

Lab 2: Build and deploy to dev space

Objective

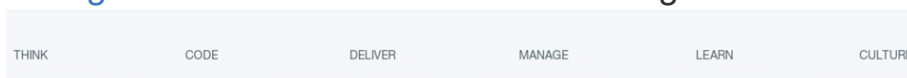
This lab will build the all three microservices and deploy them to the Development space.

Tasks:

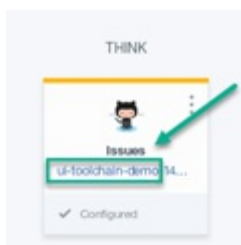
- Task 1: Explore the Microservices toolchain
- Task 2: Examine the build pipelines

Task 1: Explore the Microservices toolchain

1. IBM Bluemix created the Continuous Delivery Toolchain based on the Microservices template. At the top you see the pieces of the [Bluemix Garage Method](#) and where each tool integration fits.

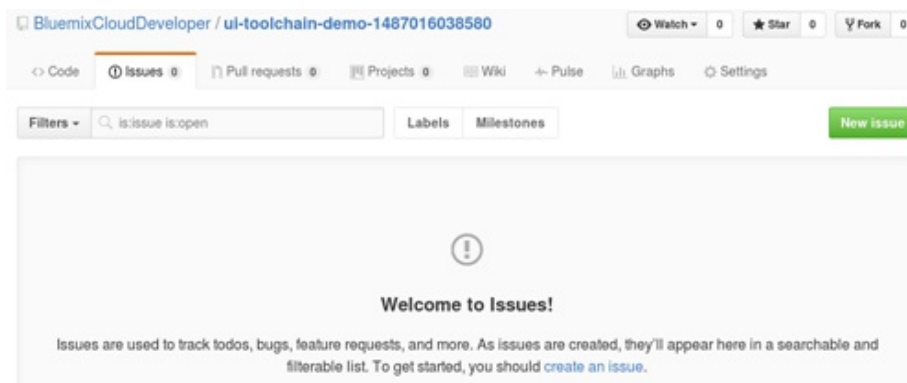


2. **Think** is where the [GitHub](#) Issues database is listed. Click on the **ui-toolchain-demo** link (or right-mouse button click and select **Open Link in New Tab**, then select the new tab to save time later on).



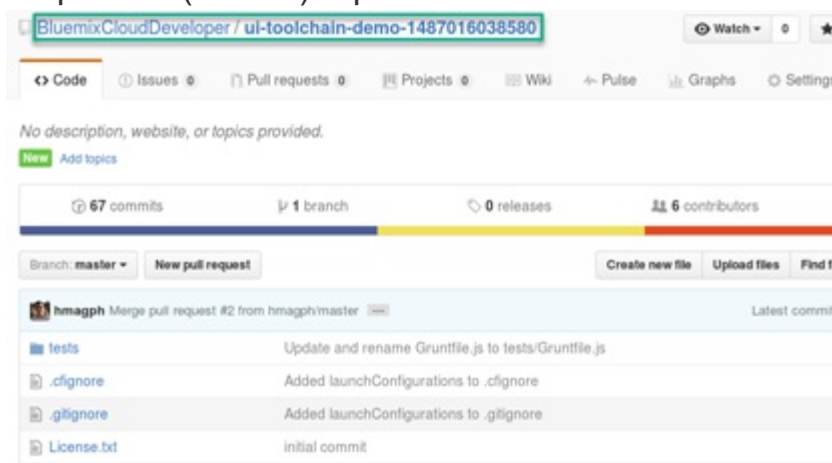
3. This displays the **GitHub Issues** page. Issues are used to track todos, bugs, feature requests, and more. Each GitHub repository (*repo* for short) can include issues. The Microservices template we used only included issues for the UI repo.

Session 3478, Creating Open Toolchains for IBM Bluemix Lab-2-Build-and-Deploy-to-dev-space



Return to the Microservices toolchain by either clicking on the **Go back one page** arrow on the browser or, if you clicked the right-mouse button to open a new tab, close the GitHub Issues tab. (Note that the remainder of these lab instructions will not go into this level of detail on opening and closing pages and tabs - pick the method that is best for you.)

4. **Code** is where [GitHub](#) code repos, [Sauce Labs](#) and Eclipse Orion Web IDE are integrated. Clicking on one of the three repos will display the respective (cloned) repo



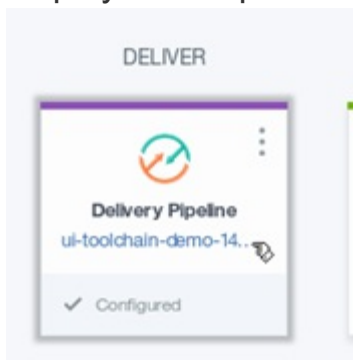
while clicking on the **Eclipse Orion Web IDE** will display the Web editor. We do not have a Sauce Labs account, so we really don't need the Sauce Labs integration. We will leave it alone for now.

5. **Deliver** is where the code gets built, tested and deployed through the integrations of build pipelines, one per microservice. We explore build pipelines later.

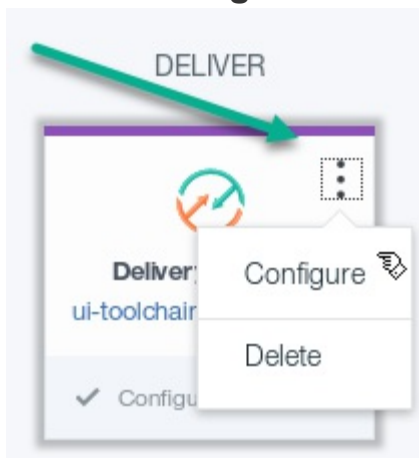
6. **Manage** is where the integrations to management tools, such as [Pager Duty](#), get added.
7. **Learn** is where the integrations to tools helping to drive application insight, such as [DevOps Insights](#), get added.
8. **Culture** is where the integrations to teams collaborate more effectively are integrated, such as [Slack](#).

Task 2: Examine the build pipelines

1. Clicking on one of the GitHub repo links or the **Configured** link will display the respective GitHub repo.

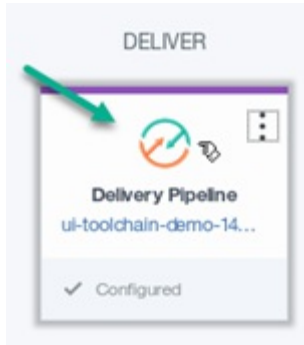


2. You can either click on the three vertical dots on the upper-right of the *ui-toolchain-demo* Delivery Pipeline tile to display **Action** and then click on **Configure**



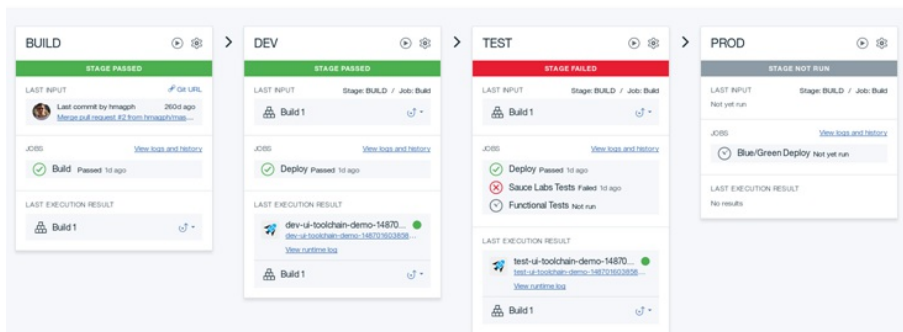
or click on the circle in the center of the *ui-toolchain-demo* Delivery Pipeline tile

Session 3478, Creating Open Toolchains for IBM Bluemix Lab-2-Build-and-Deploy-to-dev-space

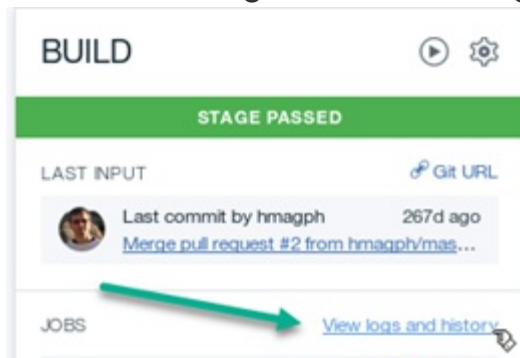


to display the UI delivery pipeline.

ui-toolchain-demo-1487016038580 | Delivery Pipeline

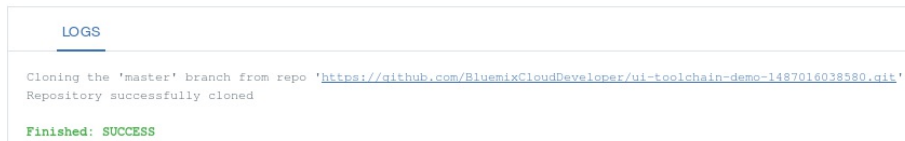


3. While we were busy exploring the toolchain, the various pipelines (remember, we have 3) started the build process. The UI delivery pipeline displays the status of each stage in the UI pipeline. The **Build** and **Dev** stage passed, while the **Test** stage failed. The **Prod** stage was not even attempted. If you look at the other 2 pipelines (catalog and orders) you would see similar results.
4. In the Build stage, click **View logs and history**



to display the commands and results of the Build stage, in this case simply cloning the repo.

Session 3478, Creating Open Toolchains for IBM Bluemix Lab-2-Build-and-Deploy-to-dev-space



Click the arrow to the left of Pipeline



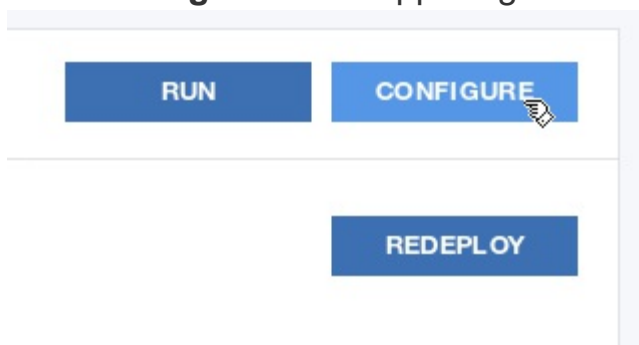
to return to the delivery pipeline.

5. In the **Dev** stage, click **View logs and history** to display the commands and results of the Dev stage. This stage deployed the UI microservice to the dev space.

STARTED Monday, February 13, 2017 3:45 PM DURATION 1 minute, 25 seconds
DEPLOY TO Target: US South / Organization: BluemixCloudDeveloper / Space: dev

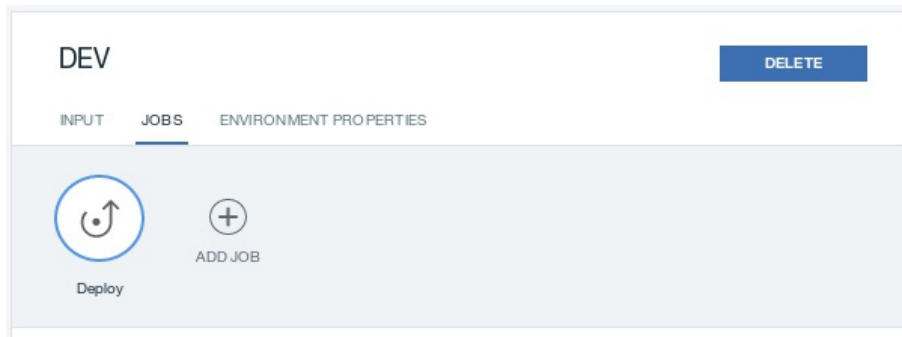


6. If you scroll through the log, you can see all the details of that job.
7. Click **Configure** in the upper right hand corner of the display



to display the Stage Configuration screen.

Session 3478, Creating Open Toolchains for IBM Bluemix Lab-2-Build-and-Deploy-to-dev-space



8. The Stage Configuration displays details about the stage. The *INPUT* tab displays the input to the stage, the *JOBS* tabs displays the discrete pieces of the stage, and the *ENVIRONMENT PROPERTIES* tab displays variables used by the jobs in the stage.



9. The UI Dev stage has just one job, the *Deploy* job. The job name can be changed by simply typing over the name. The job can be removed by clicking the **Remove** button and a new job can be added by clicking the **Add Job** button.



Session 3478, Creating Open Toolchains for IBM Bluemix Lab-2-Build-and-Deploy-to-dev-space

- Details of each job are displayed when the job is selected.

Deploy Configuration

Deployer Type

Cloud Foundry

Target

US South - https://api.ng.bluemix.net

Organization

BluemixCloudDeveloper

Space

dev

Application Name

ui-toolchain-demo-1487016038580

Deploy Script

```
#!/bin/bash
# Push app
export CF_APP_NAME="dev-$CF_APP"
cf push "${CF_APP_NAME}"
```

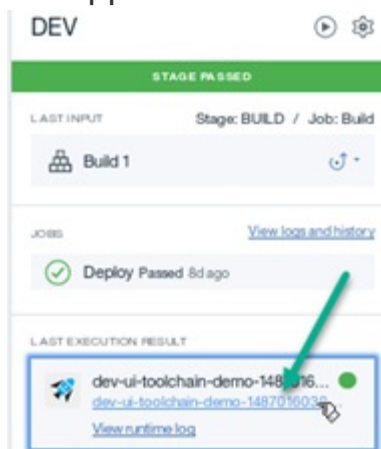
The lines in the Deploy Script:

```
export CF_APP_NAME="dev-$CF_APP"
```

```
cf push "${CF_APP_NAME}"
```

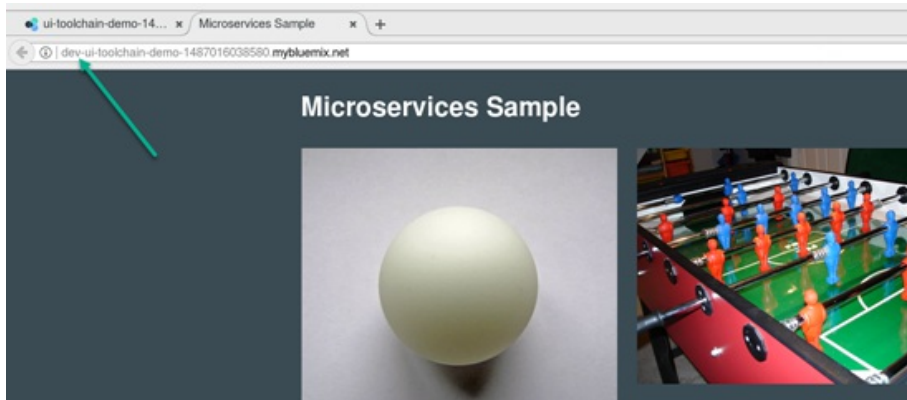
set the name of the application to deploy as the application name prefaced with *dev* and the issues the Cloud Foundry command to deploy it.

- Return to the delivery pipeline. Click on the application link to display the application.



- The application is displayed. We deployed all the microservices to the *dev* space and prefaced each deployed app with *dev*.

Session 3478, Creating Open Toolchains for IBM Bluemix Lab-2-Build-and-Deploy-to-dev-space



13. Close the application tab to return to the delivery pipeline, then return to the Pipeline and finally return to the Toolchain.

toolchain-demo-1487016038580

