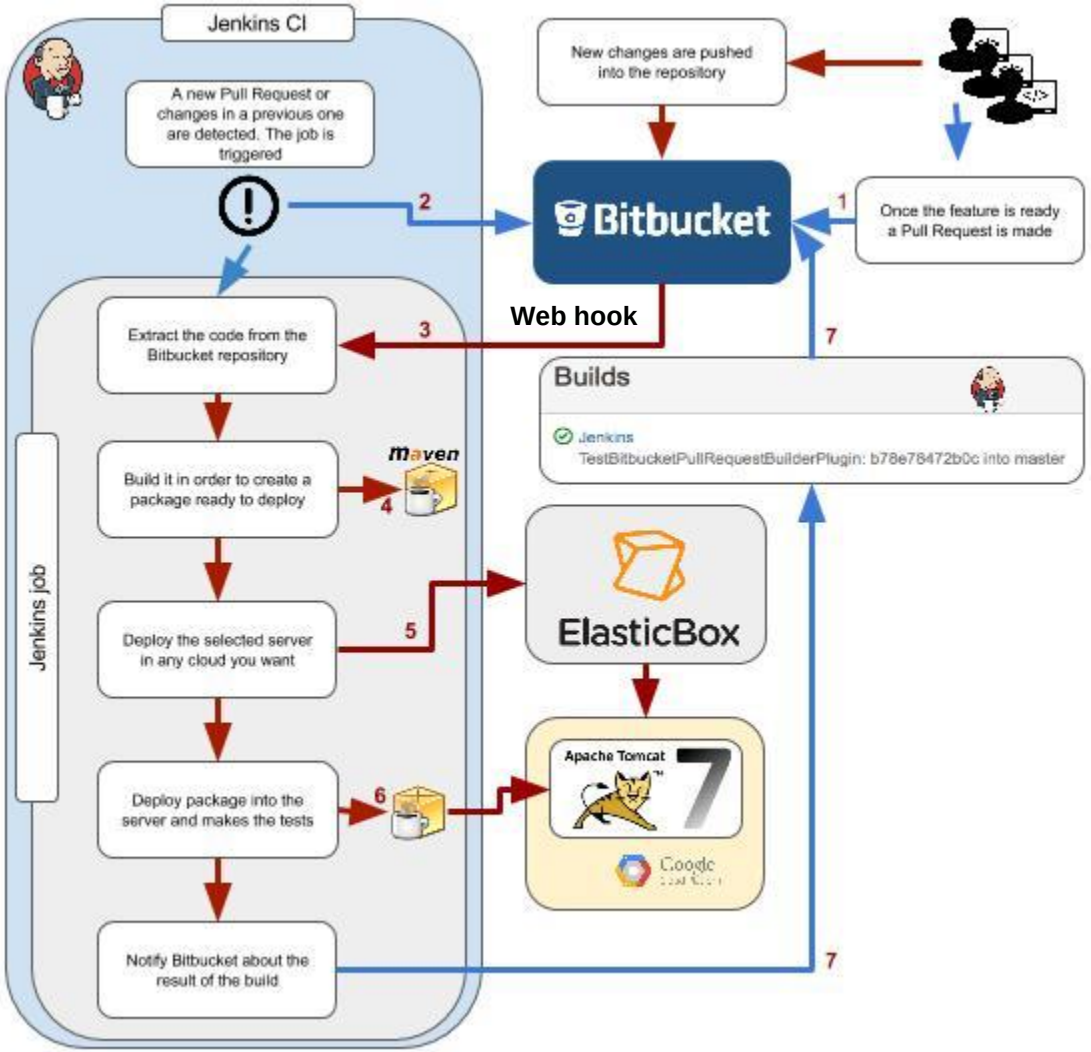
Jenkins - CI

Jenkins Continuous Integration - WebHook

- Build is triggered automatically whenever there is a code check-in in the Repository

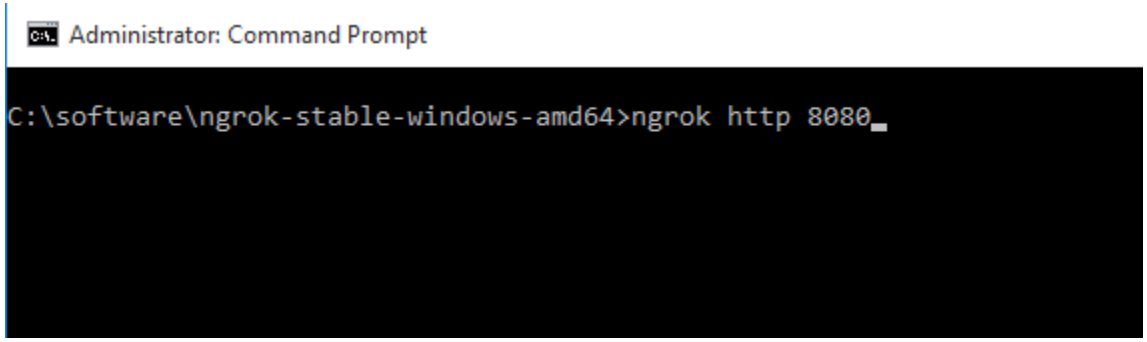


Jenkins Continuous Integration – ngrok

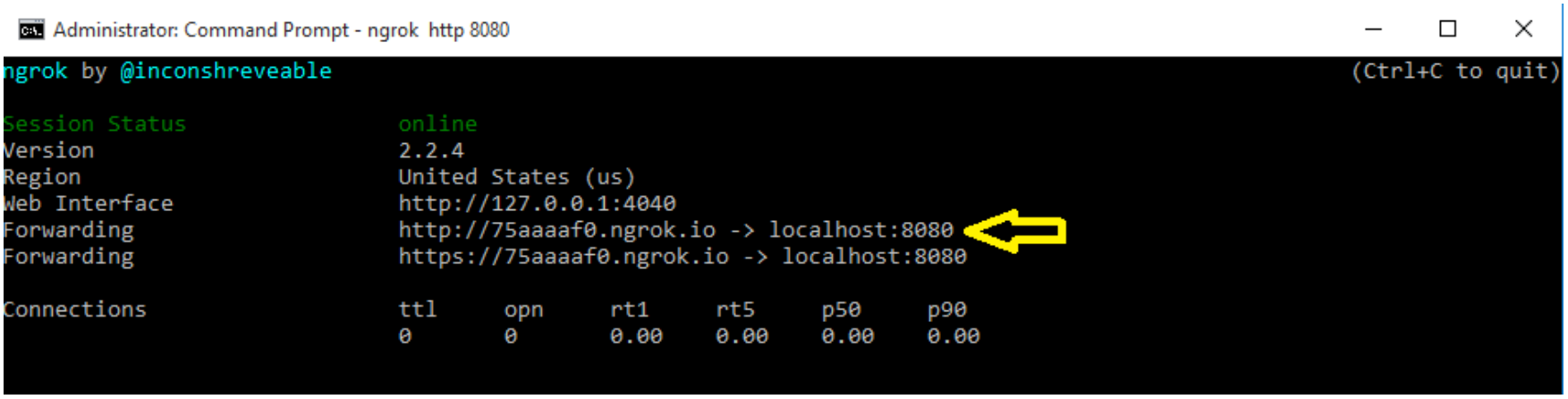
- Goal is to kick off a Jenkins build when ever code is checked into GIT repository
- Firstly we need to expose a Jenkins server running behind a NAT or firewall to the internet
- *Note that this is done only for Training/academic purposes. You need to contact your network admins in your organization. Not recommended for Production scenarios*
- Since you may not be having a public IP we will be making use of a utility called *ngrok* to expose current IP address as a publicly available IP
- For more information on *ngrok* please visit https://ngrok.com
- Download the *ngrok* utility from https://ngrok.com/download
- Unzip the utility to a folder
- Open a command window
- Change directory to the folder containing *ngrok.exe*
- Since Jenkins is running on port 8080, lets try to expose it as a publicly available port

Jenkins Continuous Integration - ngrok

- Run the command *ngrok http 8080*

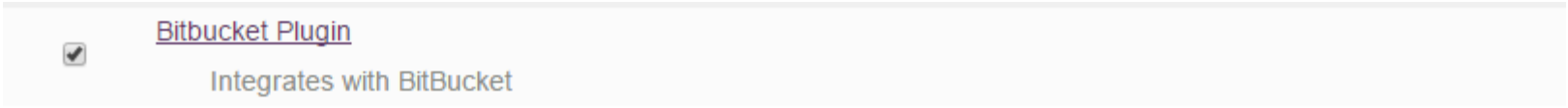


- You can see that a local host 8080 is available as public IP
- http://75aaaaf0.ngrok.io This URL is important to configure web hook



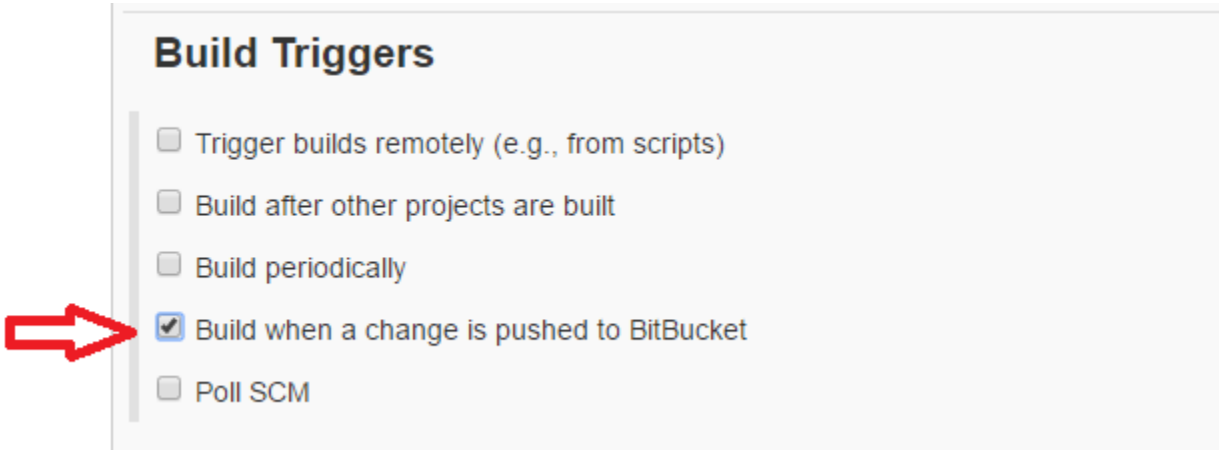
Bitbucket Plugin Installation

- Go to Manage Jenkins → Manage Plugins
- Search for Bitbucket under ‘Available’ tab
- Select the Bitbucket plugin and Install without restart



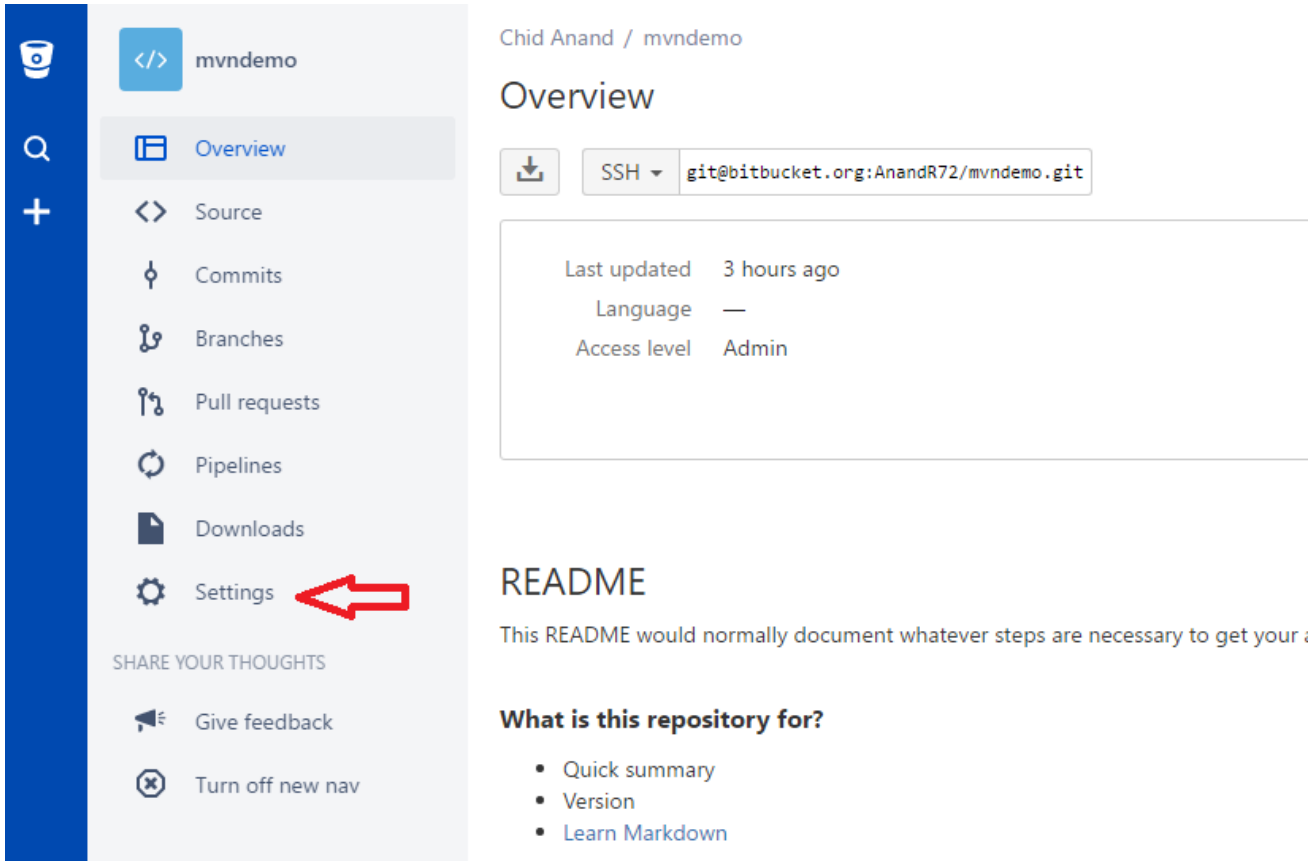
Jenkins – Configure a job for CI

- Lets select the *mvndemo* job created in previous sessions for CI
- Select '*Configure*' on the job.
- Under *Build Triggers* – check the option, '*Build when change is pushed to BitBucket*'
- Note: This option will be available after the installation of plugin in previous step



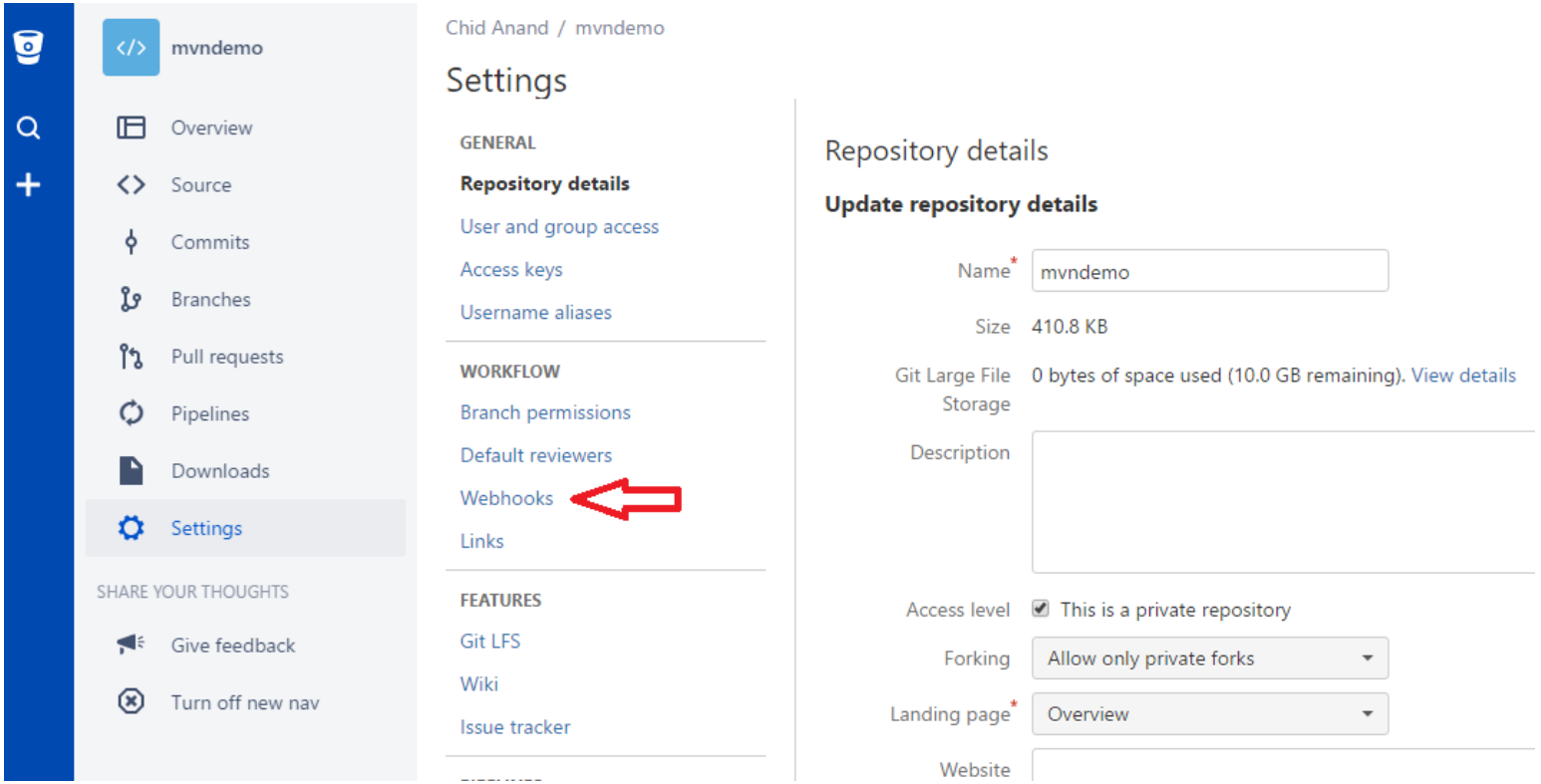
Bitbucket – Configure Web Hook

- Go to the Bitbucket repository and click on *Settings*



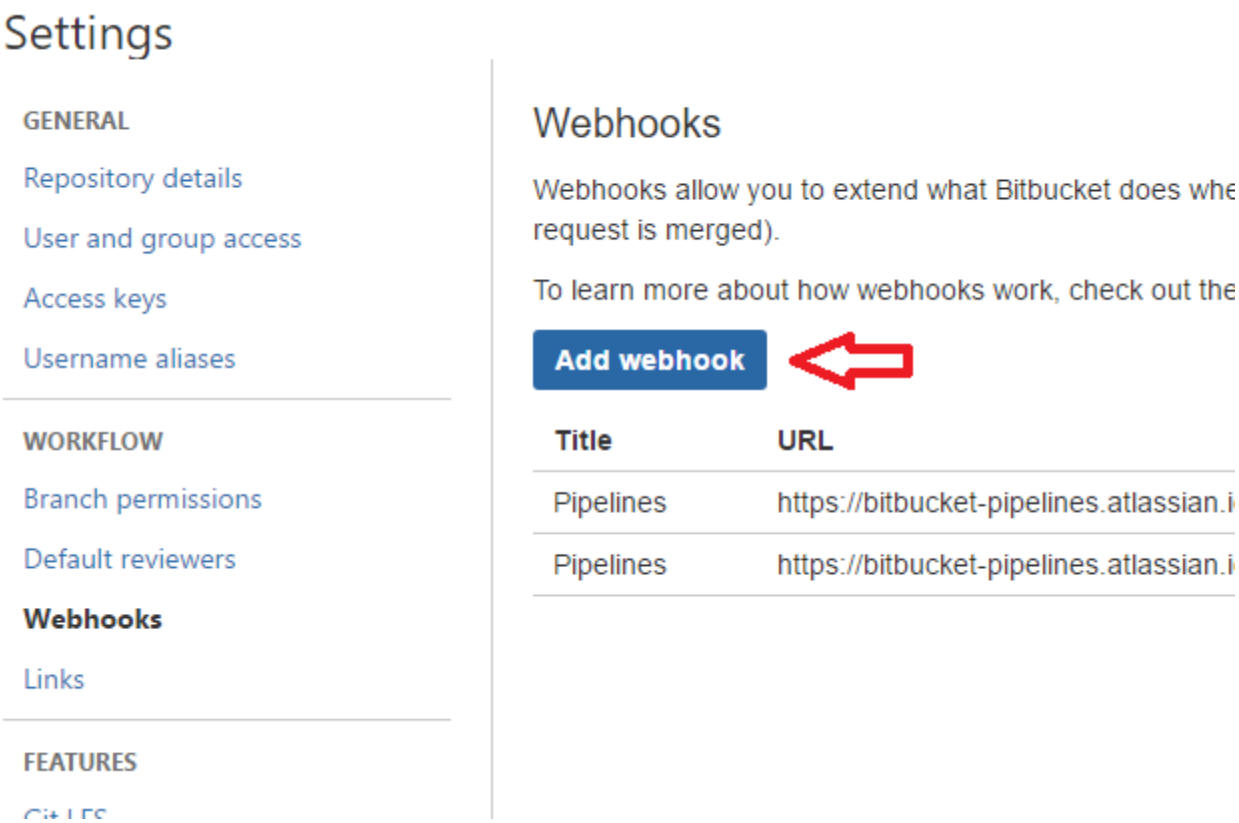
Bitbucket – Configure Web Hook contd

- Next click on *Webhooks* link



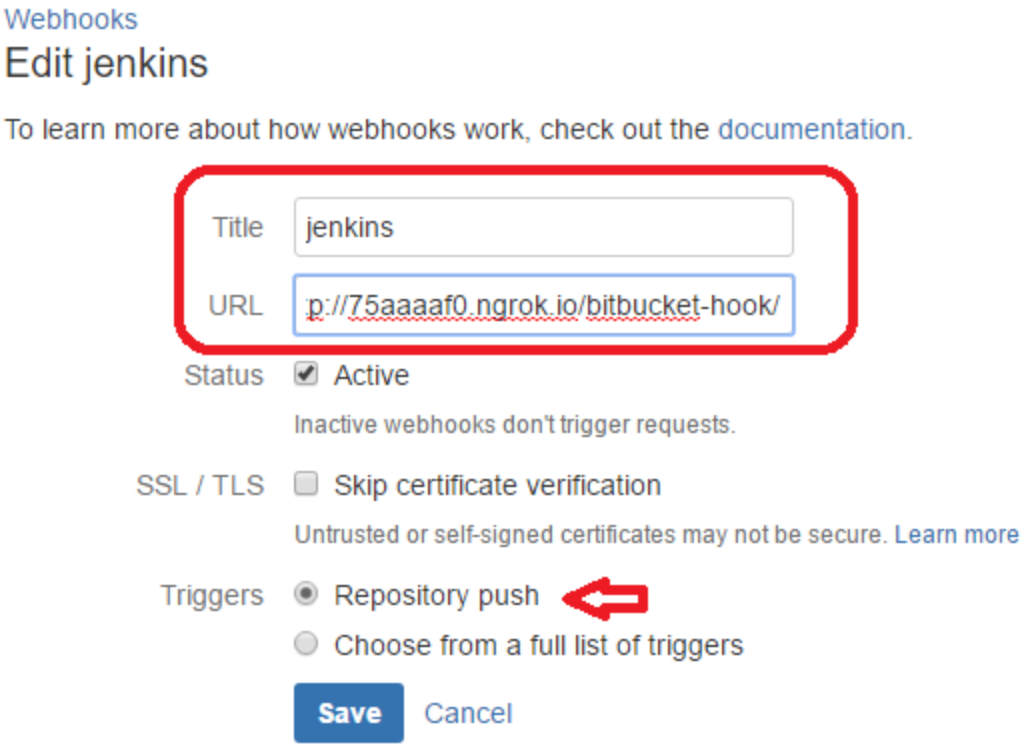
Bitbucket – Configure Web Hook contd

- Next click on *Add Webhook* Button



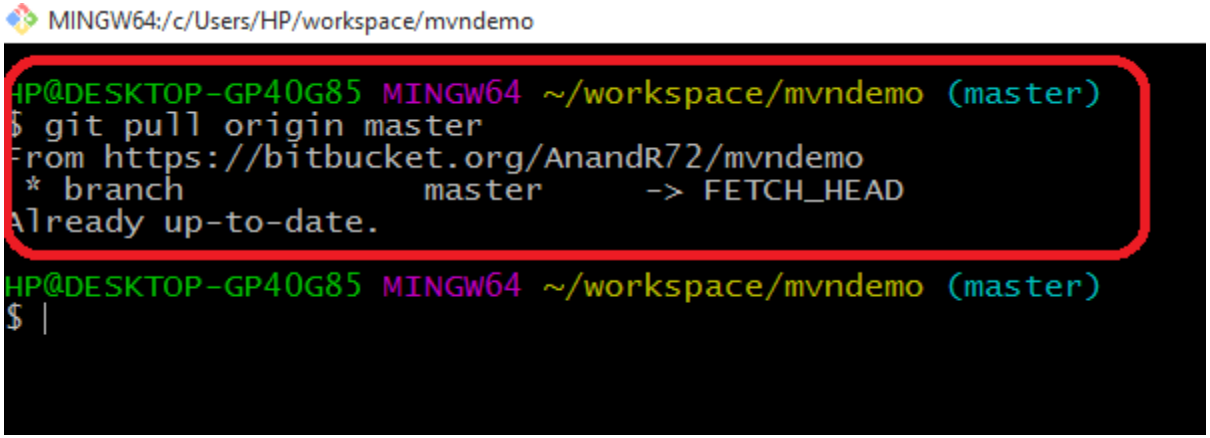
Bitbucket – Configure Web Hook contd

- Provide a meaningful title
- *Provide the publicly accessible URL generated by ngrok*
- *Do not forget to append /bitbucket-hook/ at the end of the URL*
- *You can also note that the trigger is repo push*



Testing the web hook

- All the configuration is done.
- Lets test the web hook trigger
- Open the GIT Bash and navigate to git repo under eclipse workspace
- Execute a git pull to bring changes from repository



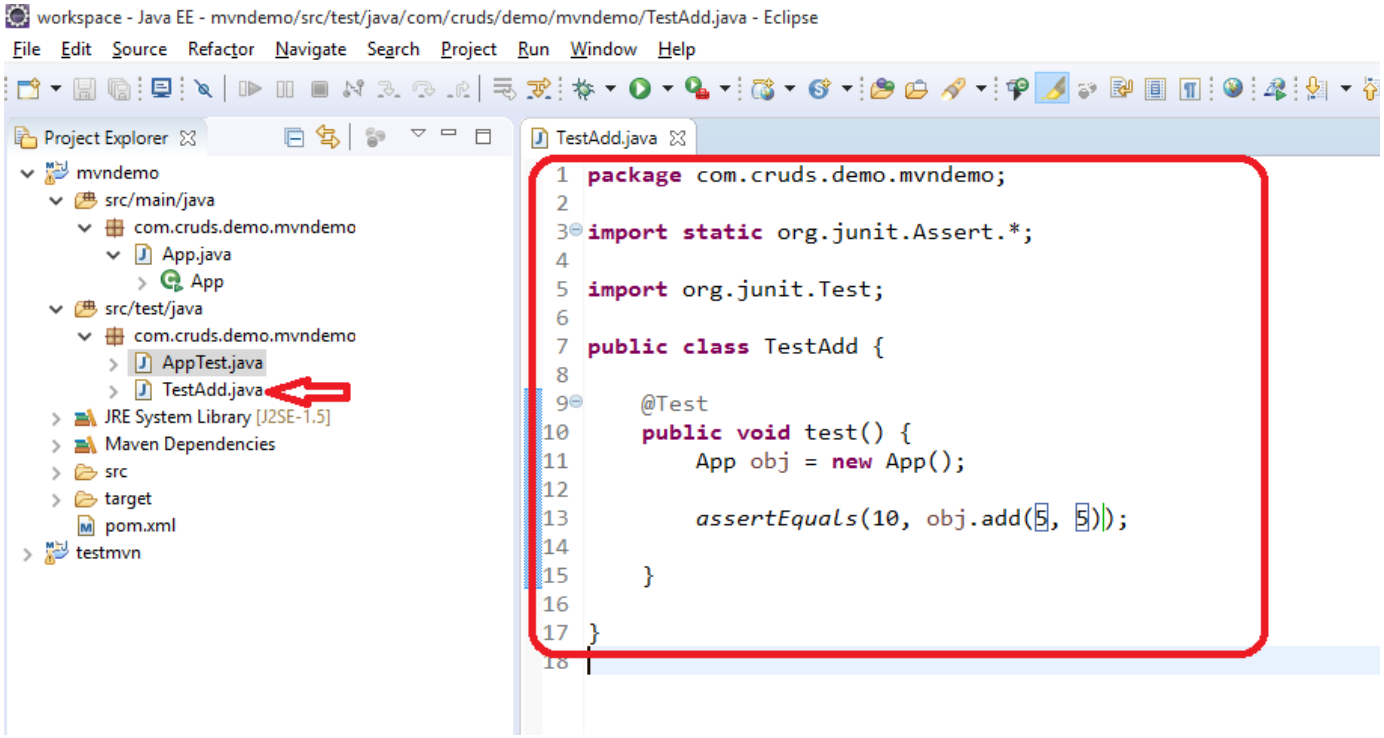
Testing the web hook contd..

- Open Eclipse and Lets add another method to ***App.java***

```
 7 public class App
 8 {
 9     public static void main( String[] args )
10     {
11         System.out.println( "Hello World!" );
12     }
13
14     public String getGreeting()
15     {
16
17         return "Hello from Maven";
18     }
19
20     public int add(int x, int y)
21     {
22         return x + y;
23     }
24
25 }
```

Testing the web hook contd..

- Lets also write another JUnit Test case to test the newly added method
- Right click on Test package → New → Other → Junit Test Case
- Give the name of the Test Case as *TestAdd*



Testing the web hook contd..

- *Now commit and push the changes to Git Repo using git bash*
- *This should trigger a build in Jenkins. Bitbucket will initiate build*

MINGW64:/c/Users/HP/workspace/mvndemo

```
HP@DESKTOP-GP40G85 MINGW64 ~/workspace/mvndemo (master)
$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   src/main/java/com/cruds/demo/mvndemo/App.java

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

        src/test/java/com/cruds/demo/mvndemo/TestAdd.java

no changes added to commit (use "git add" and/or "git commit -a")

HP@DESKTOP-GP40G85 MINGW64 ~/workspace/mvndemo (master)
$ git add .

HP@DESKTOP-GP40G85 MINGW64 ~/workspace/mvndemo (master)
$ git commit -m'added new method add and test case'
[master db764fa] added new method add and test case
 2 files changed, 21 insertions(+)
 create mode 100644 src/test/java/com/cruds/demo/mvndemo/TestAdd.java

HP@DESKTOP-GP40G85 MINGW64 ~/workspace/mvndemo (master)
$ git push origin master
Counting objects: 17, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (6/6), done.
Writing objects: 100% (17/17), 1.08 KiB | 0 bytes/s, done.
Total 17 (delta 2), reused 0 (delta 0)
To https://bitbucket.org/AnandR72/mvndemo.git
   3dd32cd..db764fa  master -> master
```