

Recursion: IBM for IBM

Team 27

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Problem Framing

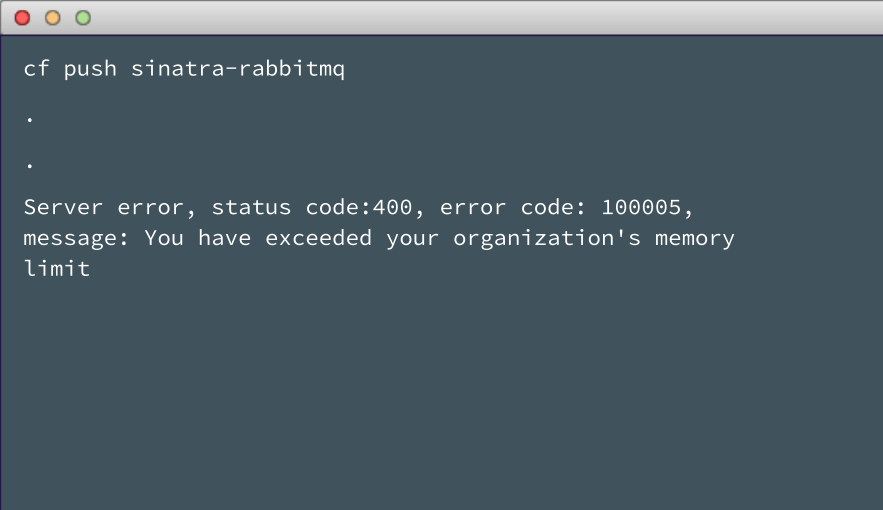
Error Messages

The core of our project focuses on handling error messages. Why? Dealing with Errors and debugging constitutes a huge part of the development process, and is a major source of pain for most developers. In addition, much of the developer community is built around coming together to help each other deal with debugging and solving problems.

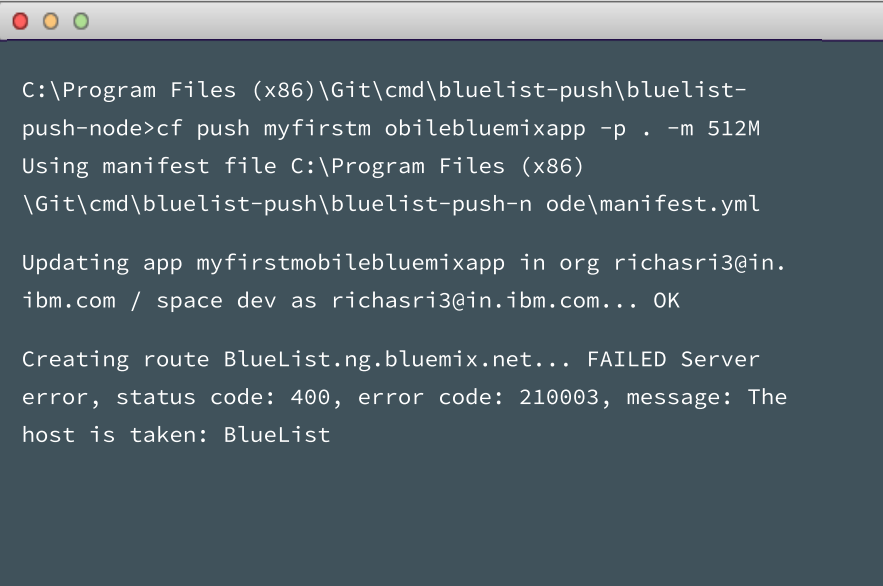
Current State of Error Codes

Like many new development environments, Bluemix's documentation and support can be very unclear, confusing, and unhelpful. Not all error codes are present, and the methods to solve errors isn't clear.

Current State of Error Messages



```
cf push sinatra-rabbitmq
.
.
Server error, status code:400, error code: 100005,
message: You have exceeded your organization's memory
limit
```



```
C:\Program Files (x86)\Git\cmd\bluelist-push\bluelist-
push-node>cf push myfirstm obilebluemixapp -p . -m 512M
Using manifest file C:\Program Files (x86)
\Git\cmd\bluelist-push\bluelist-push-n ode\manifest.yml

Updating app myfirstmobilebluemixapp in org richasri3@in.
ibm.com / space dev as richasri3@in.ibm.com... OK

Creating route BlueList.ng.bluemix.net... FAILED Server
error, status code: 400, error code: 210003, message: The
host is taken: BlueList
```

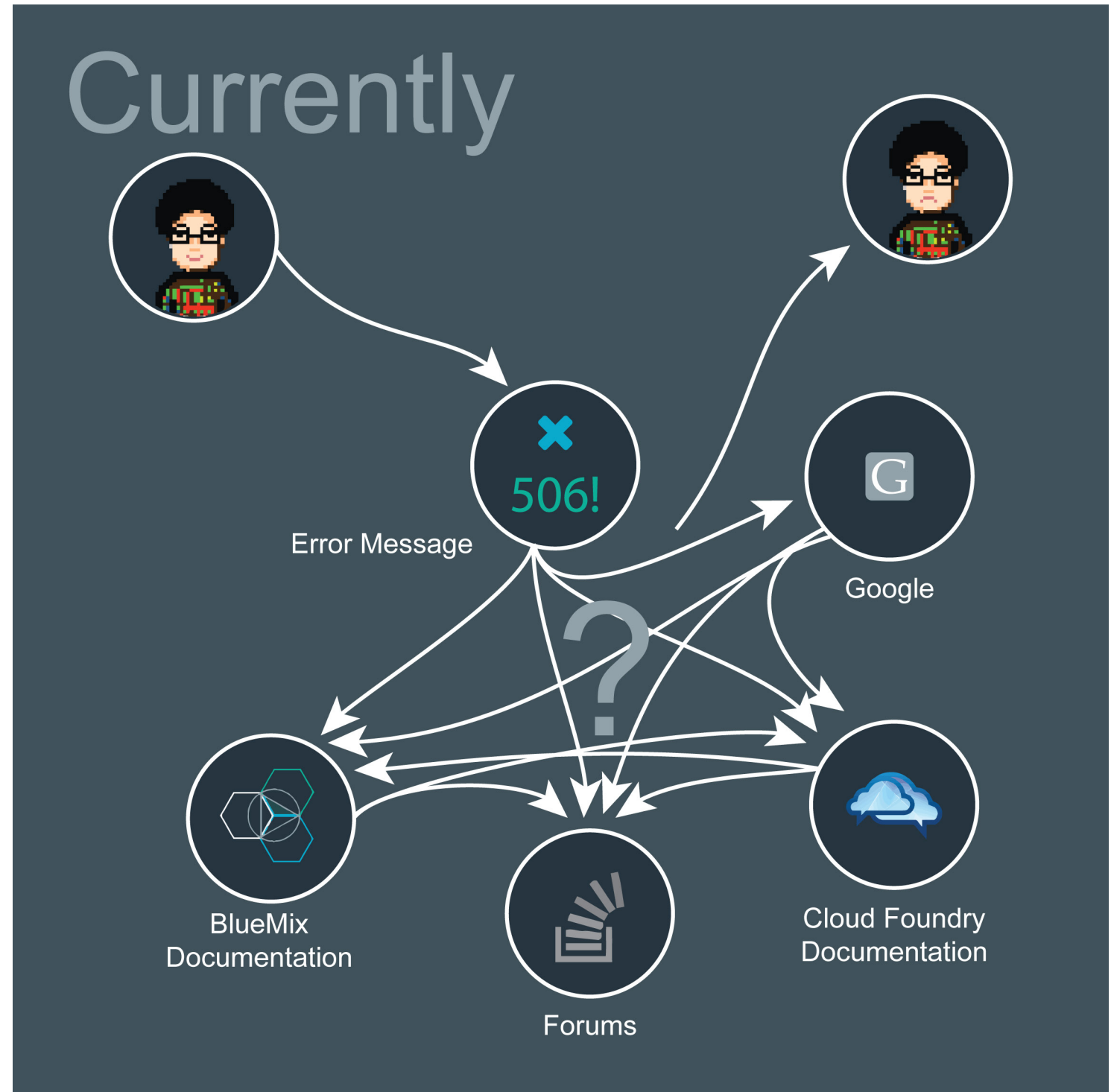
Problem Framing

What's the problem with Error Messages?

Error messages in their current state are very often constructed out of arcane codes, are inconsistent, and often offer no useful guidance for the user to follow to their solution.

What's the problem with searching for answers?

In fact, solving a problem can be a tough challenge, as the first thing developers need to do is to understand the problem they're trying to solve. This can be compounded when dealing with complex interlocking systems (as when using Bluemix), and can keep a developer confused as to where the problem even is, let alone what is happening.



Research

We did a number of interviews with computer science professionals to narrow our focus and understand the troubles with command line interfaces. These include IU CS Alumns Greg Smith and Graham Watt, Chris Kuzma, Cognitive Software Development Engineer at IBM who worked on Watson, and we shared research and insights with a number of the other RDSC teams. In addition both Zan Morris and Clark Mullen have limited experience using the terminal due to their programming backgrounds.

“I want an answer engine, not a search engine.”

Don Norman on Future of Command Lines

“Developers see one of the strengths of using a CLI is it is personalizable - their setup makes sense to them. This personalization transfers over into the speed and power of the CLI - when a system is in tune with its user, it can work even better.”

Greg Smith - Software Engineer at Direct Supply

“The best possible error handler would be the one that knows exactly what you meant to do, and then does that thing instead of asking you what to do. The next best thing is knowing exactly what you meant to do (almost certainly!) and then telling you what went wrong and how to fix it (probably).”

Greg Smith - Software Engineer at Direct Supply

“There’s an incredible opportunity to change the way we build, and as a result introduce tremendous value into the world. While I worked on Visual Studio, I began to see the pieces of what we could do here. This is just the beginning; the seeds of what could be. It’s time for us to get out of the box and start reimagining the very things that enable us to create the world we know.”

Chris Granger on his Light-Table Concept

Key Insights

1. As a developer, when you believe you are searching for answers, what you are really looking for is the error itself. You're looking to understand what you're even trying to solve in the first place. This goes against the mental model of what the function of search is, which is to find answers not problems.
2. The user in the current scenario is acting like Watson. He is the one who is filtering through all of the information and using his judgement to hypothesize and rank by percentage chance what is the problem/error.
3. There's a need to consider the behavior and emotion of these users. They are experts and proud of what they do. They want to figure stuff out themselves. They want great documentation. Our design can't make them feel like we are treating them like children.
4. Offloading these issues perfectly fits with BlueMix philosophy. Focus what you are good at, and off load other stuff that is not worth your time.

Our Core

Provide more contextually relevant information to developers by considering the developers' context and leveraging the contributions of the community. We aim to deliver fast, relevant, and helpful information within the command line.

Meet Jason

Jason is a game developer, guitar hero enthusiast, and foodie. Jason created a simple tic-tac-toe game that Scott, his boss, just loves to play with his kids. But they want to add an online player system, that requires setting up servers, adding people to join in, and handling payments for both the players and the developers. IBM will handle the accounts while Scott and Jason pay IBM a fee. This allows for Jason and Scott to focus on the development of the app as opposed to dealing with all of the issues in code.

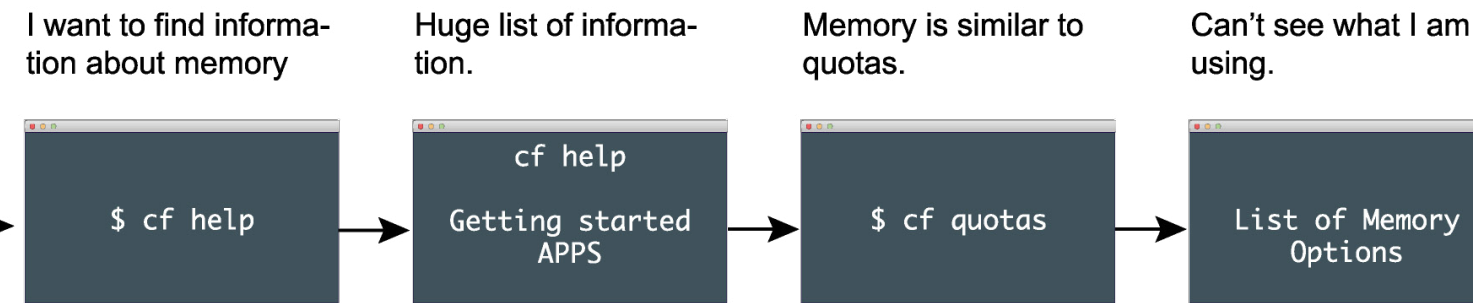
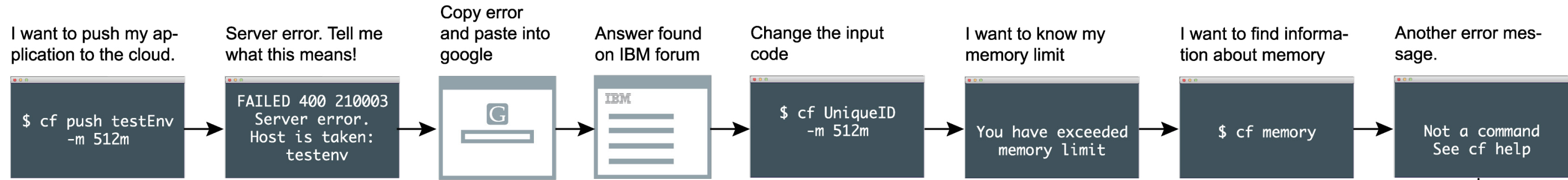
In order for Jason to get started, he needs to determine the steps required to get the game up into the cloud. He is aware of the `cf push` command, however, he experiences a number of errors along the way.

“I want to push my game to the cloud as seamlessly as possible.”

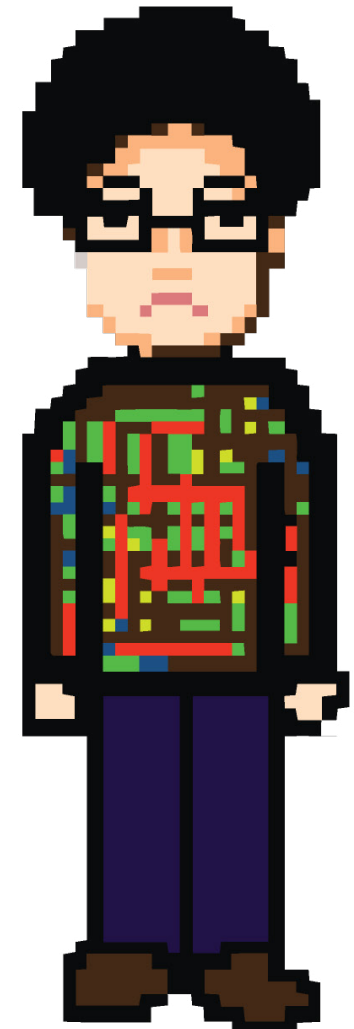
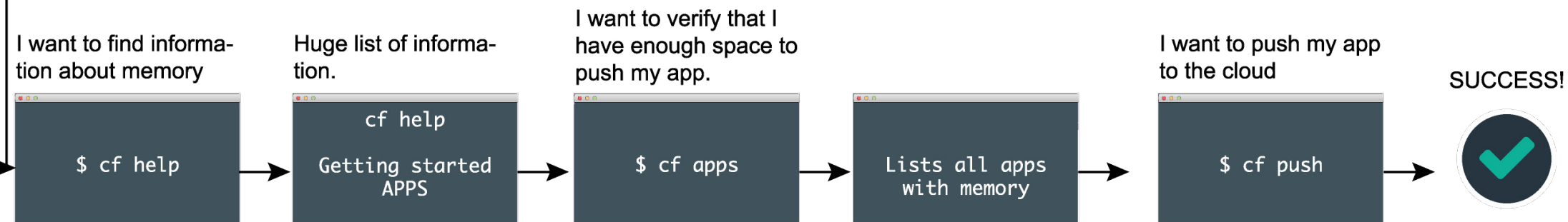
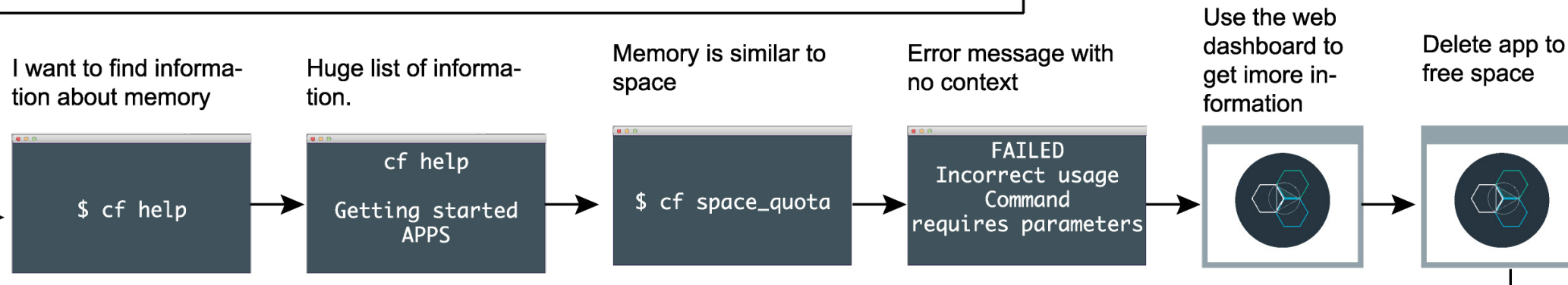
Jason, game developer



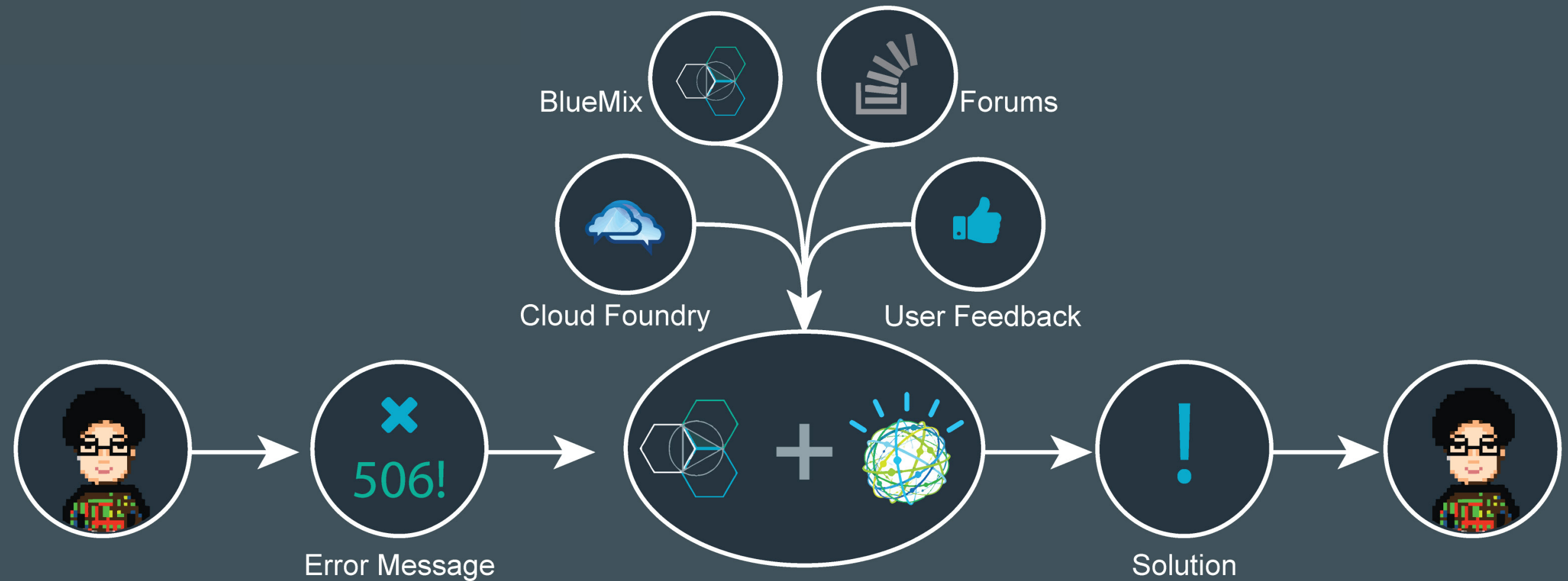
Jason's Journey - Present



23 steps



Proposed



Our Solution

Train Watson to help users with CLQ





FIRST STAGE

\$ Implementation Strategy:

1 Wat

2 Wat Com

3 Wat Post

4 Wat Solv

5 BlueSky

Implementation Stages

① `wat _____(keyword)`

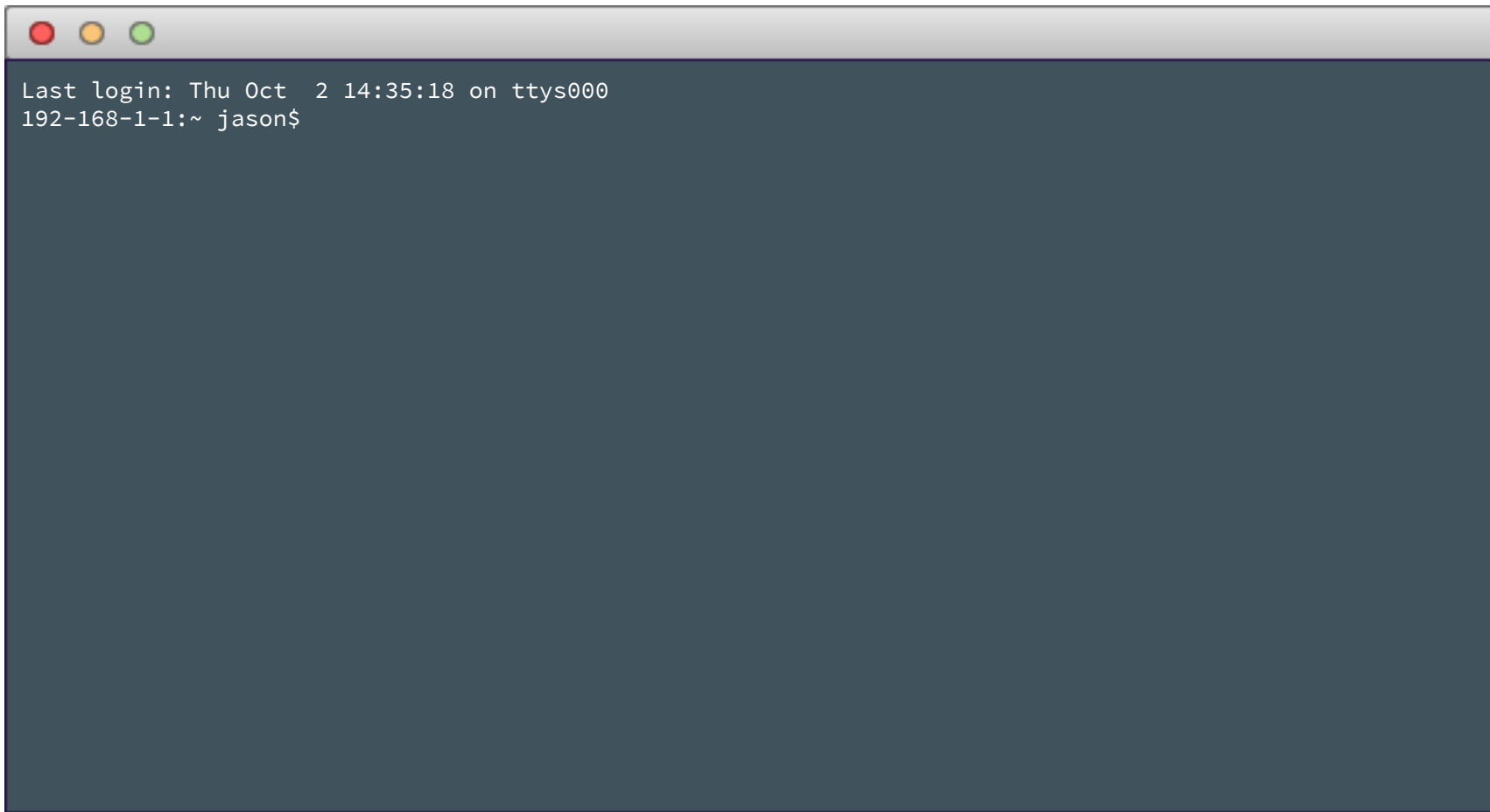
Keyword search in terminal to quickly find relevant information

In this stage, the user will be able to search Bluemix help documentation using keywords to quickly find relevant results. Currently, users looking for a specific command type “cf help” and have to look through long cf man page to find what they are looking for.

Here, by using the simple command ‘`wat _____(keyword)`’, users can quickly find relevant functions pulled from different sections of the help documentation. Although this isn’t much more powerful from a simple keyword search, it’s a nice way to allow developers to find what they’re looking for much more quickly.

Results are returned based on the keyword searched. Users can continue by hitting the associated number to bring up more detailed information about the command, or they can begin using the command immediately.

Here, we’re gathering data linking what keywords the users search to what functions they explore and try out. Over time, the results from this search can be better sorted to return even more relevant information for a single search.

A terminal window with a dark blue background and a light gray title bar. The title bar contains three colored window control buttons (red, yellow, green). The terminal text shows a successful login for user 'jason' on 'ttys000' at '192-168-1-1' on 'Thu Oct 2 14:35:18'. The prompt is '192-168-1-1:~ jason\$'.

```
Last login: Thu Oct 2 14:35:18 on ttys000
192-168-1-1:~ jason$
```

```
Last login: Thu Oct  2 14:35:30 on ttys000
192-168-1-1:~ jason$ cf wat create service
```

```
Last login: Thu Oct  2 14:35:45 on ttys000
192-168-1-1:~ jason$ cf wat create service
-----
--
1.      create-service, cs           Create a service instance
2.      create-user-provided-service, cups   Make a user-provided service instance available to cf
        apps
3.      create-service-broker           Create a service broker
4.      create-service-auth-token       Create a service auth token
-----
--
192-168-1-1:~ jason$
```



```
192-168-1-1:~ jason$ cf wat create service
-----
--
1.      create-service, cs           Create a service instance
2.      create-user-provided-service, cups   Make a user-provided service instance available to cf
      apps
3.      create-service-broker           Create a service broker
4.      create-service-auth-token       Create a service auth token
-----
--
192-168-1-1:~ jason$ 1
```

```
-----
--
1.      create-service, cs          Create a service instance
2.      create-user-provided-service, cups  Make a user-provided service instance available to cf
      apps
3.      create-service-broker      Create a service broker
4.      create-service-auth-token  Create a service auth token
-----
--
192-168-1-1:~ jason$ 1
-----
--
NAME:
  create-service - Create a service instance

ALIAS:
  cs

USAGE:
  cf create-service SERVICE PLAN SERVICE_INSTANCE

EXAMPLE:
  cf create-service cleardb spark clear-db-mine

TIP:
  Use 'cf create-user-provided-service' to make user-provided services available to cf apps
-----
```

SECOND STAGE

\$ Implementation Strategy:

1 Wat

2 Wat Com

3 Wat Post

4 Wat Solv

5 BlueSky

Implementation Stages

2 wat com

Error message generates link to online documentation
Context of the error is used to link to appropriate information

In this stage, the user will be able to enter the '-wat com' command, used globally or directly after an error message.

In the global scenario, users can simply use '-wat com ___(keyword)' to search on the IBM Bluemix community (IBM Dev Forum) using the keyword as tags, which opens their browser and leads them to the topic page of that tag. The link to the topic page will also be embedded with a plug-in to track what thread the user ends up in. This will allow data to be collected to make Watson smarter.

In the after-error-message scenario, the error code will be automatically copied to clipboard once it prompts. The error is followed by a message prompting user to use the new command and paste the error code. On typing this command, browser window will pop up and lead user to the error/tag topic page. The same tracking will be enabled to help Watson smarter.

As an alternative, developers always have the option to paste the error code to their browser and search them on another search engine or other community.

```
192-168-1-1:~ jason$ cf create-service-broker mybroker someuser sthsecure http://broker.example.com/
```

\$ Implementation Strategy:

- 1 Wat ----
- 2 Wat Com
- 3 Wat Post
- 4 Wat Solv
- 5 BlueSky

```
192-168-1-1:~ jason$ cf create-service-broker mybroker someuser sthsecure http://broker.example.com/
FAILED
Server error, status code: 502, error code: 270012, message: Service broker catalog is invalid:
Service service-name-1
  service id must be unique
  service description is required
  service "bindable" field must be a boolean, but has value "true"
Plan plan-name-1
  plan metadata must be a hash, but has value [{"bullets"=>["bullet1", "bullet2"]}
-----
--
Type 'cf wat com 270012' or 'cf wat com broker' to access community forum on this topic
Or check here https://developer.ibm.com/answers/tags/broker/
-----
--
192-168-1-1:~ jason$
```

```
192-168-1-1:~ jason$ cf create-service-broker mybroker someuser sthsecure http://broker.example.com/
FAILED
Server error, status code: 502, error code: 270012, message: Service broker catalog is invalid:
Service service-name-1
  service id must be unique
  service description is required
  service "bindable" field must be a boolean, but has value "true"
Plan plan-name-1
  plan metadata must be a hash, but has value [{"bullets"=>["bullet1", "bullet2"]}
-----
--
Type 'cf wat com 270012' or 'cf wat com broker' to access community forum on this topic
Or check here https://developer.ibm.com/answers/tags/broker/
-----
--
192-168-1-1:~ jason$ cf wat com broker
```

dW Answers

VIEW All questions ▾

It's all about the answers

Questions

Tags

Users

Badges

Ask a Question

dW answers is a question and answer site for developers interested in asking questions about IBM products, solutions, and technology.

Here's how it works:



Anyone can ask a question

Read the FAQ



Anybody can answer



Like the best answers and they'll rise to the top

All | Unanswered | Unresolved

Search the forum

Search tips

All questions tagged with broker

Sort by: Active | Newest | Likes

9 questions
14 answers

2 answers

0 likes

72 views

Cannot delete Cloudant service

BLUEMIX

BROKER

CLOUDANT

DavidV1 | yesterday

```
192-168-1-1:~ jason$ cf cr
FAILED
Server error, status code:
Service service-name-1
  service id must be unique
  service description is required
  service "bindable" field is required
Plan plan-name-1
  plan metadata must be a dictionary
```

```
--
Type 'cf wat com 270012' or
Or check here https://developer.ibm.com/answers/
```

```
192-168-1-1:~ jason$ cf wa
```




THIRD STAGE

\$ Implementation Strategy:

1 Wat ____

2 Wat Com

3 Wat Post

4 Wat Solv

5 BlueSky

Implementation Stages

3 wat posts

Error message in terminal provides links to specific posts in IBM help community, sorted by relevancy

In this stage, The error code is followed by a message saying

“Watson has found possible solutions for you in the IBM Dev Forum
use command ‘-wat posts’ to display.

On typing this command, the use is presented with a number of links to forum topics, ranked by watson percentage - they are watson’s best guess for a solution for the user’s particular context.

Users can immediately type the number associated with the forum link to open that link in their browser. Also, copy/paste is possible.

Embedded in the link is a tracker which will follow the user through their forum journey, collecting data on which topics they visit to solve their issue. By collecting this data, we will beef up watson, allowing these returned topics to be more and more relevant.

```
192-168-1-1:~ jason$ cf create-service-broker mybroker someuser sthsecure http://broker.example.com/
```

```
192-168-1-1:~ jason$ cf create-service-broker mybroker someuser sthsecure http://broker.example.com/
FAILED
Server error, status code: 502, error code: 270012, message: Service broker catalog is invalid:
Service service-name-1
  service id must be unique
  service description is required
  service "bindable" field must be a boolean, but has value "true"
Plan plan-name-1
  plan metadata must be a hash, but has value [{"bullets"=>["bullet1", "bullet2"]}
-----
--
Watson has found possible solutions for you. Use 'cf wat post' to display
-----
--
192-168-1-1:~ jason$
```

```
192-168-1-1:~ jason$ cf create-service-broker mybroker someuser sthsecure http://broker.example.com/
FAILED
Server error, status code: 502, error code: 270012, message: Service broker catalog is invalid:
Service service-name-1
  service id must be unique
  service description is required
  service "bindable" field must be a boolean, but has value "true"
Plan plan-name-1
  plan metadata must be a hash, but has value [{"bullets"=>["bullet1", "bullet2"]}
-----
--
Watson has found possible solutions for you. Use 'cf wat post' to display
-----
--
192-168-1-1:~ jason$ cf wat post
```

```
192-168-1-1:~ jason$ cf create-service-broker mybroker someuser sthsecure http://broker.example.com/
FAILED
Server error, status code: 502, error code: 270012, message: Service broker catalog is invalid:
Service service-name-1
  service id must be unique
  service description is required
  service "bindable" field must be a boolean, but has value "true"
Plan plan-name-1
  plan metadata must be a hash, but has value [{"bullets"=>["bullet1", "bullet2"]}
-----
--
Watson has found possible solutions for you. Use 'cf wat post' to display
-----
--
192-168-1-1:~ jason$ cf wat post
-----
--
1.   Bluemix connect to Websphere Message Broker ?
80%  https://developer.ibm.com/answers/questions/13901/bluemix-connect-to-websphere-message-broker/
2.   Can't delete an app - service broker issue
15%  https://developer.ibm.com/answers/questions/17699/cant-delete-an-app-service-broker-issue/
3.   Cannot delete Cloudant service
5%   https://developer.ibm.com/answers/questions/27520/cannot-delete-cloudant-service/
```

```
192-168-1-1:~ jason$ cf create-service-broker mybroker someuser sthsecure http://broker.example.com/
FAILED
Server error, status code: 502, error code: 270012, message: Service broker catalog is invalid:
Service service-name-1
  service id must be unique
  service description is required
  service "bindable" field must be a boolean, but has value "true"
Plan plan-name-1
  plan metadata must be a hash, but has value [{"bullets"=>["bullet1", "bullet2"]}
-----
--
Watson has found possible solutions for you. Use 'cf wat post' to display
-----
--
192-168-1-1:~ jason$ cf wat post
-----
--
1.   Bluemix connect to Websphere Message Broker ?
80%  https://developer.ibm.com/answers/questions/13901/bluemix-connect-to-websphere-message-broker/
2.   Can't delete an app - service broker issue
15%  https://developer.ibm.com/answers/questions/17699/cant-delete-an-app-service-broker-issue/
3.   Cannot delete Cloudant service
5%   https://developer.ibm.com/answers/questions/27520/cannot-delete-cloudant-service/
```

```
192-168-1-1:~ jason$ cf cr
FAILED
Server error, status code:
Service service-name-1
  service id must be unique
  service description is required
  service "bindable" field is required
Plan plan-name-1
  plan metadata must be a string
-----
--
Watson has found possible solutions:
-----
--
192-168-1-1:~ jason$ cf wa
-----
-
1. Bluemix connect to WebSphere Message Broker
80%
https://developer.ibm.com/answers/questions/13901/bluemix-connect-to-websphere-message-broker/
2. Can't delete an app
15%
https://developer.ibm.com/answers/questions/13901/bluemix-connect-to-websphere-message-broker/
3. Cannot delete Cloud Foundry app
5%
https://developer.ibm.com/answers/questions/13901/bluemix-connect-to-websphere-message-broker/
```

Bluemix connect to Websphere Message Broker ? - dW Answers

https://developer.ibm.com/answers/questions/13901/bluemix-connect-to-websphere-message-broker/

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dW Answers

It's all about the answers

Questions Tags Users Badges Ask a Question

Bluemix connect to Websphere Message Broker ?

Search the forum Search tips

Asked 19 May, 21:49 Viewed 537 times

ASHROFF (2101) | asked 19 May, 21:49 | edited 30 Sep, 08:55 by fsun

1 Hello, I work with the IBM CoE team and trying to evaluate Bluemix. We have SAP applications which has several in-bounds and Out-bounds. Most of these use Message Broker to transform the data between systems. Could you guide me to any documentation if any where it explains if Bluemix can be connected to a message broker. If there is a opportunity I would like to use the Bluemix Beta site to evaluate it.

Anil Shroff

BLUEMIX MESSAGE CLOUDINTEGRATION BROKER WMB

3 Answers oldest newest most liked

Related questions Oracle and WebSphere Message Broker



FOURTH STAGE

\$ Implementation Strategy:

1 Wat ____

2 Wat Com

3 Wat Post

4 Wat Solv

5 BlueSky

Implementation Stages

4 wat solve

If watson is confident of the the error and the solution it will show its recommendation in the terminal with link to its source

After the user encounters an error code, the user will now be prompted to enter the code '-wat solve' Once the user hits enter, Watson will display the most relevant and accurate solution. This solution will be pulled directly from the forum's most relevant topic with an accepted answer. This post will be displayed as the text from the forum highlighting key points, however if the post is too long or contains images, there will be a link to the browser. Ideally, the solution will be pulled directly into their command line interface.

After reading the solution, the user will be prompted to respond if the solution was accurate and helpful. It will be a quick and easy way to get feedback from the users at this stage.

This feedback data will be used on the forums as metadata (similar to upvotes, but actually a separate number) to show how many coders viewed this solution as helpful. This extra data point will give added validity to solutions to the errors in Bluemix.

```
192-168-1-1:~ jason$ cf create-service-broker mybroker someuser sthsecure http://broker.example.com/
```

\$ Implementation Strategy:

- 1 Wat ____
- 2 Wat Com
- 3 Wat Post
- 4 Wat Solv
- 5 BlueSky

```
192-168-1-1:~ jason$ cf create-service-broker mybroker someuser sthsecure http://broker.example.com/
FAILED
Server error, status code: 502, error code: 270012, message: Service broker catalog is invalid:
Service service-name-1
  service id must be unique
  service description is required
  service "bindable" field must be a boolean, but has value "true"
Plan plan-name-1
  plan metadata must be a hash, but has value [{"bullets"=>["bullet1", "bullet2"]}
-----
--
Watson has found the most possible solution for you. Use 'cf wat solve' to display
-----
--
192-168-1-1:~ jason$
```

```
192-168-1-1:~ jason$ cf create-service-broker mybroker someuser sthsecure http://broker.example.com/
FAILED
Server error, status code: 502, error code: 270012, message: Service broker catalog is invalid:
Service service-name-1
  service id must be unique
  service description is required
  service "bindable" field must be a boolean, but has value "true"
Plan plan-name-1
  plan metadata must be a hash, but has value [{"bullets"=>["bullet1", "bullet2"]}
-----
--
Watson has found the most possible solution for you. Use 'cf wat solve' to display
-----
--
192-168-1-1:~ jason$ cf wat solve
```

```
192-168-1-1:~ jason$ cf create-service-broker mybroker someuser sthsecure http://broker.example.com/
FAILED
Server error, status code: 502, error code: 270012, message: Service broker catalog is invalid:
Service service-name-1
  service id must be unique
  service description is required
  service "bindable" field must be a boolean, but has value "true"
Plan plan-name-1
  plan metadata must be a hash, but has value [{"bullets"=>["bullet1", "bullet2"]}
-----
--
Watson has found the most possible solution for you. Use 'cf wat solve' to display
-----
--
192-168-1-1:~ jason$ cf wat solve
-----
--
Bluemix connect to Websphere Message Broker ?
If the message broker endpoints are visible to the internet (or intranet depending on which BlueMix
environment you're talking about) then you should be able to communicate with it from an app in BlueMix.
Have you tried connectivity and it failed? If so, what did the errors look like?
-----
--
Is this helpful? y/n
192-168-1-1:~ jason$
```

```
192-168-1-1:~ jason$ cf create-service-broker mybroker someuser sthsecure http://broker.example.com/
FAILED
Server error, status code: 502, error code: 270012, message: Service broker catalog is invalid:
Service service-name-1
  service id must be unique
  service description is required
  service "bindable" field must be a boolean, but has value "true"
Plan plan-name-1
  plan metadata must be a hash, but has value [{"bullets"=>["bullet1", "bullet2"]}
-----
--
Watson has found the most possible solution for you. Use 'cf wat solve' to display
-----
--
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-----
--
Bluemix connect to Websphere Message Broker ?
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environment you're talking about) then you should be able to communicate with it from an app in BlueMix.
Have you tried connectivity and it failed? If so, what did the errors look like?
-----
--
Is this helpful? y/n
192-168-1-1:~ jason$ y
```

FIFTH STAGE

\$ Implementation Strategy:

1 Wat ____

2 Wat Com

3 Wat Post

4 Wat Solv

5 BlueSky

Implementation Stages

5 Blue Sky

This stage comes full circle, and utilizes the awesome power of Watson to create personalized documentation. Due to the power involved and possible privacy concerns, there will be an option to 'opt-in'. By doing so the user, after seeing the error message, can simply type 'wat' (with no extra parameters) to get access to the help documentation. However, this documentation completely suggested by Watson, and fully customized to assist and predict the issues that the user would run into in their individual context. Due to all of the integration throughout

Watson's previous stages, it can now pull from the user's code, their situation, the forums, all answers and help documentation, and the complete analysis of all users across the board. We see this as a very future scenario, but an incredibly empowering one for any developer.

```

Last login: Thu Oct  5 14:35:18 on ttys000
-----
--
Type 'cf wat opt-in' to integrate Watson with your development environment
This will analyze your environment for context, and generate documentation, suggestions, and feedback.
-----
--

192-168-1-1:~ jason$
```

```
Last login: Thu Oct 5 14:35:18 on ttys000
-----
--
Type 'cf wat opt-in' to integrate Watson with your development environment
This will analyze your environment for context, and generate documentation, suggestions, and feedback.
-----
--

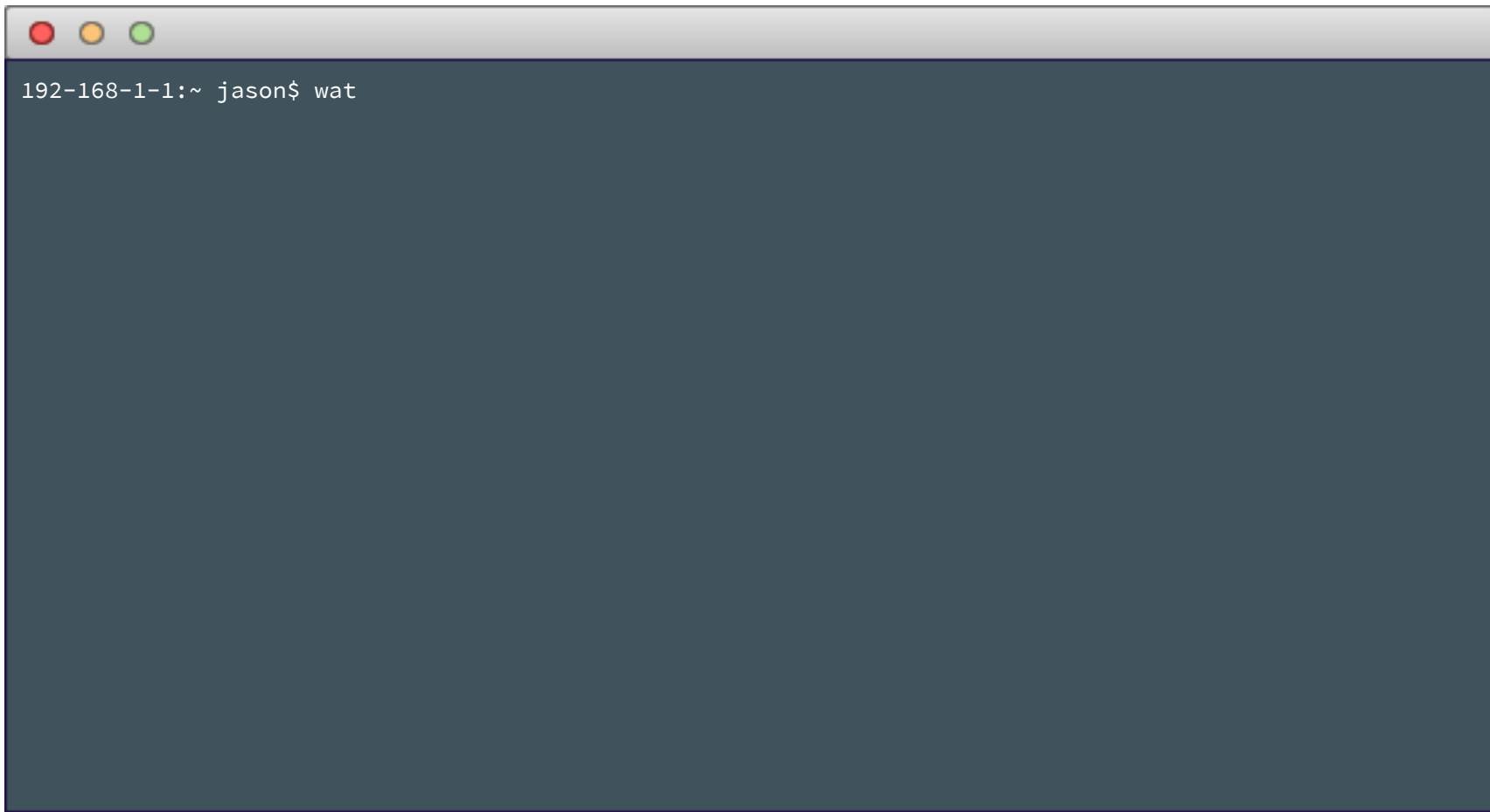
192-168-1-1:~ jason$ cf wat opt-in
```

```
Last login: Thu Oct  5 14:35:18 on ttys000
-----
--
Type 'cf wat opt-in' to integrate Watson with your development environment
This will analyze your environment for context, and generate documentation, suggestions, and feedback.
-----
--

192-168-1-1:~ jason$ cf wat opt-in

OK

192-168-1-1:~ jason$
```



```
192-168-1-1:~ jason$ wat
```

\$ Implementation Strategy:

- 1 Wat ____
- 2 Wat Com
- 3 Wat Post
- 4 Wat Solv
- 5 BlueSky

```
192-168-1-1:~ jason$ wat
-----
--
Welcome to Watson's Personalized Documentation Service for Bluemix Developers

It looks like you're setting up to upload an app to Bluemix

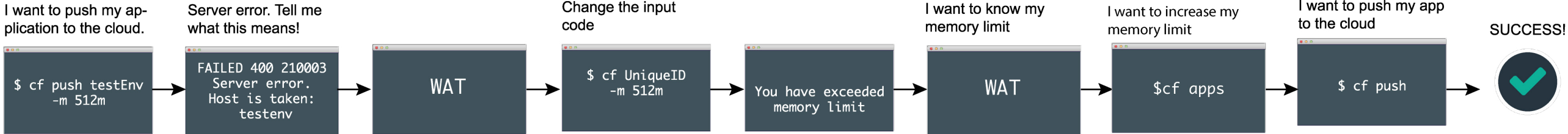
Based on what Watson by checking your app, we suggest these possible directions next:
s1) Bolster your security. There are a few more steps to take to fully protect your users.
s2) Check your Bluemix settings and configure number of instances or memory quotas.
s3) Package up the app, and get ready to upload.
s4) Comment your code for ease of future development

Warning: Watson has discovered possible security issues in your data handling.
w1) Check this forum posts for further explanation

Your documentation now uses examples drawn directly from your code. Check a function for further
examples.

Type any category code (e.g. s3) to have Watson assist you in the process.
-----
--
192-168-1-1:~ jason$
```

Jason's Journey - Final

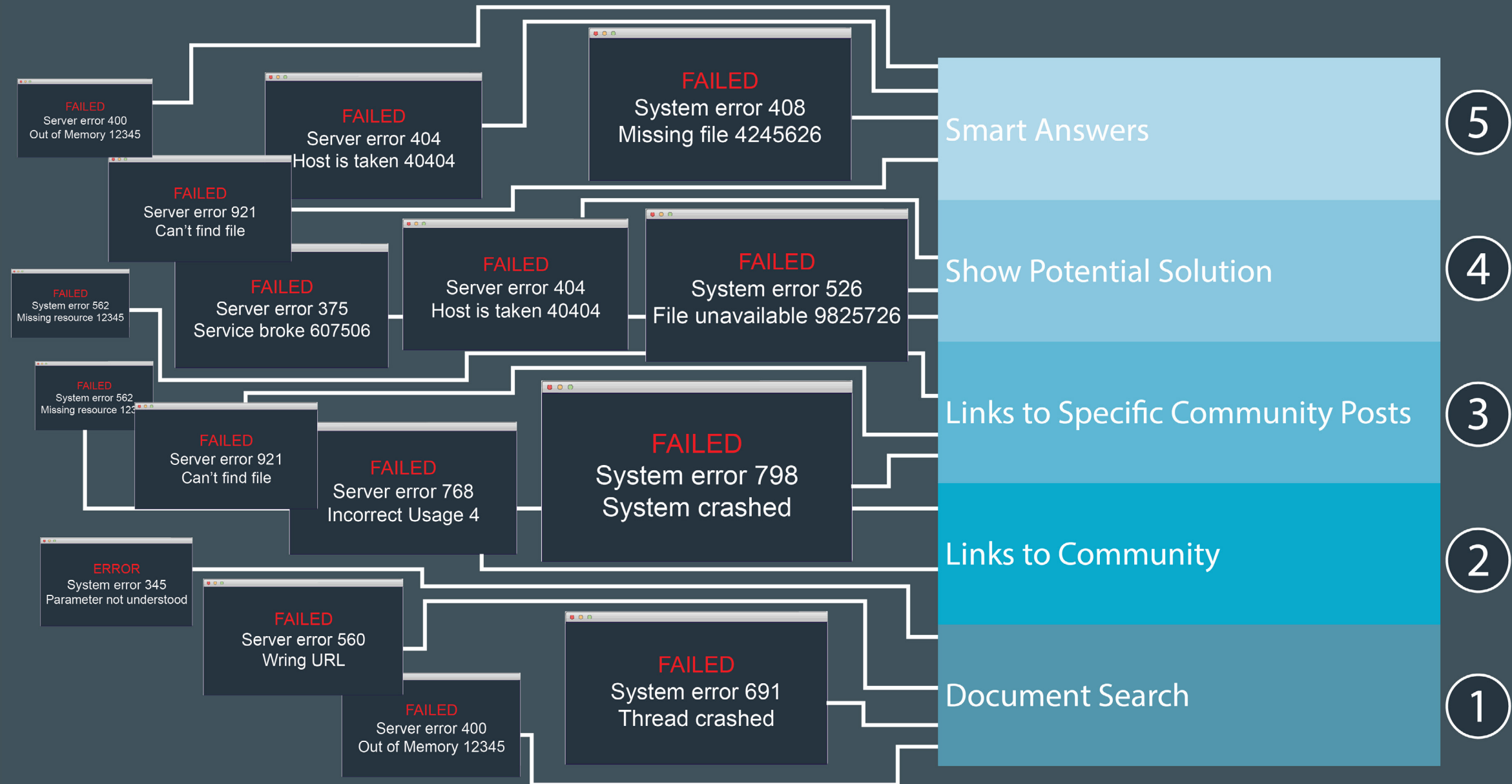


8 steps



System Flexibility

How different levels of errors are processed by IBM Watson



Evolution of Error Handling

How error handling is improved in each stage



```
FAILED
Server error 400
Host is taken: testenv
```

Keyword search in terminal to quickly find relevant documentation.

```
FAILED
Server error 400
Host is taken: testenv
```

Error message generates link to online documentation.

Context of the error is used to link to appropriate information.

```
FAILED
Server error 400
Host is taken: testenv
```

Error message in terminal provides links to specific posts in IBM help community, sorted by relevancy.

```
FAILED
Server error 400
Host is taken: testenv
```

If Watson is confident of the error and the solution it will show its recommendation in the terminal with link to its source.

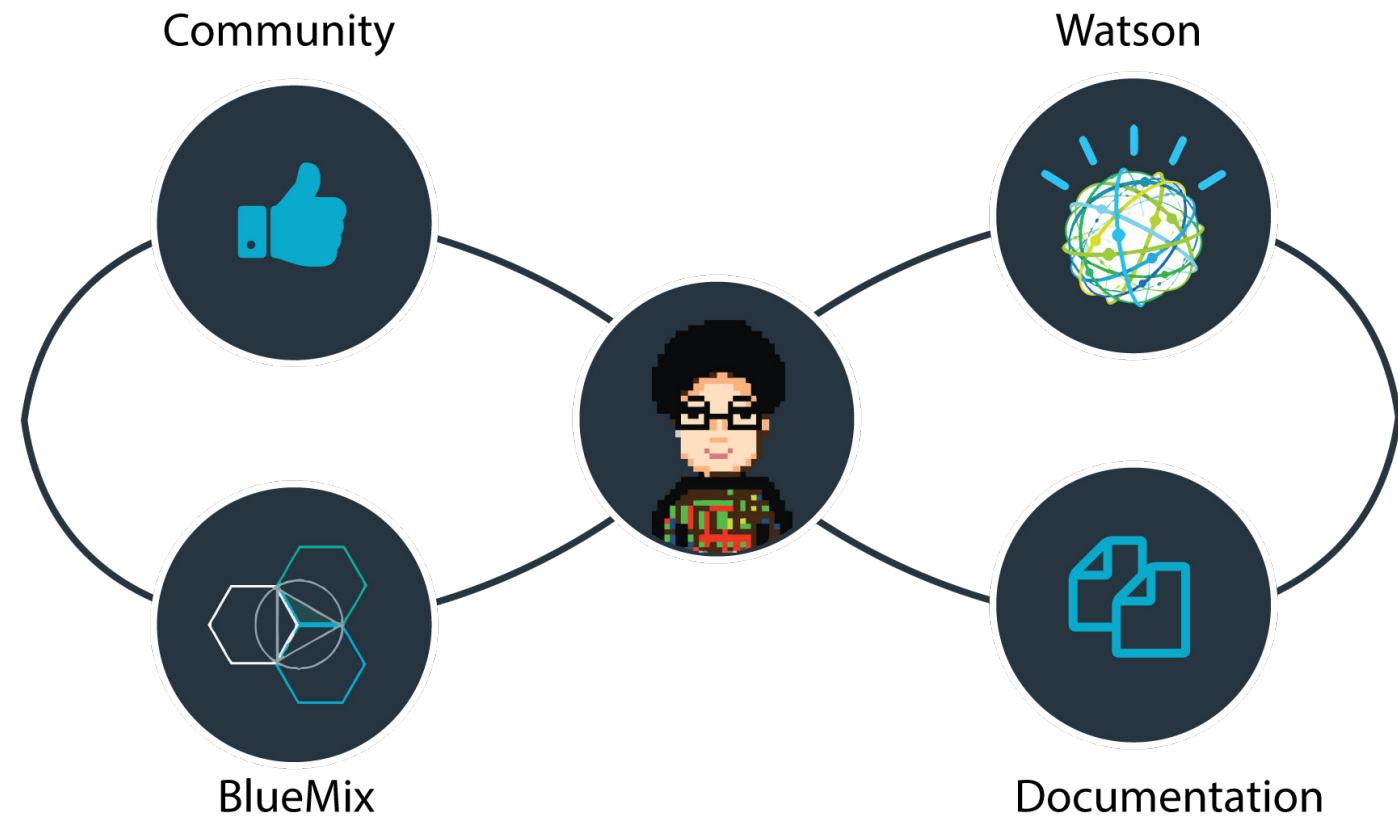
```
FAILED
Server error 400
Host is taken: testenv
```

Watson acts like expert programming friend.

The Big Picture

How can we leverage the community?

- Just as the Developer's experience using a system is often decided by the quality of the documentation and reference, that quality itself is decided by participation and the community.
- By directing developers initially to IBM's Bluemix forum, we can move them into a feedback loop of community and participation. With more answers on the forum, Watson returned better, more contextually aware results. With better error message results, there will be a greater community using Bluemix, and more to add to the discussion around problems.
- We believe that Watson and Bluemix are a perfect pair, each growing the other.



Where is Jason?



He is in the bluest of all skies.

Meet the Team



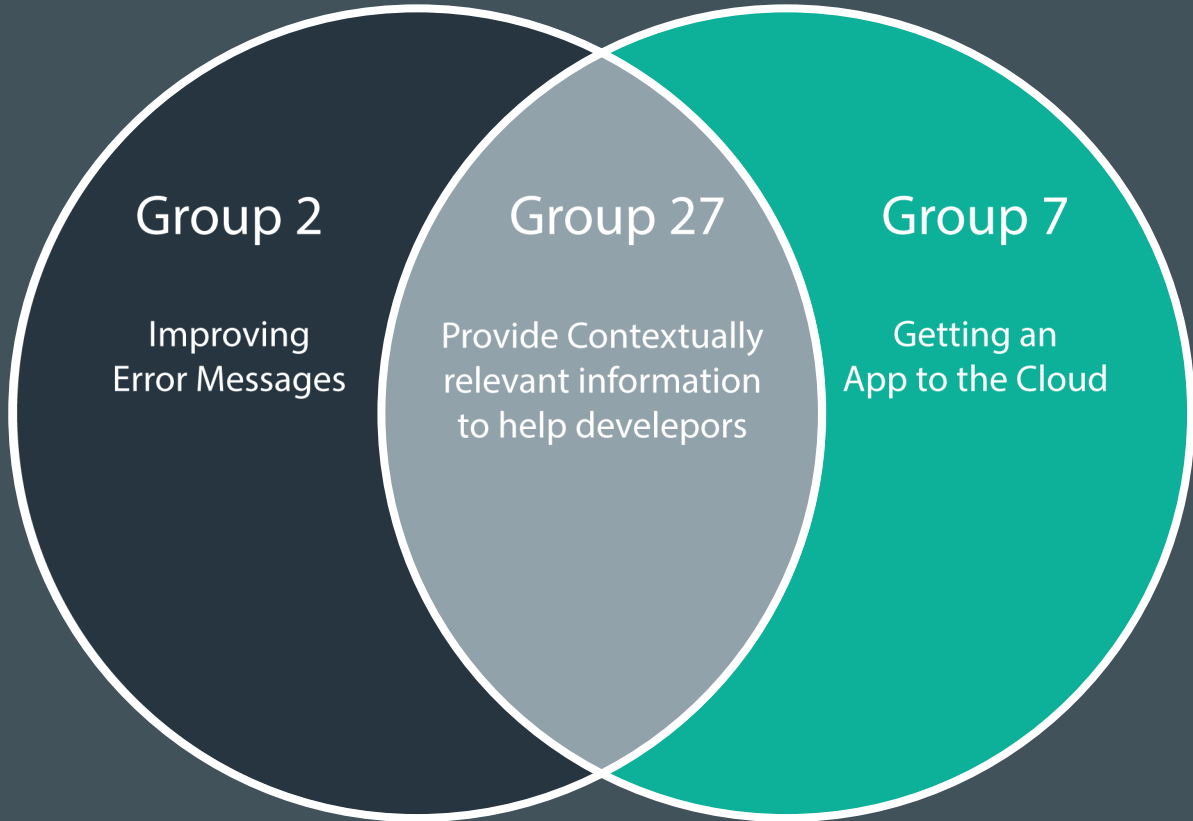
Zan Morris



Yao Bao



Steven Voyk



Jason Fu



Katya Ivanova



Clark Mullen

Why did we work together?

On Wednesday morning, Zan and Katya met to discuss the prompt. As Zan was discussing his teams problem space, Katya was inspired by the problem and they began to discuss how to implement Watson and other solutions. Upon further examination, they then realized that both of their teams shared a common issue and solution. The mergers and acquisitions meeting was held the same day and Team 27 was born.

TEAM 27 Would like to thank;

IBM

Brandon

Tarun

Christopher

Brian

Kevin

Marty

Jordan

And all the other RDSC teams for
the cross collaboration