Bluemix – App logging

Learning Objectives:



- 1. Log message format, types
- 2. Learn how to setup an external Logging service for application

Log Message format

Log type

Instance Index

Channel (OUT, ERR)

Timestamp

\

Message

2015-11-23T17:52:59.226-0500 2015-11-23T17:52:59.229-0500 [STG/0]

OUT

Expanding Auto-Scaling Agent to .Auto-Scaling (0.0s)

----> Retrieving com.ibm.ws.liberty-2015.10.0.0-pi52103-201511191720.tar.gz ... (0.0s)

Log types

API

Users make API calls to request changes in application state Cloud controller sends these messages

2015-11-23T17:33:49.152-0500	[API/0]	OUT	Updated app with guid 8891ab3b-1480-4ced-857f-b4dbc8fd385d ({"state"=>"STARTED"})	
2015-11-23T17:43:41.026-0500	[API/1]	OUT	Updated app with guid 8891ab3b-1480-4ced-857f-b4dbc8fd385d ({"state"=>"STOPPED"})	

STG

Emitted during staging and restaging of apps

DEA emits this message; after staging the DEA emits message with type DEA

2015-11-23T17:52:59.226-0500	[STG/0]	OUT	Expanding Auto-Scaling Agent to .Auto-Scaling (0.0s)
2015-11-23T17:52:59.229-0500	[STG/0]	OUT	> Retrieving com.ibm.ws.liberty-2015.10.0.0-pi52103-201511191720.tar.gz (0.0s)

Log types

DEA

The Droplet Execution Agent emits DEA logs when starts/stops apps or when the app crashes

2015-11-23T17:33:49.165-0500	[DEA/17]	OUT	Starting app instance (index 0) with guid 8891ab3b-1480-4ced-857f-b4dbc8fd385d
2015-11-23T17:43:42.142-0500	[DEA/17]	OUT	Stopping app instance (index 0) with guid 8891ab3b-1480-4ced-857f-b4dbc8fd385d

RTR

The Router emits RTR logs when it routes HTTP requests to the application

App name followed by Router timestamp and selections from the HTTP request

Log types

LGR

Loggregator emits message to indicate any problem with the logging E.g., "Dropped log messages due to high rate"

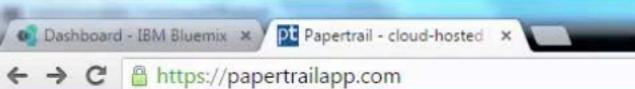
APP

Emitted by application

2015-11-23T17:54:04.069-0500	[App/0]	OUT	[AUDIT] CWWKF0011I: The server defaultServer is ready to run a smarter planet.
2015-11-23T17:54:04.068-0500	[App/0]	OUT	[INFO] CWWKF0008I: Feature update completed in 11.698 seconds.

Stream to Papertrail

- Papertrail is third party service for log management
 Visit Http://papertrail.com for information and to open an account (free)
- Other third party log management tools supported are: Splunk, SplunkStorm, SumoLogic
- At a high level the setup process involves:
 - 1. Setting up the 3rd party service for receiving logs
 - 2. Creation of User Provided Service with -I option on Bluemix/CF
 - 3. Binding of App to UPS
 - 4. Re-stage App



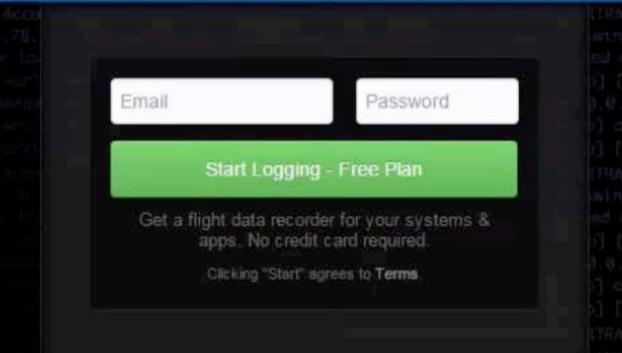




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Frustration-free log management. Get started in seconds.

Instantly manage logs from 2 servers... or 2,000.

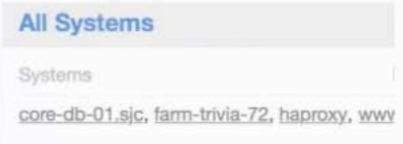


"Extremely useful and reliable."

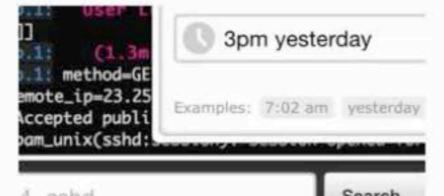
"Excellent service...once again let me figure out a strange error."

"Took about an hour to set up our entire cluster."

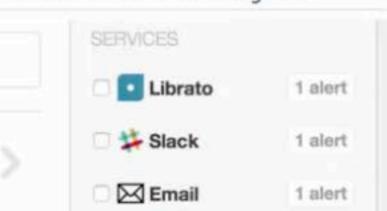
Aggregate



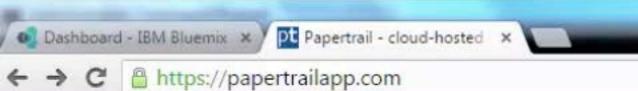
Tail & Search



React & Analyze







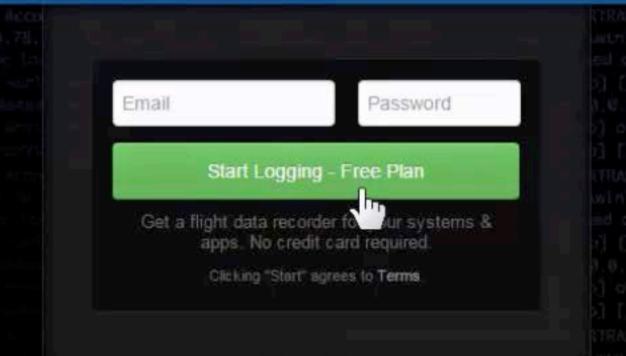




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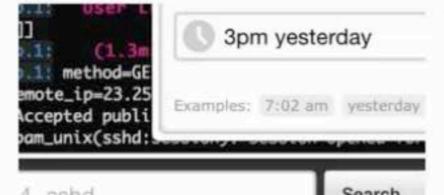
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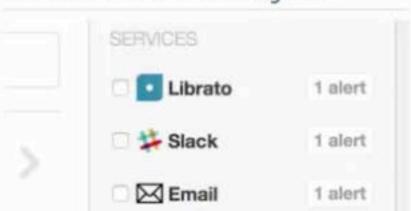
Aggregate

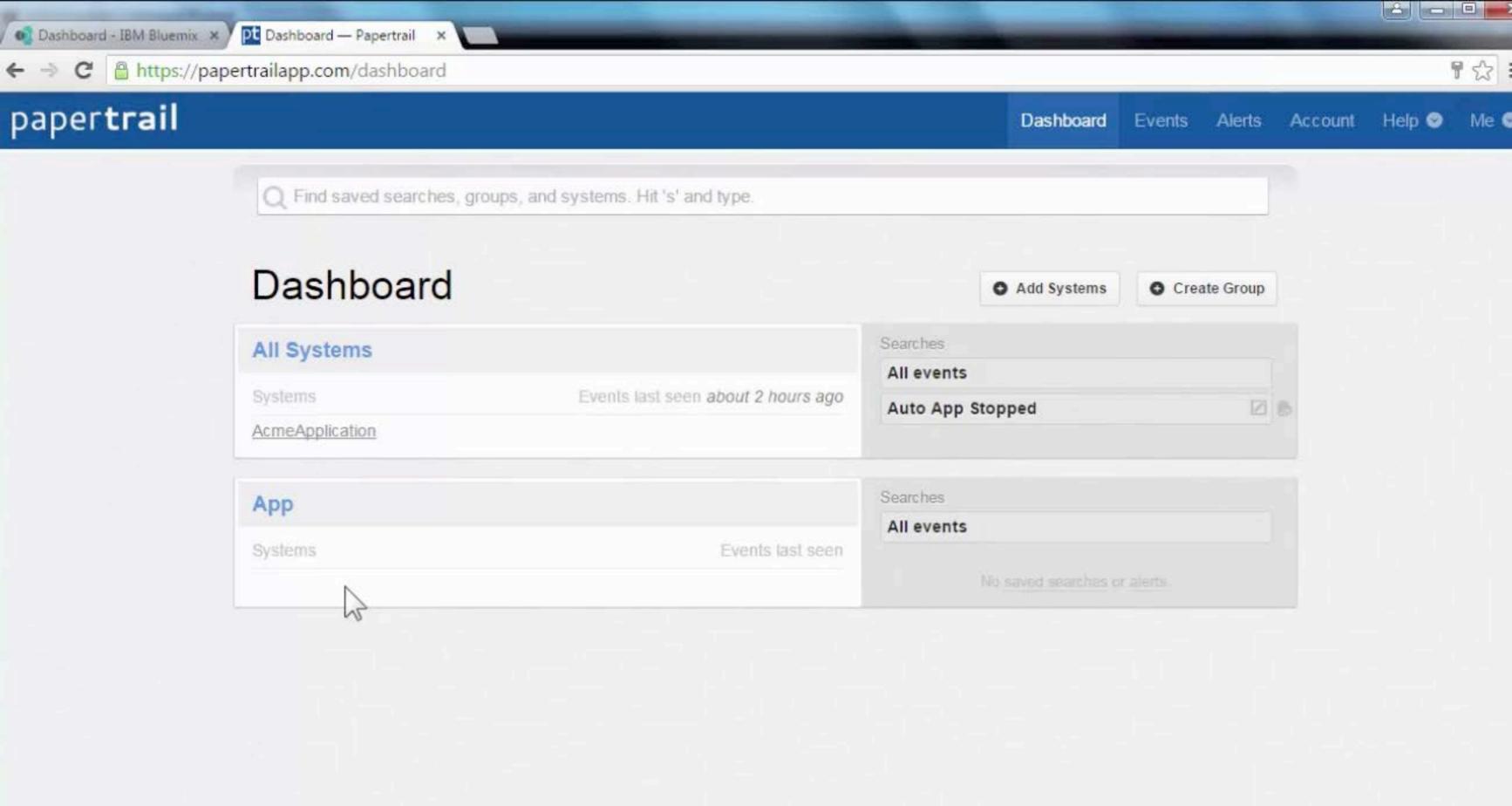


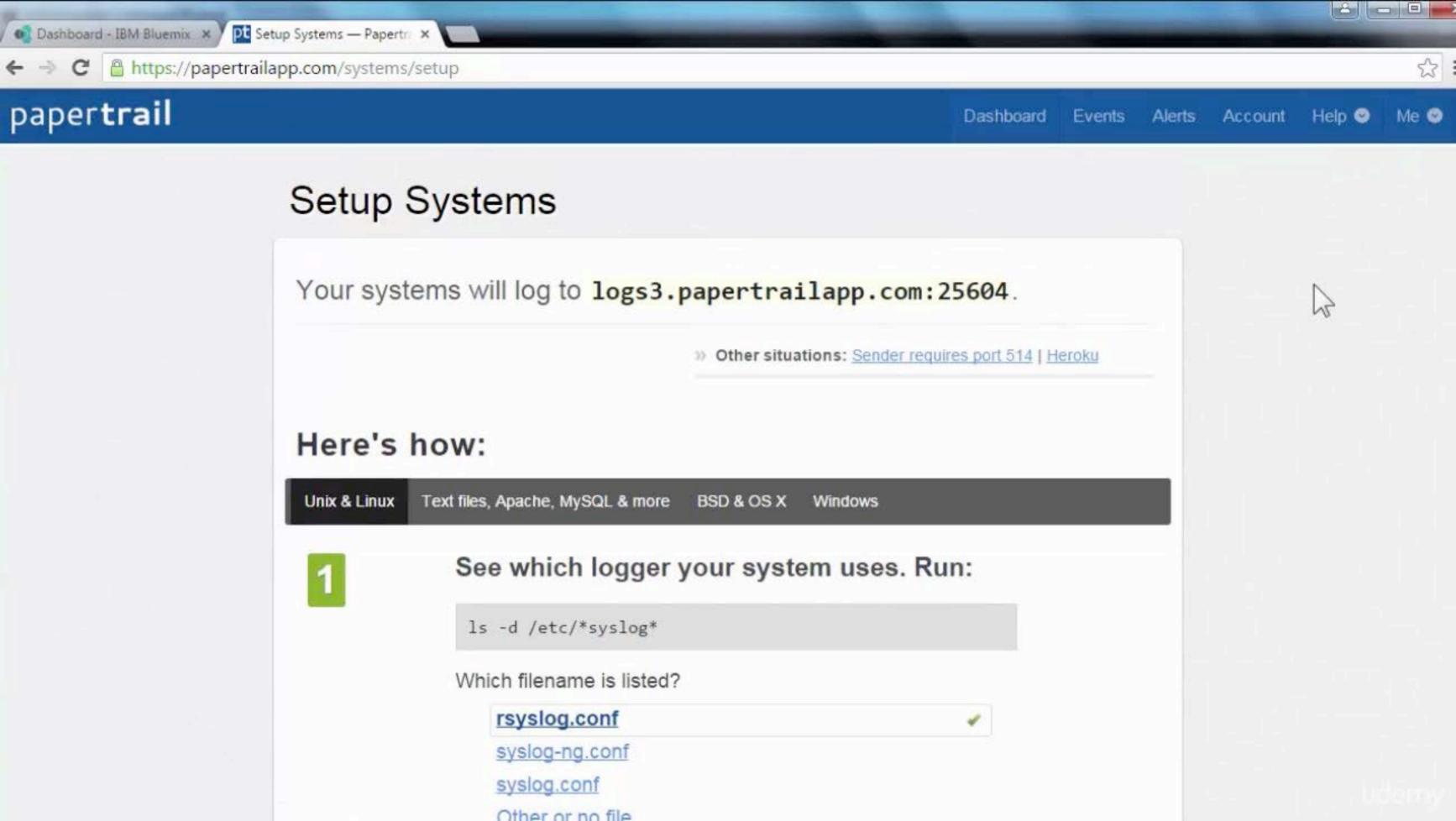
Tail & Search

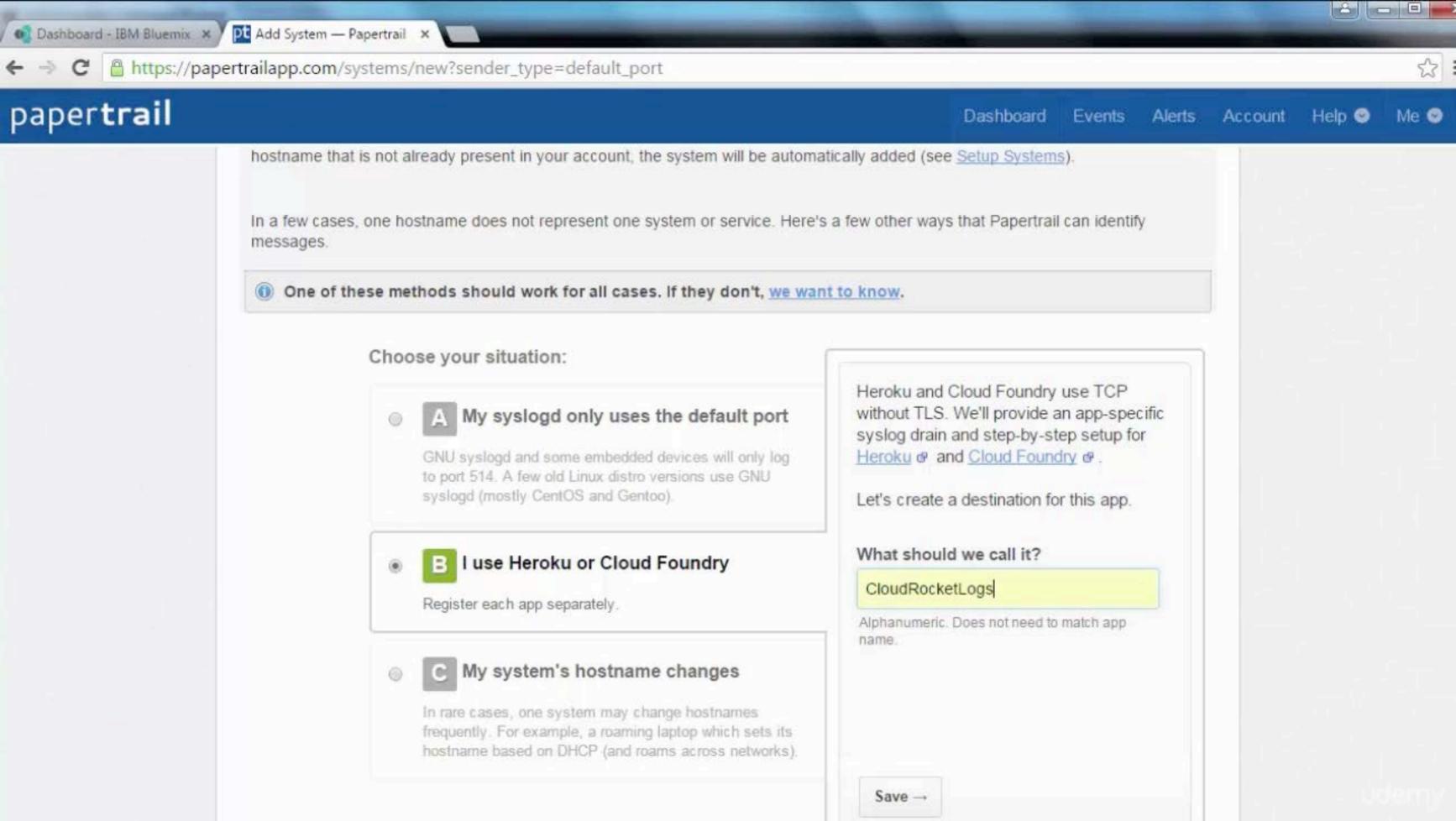


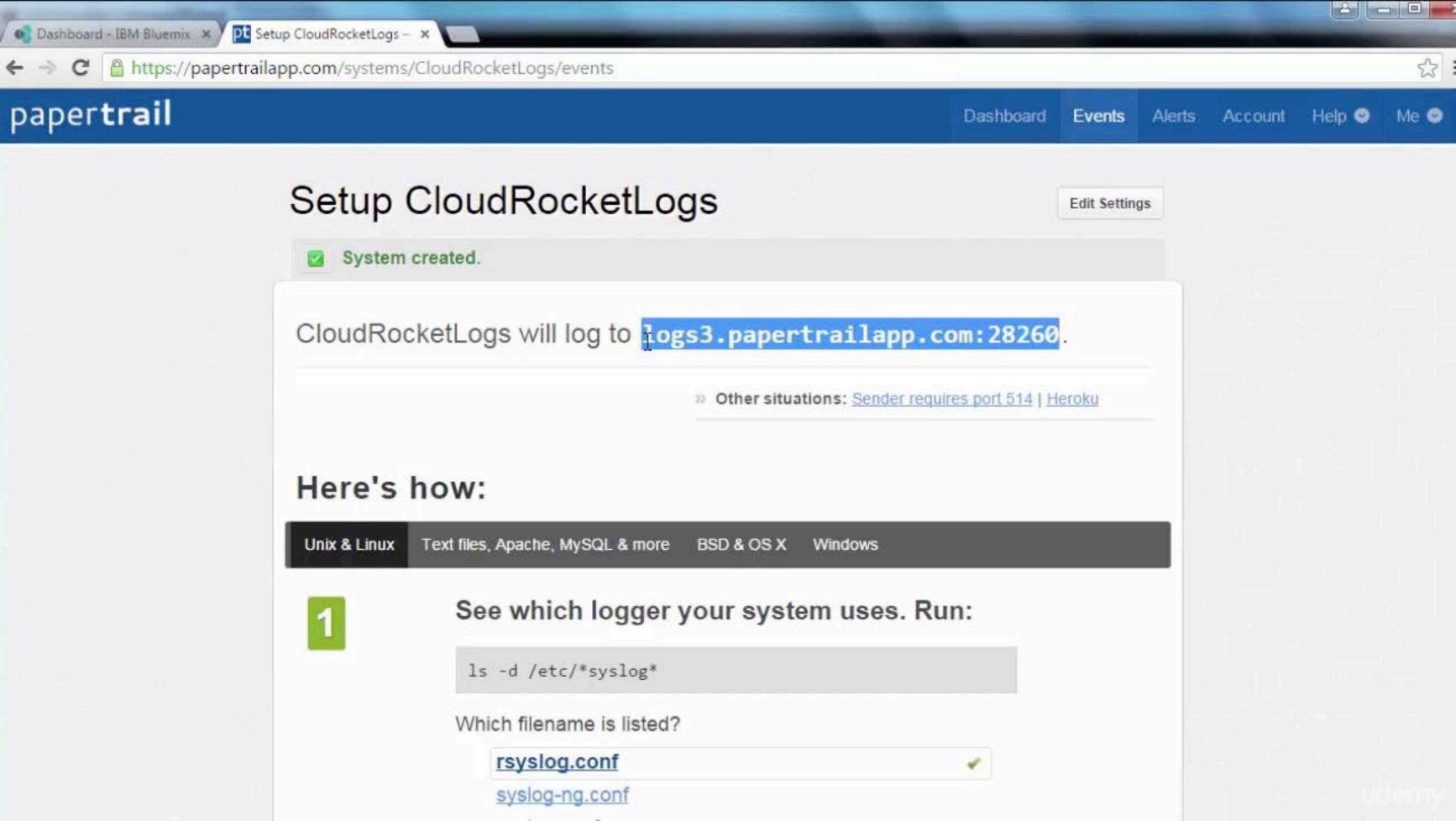
React & Analyze

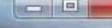






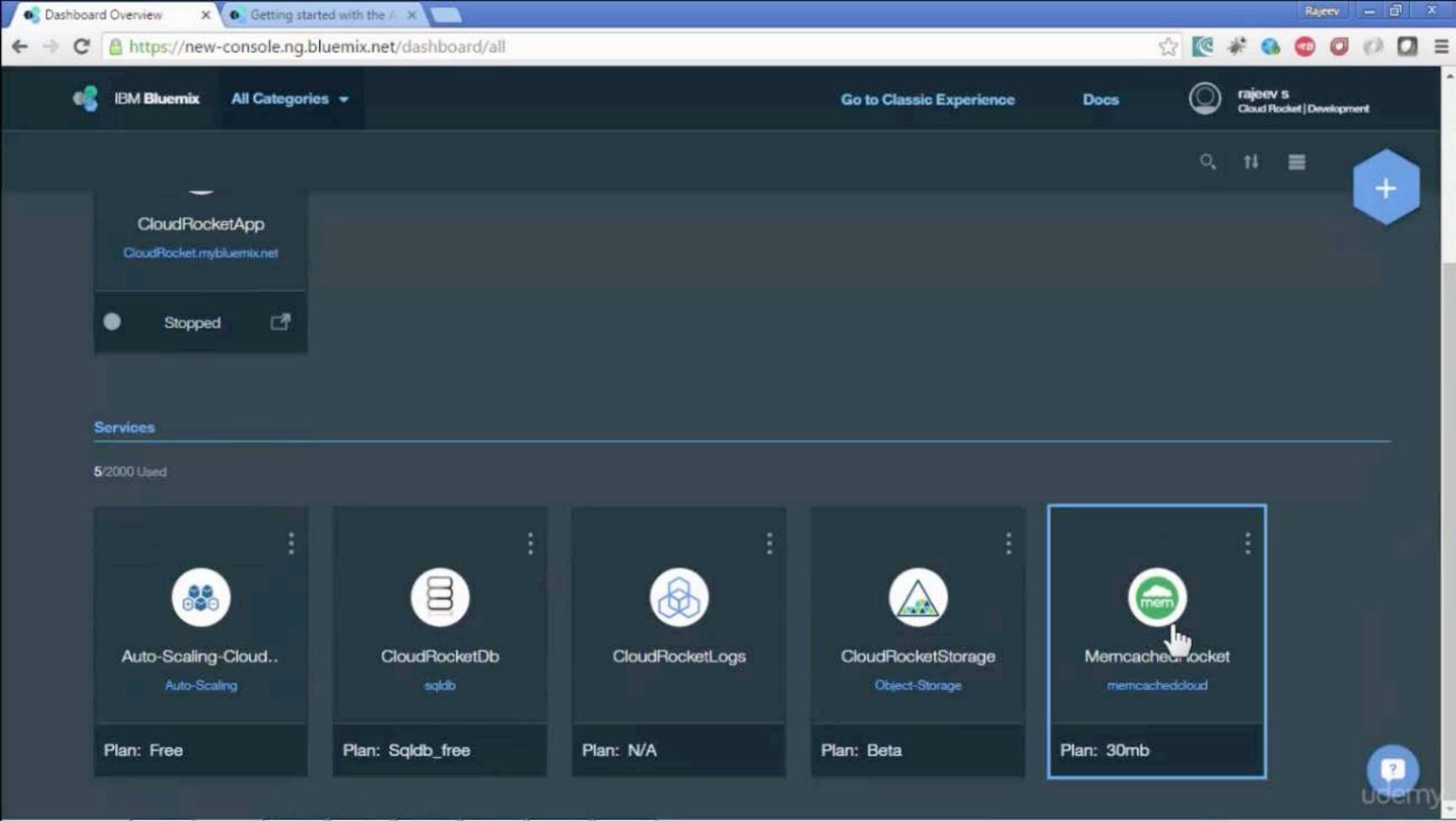


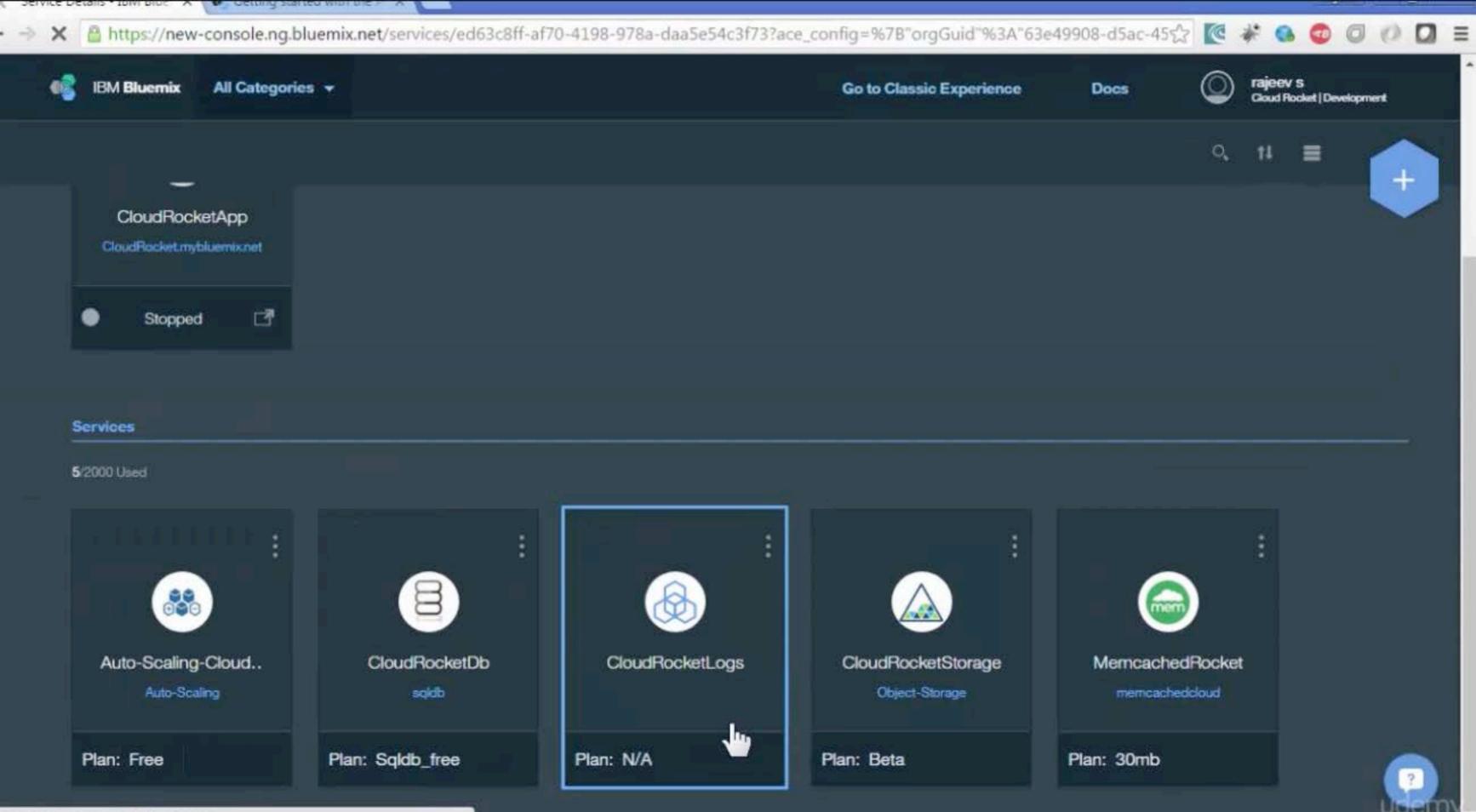


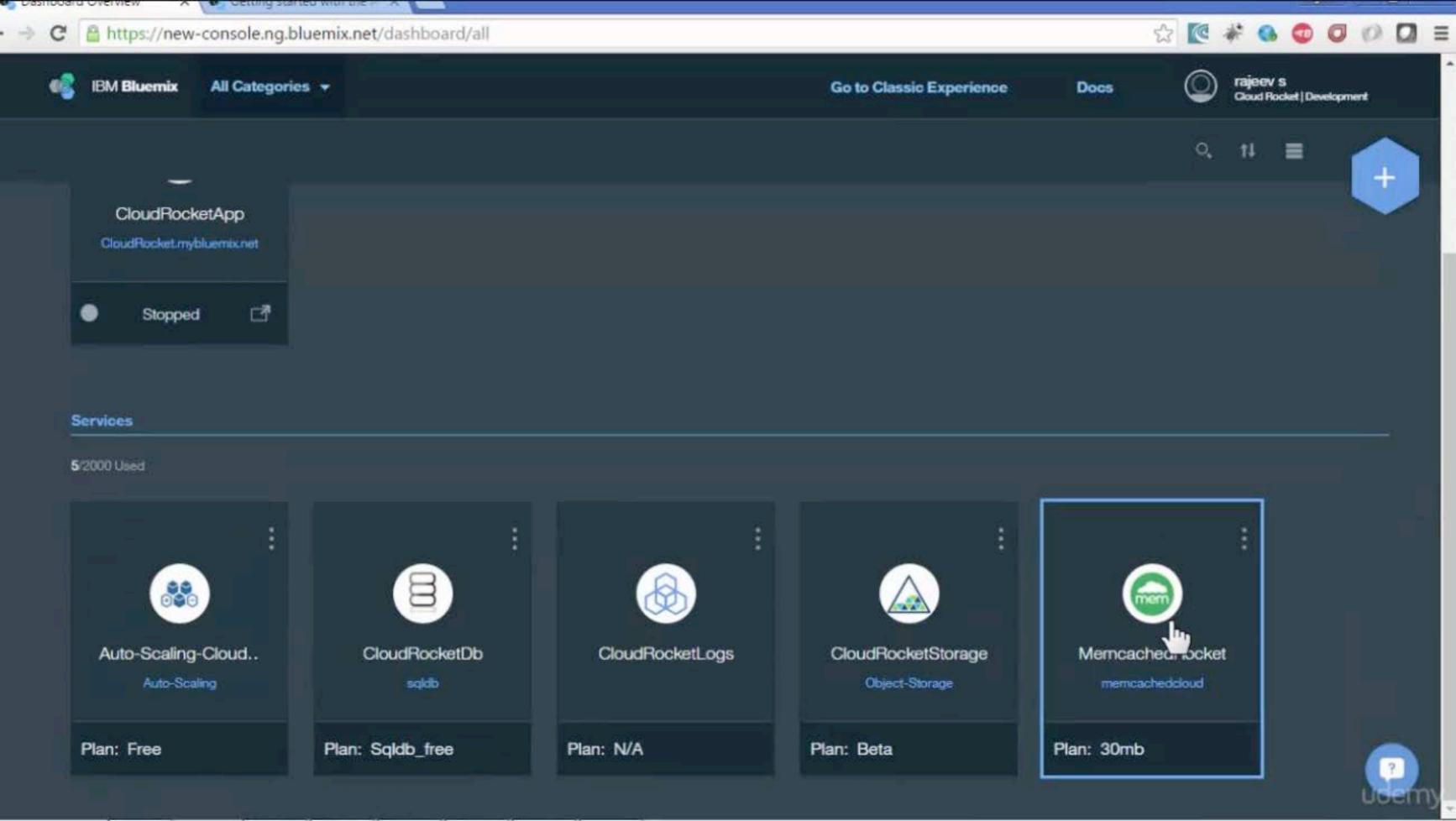


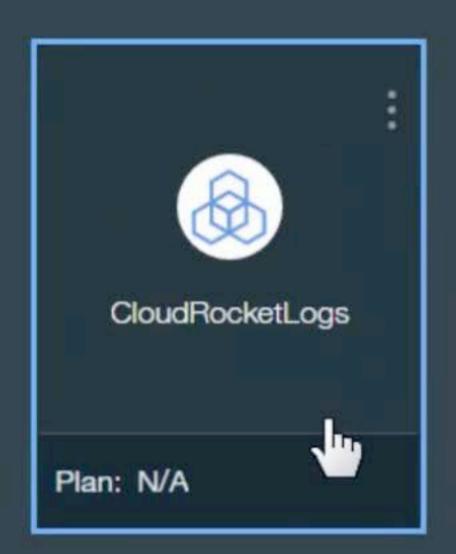
\$ cf cups CloudRocketLogs -l syslog://logs3.papertrailapp.com:28260 Creating user provided service CloudRocketLogs in org Cloud Rocket / space Development as sa OK

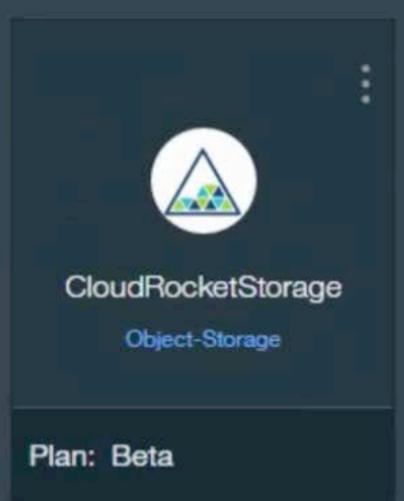
udemy

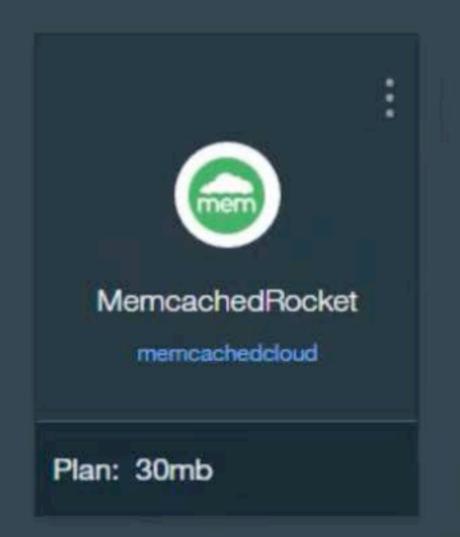


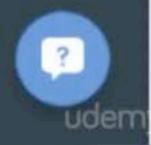


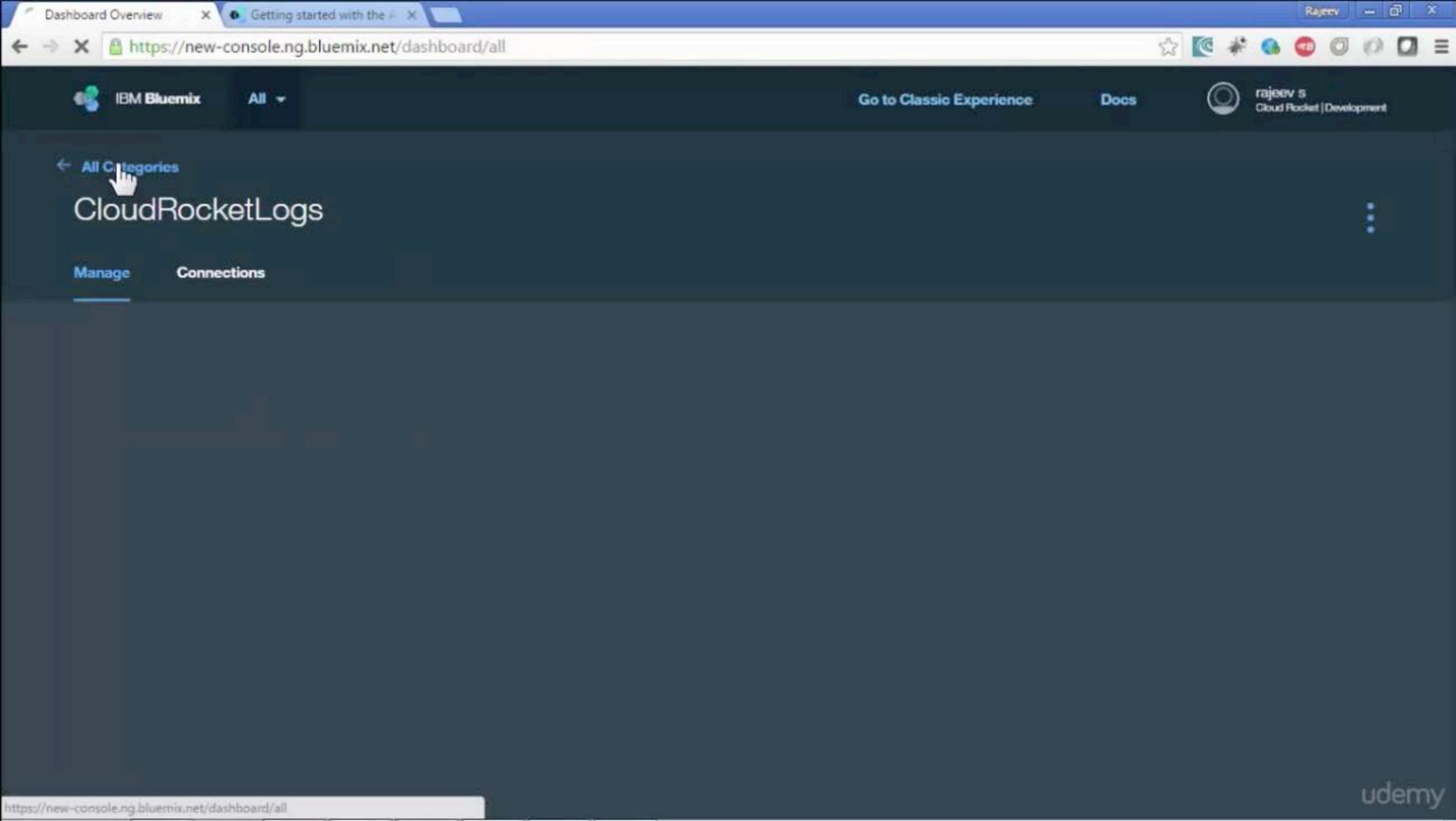


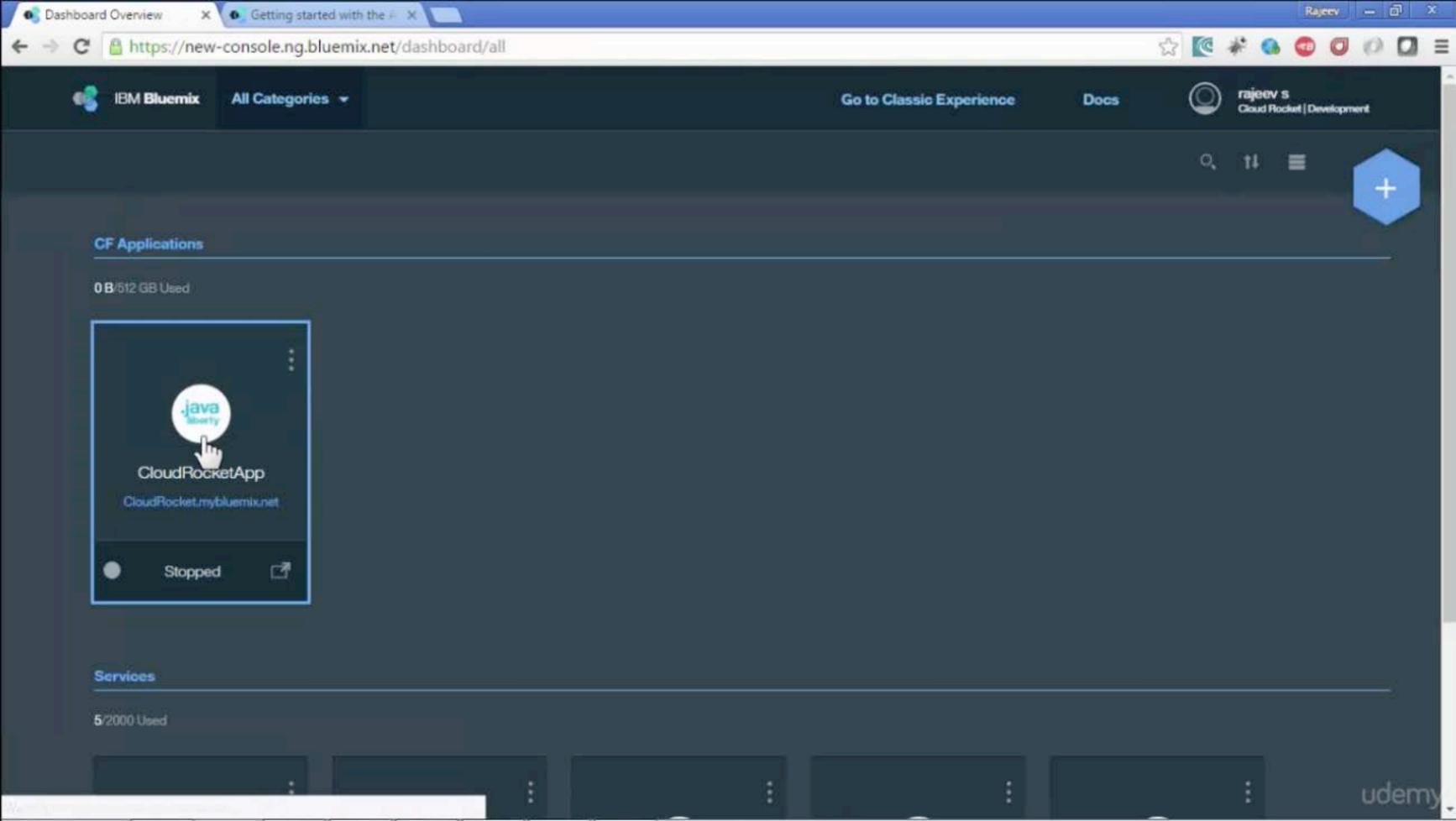


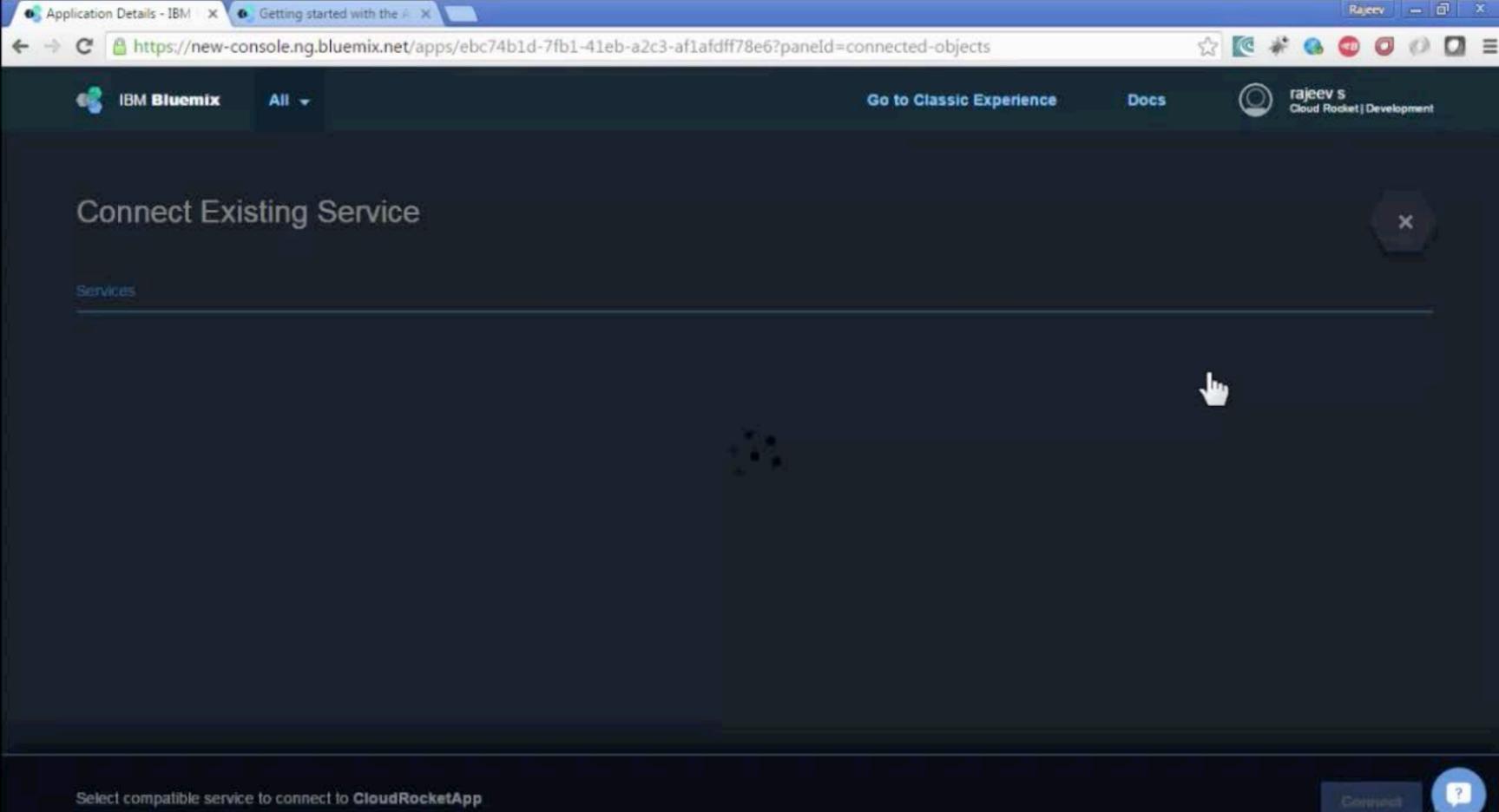


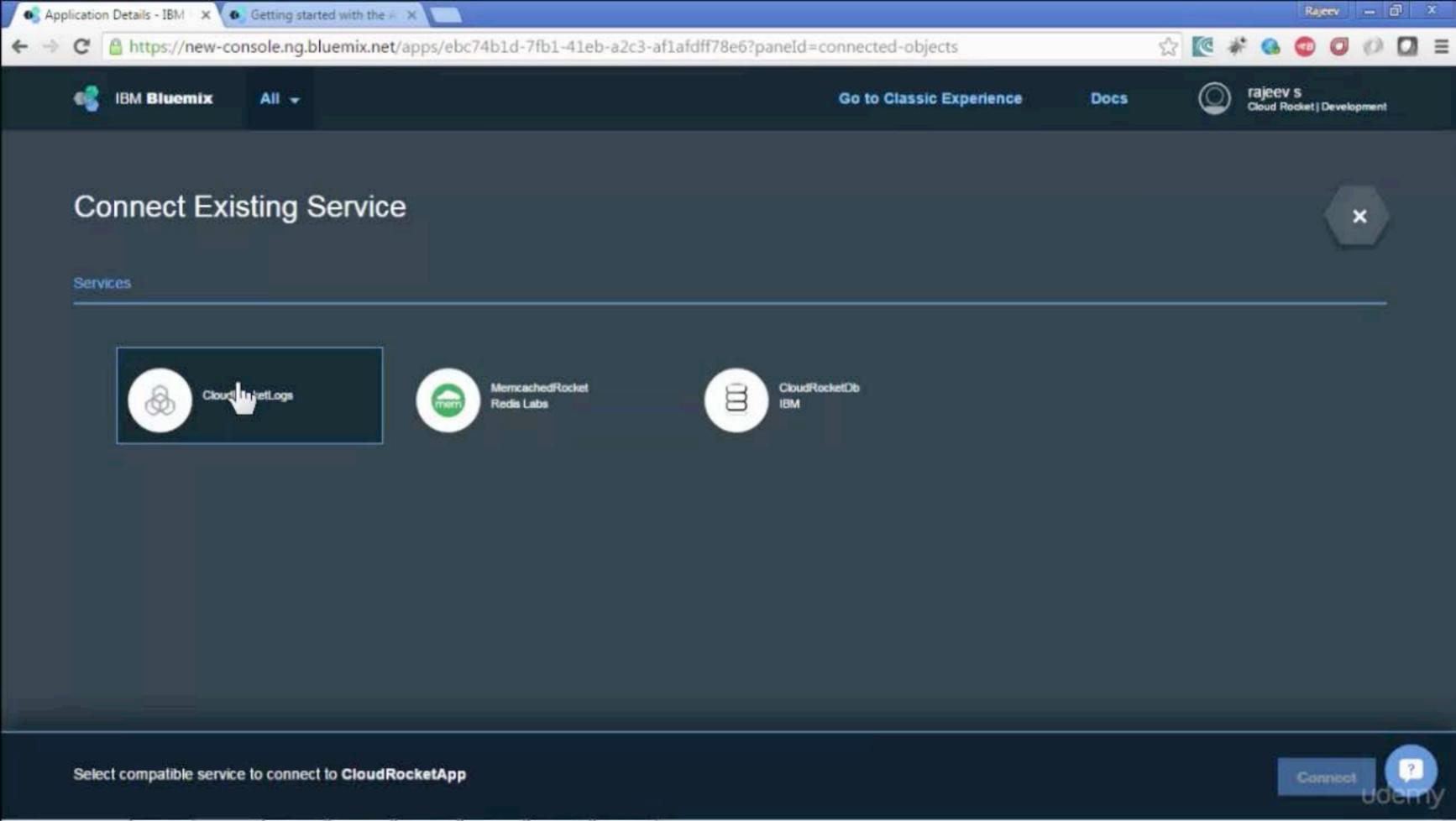


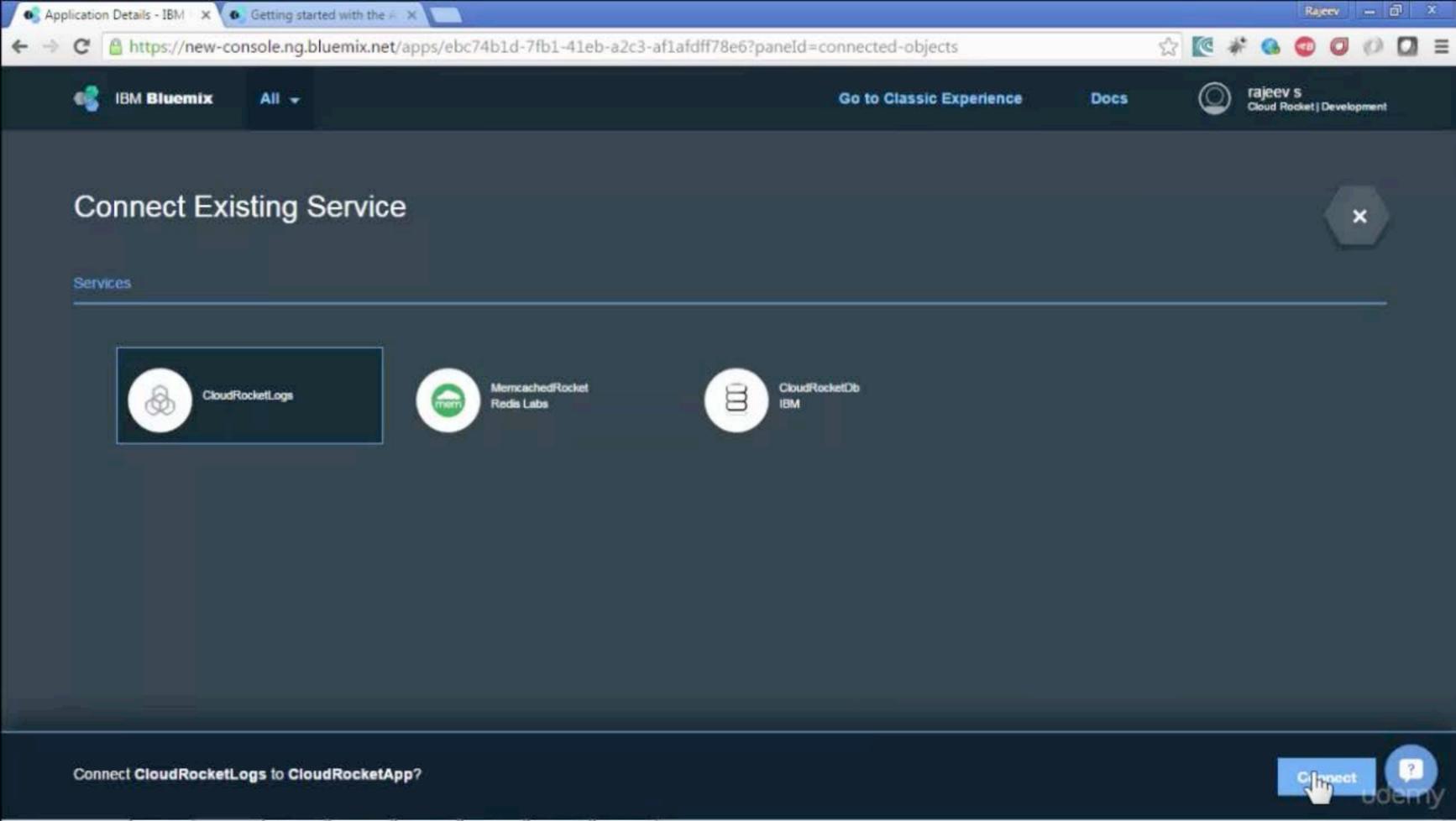


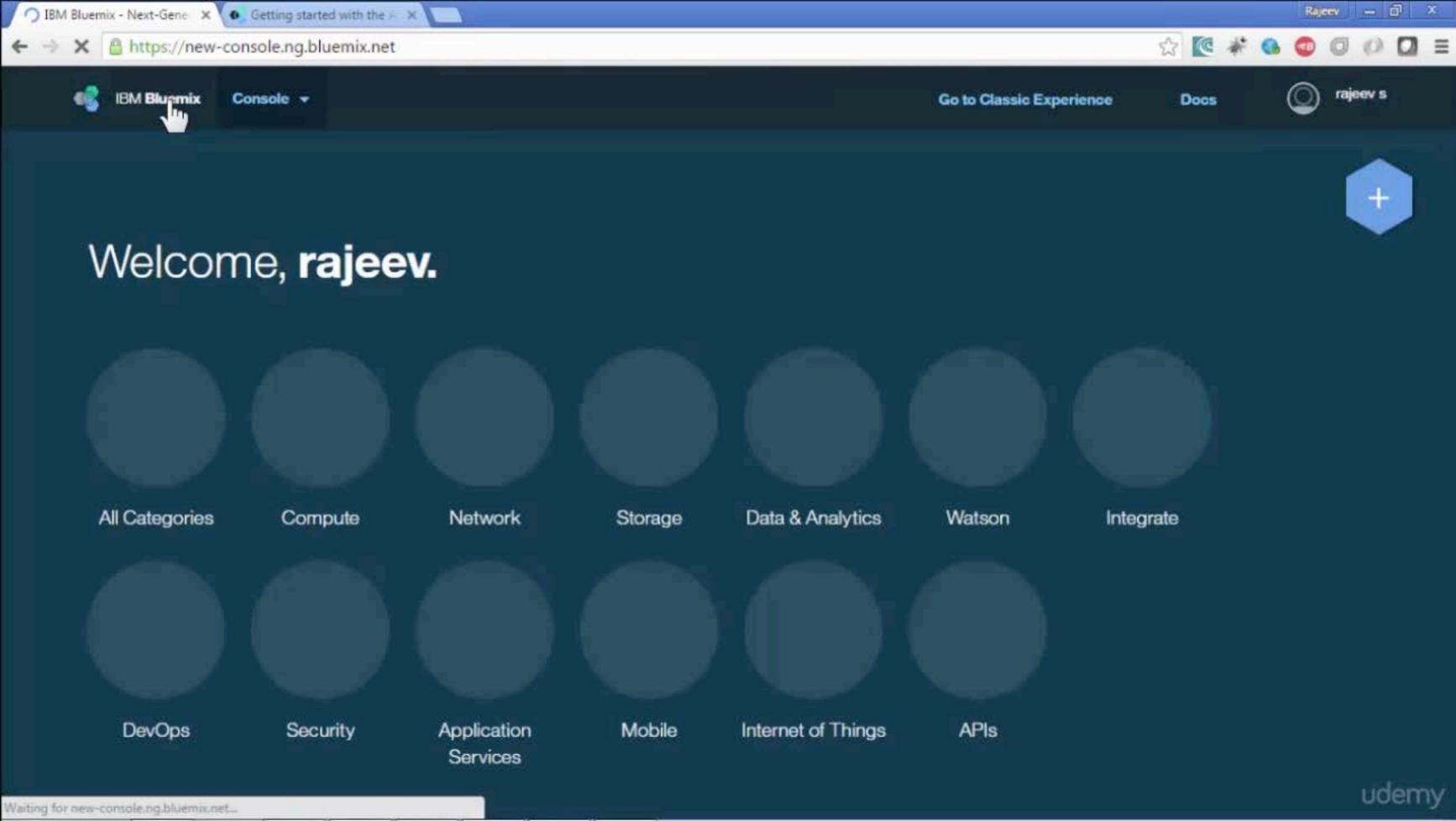


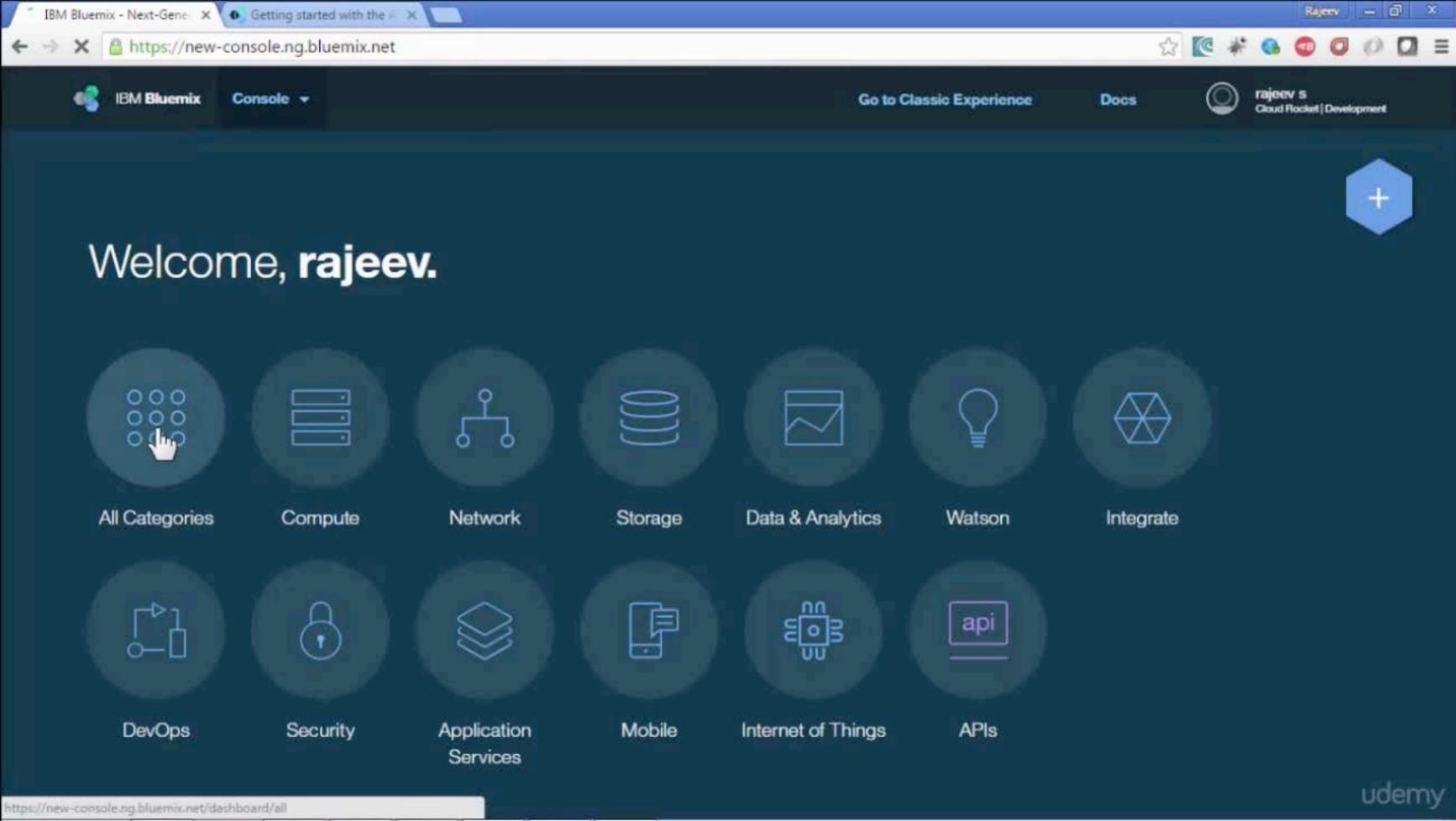


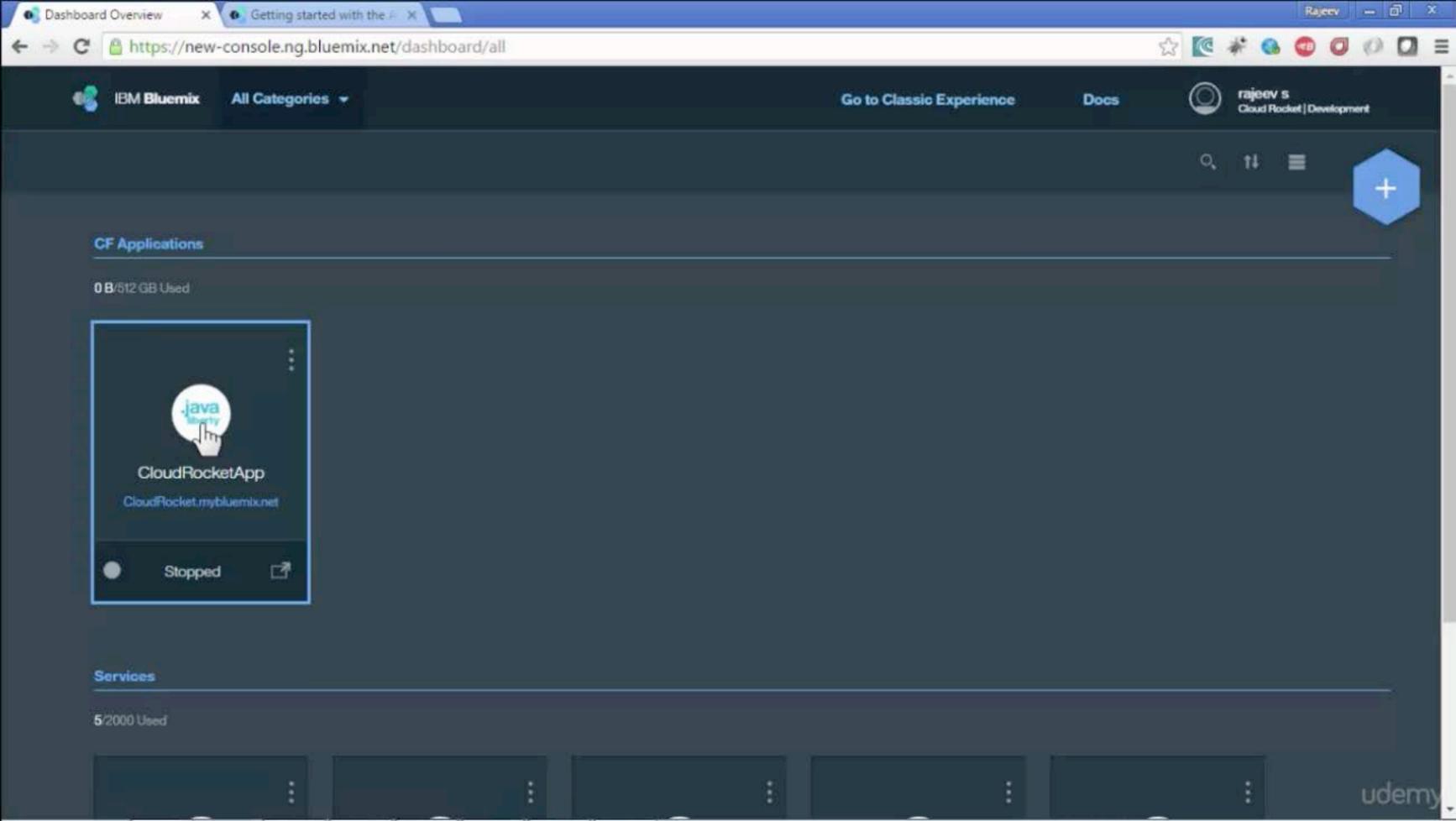


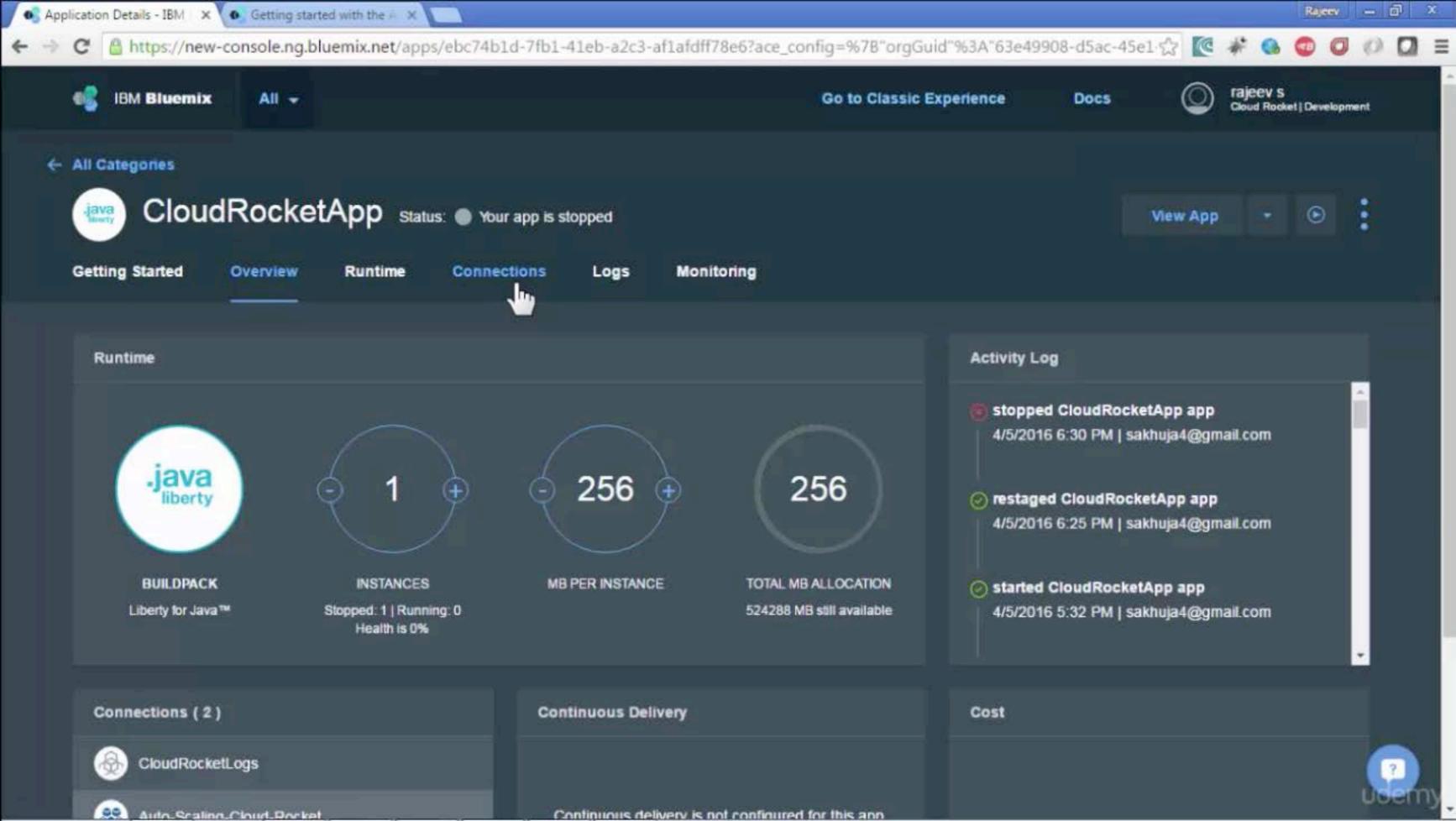


















Getting Started

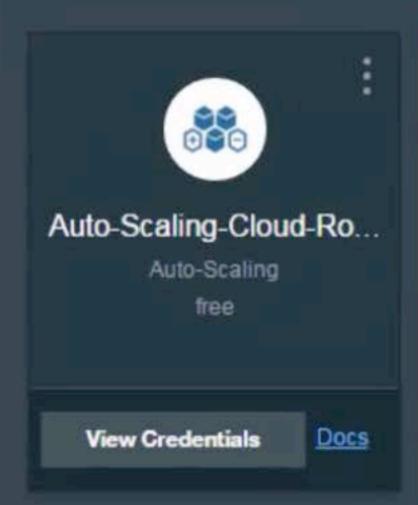
Overview

Runtime

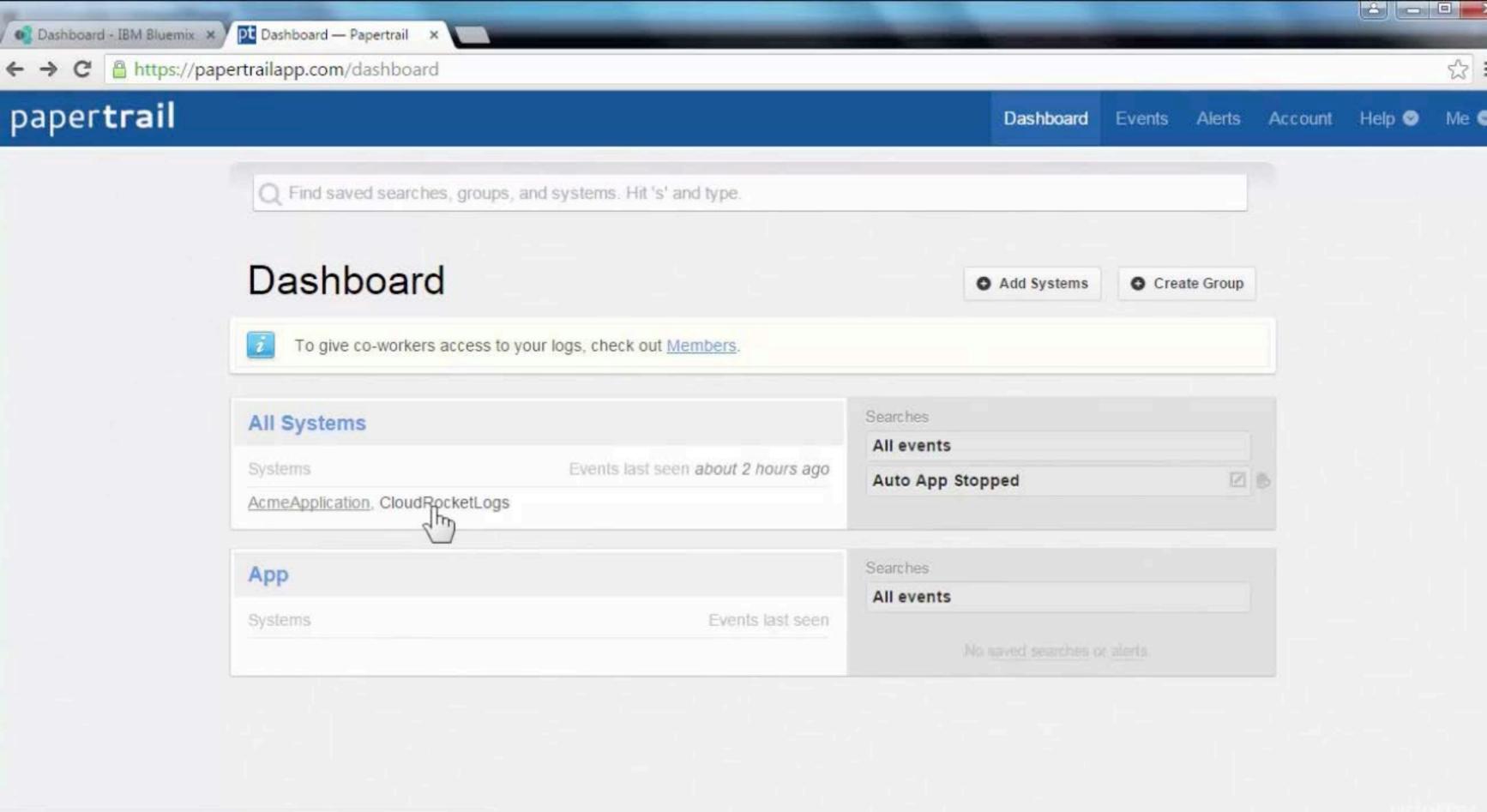
Connections

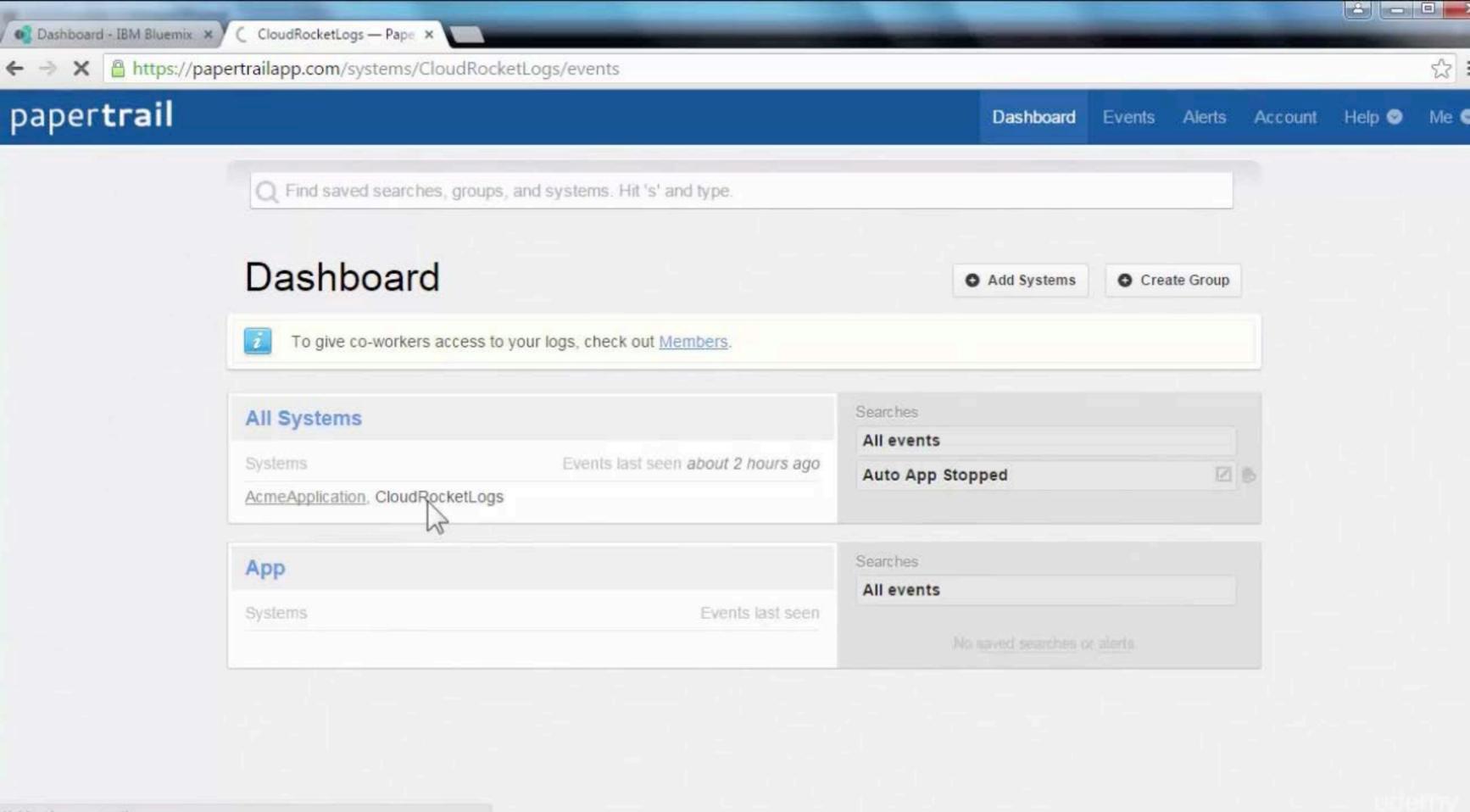
Logs

Monitoring









Help 🕲

Account



CloudRocketLogs @

← → C https://papertrailapp.com/systems/CloudRocketLogs/events



explicitly set the features via the JBP_CONFIG_LIBERTY environment variable or deploy the application as a server directory or packaged server with a custom server.xml file. Nov 24 08:35:20 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[STG]: ----> Liberty buildpack is done creating the droplet Nov 24 08:35:32 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[576]: ----> Uploading droplet (126M) Nov 24 08:35:43 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[DEA]: Starting app instance (index 0) with guid 8891ab3b-1480-4ced-857f-b4dbc8fd385d Nov 24 08:35:52 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: Launching defaultServer (WebSphere Application Server 2015.10.0.0/wlp-1.0.10.20150920-0934) on IBM J9 VM, version pxa6480sr1fp11-20150828_01 (SR1 FP11) (en_US) Nov 24 08:35:52 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [AUDIT] CMWKE0001I: The server defaultServer has been launched. Nov 24 08:35:54 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [AUDIT] CMWKG0028A: Processing included configuration resource: /home/vcap/app/wlp/usr/servers/defaultServer/runtime-vars.xml Nov 24 08:35:54 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [INFO 1 CWWKE0002I: The kernel started after 2.418 seconds Nov 24 08:35:55 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [INFO] CWWKF0007I: Feature update started. Nov 24 08:35:59 CloudRocketLogs 8891ab3b-1488-4ced-857f-b4dbc8fd385d/[App/0]: [INFO] CWWKO0219I: TCP Channel defaultHttpEndpoint has been started and is now listening for requests on host * (IPv6) port 61905. Nov 24 08:36:00 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [INFO] CWSCX0122I: Register management Bean provider: com.ibm.ws.cloudoe.management.client.provider.dump.JavaDumpBeanProvider@f9785621. Nov 24 08:36:00 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [INFO] CWSCX0122I: Register management Bean provider: com.ibm.ws.cloudoe.management.client.provider.logging.LibertyLoggingBeanProvider@c43ad57b. Nov 24 08:36:00 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [AUDIT] CWWKT0016I: Web application available (default host): http://194nftdjpc8:61905/IBMMGMTRest/ Nov 24 08:36:00 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [INFO] SRVE0250I: Web Module com.ibm.ws.cloudoe.management.client.liberty.connector has been bound to default host. Nov 24 08:36:00 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [INFO] SRVE0169I: Loading Web Module: com.ibm.ws.cloudoe.management.client.liberty.connector. Nov 24 08:36:01 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [INFO] CWWKZ0018I: Starting application myapp. Nov 24 08:36:01 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [INFO 1 WELD-000900: SNAPSHOT Nov 24 08:36:03 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [AUDIT] CWWKZ0001I: Application myapp started in 1.518 seconds.] CWWKF0015I: The server has the following interim fixes installed: PI52103. Nov 24 08:36:03 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [AUDIT Nov 24 08:36:03 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [AUDIT] CWWKF0012I: The server installed the following features: [jsp-2.3, ejbLite-3.2, managedBeans-1.0, jsf-2.2, servlet-3.1, beanValidation-1.1, jndi-1.0, jsonp-1.0, jdbc-4.1, icap:managementConnector-1.0, jaxrs-2.0, jaxrsClient-2.0, el-3.0, json-1.0, cdi-1.2, websocket-1.1, appState-1.0, jpa-2.1]. Nov 24 08:36:03 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [INFO] SRVE0169I: Loading Web Module: Hello Java. Nov 24 08:36:03 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [INFO] SRVE0250I: Web Module Hello Java has been bound to default_host. Nov 24 08:36:03 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [AUDIT] CMWKT0016I: Web application available (default_host): http://194nftdjpc8:61905/ Nov 24 08:36:03 CloudRocketLogs 8891ab3b-1488-4ced-857f-b4dbc8fd385d/[App/0]: [AUDIT] CWWKF0011I: The server defaultServer is ready to run a smarter planet. Nov 24 08:36:03 CloudRocketLogs 8891ab3b-1480-4ced-857f-b4dbc8fd385d/[App/0]: [INFO 1 CWWKF0008I: Feature update completed in 8.165 seconds.

Dashboard

Events

Alerts

Summary

- All log messages have a log type that identifies the component of Cloud Foundry that emitted the message
 - API, STG, DEA, RTR, LGR, APP
 - In case of issues the log type will help you understand where the issue occurred
- Third party log management system allows
 - Persistence of log messages
 - Run analytics on historical information
 - Generate alert notifications e.g., Emails