The Ultimate GIT 5-day Challenge Workbook

Brian Gorman, Author/Instructor/Trainer

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Welcome to The Ultimate GIT 5-day Challenge!

Here is a little bit of information about your instructor – Brian Gorman:

I've been working with software for over 15 years now and teaching online for over 8 years at the time of this course creation. I have many courses available in various topics ranging from HTML and Bootstrap to ASP.Net MVC, Java, Java EE, and now GIT!

It is my hope that you will enjoy this free, 5-day challenge and that it will pique your interest about GIT, and answer some of the preliminary questions you may have regarding whether or not GIT is right for you.

Let me start out by saying "GIT is NOT just for developers." Although GIT is a great resource and is definitely aimed at source control for developers, there are many other uses for which GIT can be an excellent solution.

For example, are you working with images? How many times have you been editing a photo and wished you could go back to a previous version? How many times have you feared "Losing your work" – either to a drive failure, a file corruption, or just plain losing track of where the file might be on your drive?

Are you working with spreadsheets or other files that store advanced data and/or calculations? Would these files benefit from your ability to reset them to a previous version and/or to start fresh from a default template at will? GIT can give you all of this and more.

Another common activity for anyone that is working with important files is to make multiple copies of the file and/or entire copies of folders. How many times have you lost track of these "versions" and wished you had a cleaner structure to work from on your machine? Again, GIT could potentially be a great solution for you!

For those of us who are in software development or website development, GIT can be an invaluable resource. With options for GitHub or BitBucket, we can determine if we want our code to be public or private, and make many different repositories to manage each of our projects individually.

Although this challenge is aimed at a single developer flow, with no branching (we're keeping it REALLY basic here – to get you started and get your feet wet), GIT is also an invaluable tool for collaboration with other team members or other contributors. At the end of this challenge, I'll give you some thoughts on where you can go to continue your learning and take some deeper dives into the world of GIT.

I am greatly looking forward to working with you through this course, and look forward to hearing your feedback as well as seeing your continued success.

Day 1 – Introduction and Getting Started

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Start by doing what's necessary; then do what's possible; and suddenly you are doing the impossible – Saint Francis of Assisi	_____

Learning:

During Day 1, we'll have a quick introduction time, and then we'll dive into getting an account at GitHub and/or BitBucket. You only need one account, but you can get both if you would like. While both can have private repositories, it does cost money to set this up at GitHub. Therefore, if you are looking to keep your code private, you might want to start with BitBucket. GitHub is, of course, the largest public location for open-source projects, so if that is your thing, I would suggest going with GitHub.

We'll also be learning how to create our first repository, and will create a repository at either GitHub or BitBucket. For extra practice, one could get accounts and create repositories at each of the two suggested websites!

Goals:

- Introduction to the course and finding your way around the material
- Get an account at GitHub and/or BitBucket
- Create a new Repository at GitHub and/or BitBucket

Tasks:

- Watch the videos for day 1
- Complete the activities for each video, don't just watch the video – work it!
- Take notes and/or make reminders for yourself for the future.
- Make note of your username and password so you don't lose them – you'll be needing them a lot in the next days.

Achievements:

At the end of this section, you'll be on your way to completing the Ultimate GIT 5-day challenge. We'll have a valid account at either GitHub or BitBucket (or both) and will be ready to go

Videos:

- o Day 1 Overview
- o Setup an Account at GitHub
- o Create a REMOTE repository at GitHub
- o Setup an Account at BitBucket
- o Create a REMOTE repository at BitBucket
- o Reflection on Day 1

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Day 2 – Get setup with GIT locally [on your machine]

	Notes
It's the little details that are vital. Little things make big things happen – John Wooden	Notes

Learning:
Day 2 of the challenge gives us our first chance to get the GIT software setup on our own machine. Watch and perform the tasks for the video that makes the most sense to you based on your current machine [Windows, Linux, or Mac]. Once you have GIT installed on your machine, we'll create a local respository using our first GIT command – `git init.`

Goals:
- Get GIT on your machine
- Create a local repository
- Be introduced to the `git init` command

Tasks:
- Watch the videos for day 2
- Complete the activities for each video, don't just watch them!
- Take notes and/or make reminders for yourself for the future.
- Practice the steps that give you trouble more than once – for example, just create three or four repositories on your machine. Feel free to then delete the folders when you are done, or keep them if you want.

Achievements:
At the end of day 2, you'll have GIT working on your machine. Additionally, you'll have some experience creating a local repository with the `git init` command.

Videos:
- Day 2 Overview
- [Windows|UBUNTU LINUX|MAC] Getting setup with GIT
- Create our first LOCAL repository
- Reflection on Day 2

Day 3 – Cloning a Repository

	Notes
It does not matter how slowly you go, as long as you don't stop - Confucius	

Learning:
Day 3 of the challenge gives us our first look at "pulling down the code" from our REMOTE repository to a location on our computer as a LOCAL repository. There is a lot that goes along with this under the hood, but we don't need to know all of those details just yet.

The important part of today's learning is how we can easily get the most recent copy of our REMOTE repository using the GIT command – `git clone`.

Goals:
- Use `git clone` to create a LOCAL version of the REMOTE repository

Tasks:
- Watch the videos for day 3
- Complete the activities for each video, don't just watch them!
- Take notes and/or make reminders for yourself for the future.
- Practice the steps that give you trouble more than once – for example, just clone the remote repository into different folders a few times to practice the command.

Achievements:
At the end of day 3, you'll understand how you can easily get a copy of the REMOTE repository to work with the files on your local machine. As such, you should understand what it means to use the GIT command: `git clone`

Videos:
- Day 3 Overview
- Clone a public repository from GitHub
- Clone a private repository from BitBucket
- Reflection on Day 3

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Day 4 – Add and Commit changes, then push

The secret of getting ahead is getting started. The secret of getting started is breaking your complex, overwhelming tasks into small, manageable tasks, and then starting on the first one – Mark Twain

Learning:
Day 4 of the challenge presents the most commands and the bulk of learning the "process" of making changes, committing changes, and pushing changes. By the end of this day, you'll understand what it takes to add your changes into the staging area (INDEX) [using `git add`] and commit the changes to the LOCAL repository (HEAD) [using `git commit`]. You'll also know how to then push the changes you have made from your LOCAL repository to the REMOTE repository at either GitHub or Bitbucket.

Goals:
- Change some files
- Stage your changes (ADD to INDEX)
- Commit your changes (COMMIT to HEAD)
- Push your changes from LOCAL to REMOTE
- Be introduced to `git add`, `git commit`, and `git push`

Tasks:
- Watch the videos for day 4
- Complete the activities for each video, don't just watch them!
- Take notes and/or make reminders for yourself for the future.
- Practice the steps that give you trouble more than once – for example, just keep making changes and adding them, then commit, and then repeat that step multiple times. Then push to REMOTE.   Then repeat all of that again. Soon it will become like second nature!

Achievements:
At the end of day 4, you'll have made changes to your files, staged them to the INDEX, committed changes to HEAD, and pushed to REMOTE. You'll have a basic understanding of the workflow for managing the changes and the different terms that are associated with each step of the GIT workflow. Additionally, you'll have a pretty good exposure to the following GIT commands:
- `git add`
- `git commit`
- `git push`
- `git status`

Videos:
- ○ Day 4 Overview
- ○ Add and Commit the files, then push to REMOTE
- ○ Reflection on Day 4

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Day 5 – Pull changes from the REMOTE to LOCAL

I do the very best I know how, the very best I can, and I mean to keep on doing so until the end – Abraham Lincoln

Learning:
Day 5 brings us to the completion of our time together, and the completion of the Ultimate GIT 5-day challenge. In this final activity, we'll make some quick changes on the REMOTE and pull them down to see how we can quickly get our LOCAL repository up to date with the changes from the REMOTE repository.

Again, in this challenge we are barely scratching the surface, and aren't going to deal with any conflicts, but are just getting our feet wet in the process. This pull activity gives us our first look at what it might be like if other people were making changes on the files and we need to get our files up-to-date.

Goals:
- Be able to get the changes from REMOTE to LOCAL
- Be introduced to the `git pull` command

Tasks:
- Watch the videos for day 5
- Complete the activities for each video, don't just watch them!
- Take notes and/or make reminders for yourself for the future.
- Practice the steps that give you trouble more than once – for example, make changes to the REMOTE repository, then pull and verify, then repeat this activity a few times.

Achievements:
At the end of day 5, you'll have a basic understanding of what it takes to get changes from the REMOTE repository to your LOCAL repository. Additionally, you'll have some experience with the `git pull` command.

Videos:
- Day 5 Overview
- Pull changes from the REMOTE repository
- Reflection on Day 5

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Closing Thoughts

Learning:

The closing section is a recap of what we have already learned. We'll take one final look at the GIT workflow process for creation of a repository at a REMOTE and on the LOCAL machine, adding files, making changes, committing changes, and pushing and pulling to and from the REMOTE repository.

Goals:

- Affirm our learning
- Reflect on the GIT process and commands we've learned.
- Have some ideas for next steps in learning.

Tasks:

- Watch the Closing thoughts videos
- Plan for the next things we want to learn.

Achievements:

At the end of this challenge, you'll have successfully worked through a very basic GIT workflow, and will have enough knowledge to be able to easily work with GIT and local files for source control. We also understand that because this is a basic challenge, we've only gotten our feet wet with GIT and have much more to learn, especially with what it would take to work as a team, resolve conflicts, merge changes with other team-member changes, and perform other advanced commands on our repositories.

Videos:

- o What we learned
- o Next Steps
- o Conclusion

Enroll in GIT – From Beginner to Fearless:

http://courses.majorguidancesolutions.com/p/git-from-beginner-to-fearless

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Other Courses available from Major Guidance Solutions

These courses are older so the video and audio quality may not be as quite good as what you experienced in this course!

Java Programming http://courses.majorguidancesolutions.com/p/introduction-to-java-programming-for-online-learners

Bootstrap http://courses.majorguidancesolutions.com/p/bootstrap-for-everyone1

ASP.Net MVC Quickstart [NOT .Net CORE] http://courses.majorguidancesolutions.com/p/asp-net-mvc-quickstart