on how to point to the new repo

Quick setup — if you've done this kind of thing before


 Set up in Desktop

 or

HTTPS

SSH

https://github.com/gdzierzon/empty-project.git



Get started by [creating a new file](#) or [uploading an existing file](#). We recommend every repository include a [README](#), [LICENSE](#), and [.gitignore](#).

...or create a new repository on the command line

```
echo "# empty-project" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/gdzierzon/empty-project.git
git push -u origin main
```



...or push an existing repository from the command line

```
git remote add origin https://github.com/gdzierzon/empty-project.git
git branch -M main
git push -u origin main
```



...or import code from another repository

You can initialize this repository with code from a Subversion, Mercurial, or TFS project.

Import code

Configuring the Remote Repository Locally:

git remote

- If your local repo was not cloned from a GitHub repo it will not know where to push or pull
 - But you can configure your repo to point to any remote git repository
- You can use the `git remote -v` command to see if it is pointing to a remote repository

Finding out about the remote repo

```
$ git remote -v
```

If your repo was cloned from a remote it should look similar to this

```
MINGW64/c/LearnToCode/Workbook1/Hello-World
grego@Shadow MINGW64 /c/LearnToCode/workbook1/Hello-world (main)
$ git remote -v
origin https://github.com/gdzierzon/Hello-world.git (fetch)
origin https://github.com/gdzierzon/Hello-world.git (push)
```

If you created the repo using `git init` instead of cloning it, your screen may look similar to this

```
MINGW64/c/LearnToCode/Workbook1/Hello-World
grego@Shadow MINGW64 /c/LearnToCode/workbook1/Hello-world (main)
$ git remote -v
grego@Shadow MINGW64 /c/LearnToCode/workbook1/Hello-world (main)
```

- If you do not see an origin listed as a remote, your repo cannot be pushed to a remote server
 - You can still configure your repo to add an **origin** link

- If you created the repo on your local computer first, you should use the `git remote add` command to create and configure the remote repo

- You may be prompted for GitHub credentials

Creating a remote repo using Git

```
$ git remote add origin https://github.com/gdzierzon/empty-project.git
```

- Notice here we are specifically giving the remote the name 'origin'

Pushing to the Remote Repository:

`git push`

- The `git push` command says "push the commits in the local branch to the remote branch"
 - Once executed, commits since your last push will be available on GitHub (the remote repo)

Initial push

```
$ git push -u origin main
```

- Use the `-u` flag the FIRST time you push any new branch to create an *upstream* tracking connection
 - `origin main` is the name of the remote and the name of the new branch
- **Development is a constant cycle of:**
 - making local changes
 - committing to the local repo
 - pushing changes to the remote repo
 - pulling changes from the remote repo
- **So, why do you pull changes?**
 - Because others might be working in the same project and have made pushes that you want to refresh in your own local repo

Pulling from the Remote Repository:

`git pull`

- The `git pull` command that says "pull the commits in the remote branch to the local branch"
 - When executed, any commits made to the remote branch since your last pull become available in your local copy of the repository

Example pull

```
$ git checkout main  
$ git pull origin main
```

- It's a good practice to make sure you are in the right branch before you execute the pull command

Working with Other Branches and a Remote Repo

- **When you create a new branch locally and decide to push it to the remote repo, you will need to use the -u flag on the initial push**
 - Afterwards, the push command is simple

- **A log of a programmer's work might be:**

```
$ git checkout main > checkout the latest main
$ git pull origin main

$ git checkout -b MyNewFeature1 > create a branch off main
> make changes <

$ git status
$ git add .
$ git commit -m "Some changes occurred"
$ git status

> check everything <

$ git push -u origin MyNewFeature1 > create a remote tracking
                                   > branch
> make more changes <

$ git status
$ git add .
$ git commit -m "More changes occurred"
$ git status

> check everything <

$ git push origin MyNewFeature1 > push additional changes
```

- **Alternatively, you may not want to push the branch to the remote**
 - You might work in the branch locally and then merge to main
 - Then, push main to the remote

Exercises

In this exercise you will create a new remote GitHub repository for your LearnToCode workbook exercises. You will then see how to convert an existing project folder as a git repository and push your work to GitHub.

EXERCISE 1

Step 1: Log into GitHub and create a new empty repository.

Go to your GitHub profile, click the Repositories tab, then click the **New** button

Name the repo `command-line` and let everything else can stay at the default values (so **do not add readme!**), then click "Create Repository".

Step 2: Configure the remote repository

While still in GitHub, copy the HTTPS URL of your new repository. It will resemble:

`https://github.com/your-github-username/command-line.git`

Navigate to your `C:/pluralsight/command-line` folder in GitBash.

Initialize this directory as a git repo.

```
$ git init
```

Verify that you do not currently have any remote repository linked (there should be no origins)

```
$ git remote -v
```

Add a new remote to your `command-line` repo and push all of your existing code to the remote

```
$ git remote add origin https://github.com/<your-github-username>/command-line.git  
$ git remote -v  
$ git status  
$ git push -u origin main
```


Section 1–2

README .md - How to Create Good Markup Files

README .md

- **A README .md file is a text file that describes the project contained in a repo**
 - It resides at the root of the project
 - The Git cloud services GitHub, GitLab, and Bitbucket look for your README and display its information along with the list of files and directories in your project
- **The README contains information such as:**
 - what the project is used for
 - the technologies used in the project
 - how to collaborate with you (if appropriate)
 - license information (if any)
- **It helps the audience understand how to install and use your project**
- **Many people get into the habit of making it the first file you create in a new project**

Markdown Language

- **Most READMEs are often written using the Markdown language**
 - The wiki for markdown is here:
<https://en.wikipedia.org/wiki/Markdown>
- **It lets you to add some lightweight formatting without using a sophisticated editor**
 - Remember, the README file is a plain text file
- **A quick Google search will lead you to lots of good examples of READMEs and markdown syntax, however the following pages will demonstrate some examples**

Basic Markdown Rules

- The examples below show different ways to use markdown in a README file

There are two ways to create a BIG heading:

This is a Big Heading

This is also a Big Heading
=====

This is a Sub-heading

This is also a Sub-heading

Paragraphs are just a bunch of sentences separated by a blank line. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nullam.

See, this is another paragraph. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nullam.

Sometimes, you want to force a line break. In this case, put two spaces at the end of a line and do you see the line break?

You can add a horizontal rule like this:

You can also set the font on text. For example,
these words are italicized,
on some systems **these worlds might be italicized**,
****these words are bolded****,
and finally, ``the words use a monospace font``.

You can have bulleted lists:

- * HTML
- * CSS
- * JavaScript

You also can have numbered lists:

1. HTML

2. CSS
3. JavaScript

You can add links. For more information, click [[here](https://en.wikipedia.org/wiki/Markdown)](<https://en.wikipedia.org/wiki/Markdown>)

If you want to add formatted code to markdown, use backticks before and after it like this:

```
...
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Page Title</title>
  </head>
  <body>
    <!-- body markup goes here -->
  </body>
</html>
...
```

And to add an image, try this:

```
![[Image](images/readme-images/dana.jpg "icon")]
```

- **To see the markdown above rendered, look at the next page**

Example

🔗 This is a Big Heading

🔗 This is also a Big Heading

🔗 This is a Sub-heading

🔗 This is also a Sub-heading

Paragraphs are just a bunch of sentences separated by a blank line. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nullam.

See, this is another paragraph. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nullam.

Sometimes, you want to force a line break. In this case, put two spaces at the end of a line and do you see the line break?

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You can also set the font on text. For example, *these words are italicized*, on some systems *these words might be italicized*, **these words are bolded**, and finally, `the words use a monospace font`.

You can have bulleted lists:

- HTML
- CSS
- JavaScript

You also can have numbered lists:

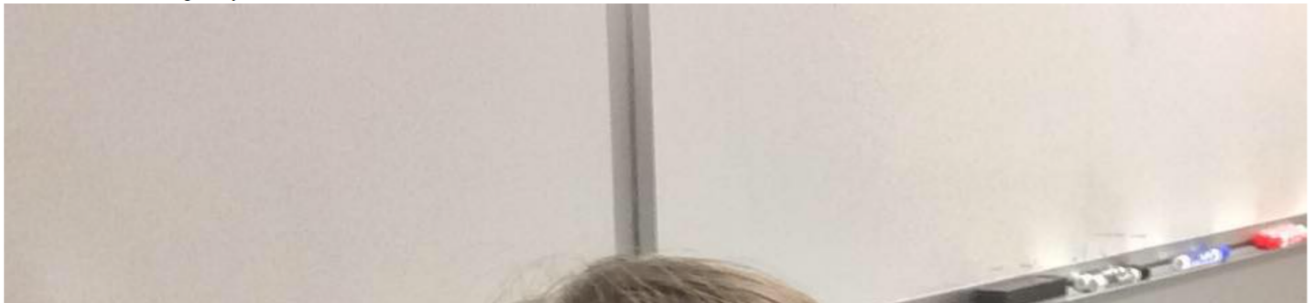
1. HTML
2. CSS
3. JavaScript

You can add links. For more information, click [here](#)

If you want to add formatted code to markdown, use backticks before and after it like this:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Page Title</title>
  </head>
  <body>
    <!-- body markup goes here -->
  </body>
</html>
```

And to add an image, try this:



A Good README

- **Good READMEs are like good books -- everyone has different opinions**
 - <https://www.makeareadme.com/>
- **Minimally, you should include:**
 - Name
 - Description
 - * Consider adding a list of features section
- **You may also want to add screenshots or even a video of your user interface**
- **If your project requires non-obvious installation steps, you will want to include them**
 - You may even include a list of system or software requirements
- **You may include code examples of how to use or extend the software if it is a framework**
- **If you provide support, tell people where they can go to for help**
 - It might be an email address, a web site, a chat room, or even a place to report issues
- **If you are open to contributions, describe your requirements are for accepting them**

- **Perhaps even include an authors and acknowledgment section!**
- **Finally, for open source projects, describe how it is licensed**
 - Types of licenses include MIT, Apache, and BSD
 - <https://snyk.io/blog/mit-apache-bsd-fairest-of-them-all/>

Exercises

EXERCISE 1

In this exercise you will add a `README.md` file to your `command-line` repository.

Step 1: Open your `command-line` folder in IntelliJ.

Open the `README.md` file

Step 2: Modify your `README` file to create a basic resume that resembles the following:

YOUR NAME

Contact details go here.

A summary of you and your skills goes here

Highlights

- Bulleted list of skills

Work Experience

Job Title

Company

Date Range

- Bulleted list of responsibilities

Job Title

Company

Date Range

- Bulleted list of responsibilities

Step 3: Stage, commit and push your changes. Then navigate to your repo on [GitHub.com](https://github.com) and verify that your resume appears on the homepage of the repo.

