CENTRAL QUEENSLAND UNIVERSITY

COIT20260- CLOUD COMPUTING FOR SMART APPLICATIONS

TERM 2- 2016

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COURSE CORDINATOR:Biplob Ray

Contents

Introduction

The focus of the report is based on the development of the smart applications where there is a application development for AB Pty. Ltd company. With the changing development of the difference, there is a need to develop the smart applications along with properly delivering the services to the other party providers. The foundation is based on offering the IBM BlueMixwith hold of the alerts that are being transferred to the management for the problems that are faced by the trucks. The content and the images is based on the development of the applications with properly handling the delivery of the products. The Information and Communication Technology has been for the development of smart applications with proper designing solutions that will allow the companies to work and track the movement. The Message Queue Telemetry Transfer protocol has been set where there is a major focus on the breakdown of the trucks which has been considered to be the severe activity with the productivity and the growth of the company. For this, the focus has been on sending the destination changes to the truck with the focus on handling the designing plans and the applications as per the presentations. The report is based on the deployment plan along with using the IBM BlueMix services. It focuses on handling the MQTT with the analysis that includes the CBD and QID depending upon the changes of the company. (Gheith, 2016). The analysis is based on handling the improvements with the development of connections to the smart vehicle applications. AB Truck Scheduling system has been set for the handling of the different products that have been mainly to connect to the smart vehicle application.

Proposed Solution

The focus has been on designing the solutions with the proper management that will be able to keep a track of the truck routes along with the requests that are important for the nearest possible route. The system analysis is based on hiring the owned with the solution of dividing the entire area into the zones of east, west, north and south. This is for the allocation of the

trucks for the zones with setting limits to travel in a particular zone of time. It is based on allowing the truck drivers to properly update the information timely and work on handling company management. The management needs to work on the immediate repairing services to the truck with the breakdown. There has been development of the smart applications with the proper handling of the Internet of Things. The analysis is based on allowing the proper monitoring and moving of the devices from the BlueMix application. The messaging is based on handling the development for the one-to-many message distribution along with the decoupling. (Kim et al., 2016).

The justifications are based on the fact where there is a need to allow the setting with properly managing the devices that have been connected. This will help in holding the MQTT protocol for the data collection along with the other communications that have been done to the server. The main goal for this is to handle the transfer of devices with proper set of the large network.

Analysis

As per the geographical changes in the regions, there is a need to focus on handling the vehicle simulator device which is directly attached to the system to take hold of the internet or the system. Connections. The force is mainly to deliver the drivers to work on the duty property. Here, there is a need to handle the management with properly checking the repairing needs of the vehicle along with alert to the management for the same. The IBM BlueMix has been able to allow the defined geographical regions to control the devices and work on the interface that will be able to control the movement with the connected things and the vehicle simulation. The applications are based on managing the tasks with the analysis to detect the triggered events with the vehicles.

BlueMix is set for the development and deployment plan that includes the applications for the DevOps services. Hence, the setup is for the server to run the codes along with properly working on the deployment application. The configuration is based on flow to monitor and work on the Node Red device simulations to send the messages for the device of MQTT. The basis features of the application where the management needs to monitor and track the locations with proper alert messages that have been forwarded for the management of the truck with exit and enter. The specifications are based on handling the checking where the drivers are also allowed to send the alert messages based on the repair requirement. As per the proposed application, there is a need for routing the beneficial solutions with properly working on the Geospatial and the IoT Foundations. This directs to the report where the information has been mainly for the development. (Murhty et al., 2015).

Conclusion

With this, there has been a proper setup of the transportation where there is a publicising and subscribing of the message protocol which is important to transfer the information. This will help in handling the vehicles and applications that have been for the management purpose. A proper justification is for the IoT services that are offered with the increase in the utilisation of the resources of the company. (Raggett et al., 2015). This will allow the organisation to properly connect with the cloud and get the information related to the real-time connection.

Reference

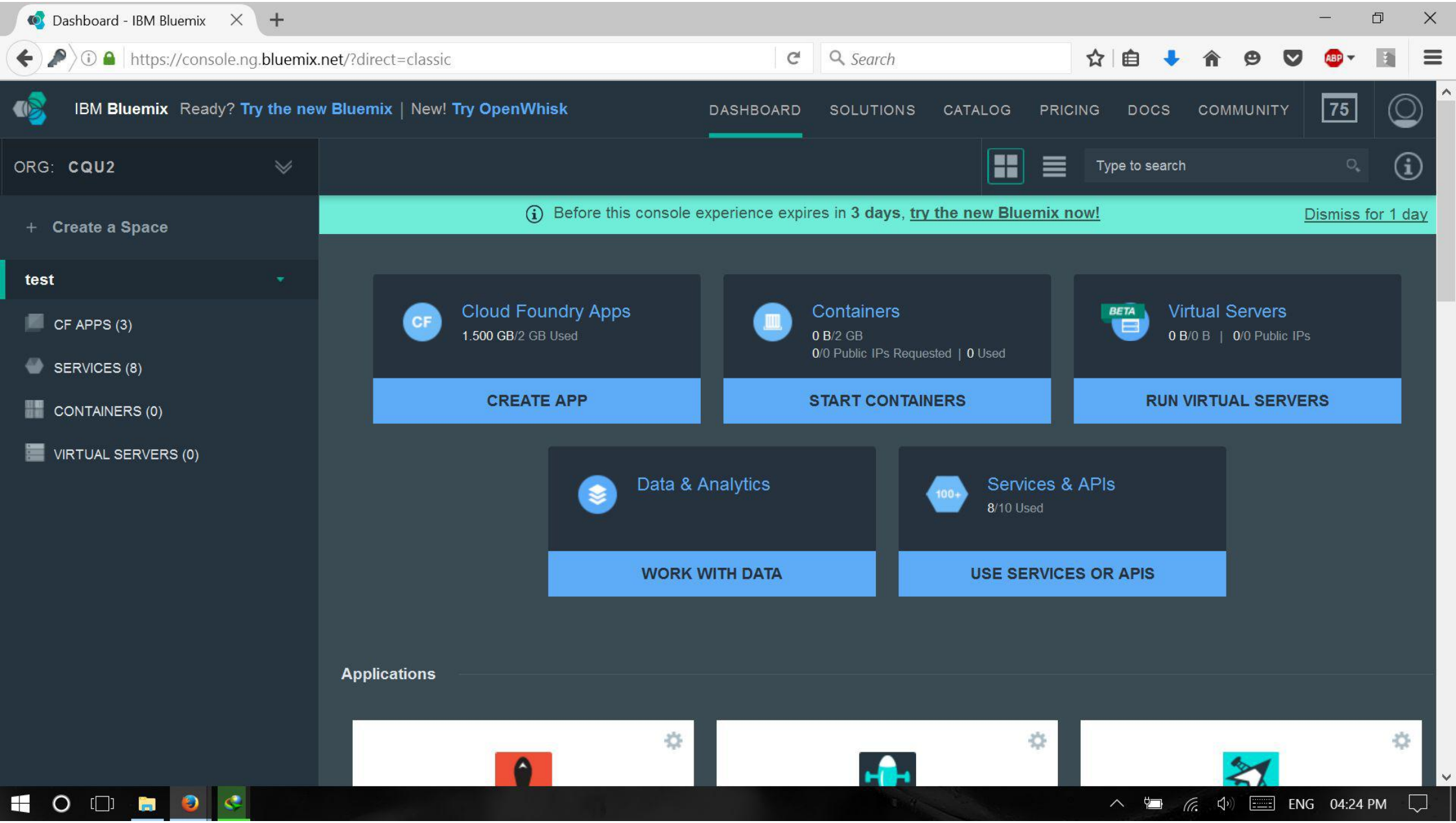
Gheith, A. et al., 2016,'IBM Bluemix Mobile Cloud Services', *IBM Journal of Research and Development,* vol. 60, no.2-3, pp.7:1-7:12.

Kim, M et al., 2016, 'Building Scalable, Secure, Multi-Tenant Cloud Services On IBM Bluemix', *IBM Journal of Research and Development* vol. 60, no. 2-3, pp.8:1-8:12.

Murthy, N, Kumar, V 2015,'Internet of Things (IoT): Is IoT a Disruptive Technology or a Disruptive Business Model', *Indian Journal of Marketing*, vol.45, no.8, pp.21-25.

Raggett, Dave 2015, 'The Internet of Things: Open Markets', *Ubiquity,* pp.1-8.

Ramanathan, S, Alexander, M & Kerr, G 2008, 'The IBM Telecommunications Service Delivery Platform', *IBM Syst. J, vol.* 47, no.3, pp: 433-443.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1.500 GB/2 GB Used
CREATE APP
Containers
0 B/2 GB
0/0 Public IPs Requested | 0 Used
START CONTAINERS
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Virtual Servers
0 B/0 B | 0/0 Public IPs
RUN VIRTUAL SERVERS
Data & Analytics
WORK WITH DATA
100+
Services & APIs
8/10 Used
USE SERVICES OR APIS
Applications
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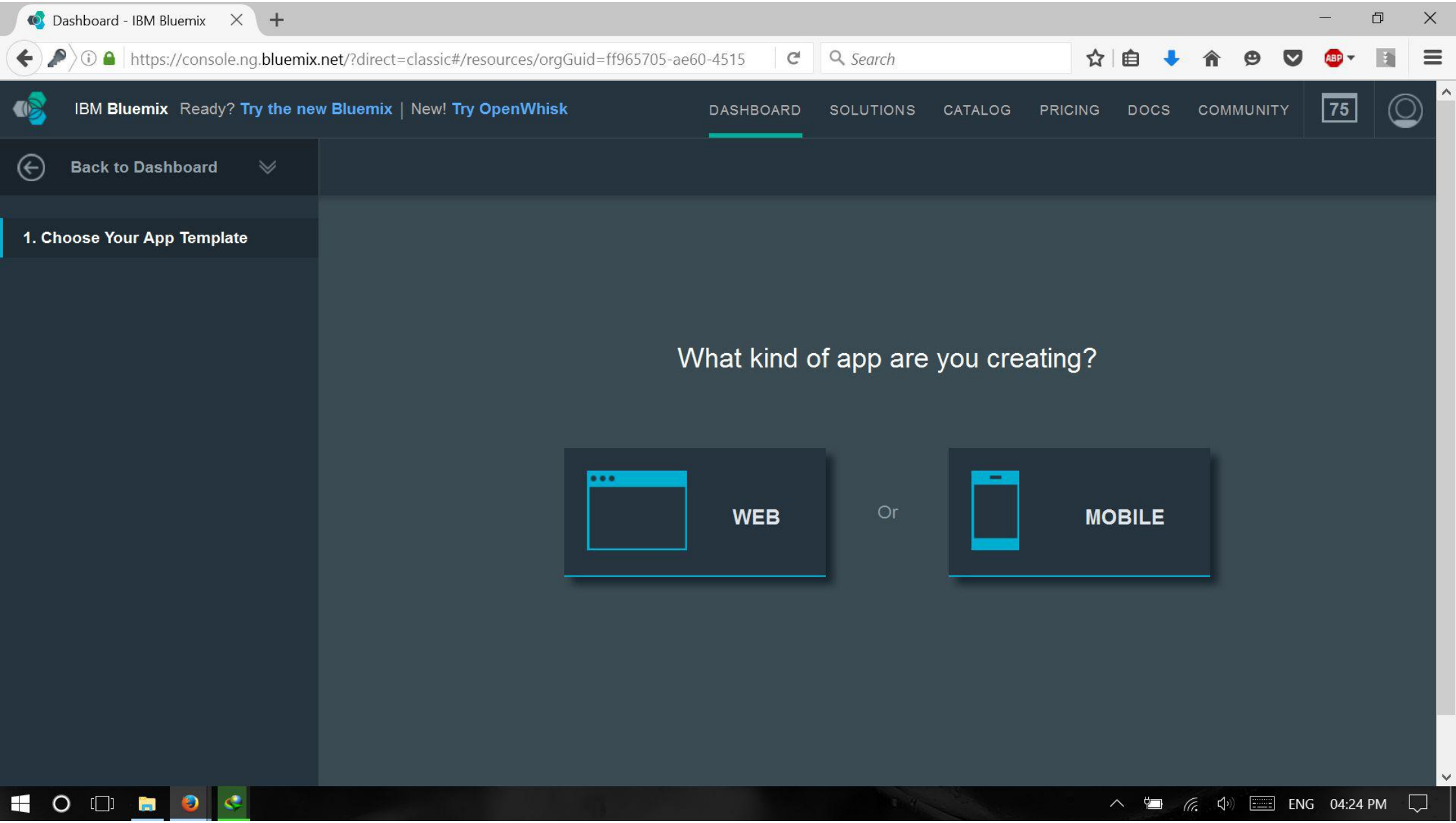
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1. Choose Your App Template
What kind of app are you creating?
WEB
Or
MOBILE
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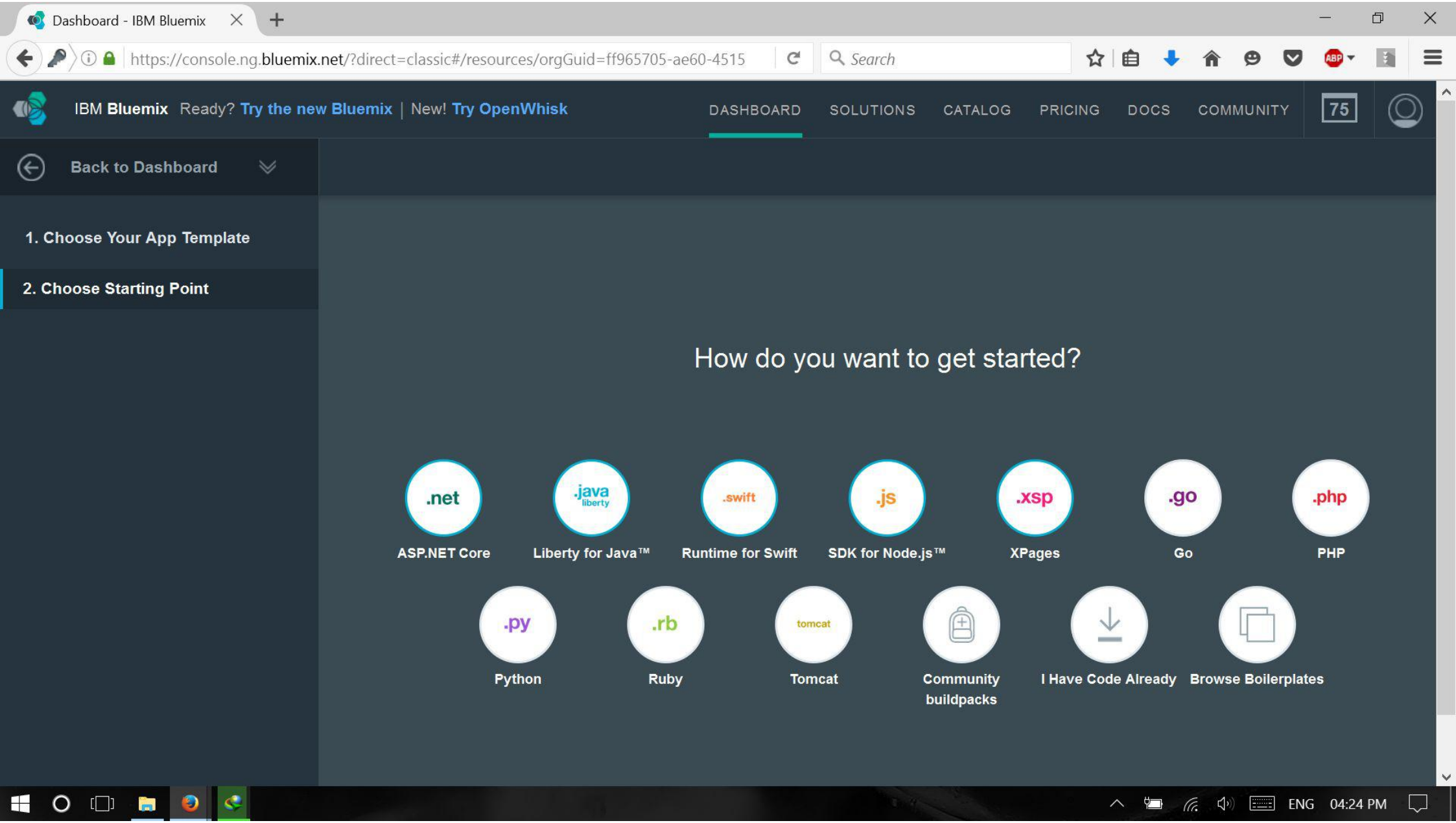
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How do you want to get started?
ASP.NET Core
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SDK for Node.js™
XPages
Go
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Python
Ruby
Tomcat
Community buildpacks
I Have Code Already
Browse Boilerplates
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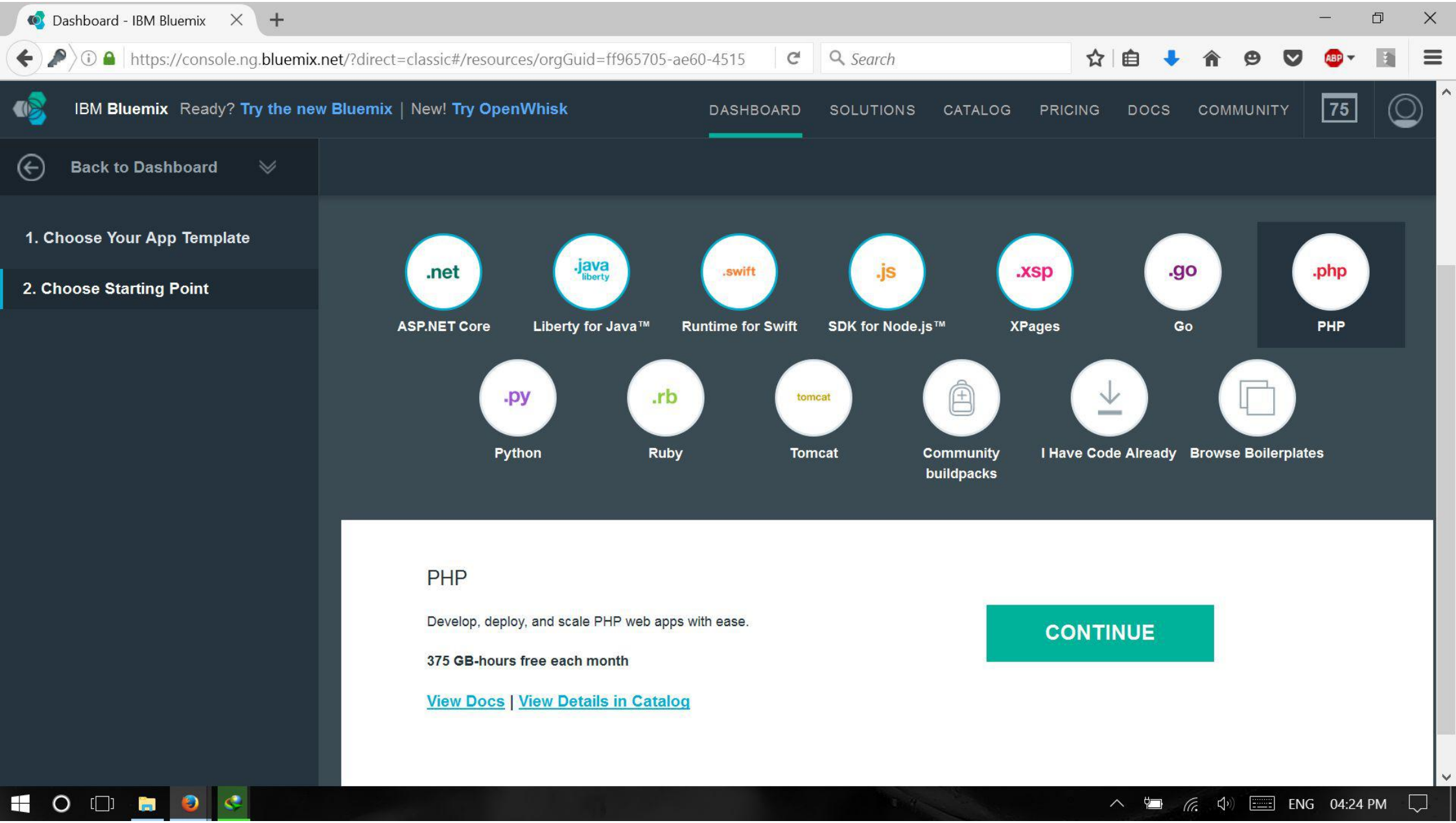
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SDK for Node.js™
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XPages
.go
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.py
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.rb
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Browse Boilerplates
PHP
Develop, deploy, and scale PHP web apps with ease.
375 GB-hours free each month
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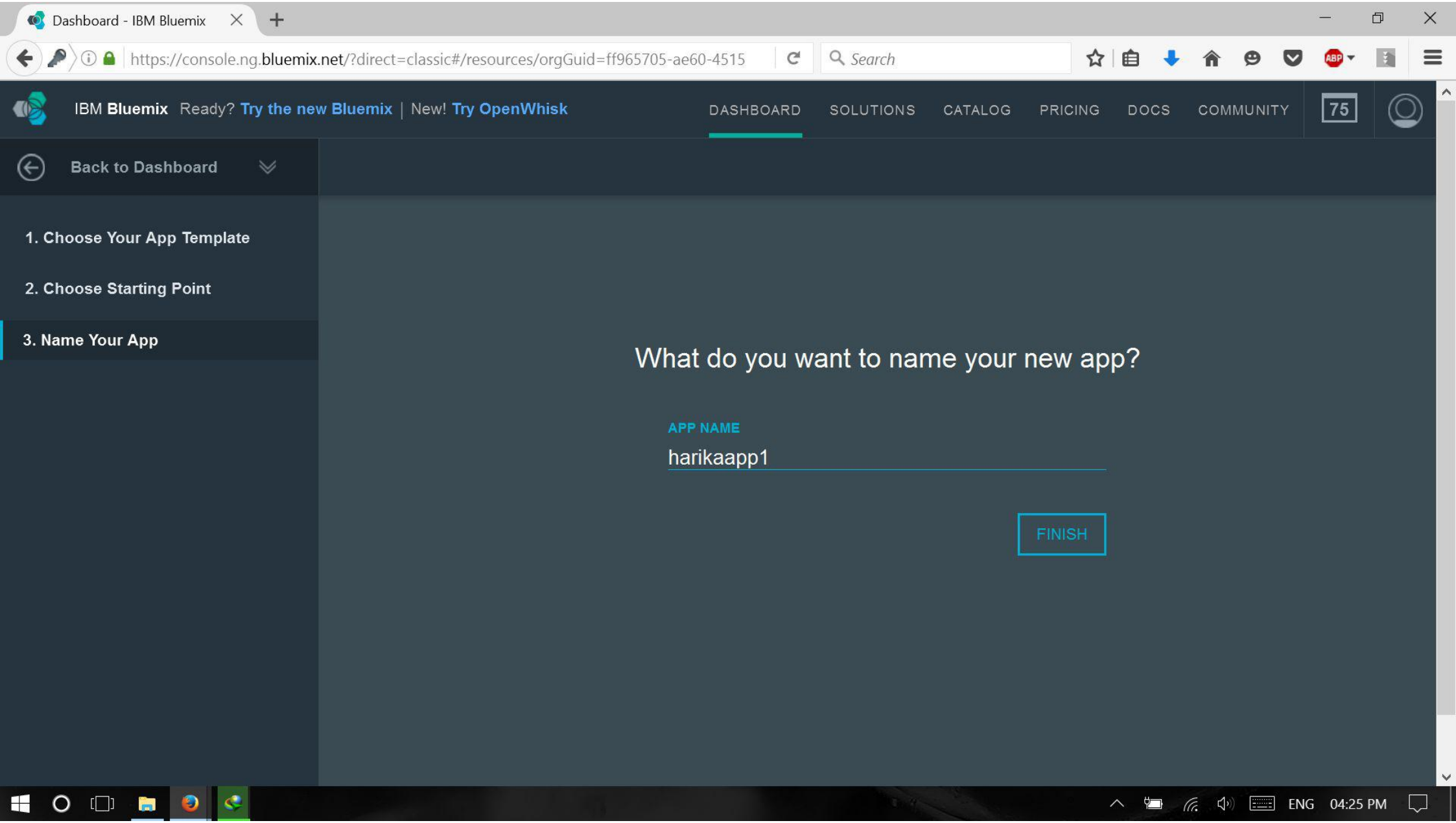
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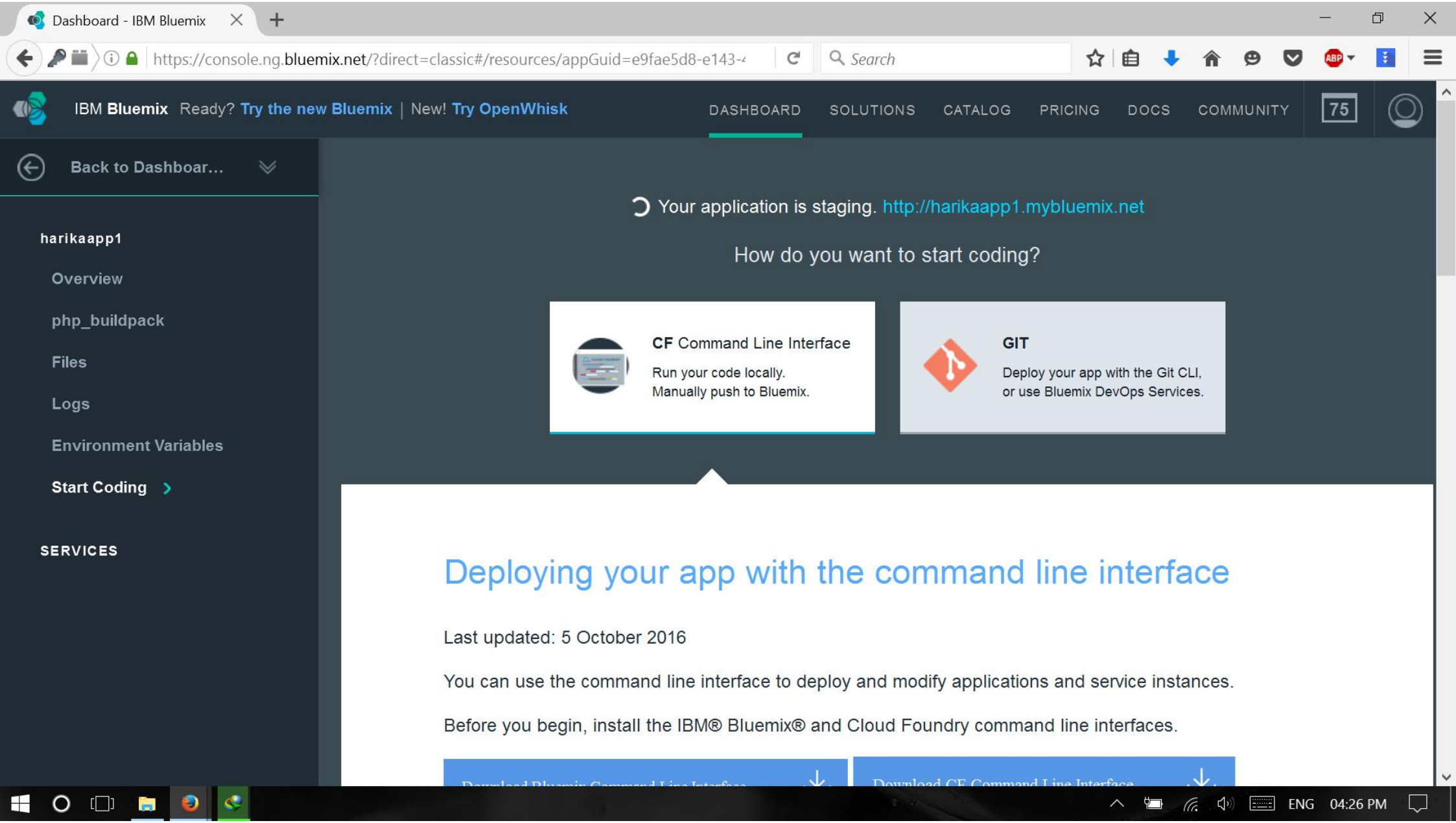
1. Choose Your App Template
2. Choose Starting Point
3. Name Your App
What do you want to name your new app?
APP NAME
harikaapp1
FINISH
ENG
04:25 PM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harikaapp1
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php_buildpack
Files
Logs
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Start Coding
SERVICES
Your application is staging. http://harikaapp1.mybluemix.net
How do you want to start coding?
CF Command Line Interface
Run your code locally.
Manually push to Bluemix.
GIT
Deploy your app with the Git CLI,
or use Bluemix DevOps Services.
Deploying your app with the command line interface
Last updated: 5 October 2016
You can use the command line interface to deploy and modify applications and service instances.
Before you begin, install the IBM® Bluemix® and Cloud Foundry command line interfaces.
ENG
04:26 PM

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harikaapp1

- Overview
- php_buildpack
- Files
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- Start Coding

SERVICES

```
bluemix login -u harika.bavuna@cqumail.com -o "CQU2" -s "test" -sso
```

6 Deploy your app to Bluemix. For more information about the cf push command, see Uploading your application.

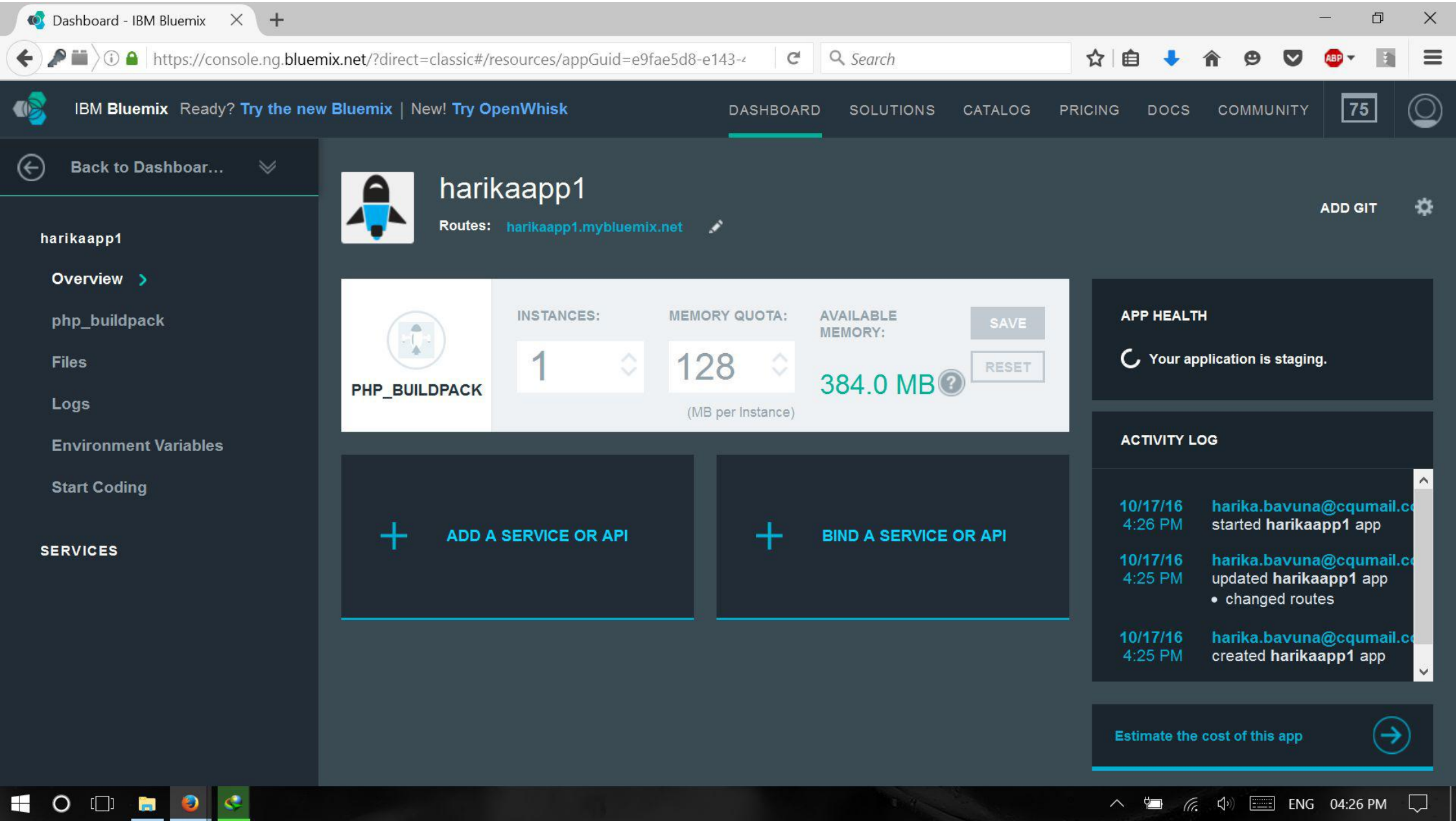
```
cf push "harikaapp1"
```

7 Access your app by entering the following URL into your browser:

```
harikaapp1.mybluemix.net
```

VIEW DOCS VIEW APP OVERVIEW

ENG 04:26 PM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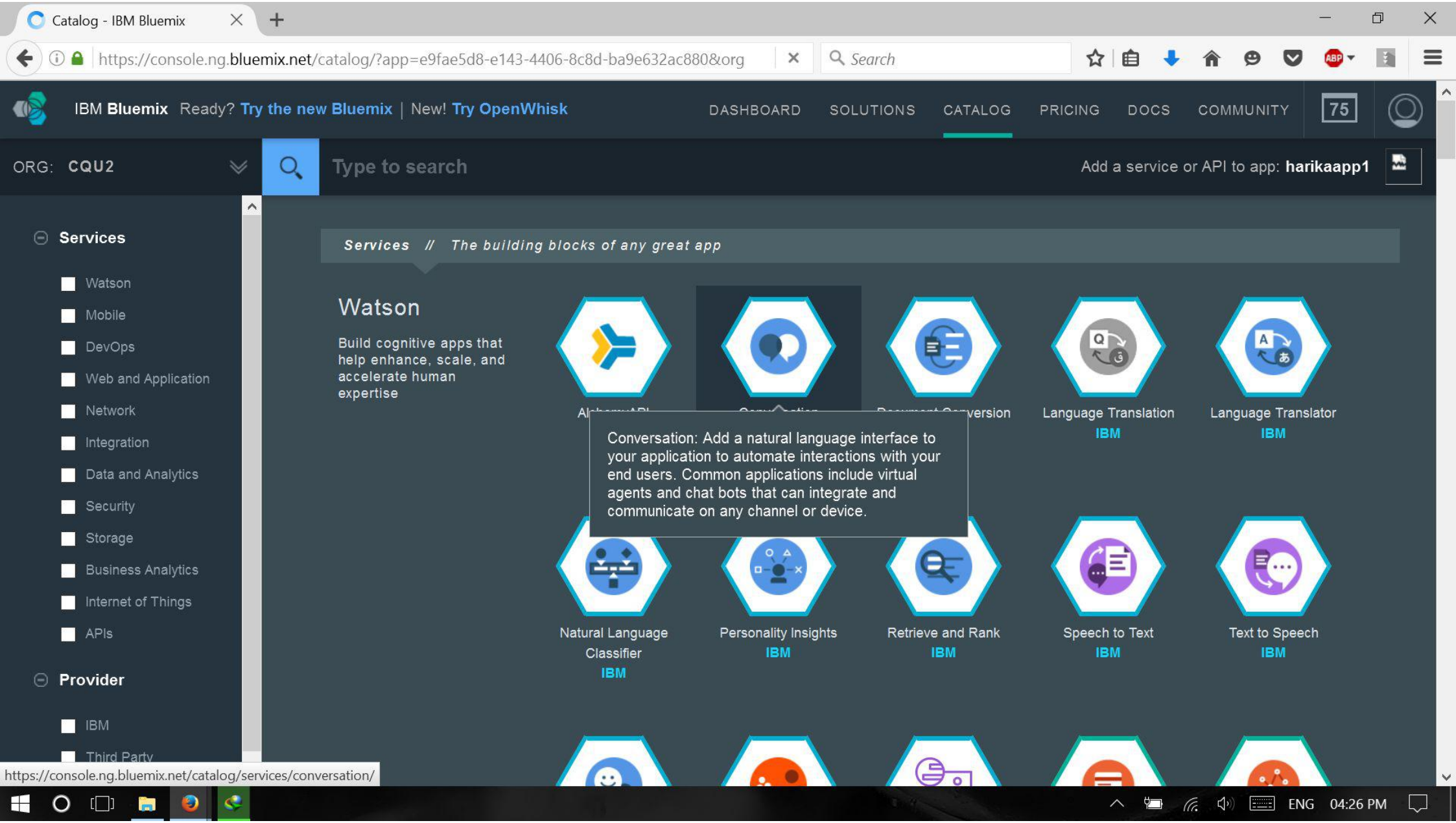
harikaapp1
Routes: harikaapp1.mybluemix.net
ADD GIT
PHP_BUILDPACK
INSTANCES:
1
MEMORY QUOTA:
128
(MB per Instance)
AVAILABLE MEMORY:
384.0 MB
SAVE
RESET
APP HEALTH
Your application is staging.
ACTIVITY LOG
10/17/16 4:26 PM harika.bavuna@cqumail.c started harikaapp1 app
10/17/16 4:25 PM harika.bavuna@cqumail.c updated harikaapp1 app
• changed routes
10/17/16 4:25 PM harika.bavuna@cqumail.c created harikaapp1 app
ADD A SERVICE OR API
BIND A SERVICE OR API
Estimate the cost of this app
ENG
04:26 PM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Integration
Data and Analytics
Security
Storage
Business Analytics
Internet of Things
APIs
Provider
IBM
Third Party
Services // The building blocks of any great app
Watson
Build cognitive apps that help enhance, scale, and accelerate human expertise
Conversation: Add a natural language interface to your application to automate interactions with your end users. Common applications include virtual agents and chat bots that can integrate and communicate on any channel or device.
Language Translation
IBM
Language Translator
IBM
Natural Language Classifier
IBM
Personality Insights
IBM
Retrieve and Rank
IBM
Speech to Text
IBM
Text to Speech
IBM
https://console.ng.bluemix.net/catalog/services/conversation/
ENG
04:26 PM

Conversation - IBM Bluemix

https://console.ng.bluemix.net/catalog/services/conversation/?app=e9fae5d8-e143-4406-8c

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Back to Services

Add a service or API to app: **harikaapp1**

Conversation

IBM

PUBLISH DATE
10/03/2016

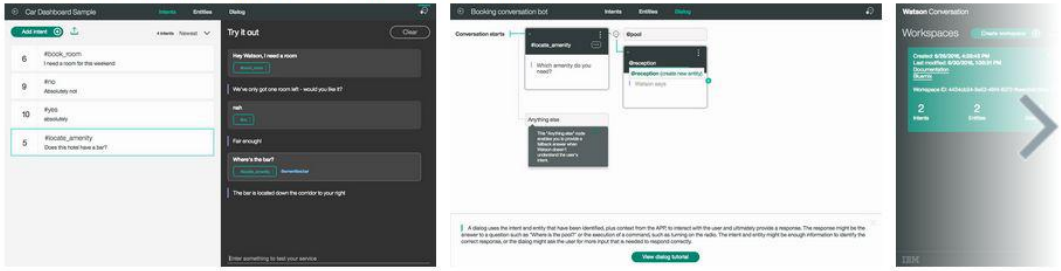
AUTHOR
IBM

TYPE
Service

LOCATION
US South

VIEW DOCS

Add a natural language interface to your application to automate interactions with your end users. Common applications include virtual agents and chat bots that can integrate and communicate on any channel or device. Train Watson Conversation service through an easy-to-use web application, designed so you can quickly build natural conversation flows between your apps and users, and deploy scalable, cost effective solutions.



Pick a plan

Monthly prices shown are for country or region: Australia

Plan	Features	
✓ Free	1000 API queries per month Up to 3 Workspaces Up to 25 Intents	Free

Add Service

Space:
test

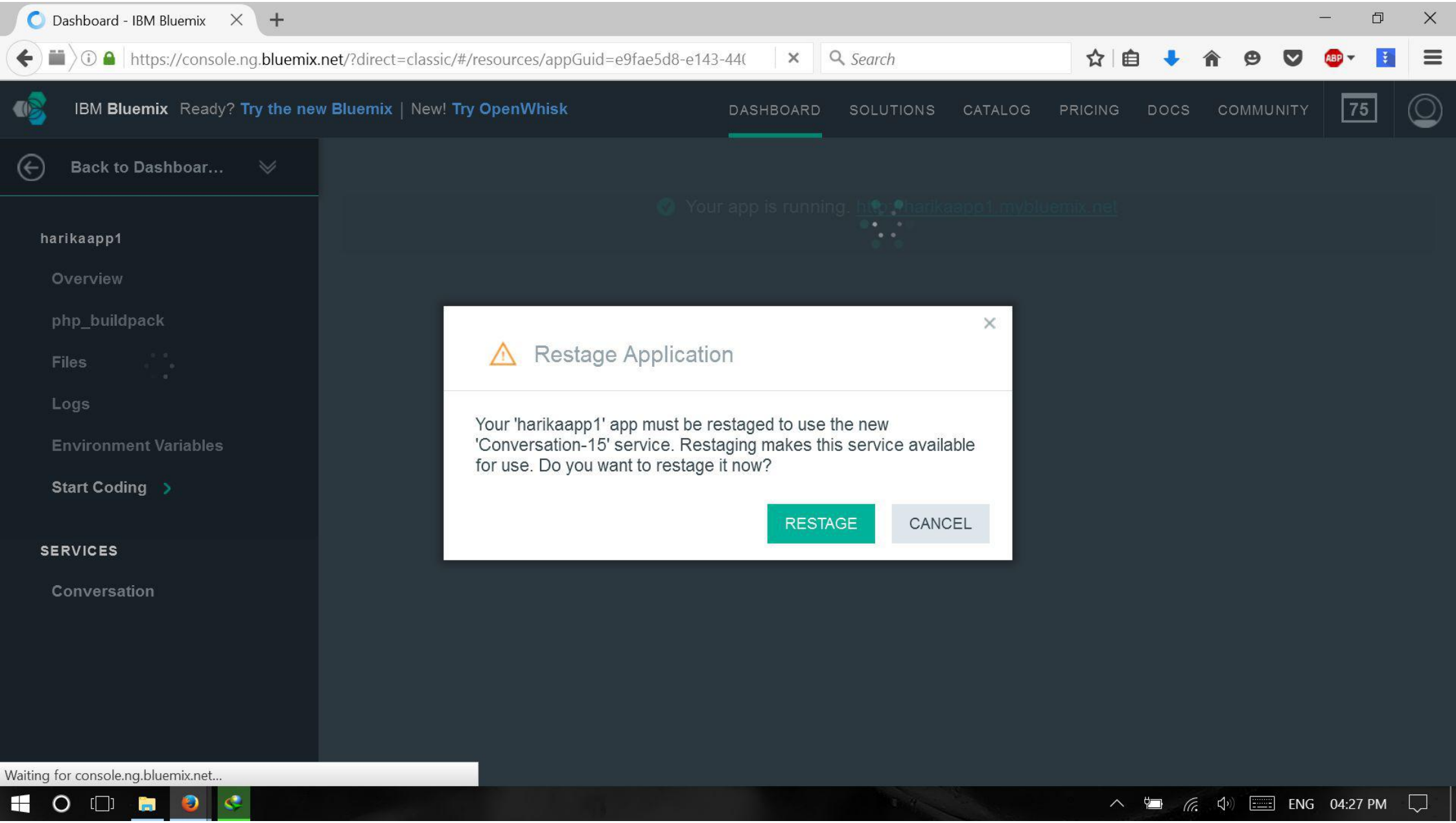
App:
Loading...

Service name:
Conversation-15

Selected Plan:
Free

CREATE

ENG 04:26 PM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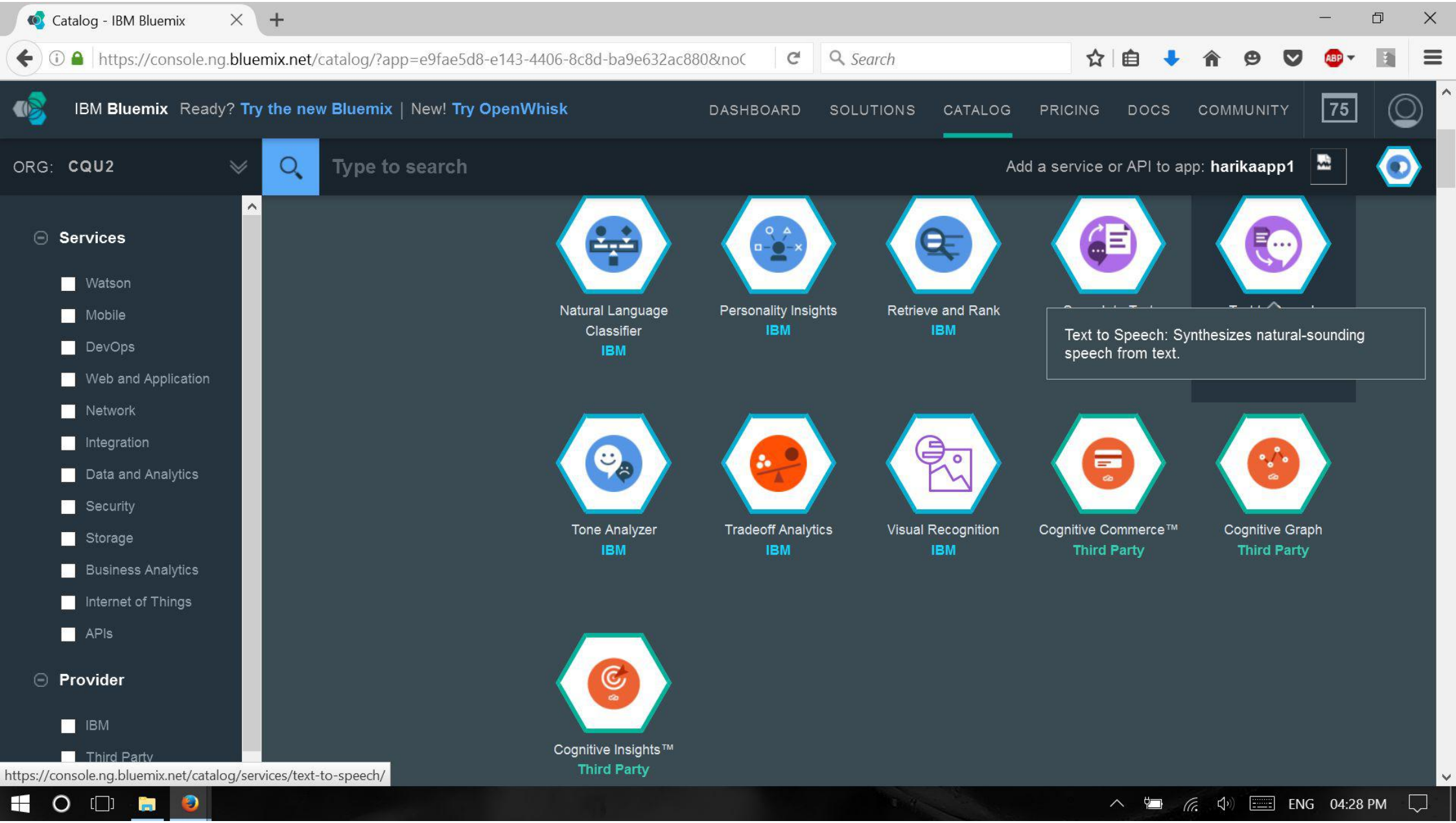
Your app is running. http://harikaapp1.mybluemix.net
Restage Application
Your 'harikaapp1' app must be restaged to use the new 'Conversation-15' service. Restaging makes this service available for use. Do you want to restage it now?
RESTAGE
CANCEL
Waiting for console.ng.bluemix.net...
ENG
04:27 PM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Data and Analytics
Security
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Business Analytics
Internet of Things
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Provider
IBM
Third Party
Natural Language Classifier
IBM
Personality Insights
IBM
Retrieve and Rank
IBM
Text to Speech: Synthesizes natural-sounding speech from text.
Tone Analyzer
IBM
Tradeoff Analytics
IBM
Visual Recognition
IBM
Cognitive Commerce™
Third Party
Cognitive Graph
Third Party
Cognitive Insights™
Third Party
https://console.ng.bluemix.net/catalog/services/text-to-speech/
ENG
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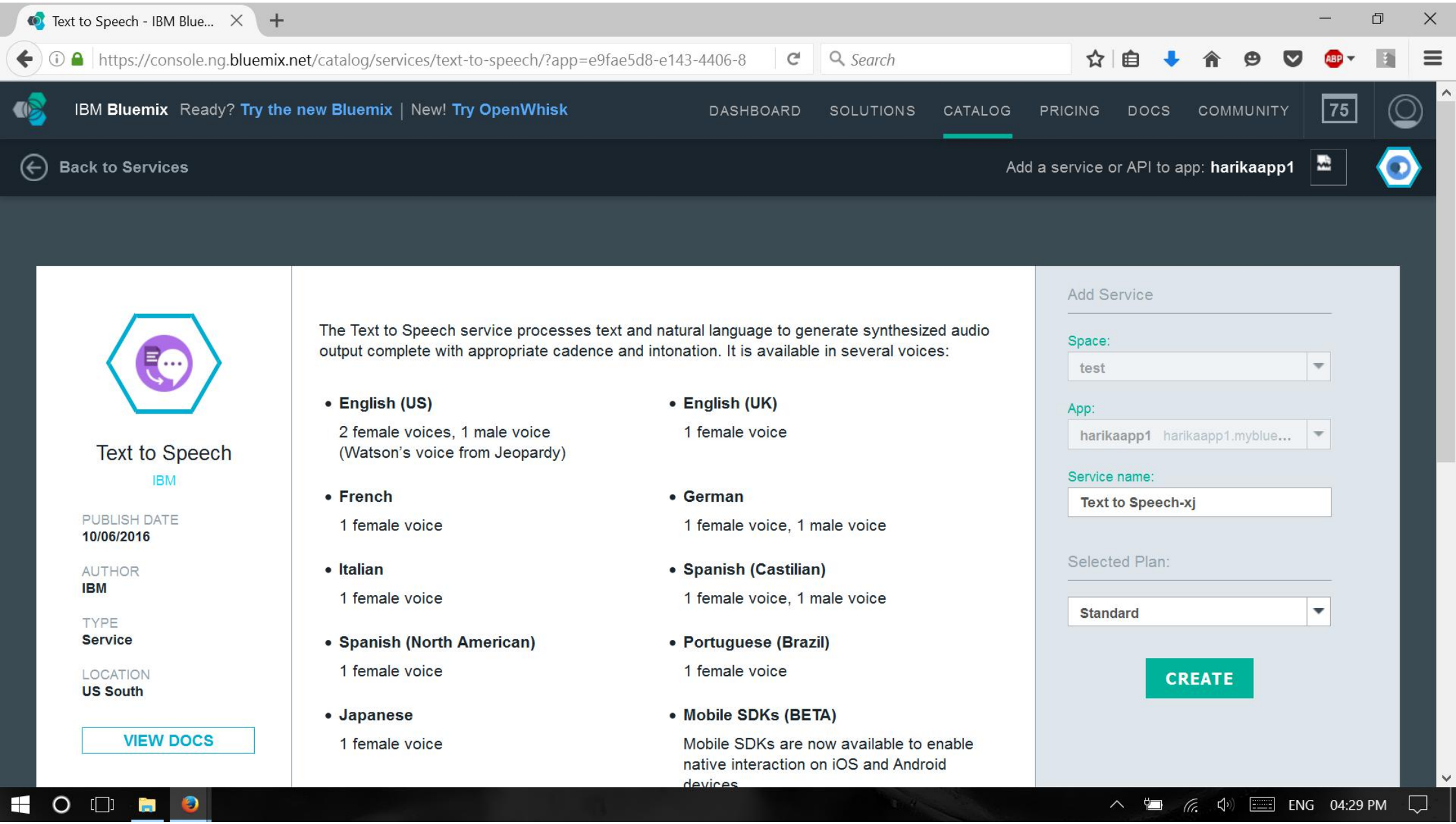
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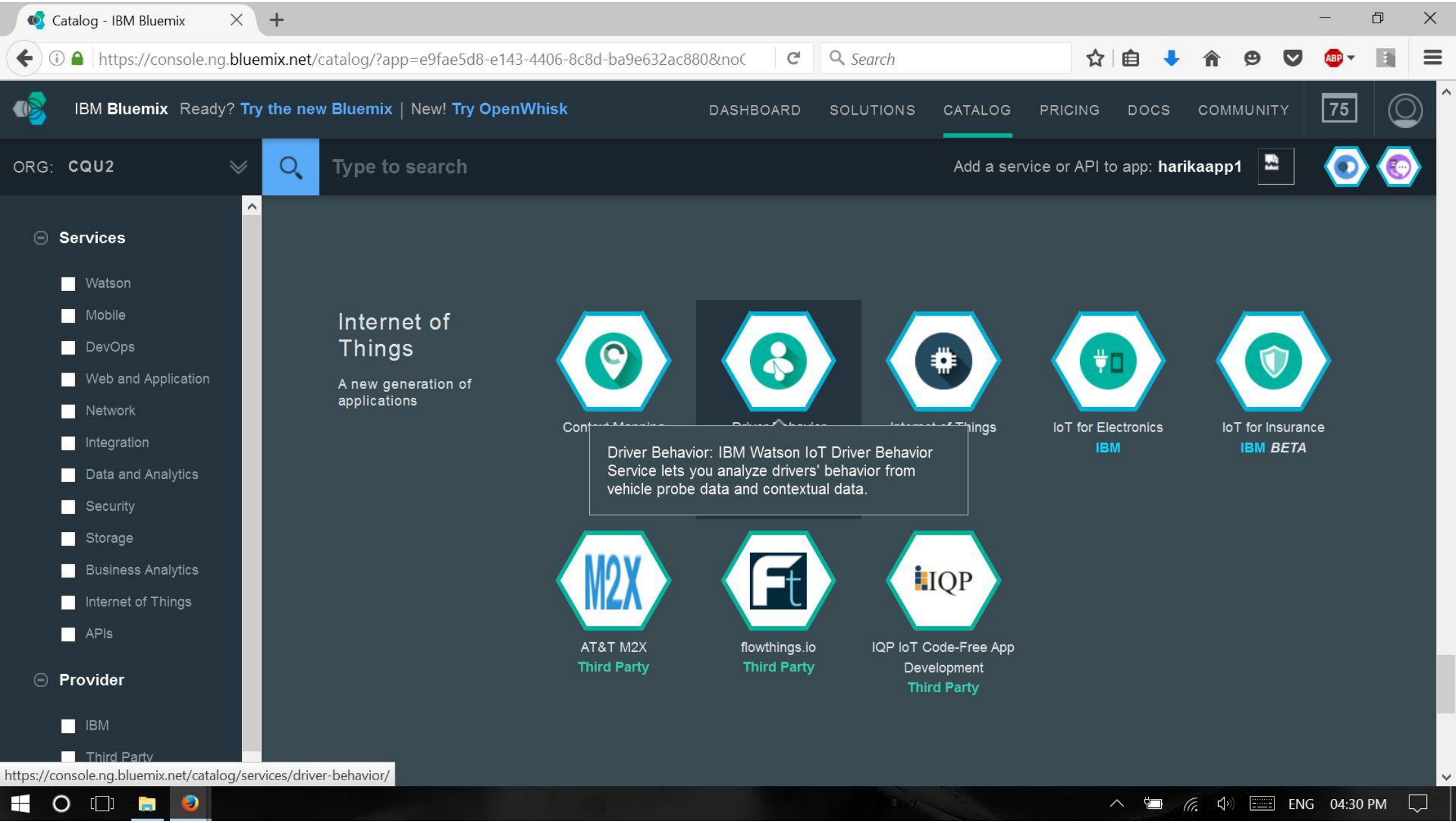
Add a service or API to app: harikaapp1
Text to Speech
IBM
PUBLISH DATE
10/06/2016
AUTHOR
IBM
TYPE
Service
LOCATION
US South
VIEW DOCS
The Text to Speech service processes text and natural language to generate synthesized audio output complete with appropriate cadence and intonation. It is available in several voices:
English (US)
2 female voices, 1 male voice (Watson's voice from Jeopardy)
English (UK)
1 female voice
French
1 female voice
German
1 female voice, 1 male voice
Italian
1 female voice
Spanish (Castilian)
1 female voice, 1 male voice
Spanish (North American)
1 female voice
Portuguese (Brazil)
1 female voice
Japanese
1 female voice
Mobile SDKs (BETA)
Mobile SDKs are now available to enable native interaction on iOS and Android devices
Add Service
Space:
test
App:
harikaapp1 harikaapp1.myblue...
Service name:
Text to Speech-xj
Selected Plan:
Standard
CREATE
ENG
04:29 PM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Mobile
DevOps
Web and Application
Network
Integration
Data and Analytics
Security
Storage
Business Analytics
Internet of Things
APIs
Provider
IBM
Third Party
Internet of Things
A new generation of applications
Driver Behavior: IBM Watson IoT Driver Behavior Service lets you analyze drivers' behavior from vehicle probe data and contextual data.
IoT for Electronics
IBM
IoT for Insurance
IBM BETA
AT&T M2X
Third Party
flowthings.io
Third Party
IQP IoT Code-Free App Development
Third Party
https://console.ng.bluemix.net/catalog/services/driver-behavior/
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04:30 PM

Driver Behavior - IBM Blue...

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Add a service or API to app: **harikaapp1**

Driver Behavior

IBM

PUBLISH DATE
06/17/2016

AUTHOR
IBM

TYPE
Service

VIEW DOCS

IBM Watson IoT Driver Behavior Service lets you analyze drivers' behavior from vehicle probe data and contextual data.

- **Driver behavior analysis**

  You can analyze driver behavior such as harsh acceleration and harsh braking, frequent braking, speeding, sharp turn, and so on.

- **REST API**

  Developers can retrieve the analysis results by REST API and use them in Bluemix applications.

- **Big data analysis infrastructure**

  Driver Behavior uses Hadoop as the back-end infrastructure. Hadoop enables Driver Behavior to realize high scalability for analyzing big data from vehicle probe data and contextual data.

- **Configurability**

  Some analysis-threshold parameters, such as speed range per road type and turn angle range, can be configured as you like.

Add Service

Space:
test

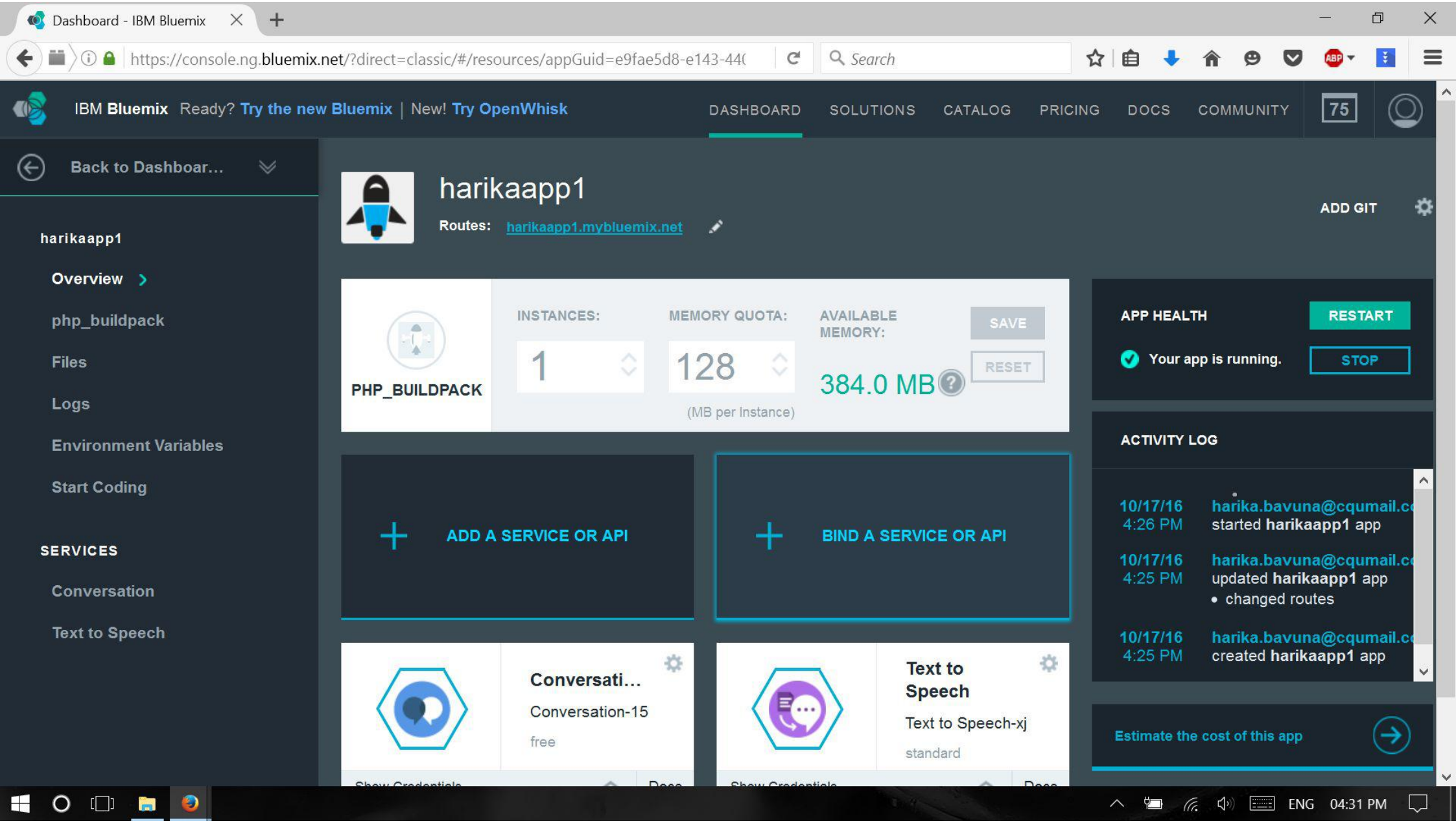
App:
harikaapp1 harikaapp1.myblue...

Service name:
Driver Behavior-jg

Selected Plan:
Free

CREATE

ENG 04:31 PM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ADD GIT
PHP_BUILDPACK
INSTANCES:
1
MEMORY QUOTA:
128
(MB per Instance)
AVAILABLE MEMORY:
384.0 MB
SAVE
RESET
APP HEALTH
RESTART
Your app is running.
STOP
ACTIVITY LOG
10/17/16 4:26 PM harika.bavuna@cqumail.c started harikaapp1 app
10/17/16 4:25 PM harika.bavuna@cqumail.c updated harikaapp1 app
• changed routes
10/17/16 4:25 PM harika.bavuna@cqumail.c created harikaapp1 app
ADD A SERVICE OR API
BIND A SERVICE OR API
Conversati...
Conversation-15
free
Text to Speech
Text to Speech-xj
standard
Estimate the cost of this app
ENG
04:31 PM