



**Lab 6678A**

**Mobile App Development Using the IBM MobileFirst Platform Foundation Command Line Interface (MFP-CLI)**

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**IBM InterConnect 2016 @Dev Hello World Labs**

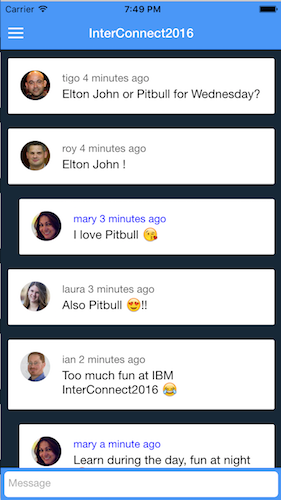
**6678 - Mobile App Development Using the IBM MobileFirst Platform Foundation Command Line Interface (MFP-CLI)**

**Download**

* Click [ibm.biz/lab6678zip](https://github.com/csantanapr/IC2016-MFP-Hello-Lab/archive/master.zip) to download
* Click **Download ZIP** on [github.com/csantanapr/IC2016-MFP-Hello-Lab](https://github.com/csantanapr/IC2016-MFP-Hello-Lab)

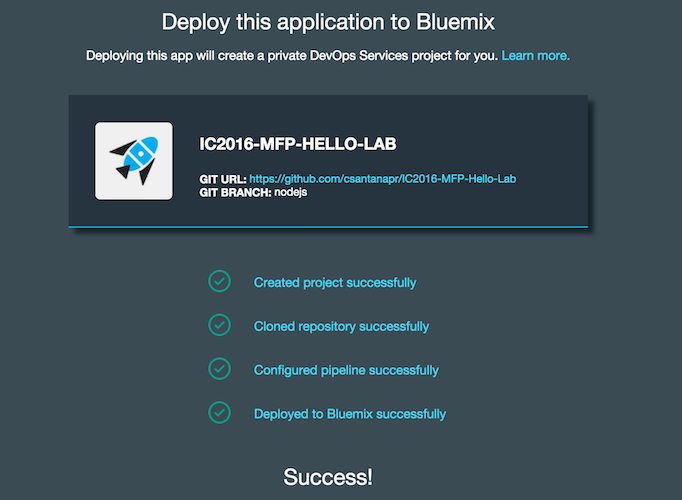
**Your Goal!**

* During this Lab you will build a Mobile Chat App that leverages the MFP Server and NodeJS using IBM Bluemix.

[](https://github.com/csantanapr/IC2016-MFP-Hello-Lab/blob/master/README-img/iphone.png)

**1. Bluemix NodeJS Server**

**1.1 Deploy the NodeJS Server for the Chat Service**

* Login into [https://blueminx.net](https://blueminx.net/) and verify that you have at least 128MB free for Cloud Foundry Apps
* Click this button [[eploy to Bluemix](https://bluemix.net/deploy?repository=https://github.com/csantanapr/IC2016-MFP-Hello-Lab&branch=nodejs)](https://bluemix.net/deploy?repository=https://github.com/csantanapr/IC2016-MFP-Hello-Lab&branch=nodejs" \t "_blank)or visit <http://ibm.biz/lab6678>
* This will deploy the **nodejs** branch
* Select a unique hostname for your new App, like:"**mychat**"
* Your app will be assigned a https unique URL like:[**https://mychat.mybluemix.net**](https://mychat.mybluemix.net/) [](https://github.com/csantanapr/IC2016-MFP-Hello-Lab/blob/master/README-img/bluemix-deploy.png)

**1.2 Save the url for your new Chat Service**

* Click [iew Your APP](https://github.com/csantanapr/IC2016-MFP-Hello-Lab/blob/master/README-img/view-app.png) to see the chat app running on the browser and verify the URL like [https://mychat.mybluemix.net](https://mychat.mybluemix.net/)
* Leave the browser window open since we are going to need the URL and use the website for testing our mobile App.

**1.3 MFP-CLI Installation**

* Verify that your Lab workstation has the MFP-CLI installed by running the following commands in a Terminal window

$ mfp help

$ mfp -v

* If you don't have the MFP-CLI installed you can download the MFP-CLI from the [MFP Developer Center](https://bit.ly/downloadmfp" \t "_blank)

**2. MFP Server**

**2.1 Start MFP Server**

* Change directory to MFP backend project

$ cd MFPBackend

* Use the MFP-CLI to start the MFP Server

$ mfp start

* You can use other MFP-CLI commands to manage the MFP Server

$ mfp status

$ mfp stop

$ mfp restart

**2.2 Configure the MFP Adapter**

* Edit MFPBackend/adapters/ChatService/ChatService-impl.js
* Set the variable chatUrl to the url of your new Chat Service deployed in Step 1

var chatUrl = 'https://mychat.mybluemix.net';

**2.3 Deploy Adapter changes**

* Change directory to the adapter directory

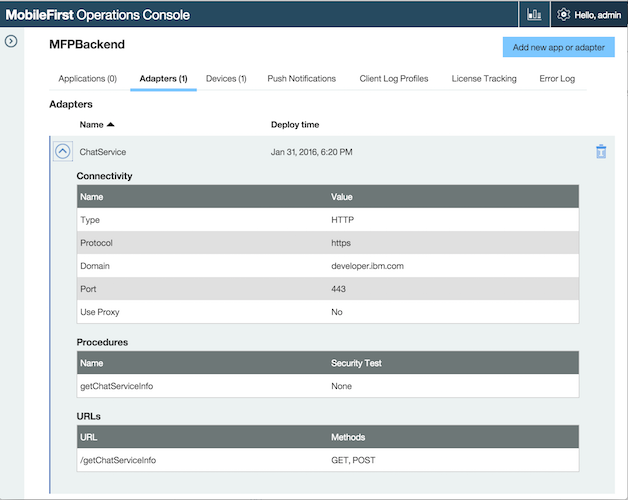
$ cd adapters/ChatService/

* Use the MFP-CLI to push only the adapter changes

$ mfp push

* Use the MFP-CLI to open the console and verify adapter is deployed

$ mfp console

[](https://github.com/csantanapr/IC2016-MFP-Hello-Lab/blob/master/README-img/console-adapter.png)

* Test the adapter and verify that returns the correct chat url

$ mfp adapter call ChatService/getChatServiceInfo

* The command will return a response with the url of your nodejs app

Calling GET '/MFPBackend/adapters/ChatService/getChatServiceInfo?params=[]'

Response: {

"isSuccessful": true,

"chatUrl": "https://chatservice.mybluemix.net"

}

**3. MFP App**

**3.1 Setup App**

* Change directory to the app directory

$ cd ../../../MFPApp

* Use the MFP-CLI to add the Cordova Platform iOS

$ mfp cordova platform add ios

**3.2 Register App with MFP Server**

* Use the MFP-CLI to push the app to the running MFP Server

$ mfp push

* Use the MFP-CLI to verify that the app is registered on the correct server

$ mfp server info local

* The command will return a list of adapters and apps

Connecting to server 'local'

Profile name: local

URL: http://localhost:10080

MFP version: 7.1.0.00-20160125-0742

Is default: true

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Runtime: MFPBackend

Bound apps

IC2016Chat, v1.0.0 - Hybrid (iphone)

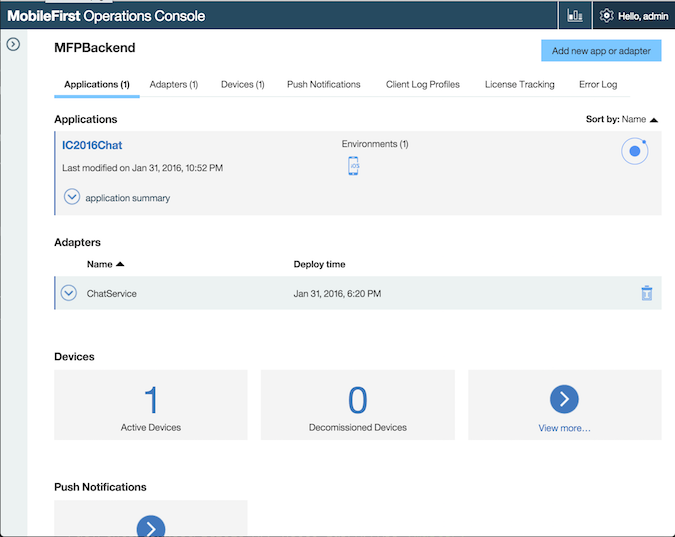
Adapters

ChatService

------------------------------------------------------------

* You can also open the Console and verify that the IC2016Caht app is registered

$ mfp console

[](https://github.com/csantanapr/IC2016-MFP-Hello-Lab/blob/master/README-img/console-app.png)

**3.3 Running the App**

* Preview the App on the Browser

$ mfp cordova preview --type browser

* Run the App on the Simulator using the MFP-CLI

$ mfp cordova emulate

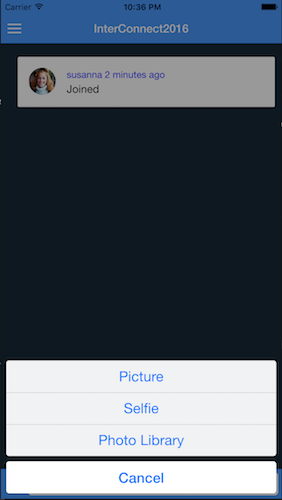
* When prompted select an iPhone Simulator from the list
* To run a specific Simulator you can pass --target argument

$ mfp cordova emulate --target iPhone-6s-Plus

**3.4 Test the App**

* Visit the Chat Service on Bluemix (i.e. [https://mychat.bluemix.net](https://mychat.bluemix.net/))
* Now test the chat service between the Browser and the iPhone Simulator
* If the Keyboard doesn't show up in the Simulator, then press Command (⌘) + K
* You can share the Bluemix URL to a friend located in any part of the world and have a conversation.
* This demo App is not configured with Login Authentication, this is something you can easily add using MobileFirst Platform check [MFP Developer Center](https://developer.ibm.com/mobilefirstplatform/documentation/getting-started-7-1/) for more information on security related topics.

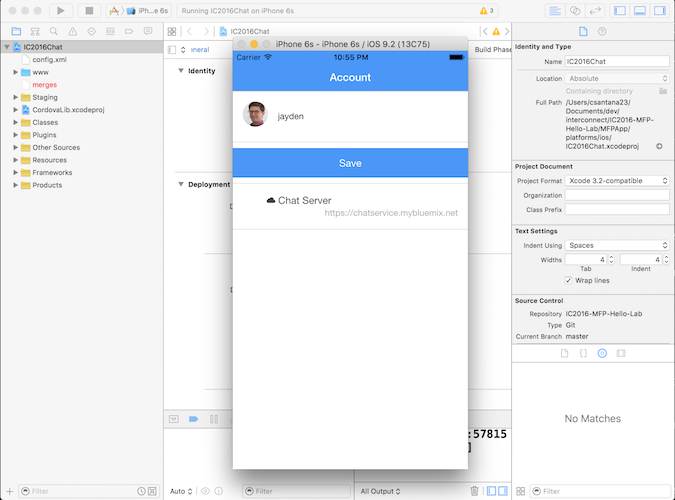
**4. Extra Credit (Camera access)**

* If you finish the Lab in less than 15 minutes you can go ahead and continue
* Enable the App to send photos using the camera or photo library
* [](https://github.com/csantanapr/IC2016-MFP-Hello-Lab/blob/master/README-img/iphone-extra.png)

**4.1 Open XCode project**

* Open MFPApp/platforms/ios/IC2016Chat.xcodeproj
* You can also open from Terminal

$ open platforms/ios/\*.xcodeproj

* Click Play Button in XCode to run Simulator [](https://github.com/csantanapr/IC2016-MFP-Hello-Lab/blob/master/README-img/xcode.png)

**4.2 Add the Cordova Camera Plugin**

* Change directory to MFPApp if not already

$ cd MFPApp

* Use the MFP-CLI to add the camera plugin

$ mfp cordova plugin add camera

**4.3 Add option to share photo**

* Edit MFPApp/www/templates/chat.html
* Add a camera icon to call Camera Plugin as the first child of the <form id="footer-input">

<i class="icon ion-camera" ng-click="takePicture()" ng-show="isWebView"></i>

**4.4 Prepare App Changes**

* Use the MFP-CLI to prepare your changes

$ mfp cordova prepare

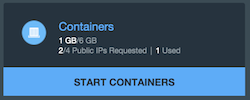
* Click Play Button in XCode to run Simulator
* Touch the Camera button
* Select Photo Library (Real device supports Selfie and Picture buttons)
* Select a Photo to share
* Check the other clients and see the picture you just share

**5 Homework (MFP Docker on Bluemix)**

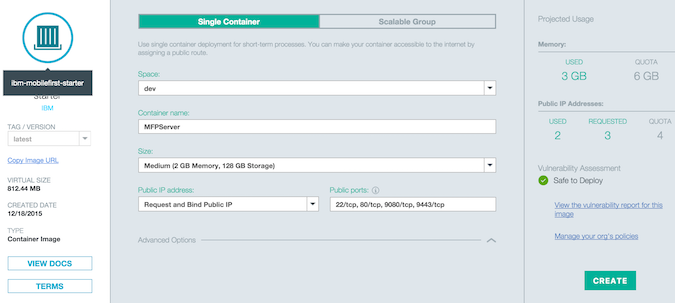
* If you want to be able to run the App on your iPhone and take it for a spin, you will need to deploy the MFP Server on a public IP Address that your iPhone can reach.
* The easiest way to run MFP Server on the Cloud is using Bluemix Containers.

**5.1 Run MFP Server Docker Image**

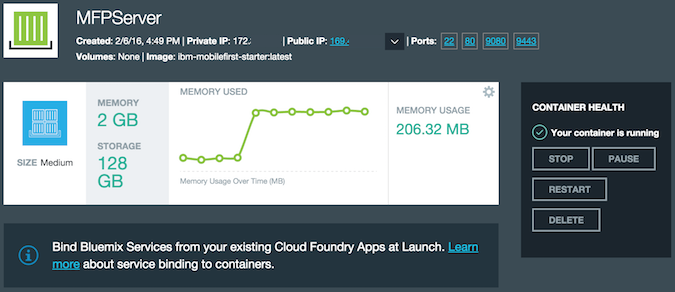
* Login into Bluemix and make sure you have at least 1GB of memory and 1 Public IP Address for Containers.
* Click Containers on your Dashboard

[](https://github.com/csantanapr/IC2016-MFP-Hello-Lab/blob/master/README-img/create-container.png)

* Select the ibm-mobilefirst-starter docker image

[](https://github.com/csantanapr/IC2016-MFP-Hello-Lab/blob/master/README-img/create-container-info.png)

* Enter the following minimum information:
  1. Container name: *MFPServer*
  2. Size: *Medium 2GB*
  3. Public IP Address: *Request and Bind IP*
* Click *Create*
* Wait for a public IP address to be assigned, and container to be running



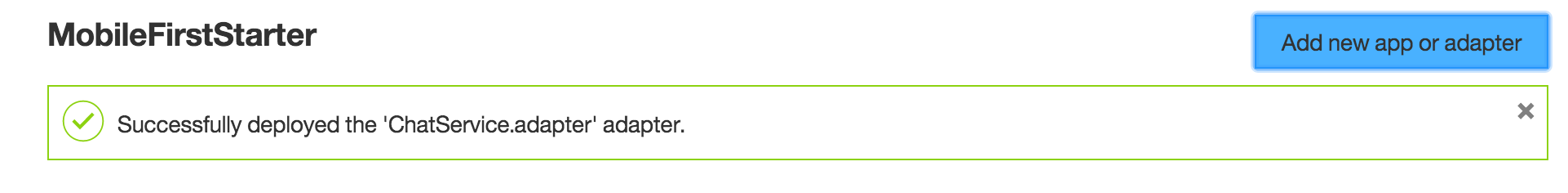
* Click the public IP address to open a new Browser window
* Enter a password to register the user *admin* for example *admin* and click Register

[](https://github.com/csantanapr/IC2016-MFP-Hello-Lab/blob/master/README-img/mfp-register.png)

* Save and bookmark the base URL for the MFP Server (i.e. [http://169.x.x.x:9080](http://169.x.x.x:9080/))
* Click *Open Console* to open the MFP Server Console

**5.2 Upload Adapter**

* In the MFP Server Console Click *Add new Adapter* button at the top right
* Browse to the location of ChatService.adapter for example *Downloads/IC2016-MFP-Hello-Lab-master/MFPBackend/bin/ChatService.adapter*

[](https://github.com/csantanapr/IC2016-MFP-Hello-Lab/blob/master/README-img/mfp-deploy-adapter.png)

**5.3 Add Remote MFP Server Profile**

* Use the MFP-CLI to add a new server profile with the name *bluemix* located using the public IP address on bluemix, and the *admin* credentials you enter in Step 5.1

$ mfp server add bluemix -l admin -p admin -u http://169.x.x.x:9080

Notice to replace 169.x.x.x with the correct public IP address of your docker container

* Use the MFP-CLI to verify the list of server profiles

$ mfp server info

* The *bluemix* profile will show up

Name URL Description

------------------------------------------------------------

local http://localhost:10080 Local Dev Server [Default]

bluemix http://169.x.x.x:9080 Remote Server

------------------------------------------------------------

**5.4 Register App with Remote MFP Server**

* Change directory to MFPApp if not already

$ cd MFPApp

* Use the MFP-CLI to register the App with the docker container on *bluemix*

$ mfp push bluemix

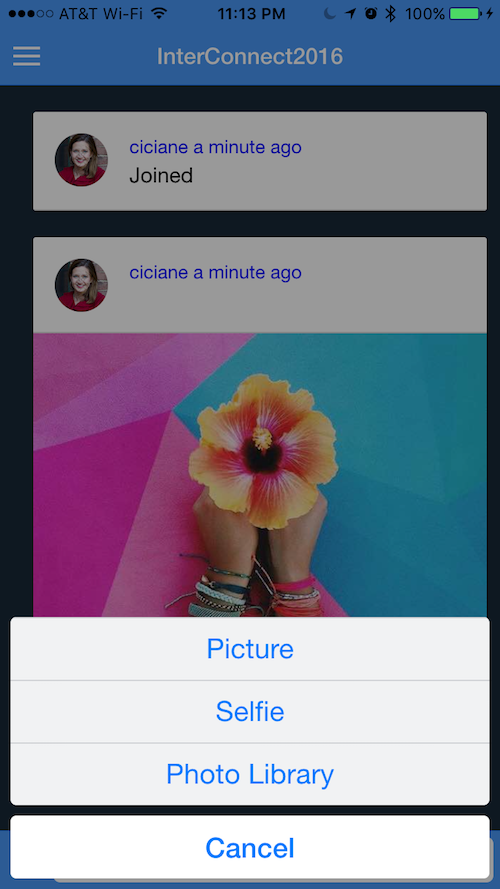
Notice that the name of the runtime on the remote MFP Server is *MobileFirstStarter*, This is different from the local runtime *MFPBackend* on the local MFP Server

**5.5 Run the App on your iPhone**

* Plug your iPhone with a USB cable
* Open XCode

$ open platforms/ios/\*.xcodeproj

* In XCode change the target from Simulator to the iPhone device
* Click the Play button

[](https://github.com/csantanapr/IC2016-MFP-Hello-Lab/blob/master/README-img/app-running.png)