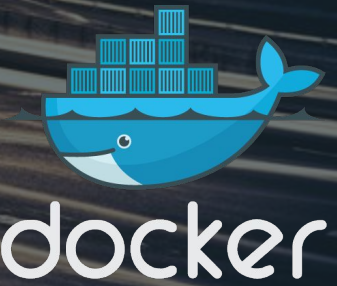
Docker in Continuous Integration



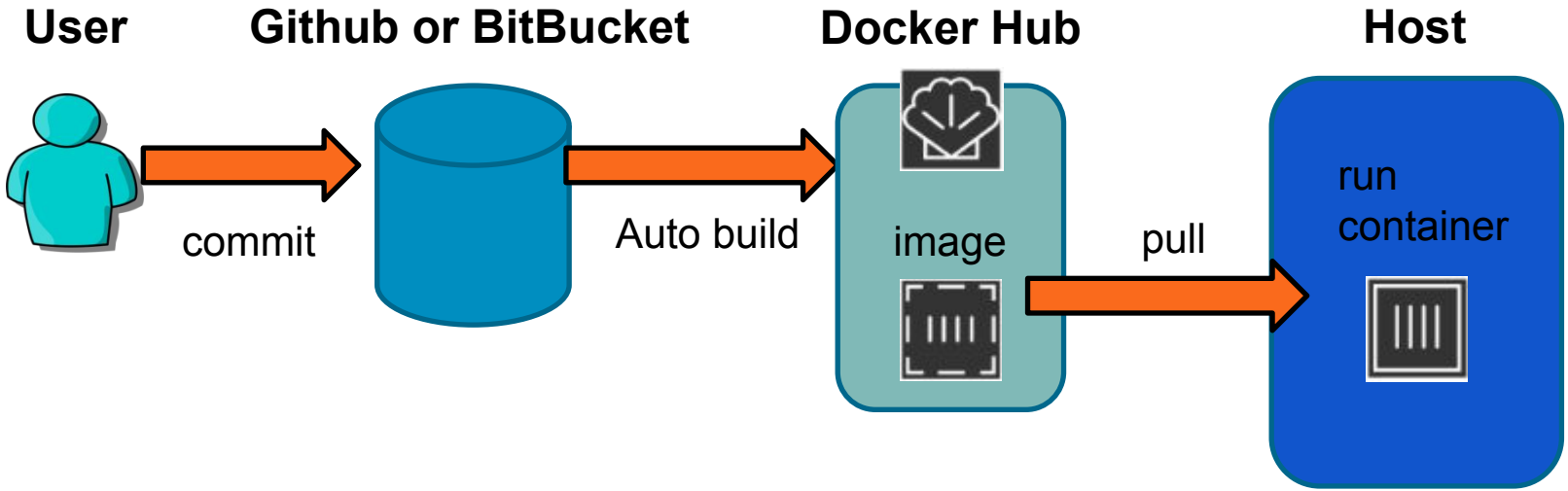
Module objectives

In this module we will:

- Explore ways we can fit Docker containers into our continuous integration process
- Setup an automated build in Docker Hub

Docker Hub Auto Build

- Docker Hub detects commits to source repository and builds the image
- Container is run during image build
- Testing done inside container

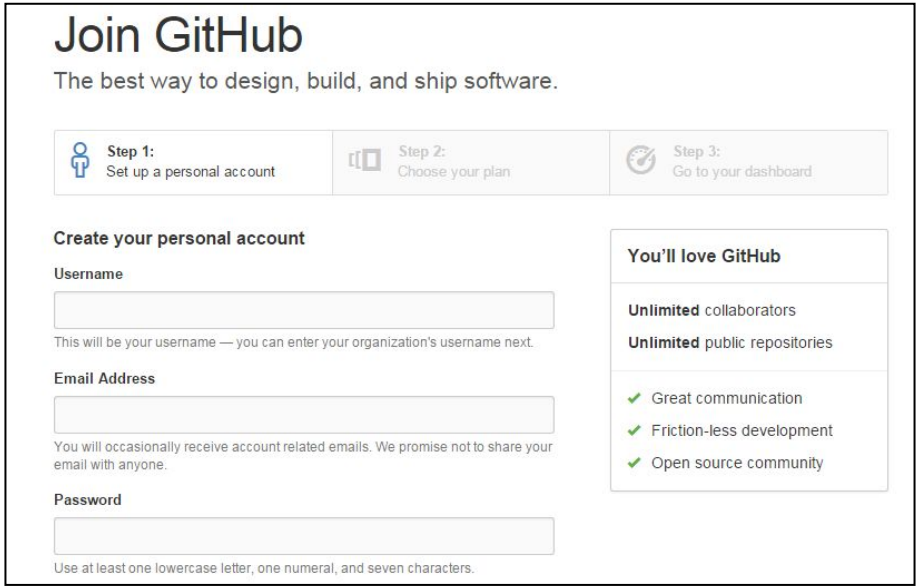


Setup an auto build example

- **Revision:** remember the simple “hello world” java application we built earlier?
- Let’s take that application and put it into a simple CI process using the Docker Hub auto build feature
- We will need to do the following:
  - Put our code into a repository (GitHub)
  - Setup an automated build on Docker Hub and have it connected to our GitHub account

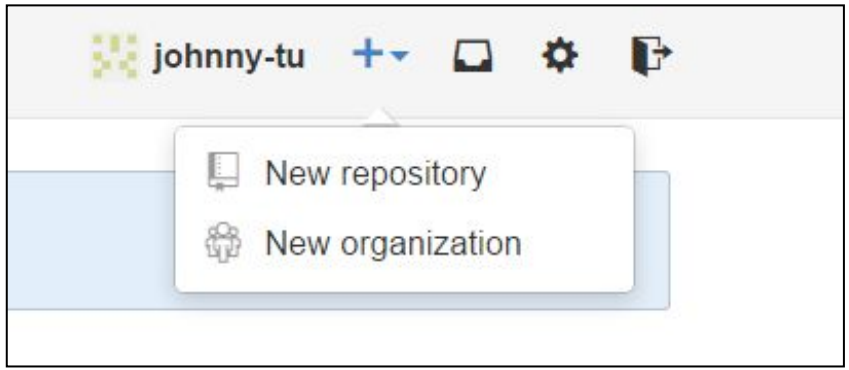
Setup GitHub account

1. Go to https://github.com/join and setup a GitHub account. If you have an existing GitHub account, you can choose to use that one instead.



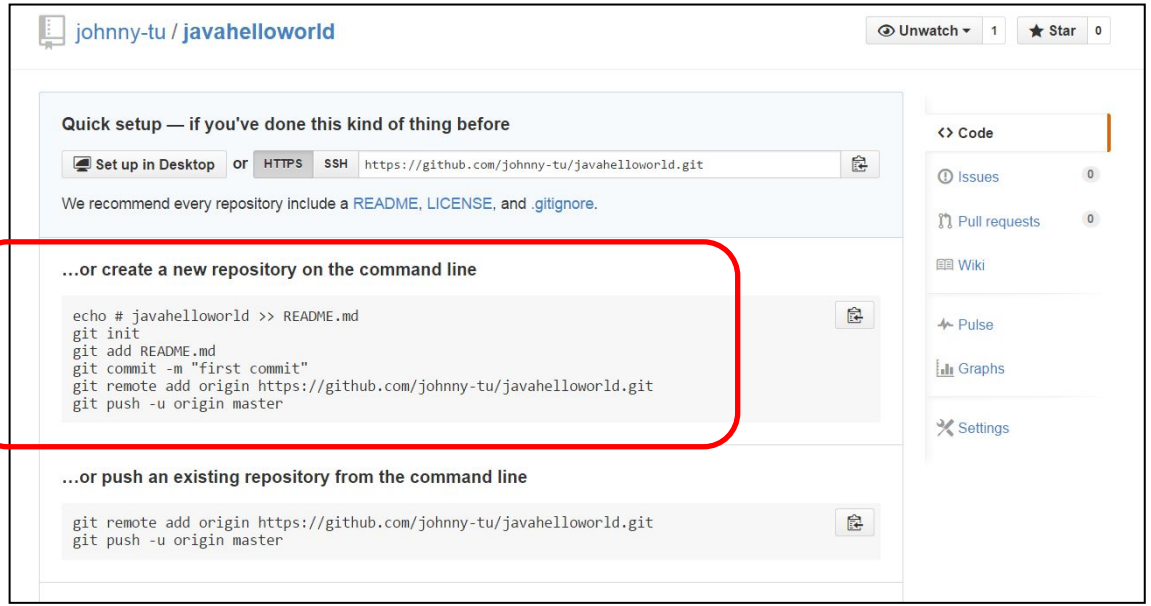
Create a new GitHub repository

- We will need a new repo for our application
- Repository name will be `javahelloworld`



Add existing code to GitHub repository

- Once you have created the repository, you will see a section on the page that contains step by step instruction on adding your existing code to the repository

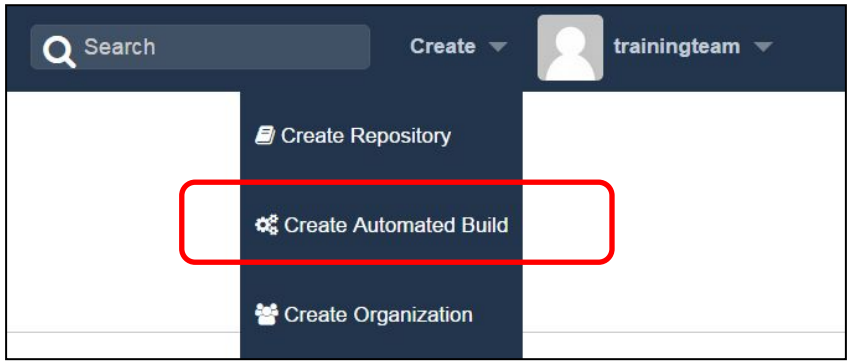


Push our code into the repository

- First initialise the git repository in our working directory
  `git init`
- Then add the files we want to commit to the git staging area
  `git add src/HelloWorld.java`
- Commit the code locally
  `git commit -m “first commit”`
- Add our GitHub repository as a remote repository
  `git remote add origin https://github.com/<username>/<repo name>.git`
- Push our commit to the remote repository
  `git push origin master`

Setup Docker Hub auto build

- Click “Create Automated Build”
- Link your Docker Hub account to GitHub or Bitbucket, if you have not configured this in your settings

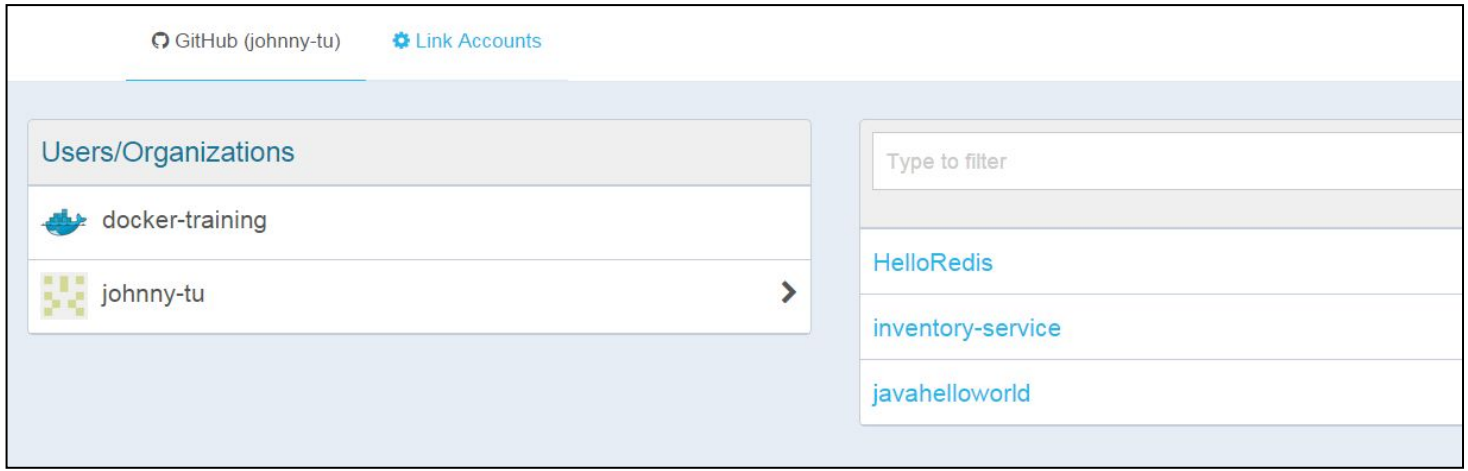


Select the repository provider

- Select GitHub or BitBucket and follow the screen prompts

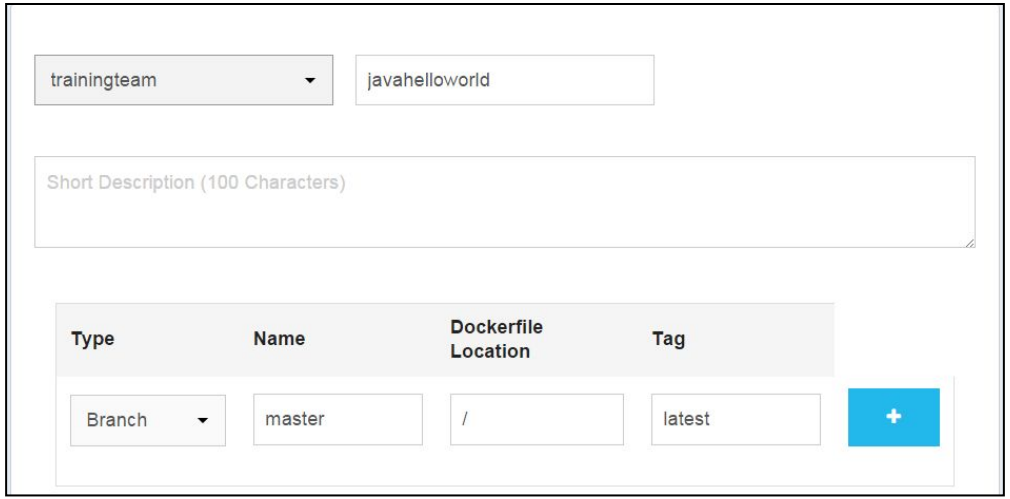
Choose your GitHub repository

- Once linked, you will need to click “Create Automated Build” again
- If you have multiple GitHub accounts connected to DockerHub, they will appear on this screen
- Choose the right GitHub account and then choose the “`javahelloworld`” repository



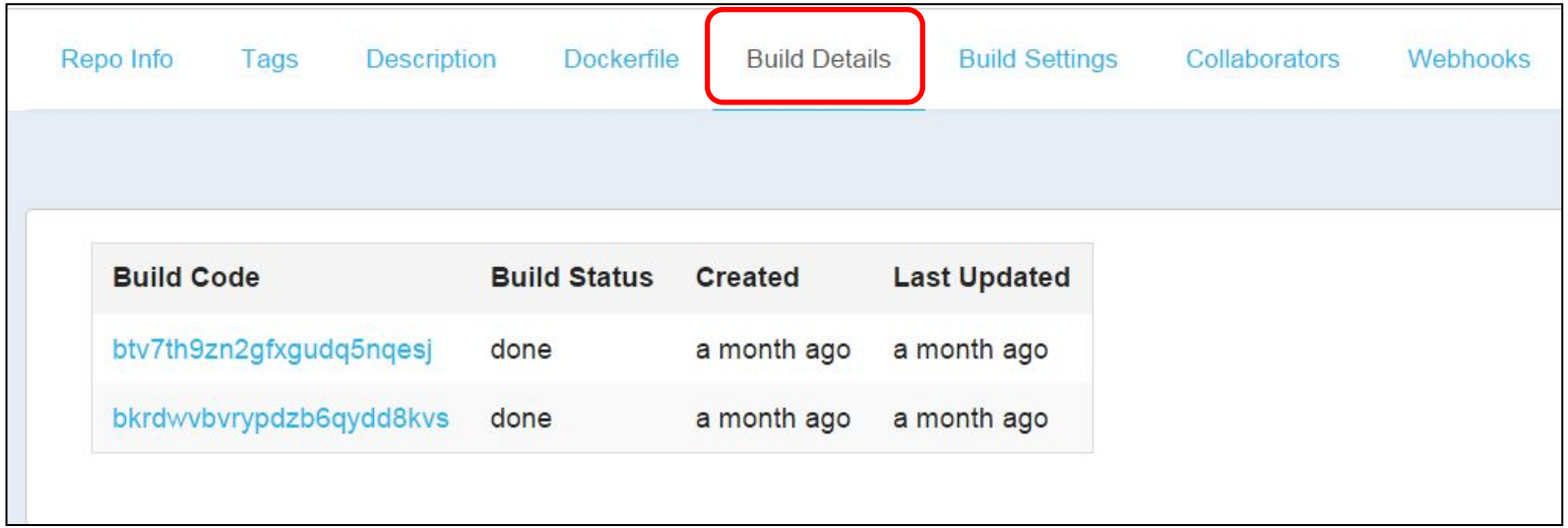
Create the automated build

- By default the repository name of the automated build will be the same as the source code repository name.
- You can choose to run automated builds based on branches or tags
- The “Docker Tag Name” field specifies what tag newly built images are given



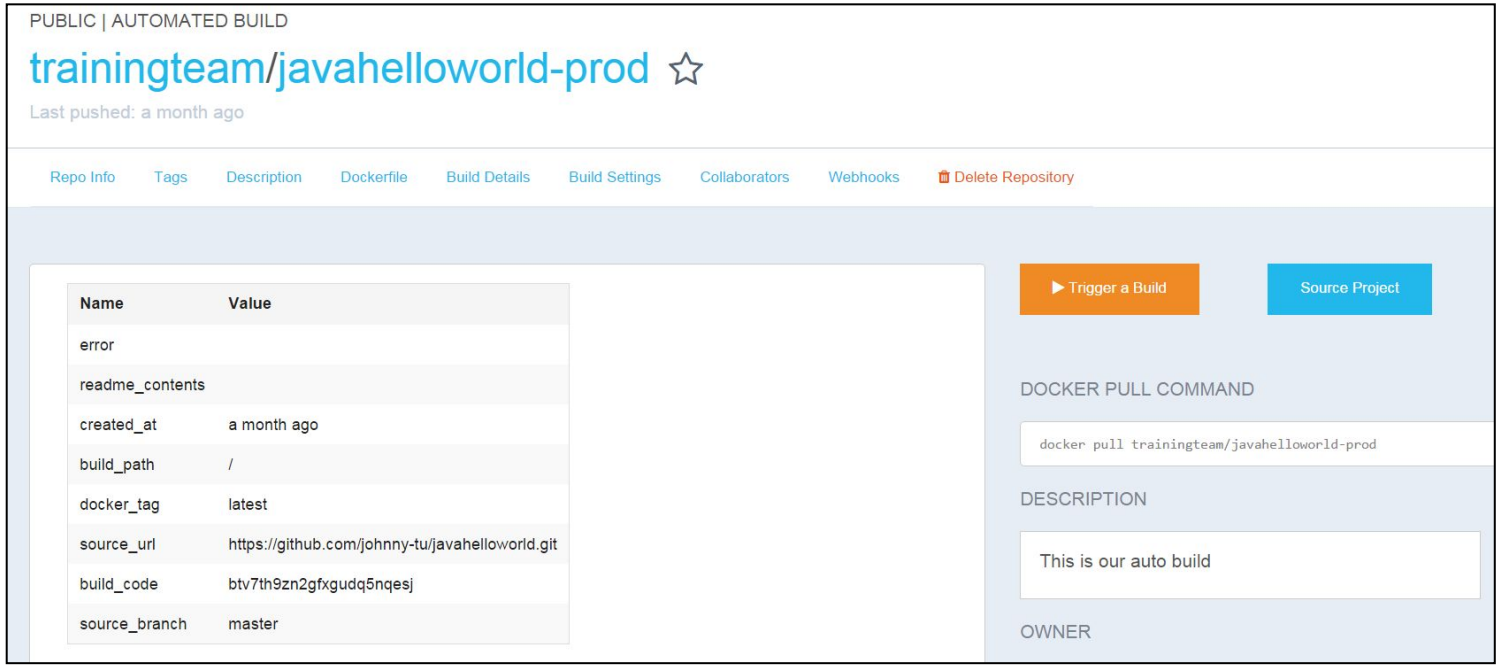
Checking progress and results

- An automated build repository in Docker Hub contains a “Build Details” tab
- The “Build Details” tab shows the history of the image being built



Build log

- Click on the build id on the Build History tab to view the details of that build, including the build log



Module summary

- There are many ways for Docker containers to fit into your continuous integration or continuous delivery process
- Docker Hub’s auto build repository is one way for us to build and distribute production ready images