Sitecore-Applications PushToMaster User documentation

1. Requirement Details:

PushToMaster script is designed after a requirement particular to Sitecore team and here are the requirement details:

- 1. Sitecore has a module for Sitecore-applications along with CM and CD modules.
- 2. All the code of this module is maintained in Sitecore-applications repository of GitHub.
- 3. This repository has two branches. One branch is named as "Master," and the other branch is named as "dev-branch."
- 4. All the development is done in "dev-branch."
- 5. Hence all the code changes like fixing the bugs, code improvisations, code development happens in "dev-branch."
- 6. "master" branch is maintained clean all the time.
- 7. Deployment of code to servers is also done using "master" branch code.
- 8. Hence the current version of code running on the server, which is available to users, is same as the code in the master branch.
- 9. Once if all the changes in "dev-branch" are tested and decided to be ready for deployment, these changes have to be implemented in the master branch.
- 10. This can be achieved by just using "Merge" option in Git.
- 11. By checking out to "master" branch and merging the changes from "dev-branch" to master, all the changes in "dev-branch" gets reflected in "master," along with the commit history of "dev-branch."
- 12. Here comes the primary requirement that, even though dev-branch have all commit history, only the history of changes should be reflected in "master" branch.
- 13. That means, commit history of "master" branch should be clean; however, it has to be updated with the changes in "master-branch."
- For example, I am working in the master branch.

PS C:\WorkStation\GitLocalRepo\Azure-Auto-deploy> git status On branch master

Your branch is up to date with 'origin/master'.

nothing to commit, working tree clean

· Now I am changing to (checking out to) dev-branch

PS C:\WorkStation\GitLocalRepo\Azure-Auto-deploy> git checkout dev-branch Switched to branch 'dev-branch'
Your branch is up to date with 'origin/dev-branch'.

• I added a file to dev-branch and added some data to that file.

PS C:\WorkStation\GitLocalRepo\Azure-Auto-deploy> Vim abc.txt

- I saved the file and committed these changes to GitHub remote repository.
- Then I modified an existing file index.html, saved the file and committed to GitHub remote repository.
- Finally, I decided that I don't need abc.txt and deleted this file.
- Now, I committed these changes to remote GitHub repository.
- If I checkout to "master" branch and merge "dev-branch" to master, I will have all the history of adding abc.txt, modifying index.html and deleting abc.txt.
- But the actual change in "dev-branch" from "master" is just updating index.html file
- Just this change should be updated to "master" branch.

2. About the script:

- 1. To fulfill this requirement, firstly, the differences between "dev-branch" and "master" should be identified.
- 2. "Master" branch should be updated with all these differences.
- 3. Then these new changes of "master" branch should be committed to the remote GitHub repository.
- 4. As we are just updating the master branch with the changes and committing them, there will be only one commit history irrespective of the number of commits in "dev-branch."
- 5. This entire process is automated in a PowerShell script named "PushToMaster."

- 6. Techniques used in the script are
- · "git diff" to find differences between branches and
- "git patch" to save the differences into a file to apply them to the "master" branch

3. Installing Script:

- 1. This script has to be placed in local git repository of the project for which you would like to apply this requirement.
- 2. That repository has to have both "master" as well as "dev-branch."
- 3. You may also have other branches in that repository, but this script works only between "master" and "dev-branch."
- 4. Include the name of this script to the .gitignore file.
- 5. By doing this, it will not be pushed to your remote git repository and this file gets ignored in all of your git activities.
- 6. Once all these steps got implemented, we are good to use the script.

4. Using the script:

- 1. Generally, for Sitecore-applications, we work from "dev-branch" as explained in Requirement Details
- 2. Once all the changes of "dev-branch" are tested and are ready to be committed to "master," you can just run the script.
- 3. Here is the example that shows how the script works and how it saves history for "dev-branch" as well as "master."

Step 1:

- This is the remote git repository of project Azure-Auto-deploy and we are in "dev-branch"
- · Checking for git log that shows commit history of the index.htm/file in "dev-branch"
- Here are the commits made until May 7th, 2018.
- · Commit5 is the most recent commit



Step 2:

- Now let us check for the commit history of the same file in "master" branch.
- Checking for git log that shows commit history of index.html file in "master"
- Here are the commits made until May 7th, 2018 and today is May 10th, 2018
- "Committing changes on 05/07/2018 15:28:19" is the most recent commit.
- This looks different from "dev-branch".



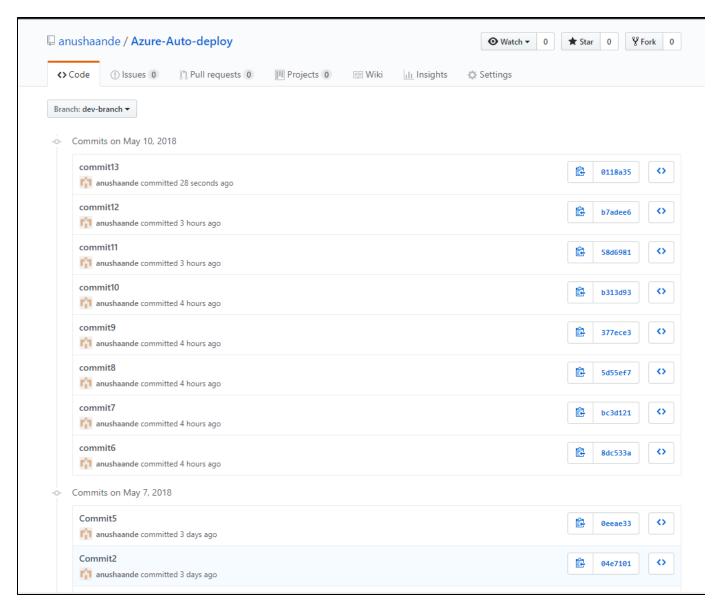
Step 3:

· Switched to dev-branch to make some changes to index.htm/file and create some commit history.

PS C:\WorkStation\GitLocalRepo\Azure-Auto-deploy> git checkout dev-branch Switched to branch 'dev-branch'
Your branch is up to date with 'origin/dev-branch'.

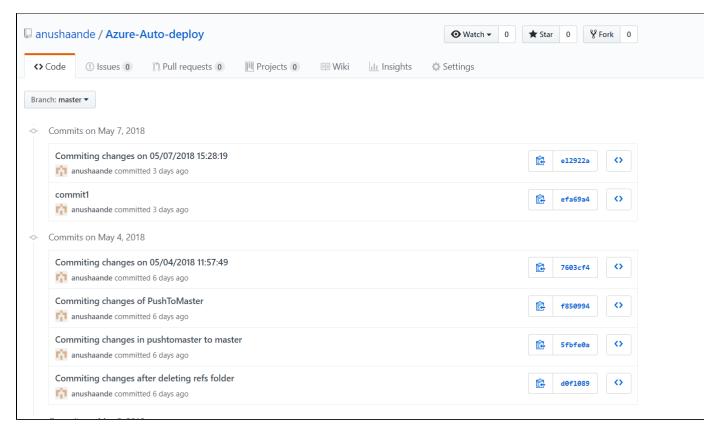
Step 4:

- · Here is the commit history of "dev-branch" after changes are made and committed to the remote repository.
- We can see that there are few commits made today in this branch.
- commit6 to commit13 are the commits made on 10th May 2018.



Step 5:

- Here is the commit history of "master"
- As it appears, I didn't make any changes in this branch on 10th may, 2018.



Step 6:

- I would like to update the master branch with all those changes in "dev-branch" and maintain a clean commit history.
- For this, I have to run the script.
- I am in "dev-branch" now.
- It's always a best practice to run this script from "master".
- · Because script stars with checking to master branch.

```
PS C:\WorkStation\GitLocalRepo\Azure-Auto-deploy> git status
On branch dev-branch
 Your branch is up to date with 'origin/dev-branch'.
nothing to commit, working tree clean
 ----Adding changes in dev-branch to master branch-
  ------Checking to master-----
Switched to branch 'master'
 our branch is up to date with 'origin/master'.
  ------ for the state of the sta
Checking patch PushToMaster.ps1...
Checking patch index.html...
Applied patch PushToMaster.ps1 cleanly.
Applied patch index.html cleanly.
               ·----- transcript in master branch------
[master b8b1a70] Committing changes on 05/10/2018 11:39:51
  2 files changed, 25 insertions(+), 41 deletions(-)
  rewrite PushToMaster.ps1 (72%)
                                                                                            -Pushing changes to master branch-----
Username for 'https://github.com':
```

Step 7:

- · Script gets paused at git push until we give credentials of remote git repository to push these changes to the master branch.
- The commit message is generated automatically with date and time of script execution.
- · I changed two files, hence changes are made to those two files in master branch one after the other.

Step 8:

- Here is the rest of the log after providing credentials to push the changes to remote repository.
- · We can always ignore "fatal" that is highlighted.
- The remaining information is about the data that is getting pushed to the remote repository.
- Git status at the end shows that you are on the master branch and it's up to date with the remote repository.

```
Username for 'https://github.com': anushaande
Password for 'https://anushaande@github.com':
Counting objects: 4, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 775 bytes | 258.00 KiB/s, done.
Total 4 (delta 3), reused 0 (delta 0)
remote: Resolving deltas: 100% (3/3), completed with 3 local objects.
To https://github.com/anushaande/Azure-Auto-deploy.git
e12922a. 1979del master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.

fatal: Resolve operation not in progress, we are not resuming.

Git status-
On branch master
Your branch is up to date with 'origin/master'.

nothing to commit, working tree clean
PS C:\WorkStation\GitLocalRepo\Azure-Auto-deploy>
```

Step 9:

• This is how the script output looks like a whole

```
----Checking to master
 witched to branch 'master'
 our branch is up to date with 'origin/master'.
             -----Applying changes in dev-branch to master-----
Checking patch PushToMaster.ps1...
Checking patch index.html..
Applied patch PushToMaster.ps1 cleanly.
 Applied patch index.html cleanly.
[master 1979de1] Committing changes on 05/10/2018 14:24:58
2 files changed, 25 insertions(+), 41 deletions(-)
 rewrite PushToMaster.ps1 (71%)
                                        ---Pushing changes to master branch-------
Username for 'https://github.com': anushaande
Password for 'https://anushaande@github.com':
 Counting objects: 4, done.
Delta compression using up to 8 threads.
Compression using up to 0 th case.

Compressing objects: 100% (4/4), done.

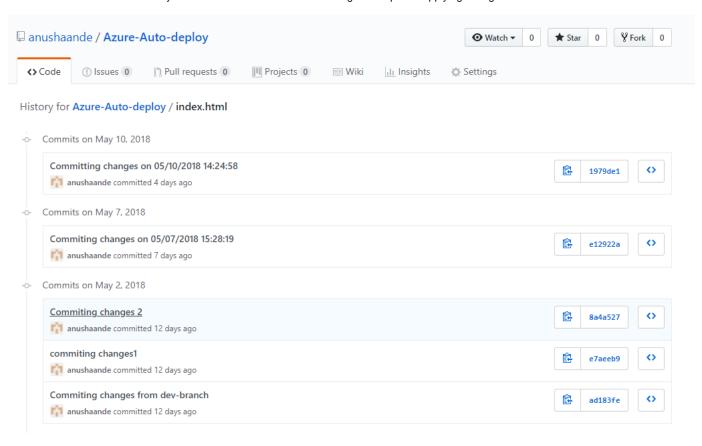
Writing objects: 100% (4/4), 775 bytes | 258.00 KiB/s, done.

Total 4 (delta 3), reused 0 (delta 0)

remote: Resolving deltas: 100% (3/3), completed with 3 local objects.
 To https://github.com/anushaande/Azure-Auto-deploy.git
  e12922a..1979de1 master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
fatal: Resolve operation not in progress, we are not resuming.
On branch master
Your branch is up to date with 'origin/master'.
nothing to commit, working tree clean
PS C:\WorkStation\GitLocalRepo\Azure-Auto-deploy>
```

Step 10:

• This is how commit history of the "master" branch after executing the script and applying changes.



Step 11:

- I added another line in the script to checkout to dev-branch once all the changes got pushed to the remote.
- This way, you will be in the same branch (dev-branch).