Simplify your Mobile App Development - Build new IMS Mobile apps with RESTful APIs

Teodoro (Ted) Cipresso, IMS Connectivity Developer

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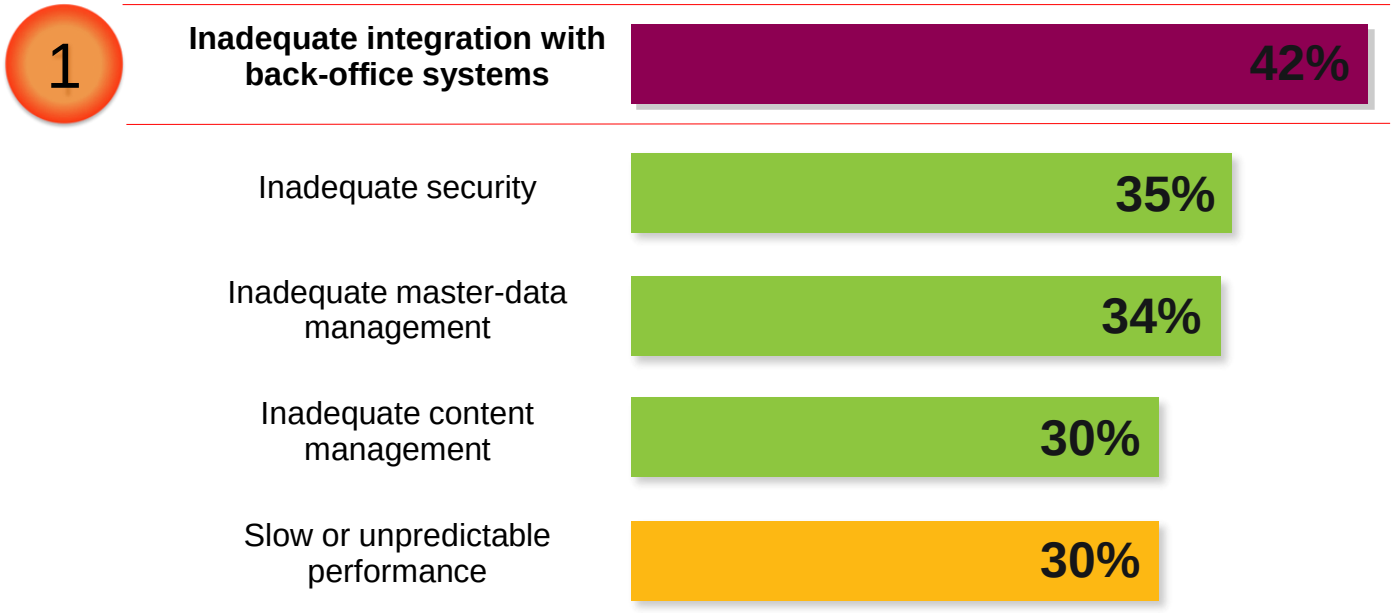
System of Record Integration

The most significant technical barrier
to creating effective customer-facing systems



91% of CIOs said new customer client-facing apps will access the mainframe

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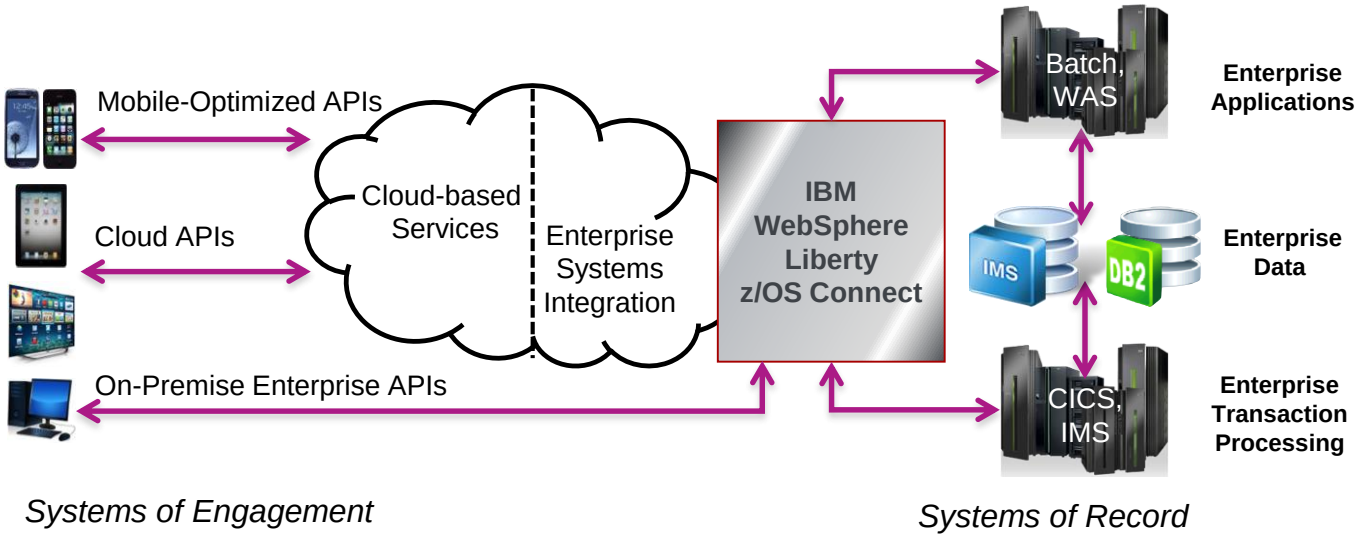
Consistent connectivity for z Mobile and Cloud

- ***IBM WebSphere Liberty z/OS Connect*** – Shipped with WAS, CICS, and IMS
- *Unifies z/OS connectors* – a common solution for mobile, cloud, and web
- *Simplified integration* – Hide complexity of connecting to z/OS using REST



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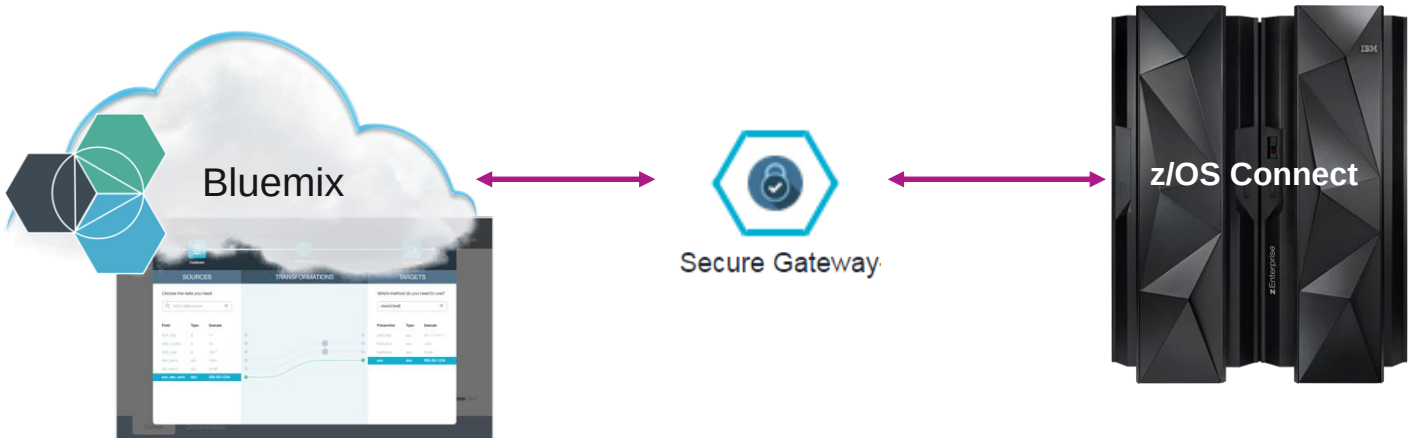
Secure Connectivity to Systems of Record

- *Combine mobile and cloud for best of both* – mobile applications in the cloud linked to the enterprise is your competitive advantage
- *Fast time to market of cloud based applications* – combined with the trusted transactions of traditional mainframe systems
- *Securely connect* – leverage data from your existing enterprise systems



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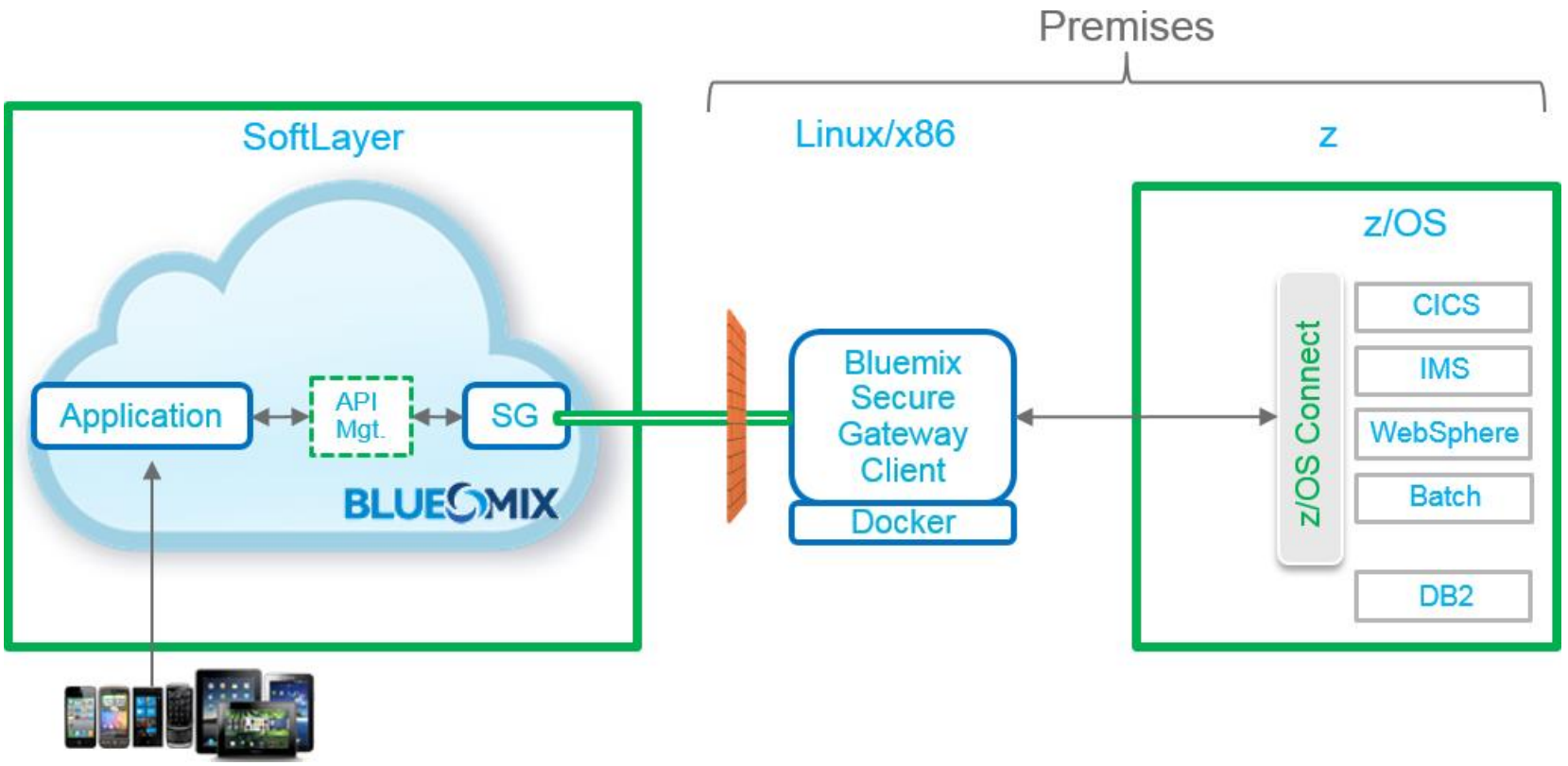
Bluemix APIm and Secure Gateway Services



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Mobile App SOR Asset Integration Demo

- The remainder of this presentation contains an offline demonstration.
- The demonstration illustrates how to use the following technologies to build a Mobile app that integrates z/OS assets as managed APIs in Bluemix:
  - IMS Explorer for Development
  - Swagger
  - z/OS Connect
  - Bluemix
  - Secure Gateway
  - API management

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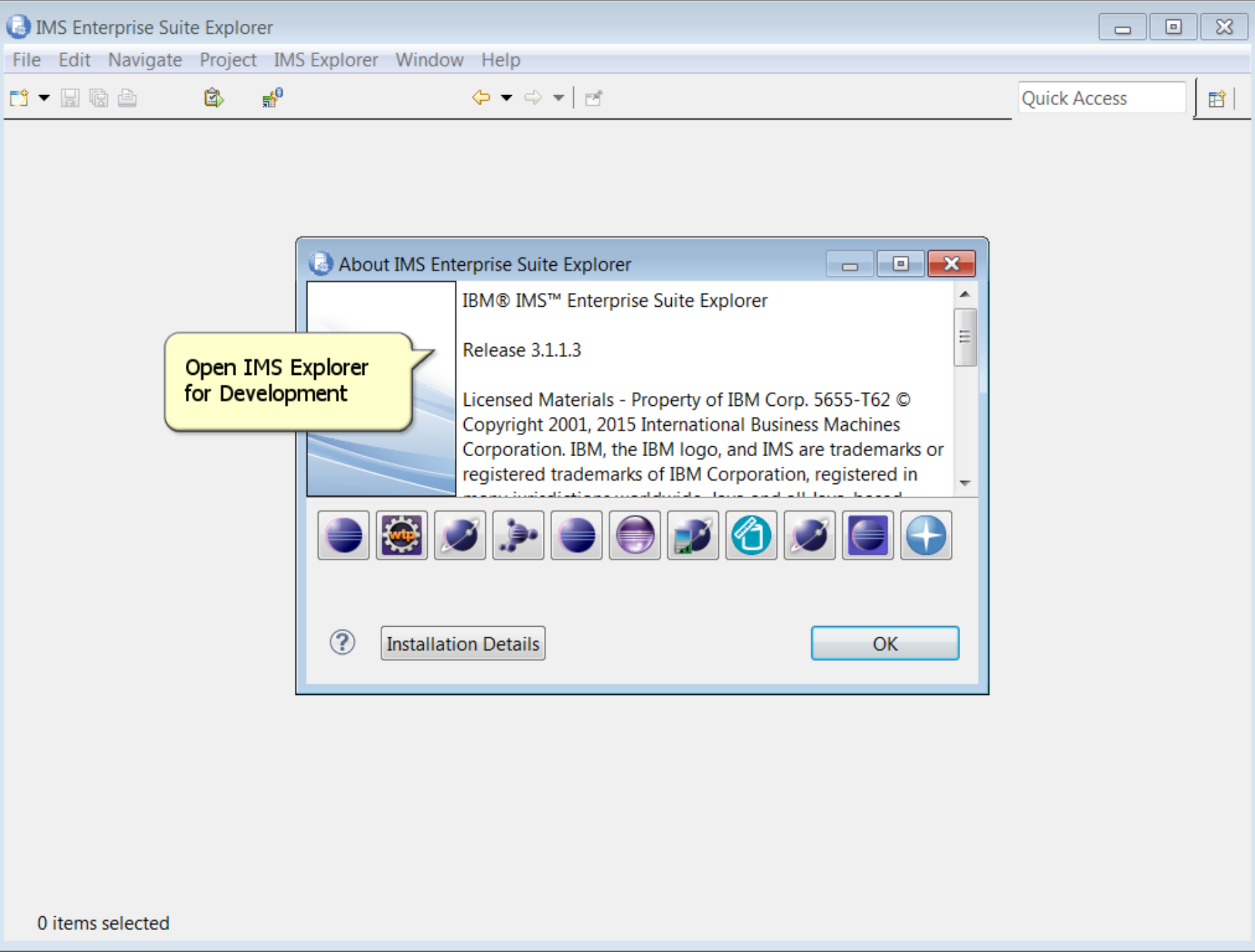
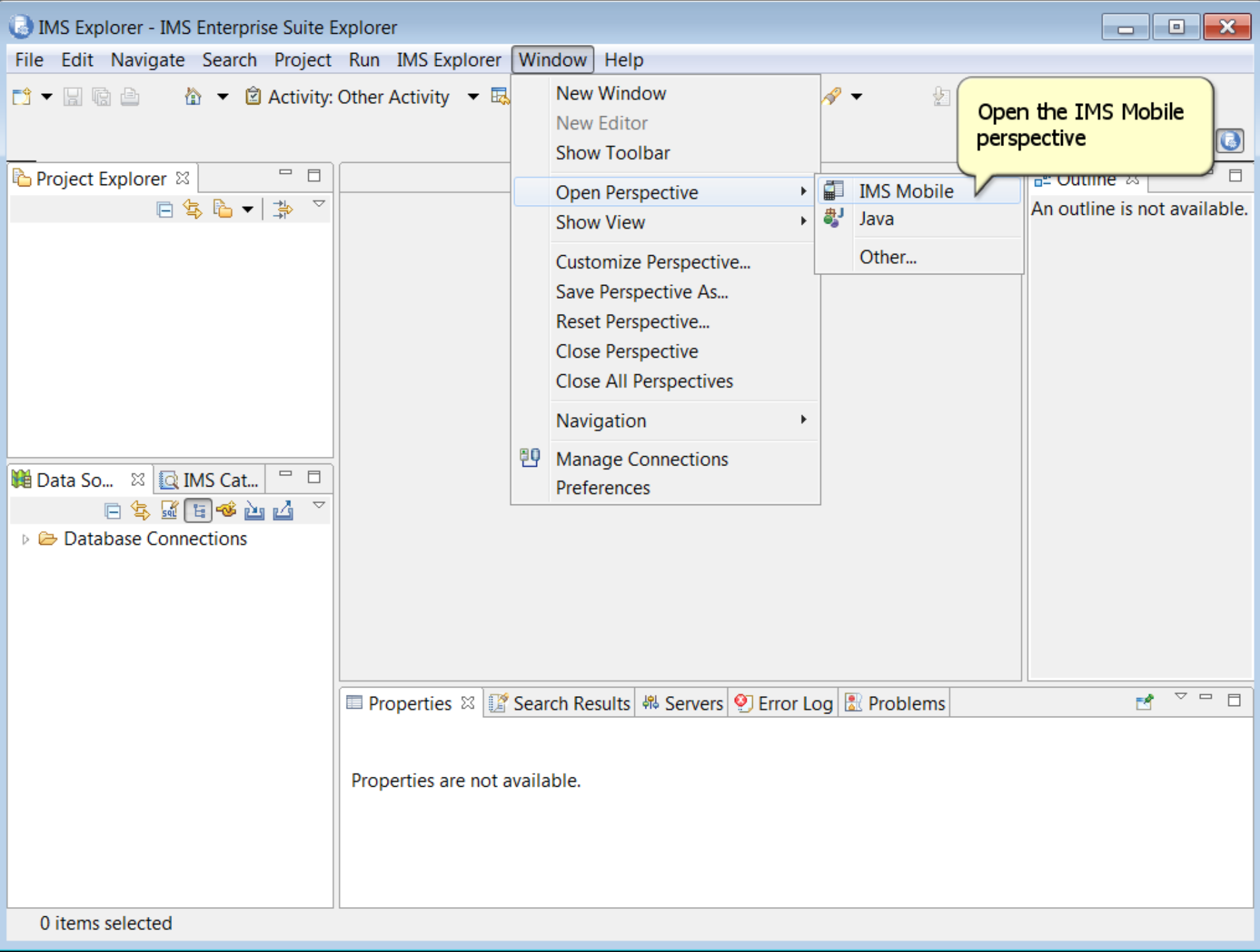
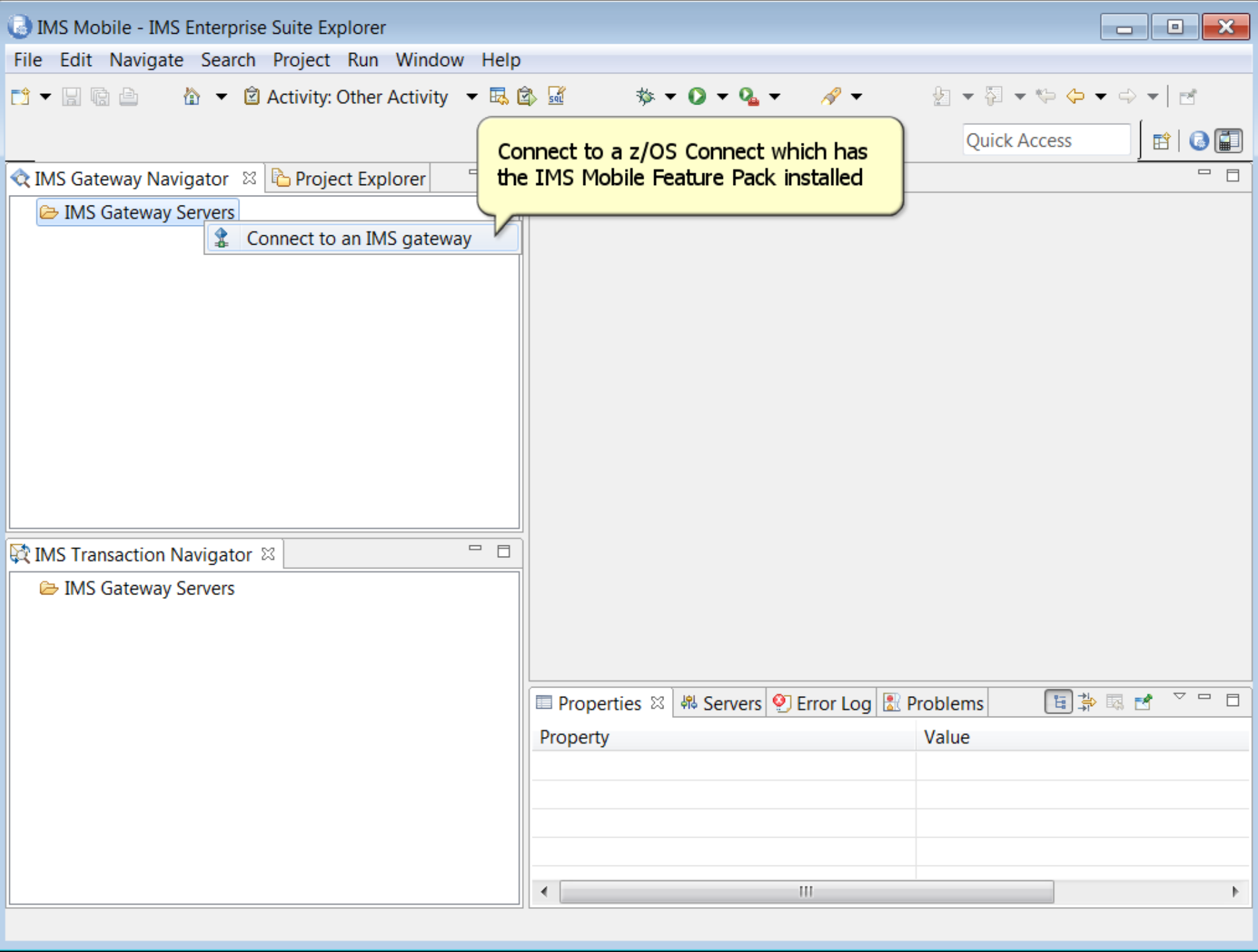
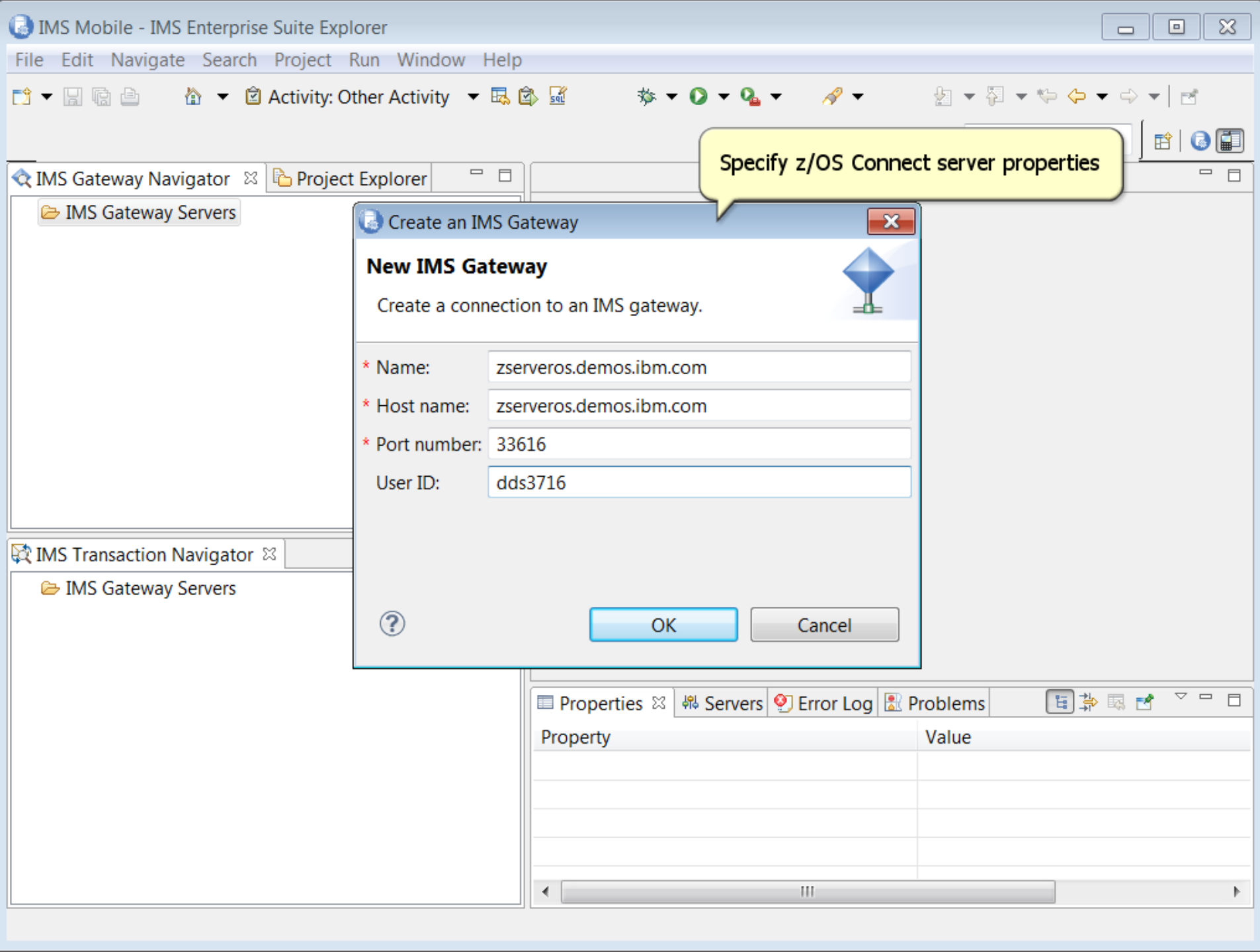
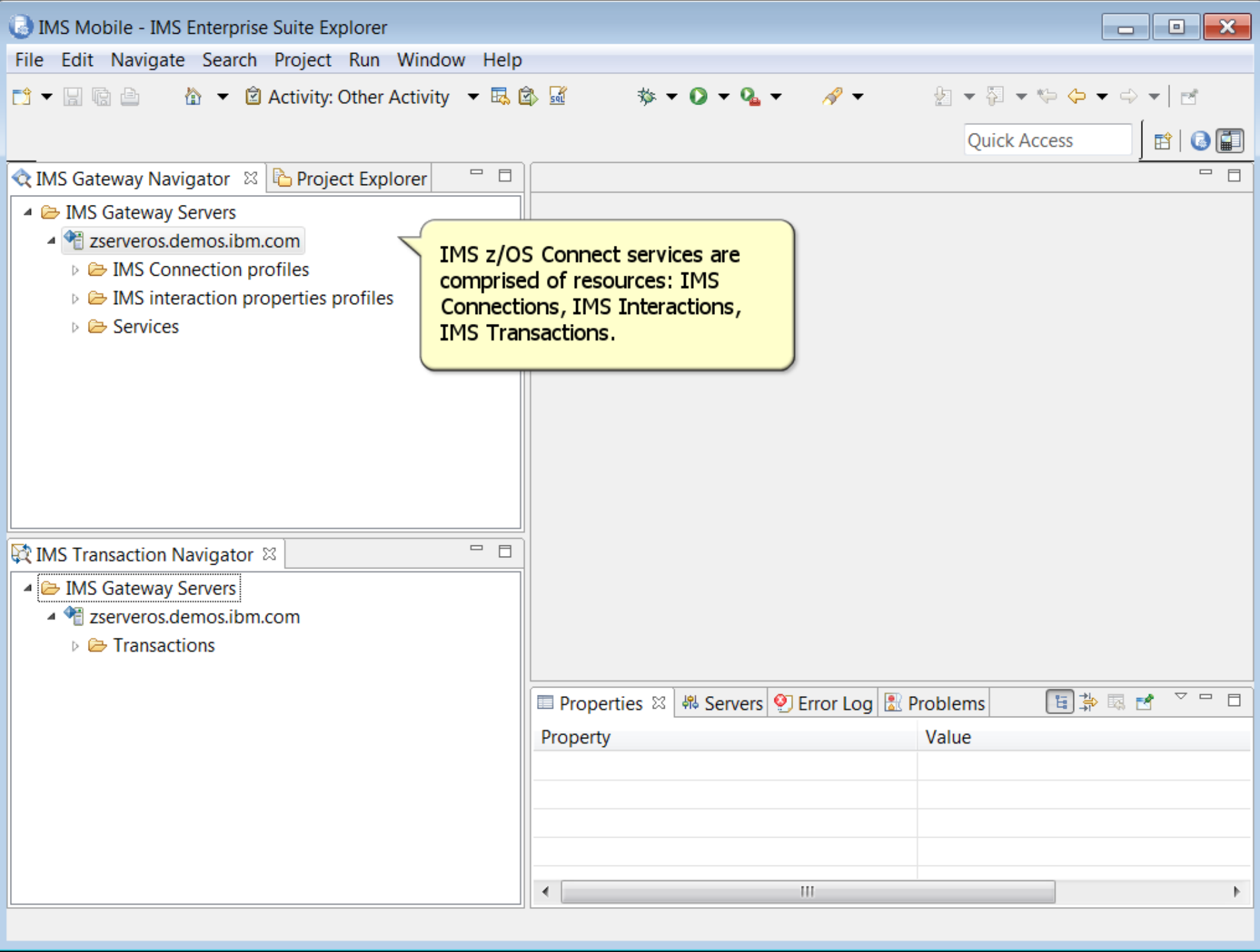
Create z/OS Connect RESTful Services from IMS Transactions

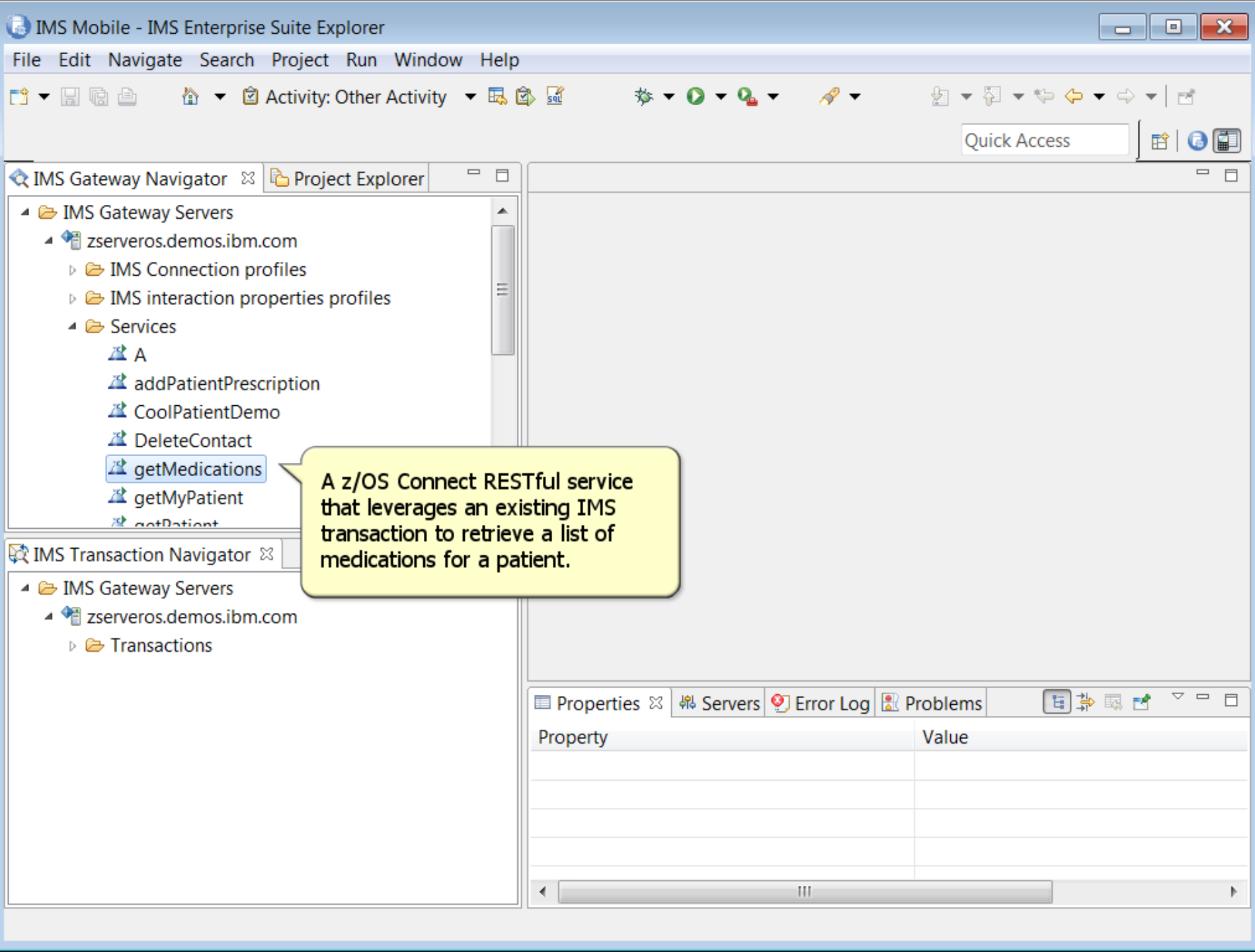

IMS Enterprise Suite Explorer
File Edit Navigate Project IMS Explorer Window Help
Quick Access
About IMS Enterprise Suite Explorer
IBM® IMS™ Enterprise Suite Explorer
Release 3.1.1.3
Licensed Materials - Property of IBM Corp. 5655-T62 © Copyright 2001, 2015 International Business Machines Corporation. IBM, the IBM logo, and IMS are trademarks or registered trademarks of IBM Corporation, registered in
Open IMS Explorer for Development
Installation Details
OK
0 items selected

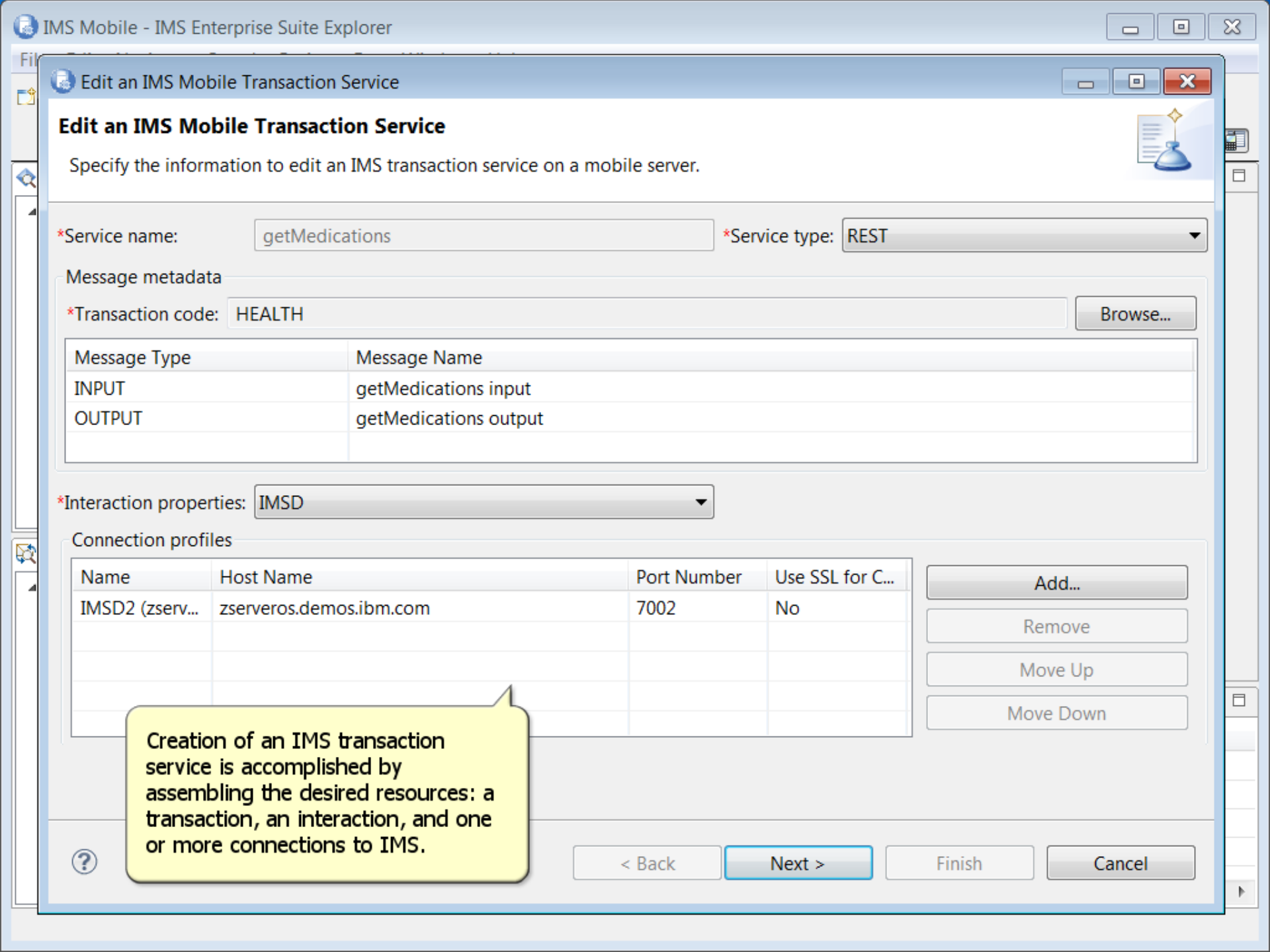

IMS Explorer - IMS Enterprise Suite Explorer
File Edit Navigate Search Project Run IMS Explorer Window Help
Activity: Other Activity
New Window
New Editor
Show Toolbar
Open Perspective
Show View
Customize Perspective...
Save Perspective As...
Reset Perspective...
Close Perspective
Close All Perspectives
Navigation
Manage Connections
Preferences
IMS Mobile
Java
Other...
Open the IMS Mobile perspective
Project Explorer
Outline
An outline is not available.
Data So...
IMS Cat...
Database Connections
Properties
Search Results
Servers
Error Log
Problems
Properties are not available.
0 items selected

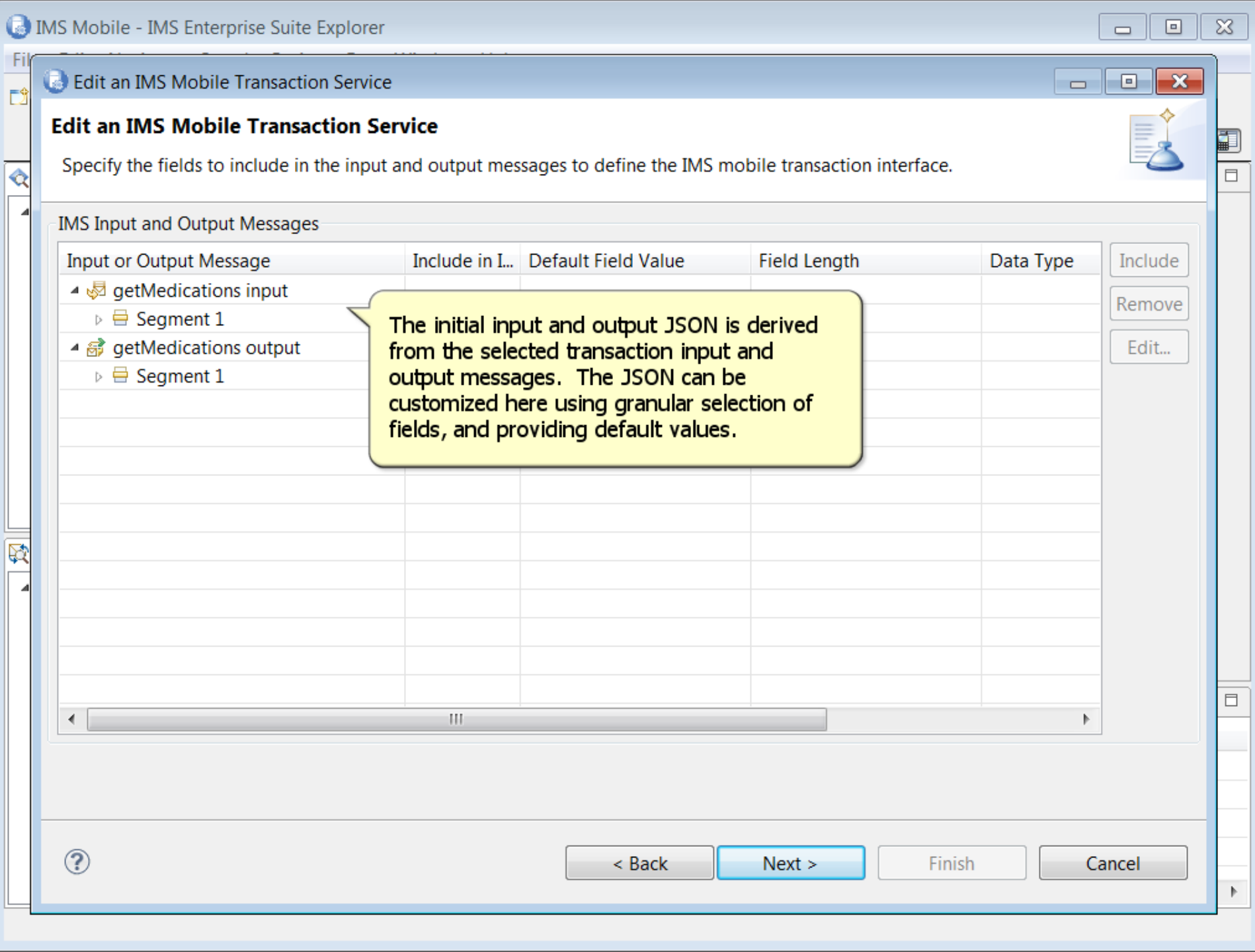

IMS Mobile - IMS Enterprise Suite Explorer
File Edit Navigate Search Project Run Window Help
Activity: Other Activity
Quick Access
Connect to a z/OS Connect which has the IMS Mobile Feature Pack installed
IMS Gateway Navigator
Project Explorer
IMS Gateway Servers
Connect to an IMS gateway
IMS Transaction Navigator
IMS Gateway Servers
Properties
Servers
Error Log
Problems
Property
Value

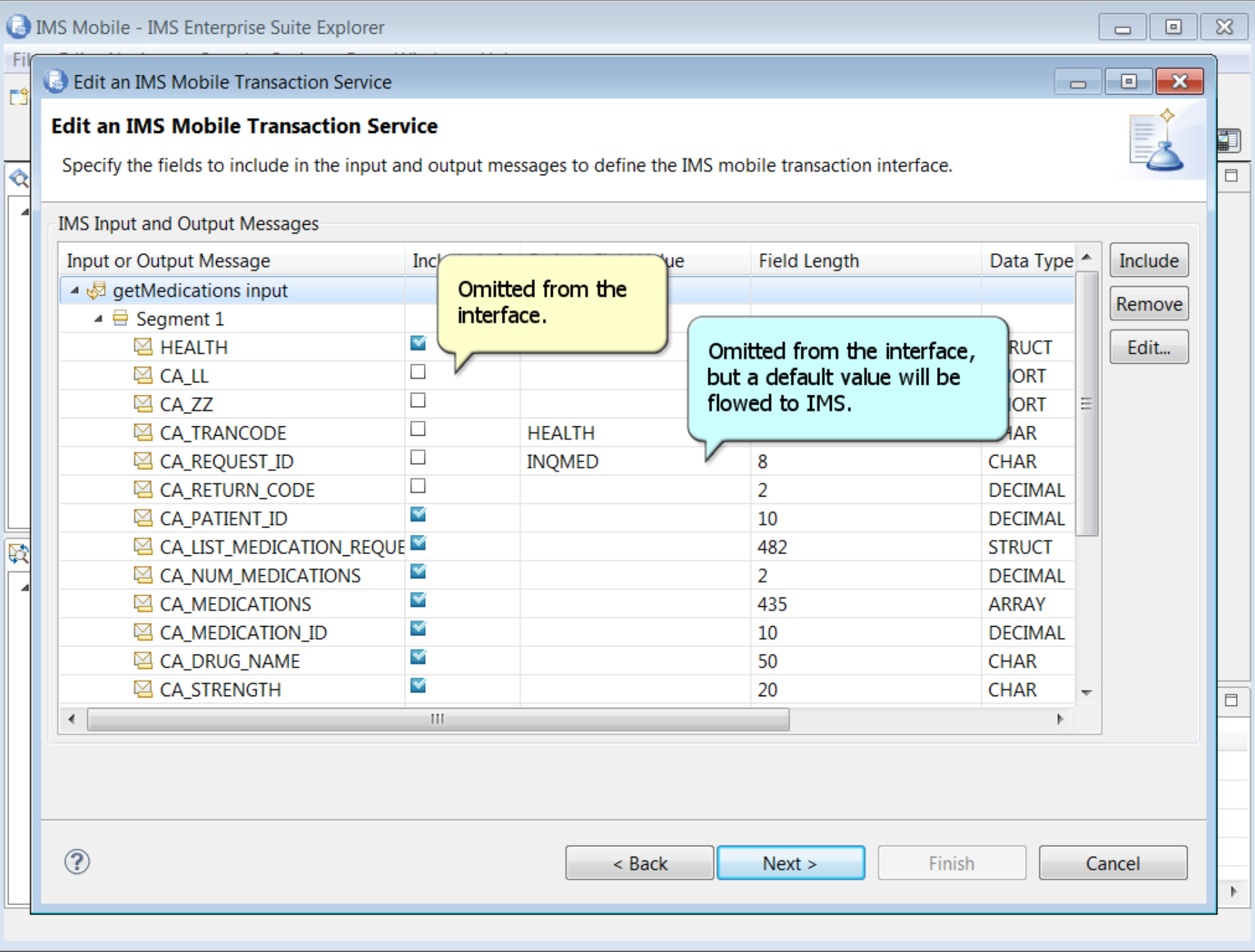

IMS Mobile - IMS Enterprise Suite Explorer
File Edit Navigate Search Project Run Window Help
Activity: Other Activity
IMS Gateway Navigator
Project Explorer
IMS Gateway Servers
IMS Transaction Navigator
IMS Gateway Servers
Specify z/OS Connect server properties
Create an IMS Gateway
New IMS Gateway
Create a connection to an IMS gateway.
* Name: zserveros.demos.ibm.com
* Host name: zserveros.demos.ibm.com
* Port number: 33616
User ID: dds3716
OK
Cancel
Properties
Servers
Error Log
Problems
Property
Value

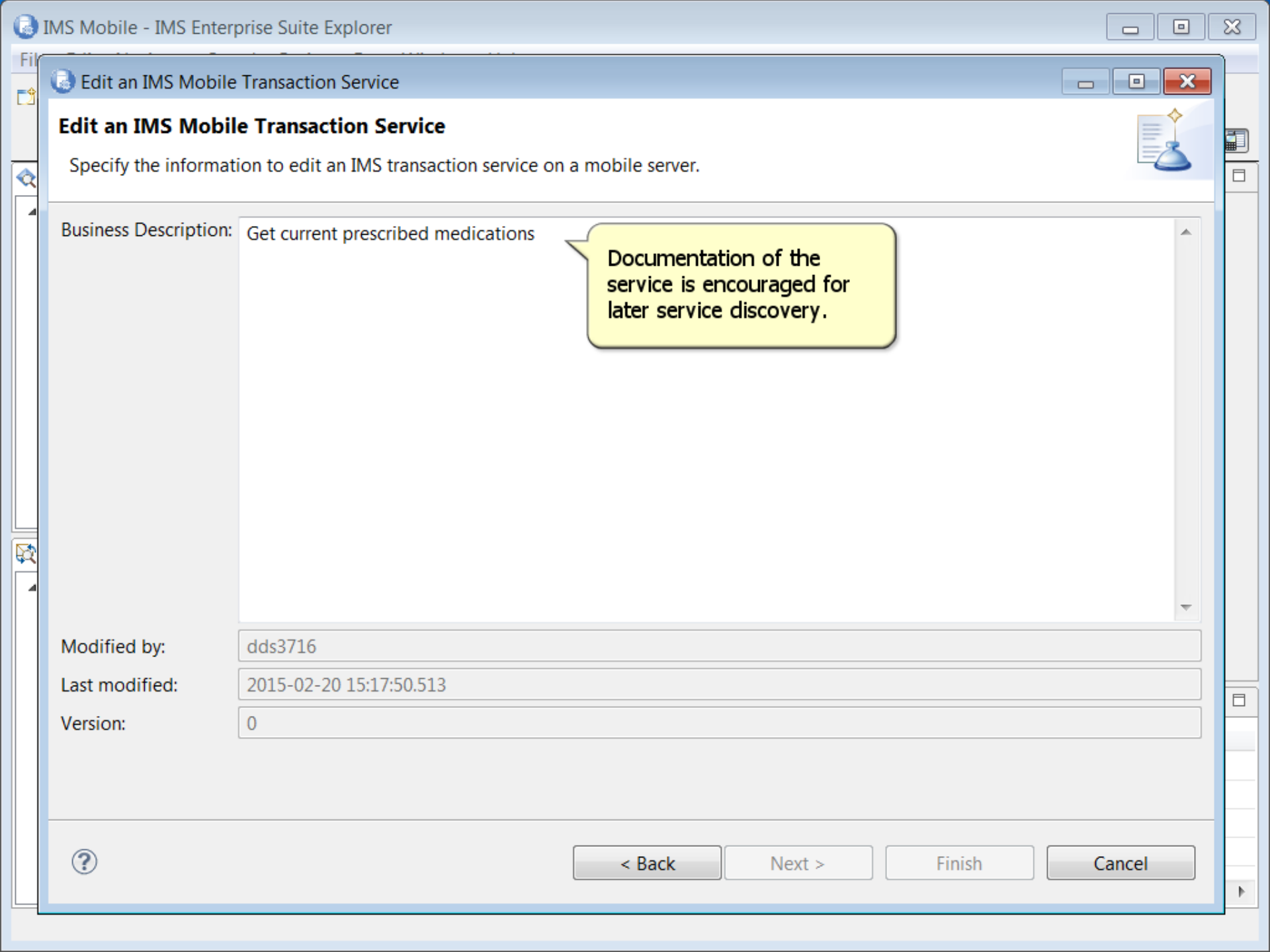

IMS Mobile - IMS Enterprise Suite Explorer
File Edit Navigate Search Project Run Window Help
Activity: Other Activity
Quick Access
IMS Gateway Navigator
Project Explorer
IMS Gateway Servers
zserveros.demos.ibm.com
IMS Connection profiles
IMS interaction properties profiles
Services
IMS z/OS Connect services are comprised of resources: IMS Connections, IMS Interactions, IMS Transactions.
IMS Transaction Navigator
IMS Gateway Servers
zserveros.demos.ibm.com
Transactions
Properties
Servers
Error Log
Problems
Property
Value

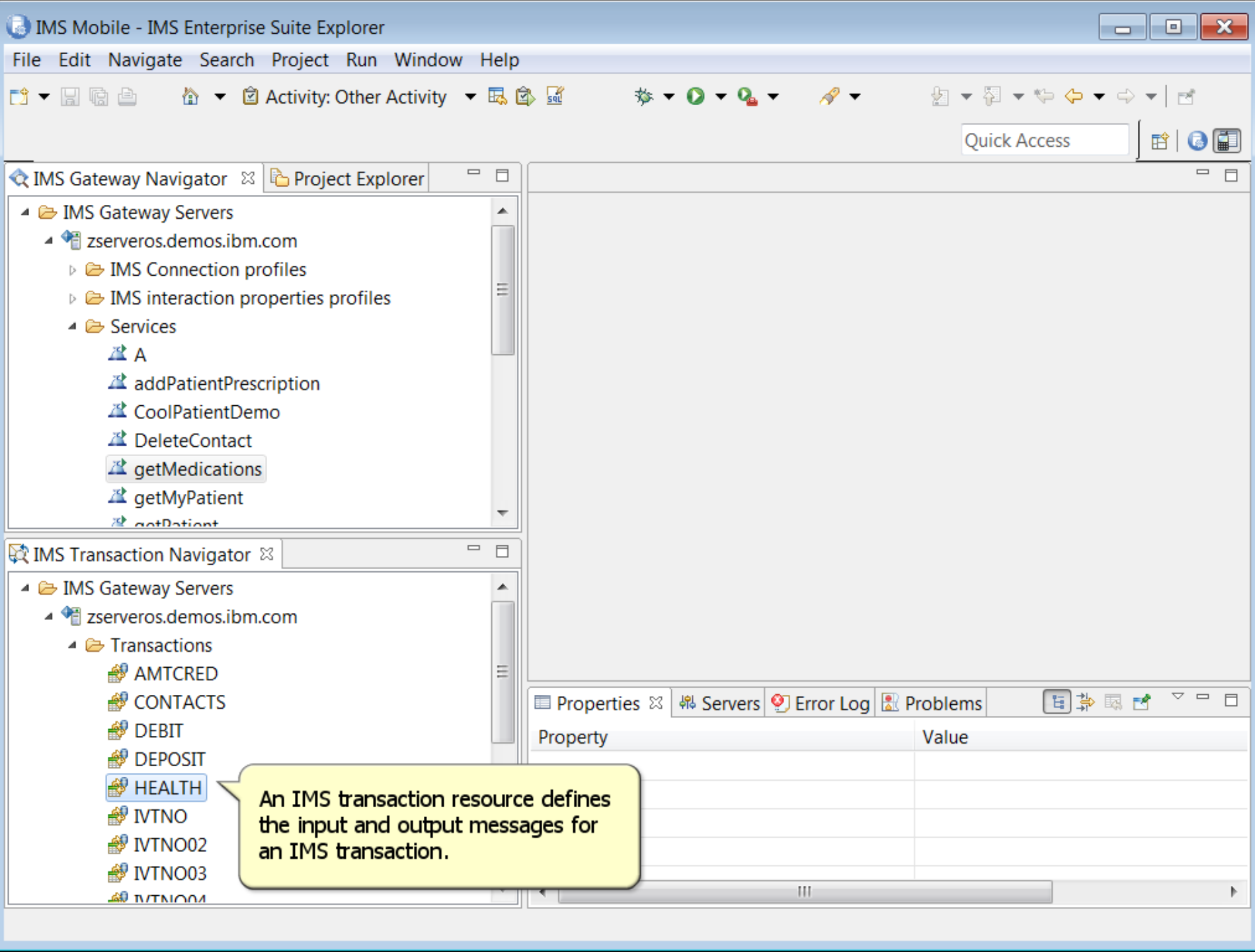

IMS Mobile - IMS Enterprise Suite Explorer
File Edit Navigate Search Project Run Window Help
Activity: Other Activity
Quick Access
IMS Gateway Navigator
Project Explorer
IMS Gateway Servers
zserveros.demos.ibm.com
IMS Connection profiles
IMS interaction properties profiles
Services
A
addPatientPrescription
CoolPatientDemo
DeleteContact
getMedications
getMyPatient
IMS Transaction Navigator
IMS Gateway Servers
zserveros.demos.ibm.com
Transactions
A z/OS Connect RESTful service that leverages an existing IMS transaction to retrieve a list of medications for a patient.
Properties
Servers
Error Log
Problems
Property
Value

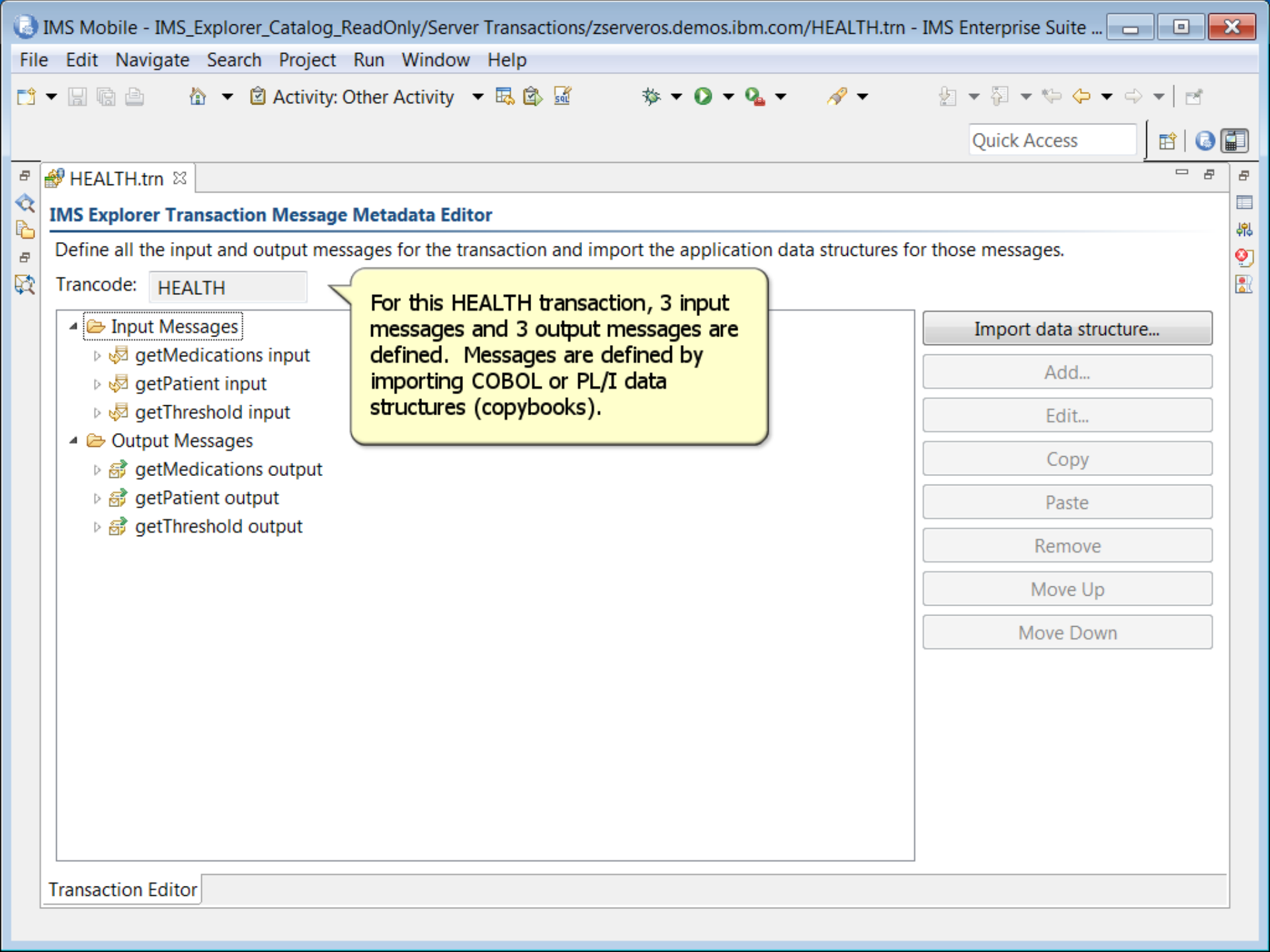

IMS Mobile - IMS Enterprise Suite Explorer
Edit an IMS Mobile Transaction Service
Edit an IMS Mobile Transaction Service
Specify the information to edit an IMS transaction service on a mobile server.
*Service name:
getMedications
*Service type:
REST
Message metadata
*Transaction code:
HEALTH
Browse...
Message Type
Message Name
INPUT
getMedications input
OUTPUT
getMedications output
*Interaction properties:
IMSD
Connection profiles
Name
Host Name
Port Number
Use SSL for C...
IMSD2 (zserv...
zserveros.demos.ibm.com
7002
No
Add...
Remove
Move Up
Move Down
Creation of an IMS transaction service is accomplished by assembling the desired resources: a transaction, an interaction, and one or more connections to IMS.
< Back
Next >
Finish
Cancel

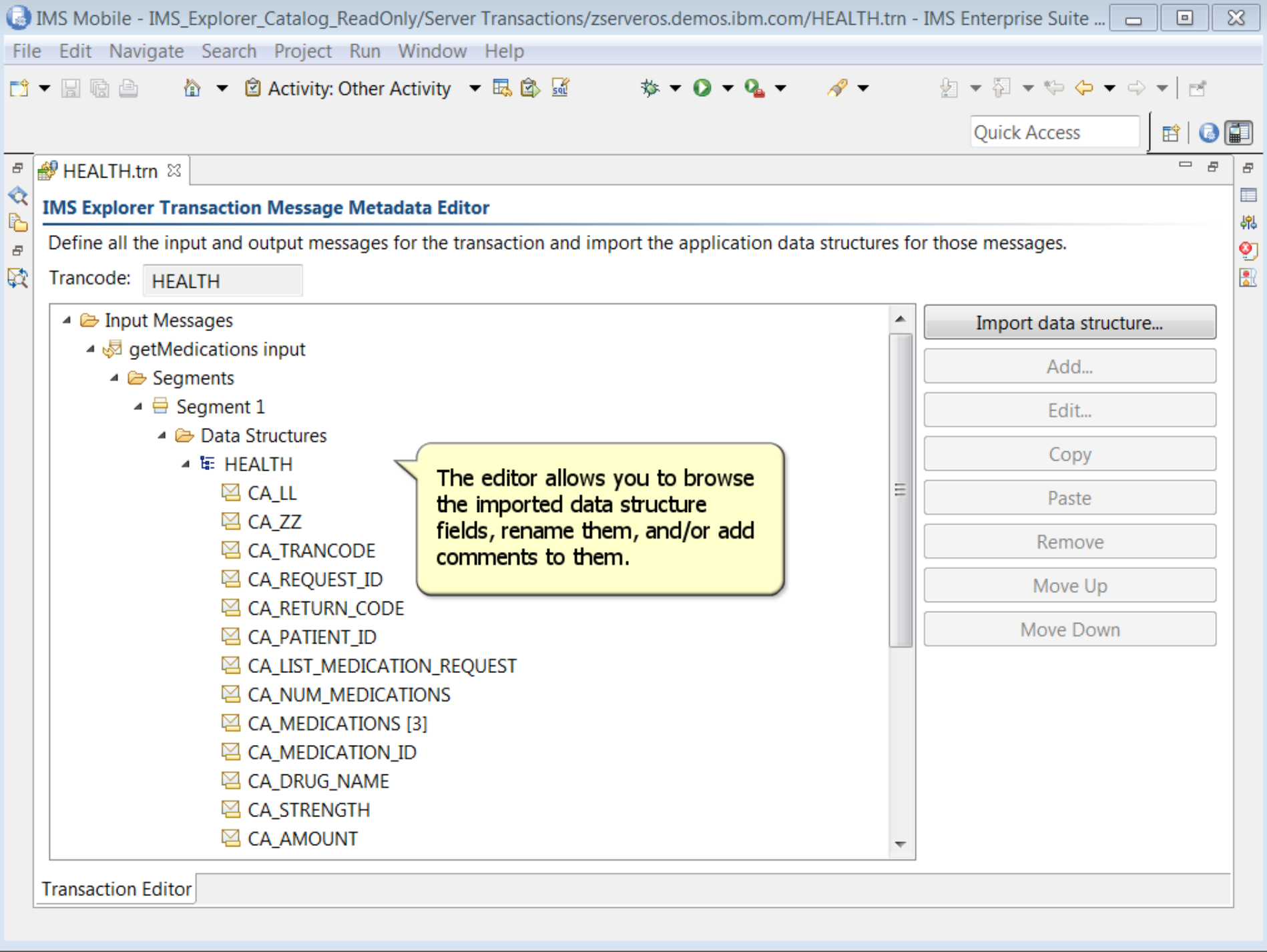

IMS Mobile - IMS Enterprise Suite Explorer
Edit an IMS Mobile Transaction Service
Edit an IMS Mobile Transaction Service
Specify the fields to include in the input and output messages to define the IMS mobile transaction interface.
IMS Input and Output Messages
Input or Output Message
Include in I...
Default Field Value
Field Length
Data Type
getMedications input
Segment 1
getMedications output
Segment 1
Include
Remove
Edit...
The initial input and output JSON is derived from the selected transaction input and output messages. The JSON can be customized here using granular selection of fields, and providing default values.
< Back
Next >
Finish
Cancel


IMS Mobile - IMS Enterprise Suite Explorer
Edit an IMS Mobile Transaction Service
Edit an IMS Mobile Transaction Service
Specify the fields to include in the input and output messages to define the IMS mobile transaction interface.
IMS Input and Output Messages
Input or Output Message
Inc
ue
Field Length
Data Type
Include
Remove
Edit...
getMedications input
Segment 1
HEALTH
CA_LL
CA_ZZ
CA_TRANCODE
HEALTH
CA_REQUEST_ID
INQMED
8
CHAR
CA_RETURN_CODE
2
DECIMAL
CA_PATIENT_ID
10
DECIMAL
CA_LIST_MEDICATION_REQUE
482
STRUCT
CA_NUM_MEDICATIONS
2
DECIMAL
CA_MEDICATIONS
435
ARRAY
CA_MEDICATION_ID
10
DECIMAL
CA_DRUG_NAME
50
CHAR
CA_STRENGTH
20
CHAR
Omitted from the interface.
Omitted from the interface, but a default value will be flowed to IMS.
< Back
Next >
Finish
Cancel


IMS Mobile - IMS Enterprise Suite Explorer
Edit an IMS Mobile Transaction Service
Edit an IMS Mobile Transaction Service
Specify the information to edit an IMS transaction service on a mobile server.
Business Description:
Get current prescribed medications
Documentation of the service is encouraged for later service discovery.
Modified by:
dds3716
Last modified:
2015-02-20 15:17:50.513
Version:
0
< Back
Next >
Finish
Cancel


IMS Mobile - IMS Enterprise Suite Explorer
File Edit Navigate Search Project Run Window Help
Activity: Other Activity
Quick Access
IMS Gateway Navigator
Project Explorer
IMS Gateway Servers
zserveros.demos.ibm.com
IMS Connection profiles
IMS interaction properties profiles
Services
A
addPatientPrescription
CoolPatientDemo
DeleteContact
getMedications
getMyPatient
IMS Transaction Navigator
IMS Gateway Servers
zserveros.demos.ibm.com
Transactions
AMTCRED
CONTACTS
DEBIT
DEPOSIT
HEALTH
IVTNO
IVTNO02
IVTNO03
An IMS transaction resource defines the input and output messages for an IMS transaction.
Properties
Servers
Error Log
Problems
Property
Value


IMS Mobile - IMS_Explorer_Catalog_ReadOnly/Server Transactions/zserveros.demos.ibm.com/HEALTH.trn - IMS Enterprise Suite ...
File Edit Navigate Search Project Run Window Help
Activity: Other Activity
Quick Access
HEALTH.trn
IMS Explorer Transaction Message Metadata Editor
Define all the input and output messages for the transaction and import the application data structures for those messages.
Trancode: HEALTH
For this HEALTH transaction, 3 input messages and 3 output messages are defined. Messages are defined by importing COBOL or PL/I data structures (copybooks).
Input Messages
getMedications input
getPatient input
getThreshold input
Output Messages
getMedications output
getPatient output
getThreshold output
Import data structure...
Add...
Edit...
Copy
Paste
Remove
Move Up
Move Down
Transaction Editor


IMS Mobile - IMS_Explorer_Catalog_ReadOnly/Server Transactions/zserveros.demos.ibm.com/HEALTH.trn - IMS Enterprise Suite ...
File Edit Navigate Search Project Run Window Help
Activity: Other Activity
Quick Access
HEALTH.trn
IMS Explorer Transaction Message Metadata Editor
Define all the input and output messages for the transaction and import the application data structures for those messages.
Trancode: HEALTH
Input Messages
getMedications input
Segments
Segment 1
Data Structures
HEALTH
CA_LL
CA_ZZ
CA_TRANCODE
CA_REQUEST_ID
CA_RETURN_CODE
CA_PATIENT_ID
CA_LIST_MEDICATION_REQUEST
CA_NUM_MEDICATIONS
CA_MEDICATIONS [3]
CA_MEDICATION_ID
CA_DRUG_NAME
CA_STRENGTH
CA_AMOUNT
The editor allows you to browse the imported data structure fields, rename them, and/or add comments to them.
Import data structure...
Add...
Edit...
Copy
Paste
Remove
Move Up
Move Down
Transaction Editor

Author and Test Swagger to Describe z/OS Connect Services as APIs

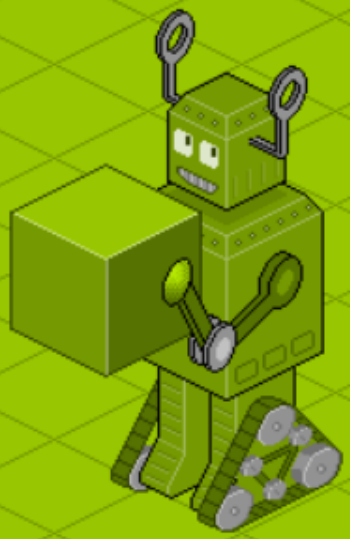
Swagger 2.0

swagger.io

Google

IBM Most Visited

Now that we have a service, how do we share and and manage it?



SWAGGER

The World's Most Popular Framework for APIs.

Swagger 2.0

swagger.io

Google

IBM Most Visited

TOOLS

SWAGGER UI

Use a Swagger specification to drive your API documentation.

Demo and **Download**.

SWAGGER EDITOR

An editor for designing Swagger specifications from scratch, using a simple YAML structure.

Demo and **Source**.

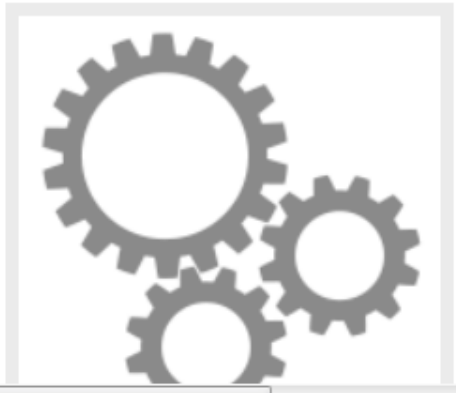
SDK GENERATORS

RESOURCES

Swagger UI allows allows you to browse and test RESTful services that have a swagger definition.

SERVER I

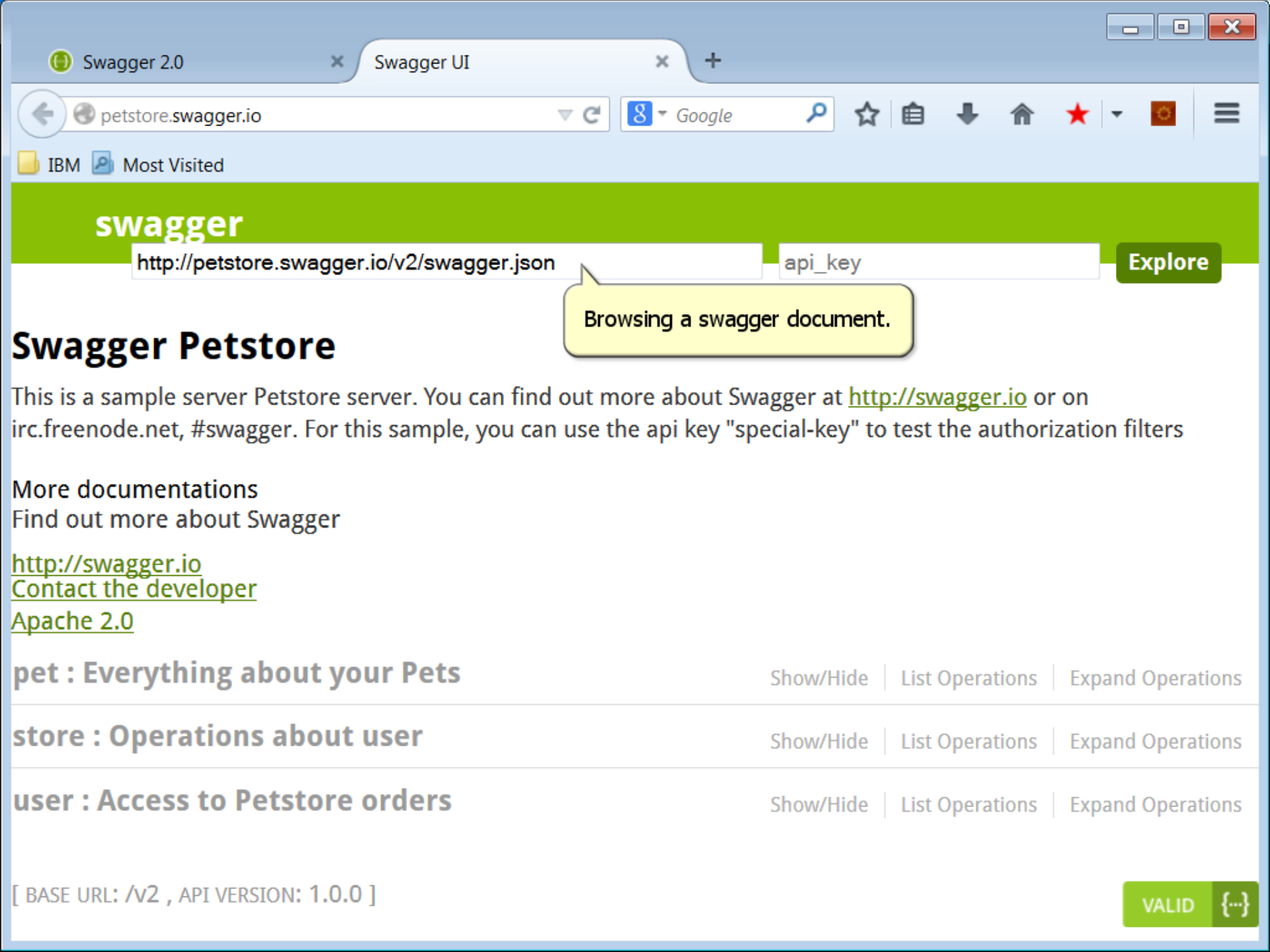
Dozens of
for putting
from both
communit
framewor

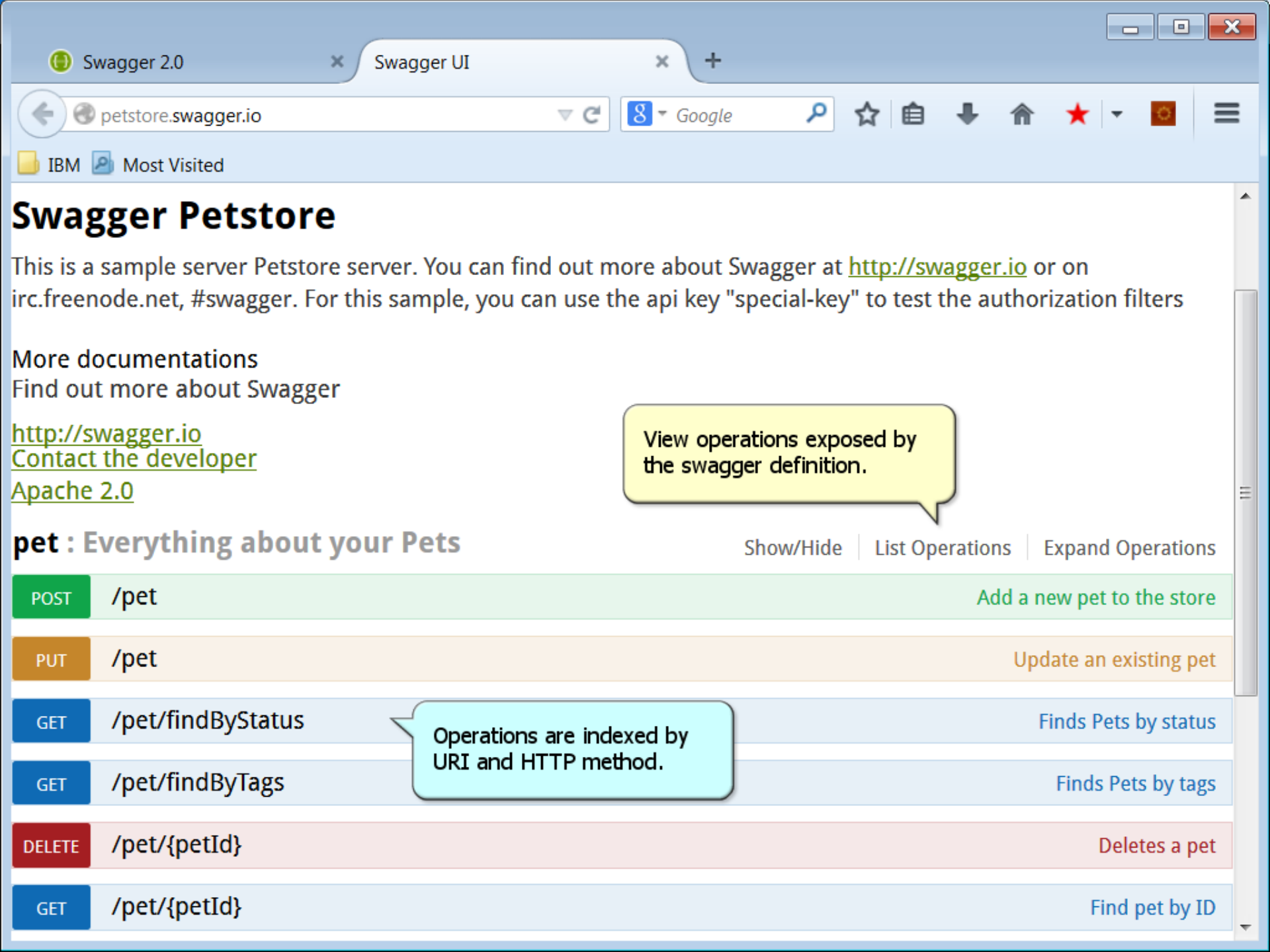


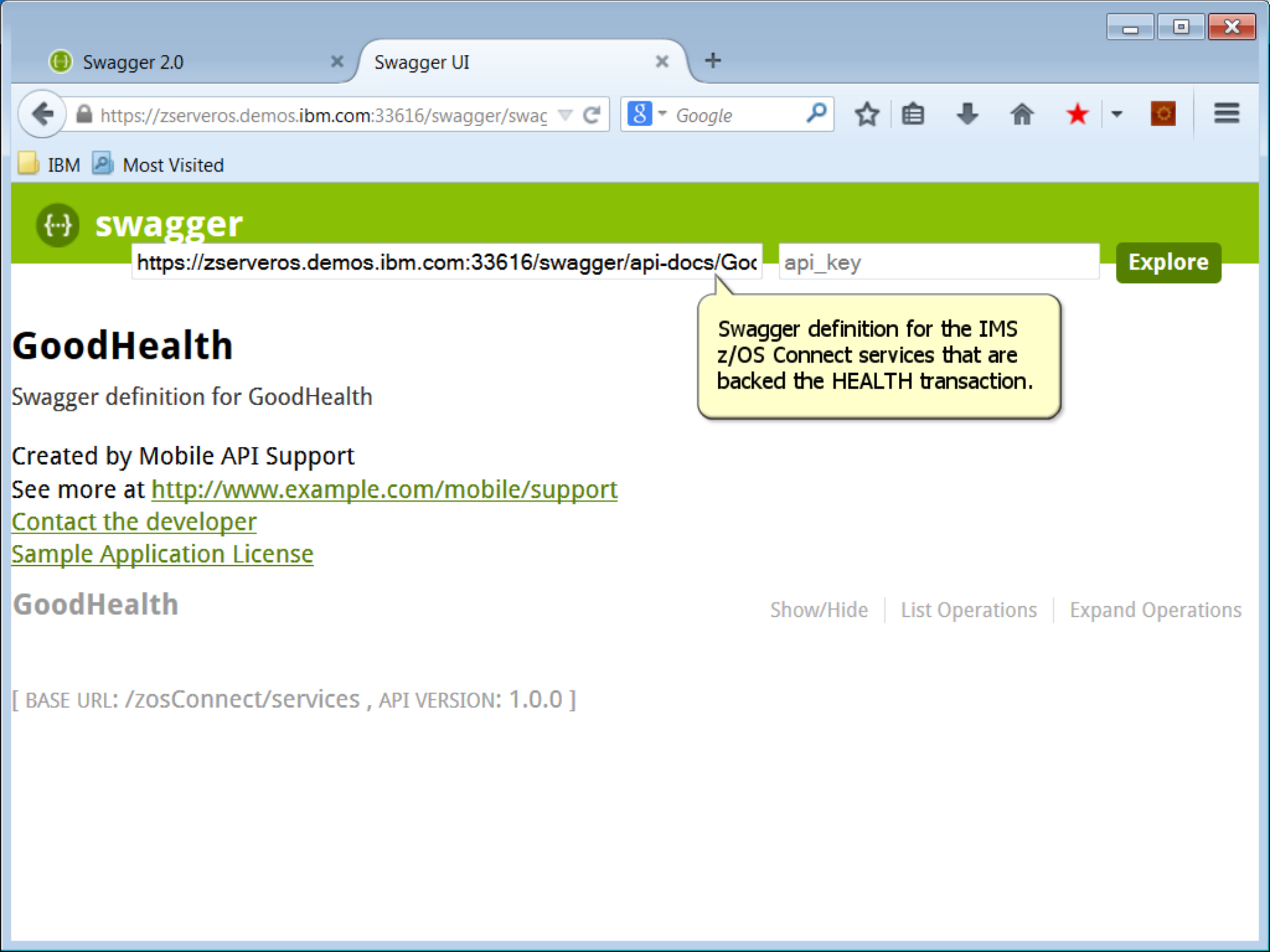
SERVICES

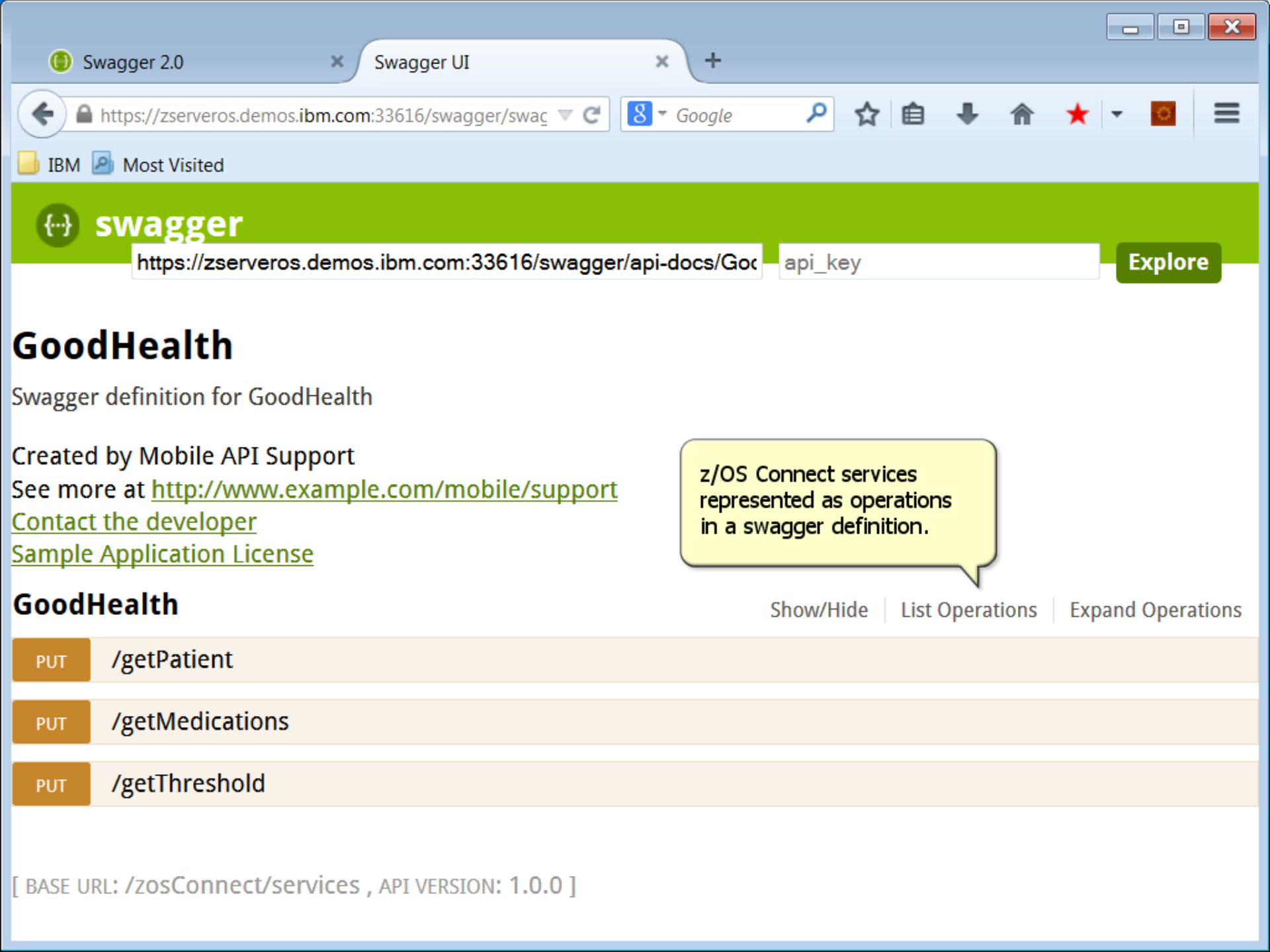
From API
Platform a
a number
integrated

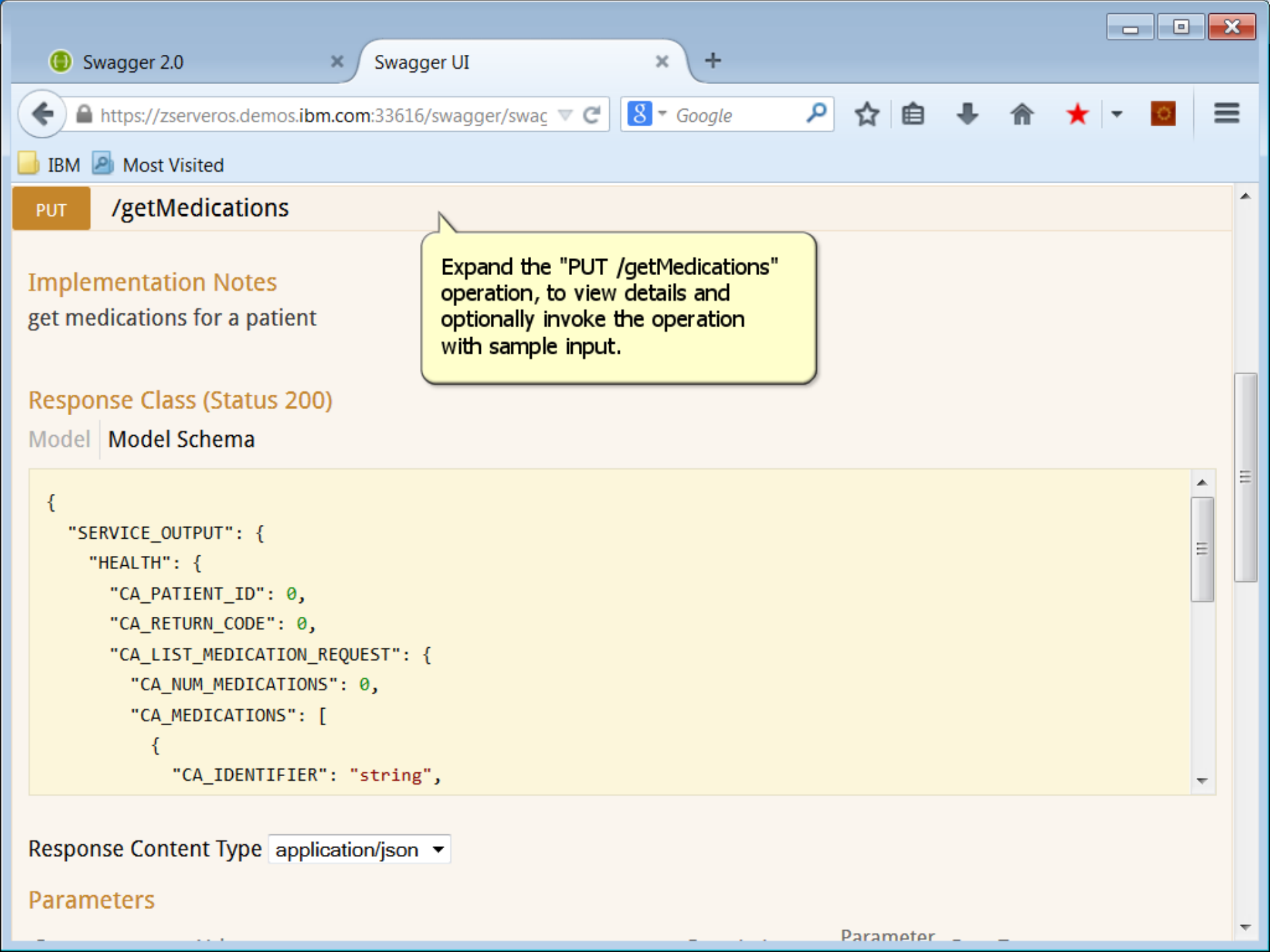
more

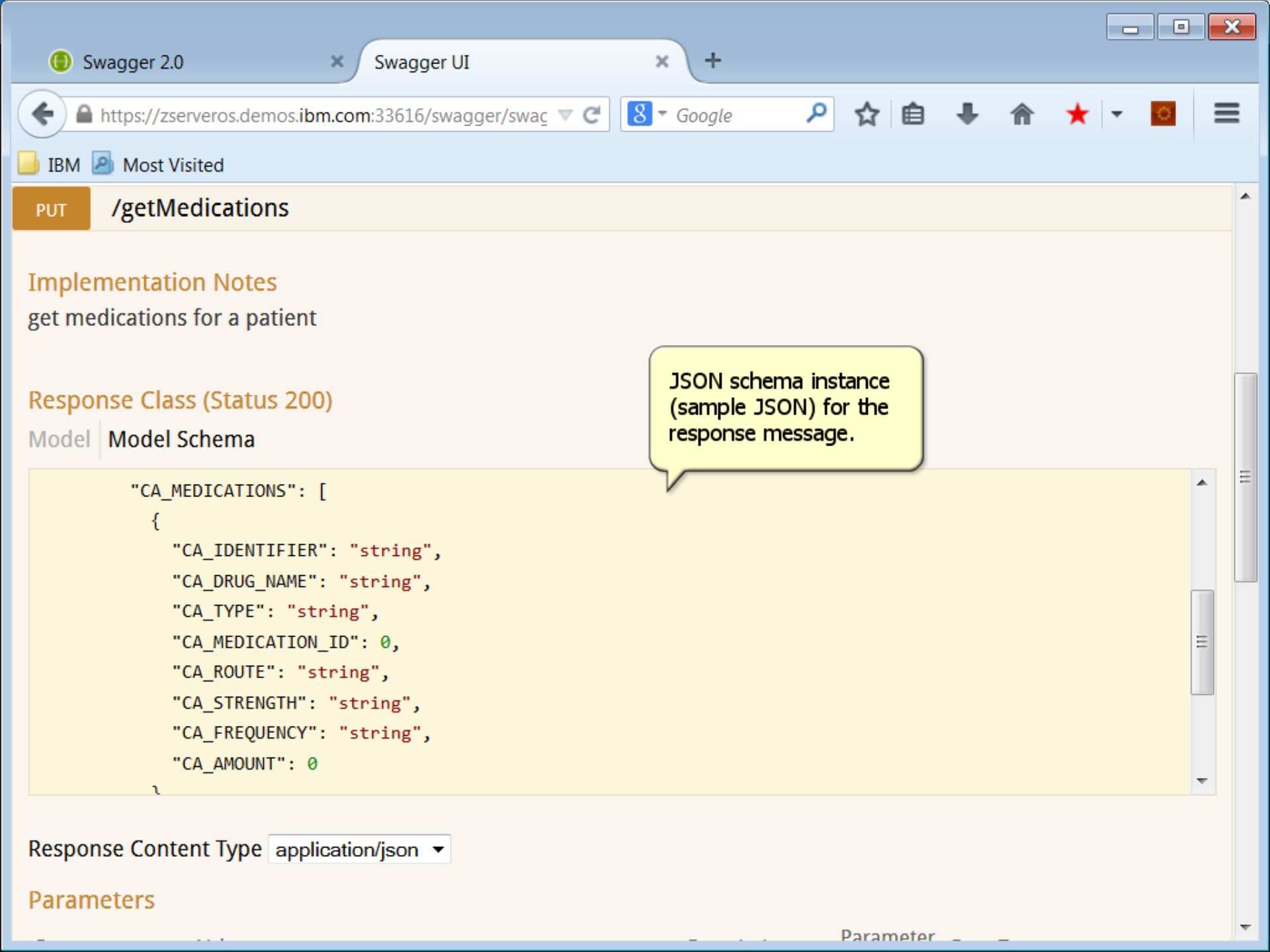

Swagger 2.0
Swagger UI
petstore.swagger.io
Google
IBM
Most Visited
swagger
http://petstore.swagger.io/v2/swagger.json
api_key
Explore
Browsing a swagger document.
Swagger Petstore
This is a sample server Petstore server. You can find out more about Swagger at http://swagger.io or on irc.freenode.net, #swagger. For this sample, you can use the api key "special-key" to test the authorization filters
More documentations
Find out more about Swagger
http://swagger.io
Contact the developer
Apache 2.0
pet : Everything about your Pets
Show/Hide
List Operations
Expand Operations
store : Operations about user
Show/Hide
List Operations
Expand Operations
user : Access to Petstore orders
Show/Hide
List Operations
Expand Operations
[BASE URL: /v2 , API VERSION: 1.0.0]
VALID

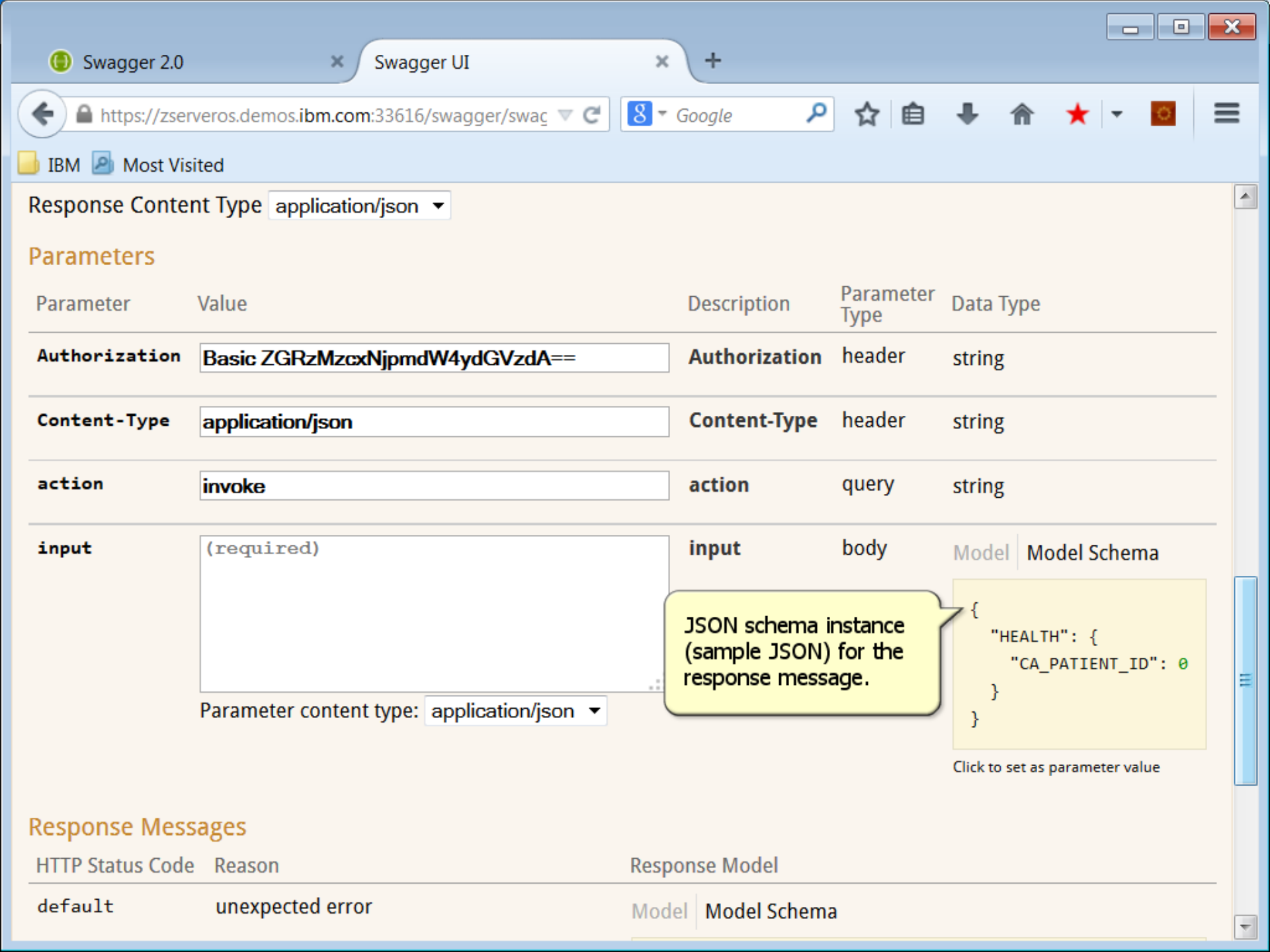

Swagger 2.0
Swagger UI
petstore.swagger.io
Google
IBM
Most Visited
Swagger Petstore
This is a sample server Petstore server. You can find out more about Swagger at http://swagger.io or on irc.freenode.net, #swagger. For this sample, you can use the api key "special-key" to test the authorization filters
More documentations
Find out more about Swagger
http://swagger.io
Contact the developer
Apache 2.0
View operations exposed by the swagger definition.
pet : Everything about your Pets
Show/Hide
List Operations
Expand Operations
POST /pet Add a new pet to the store
PUT /pet Update an existing pet
GET /pet/findByStatus Finds Pets by status
GET /pet/findByTags Finds Pets by tags
DELETE /pet/{petId} Deletes a pet
GET /pet/{petId} Find pet by ID
Operations are indexed by URI and HTTP method.

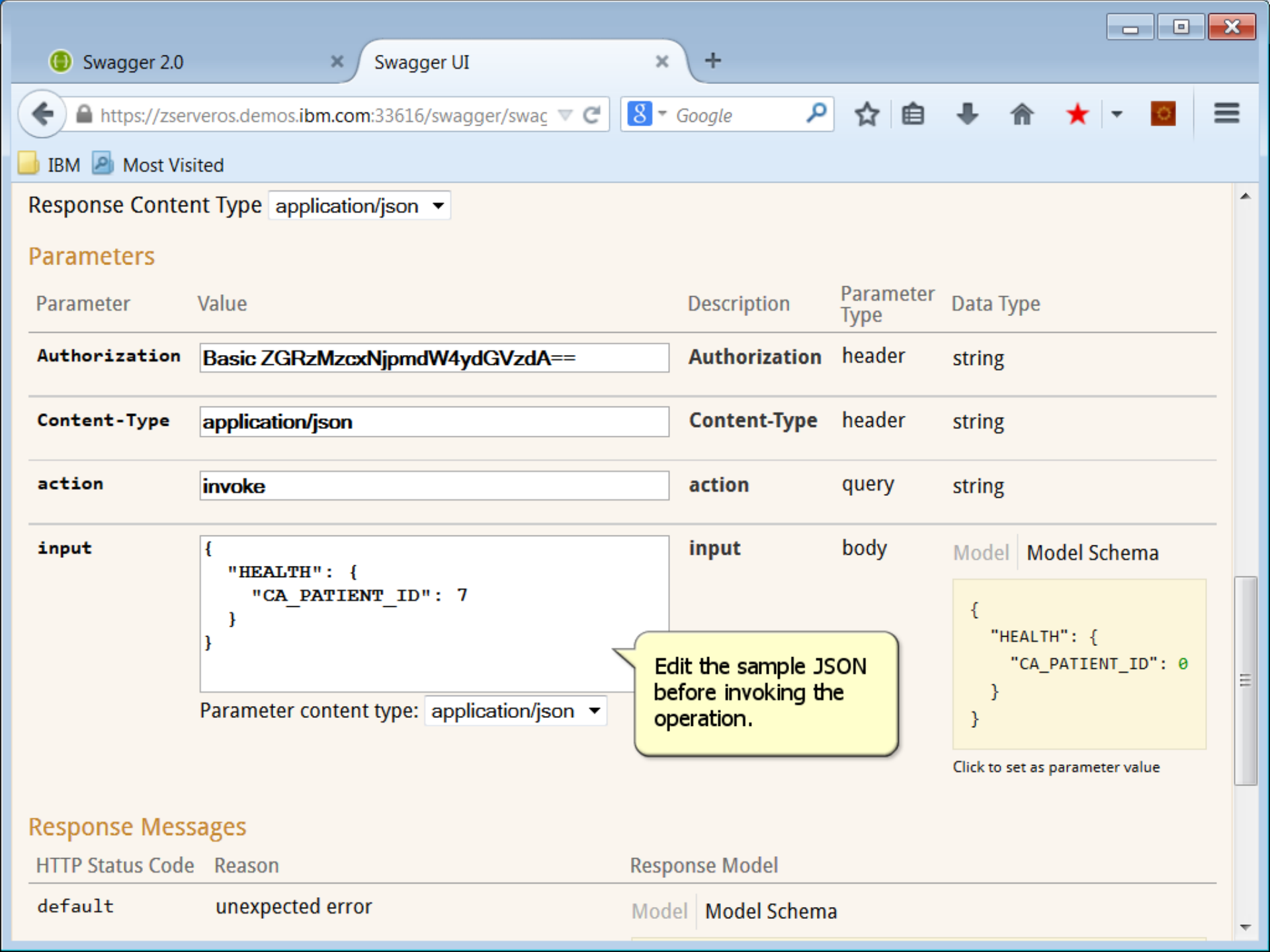

Swagger 2.0
Swagger UI
https://zserveros.demos.ibm.com:33616/swagger/swac
Google
IBM
Most Visited
swagger
https://zserveros.demos.ibm.com:33616/swagger/api-docs/Goc
api_key
Explore
Swagger definition for the IMS z/OS Connect services that are backed the HEALTH transaction.
GoodHealth
Swagger definition for GoodHealth
Created by Mobile API Support
See more at http://www.example.com/mobile/support
Contact the developer
Sample Application License
GoodHealth
Show/Hide
List Operations
Expand Operations
[BASE URL: /zosConnect/services , API VERSION: 1.0.0]

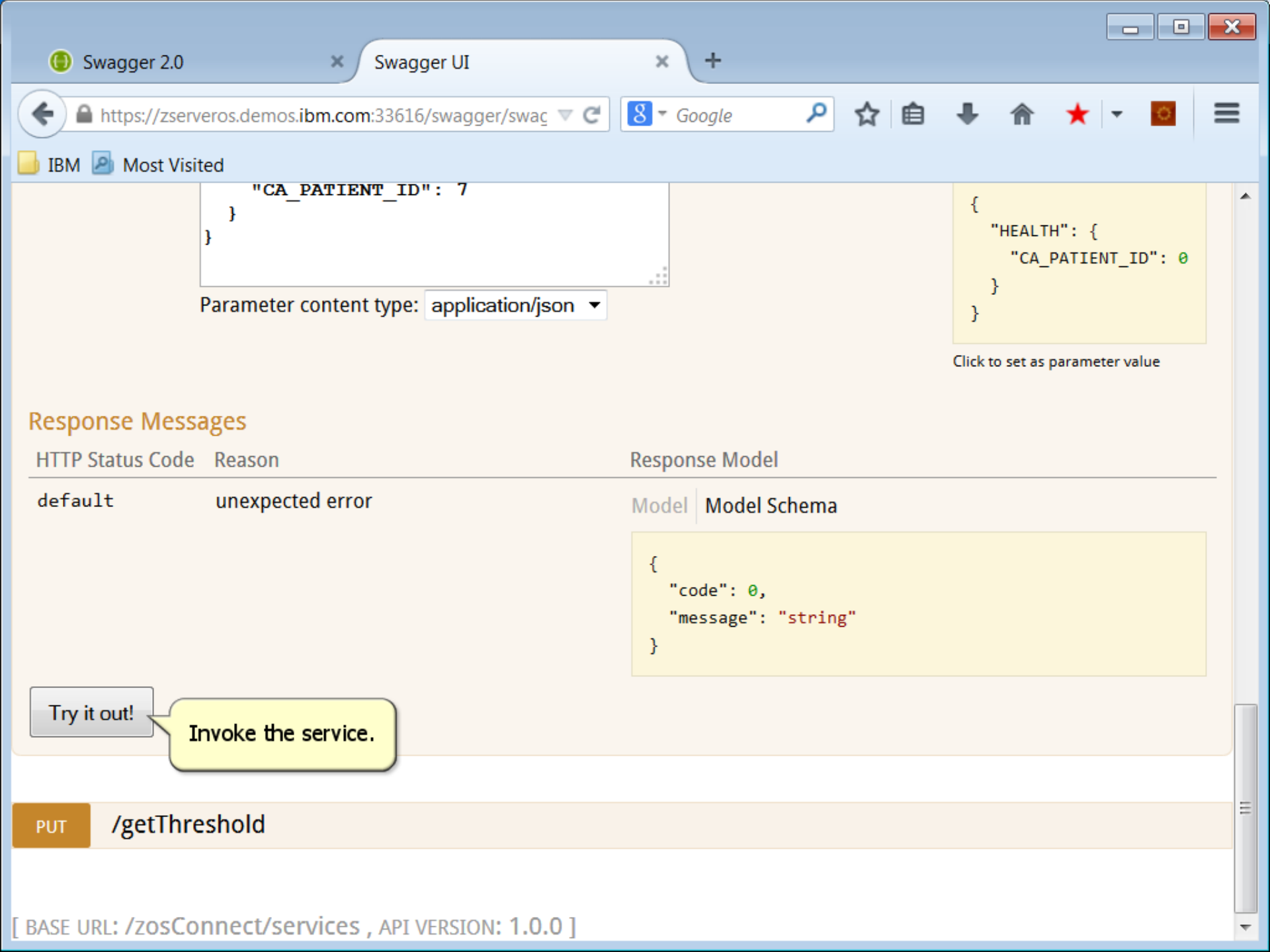

Swagger 2.0
Swagger UI
https://zserveros.demos.ibm.com:33616/swagger/swag
Google
IBM
Most Visited
swagger
https://zserveros.demos.ibm.com:33616/swagger/api-docs/Goc
api_key
Explore
GoodHealth
Swagger definition for GoodHealth
Created by Mobile API Support
See more at http://www.example.com/mobile/support
Contact the developer
Sample Application License
z/OS Connect services represented as operations in a swagger definition.
GoodHealth
Show/Hide
List Operations
Expand Operations
PUT
/getPatient
PUT
/getMedications
PUT
/getThreshold
[BASE URL: /zosConnect/services , API VERSION: 1.0.0]

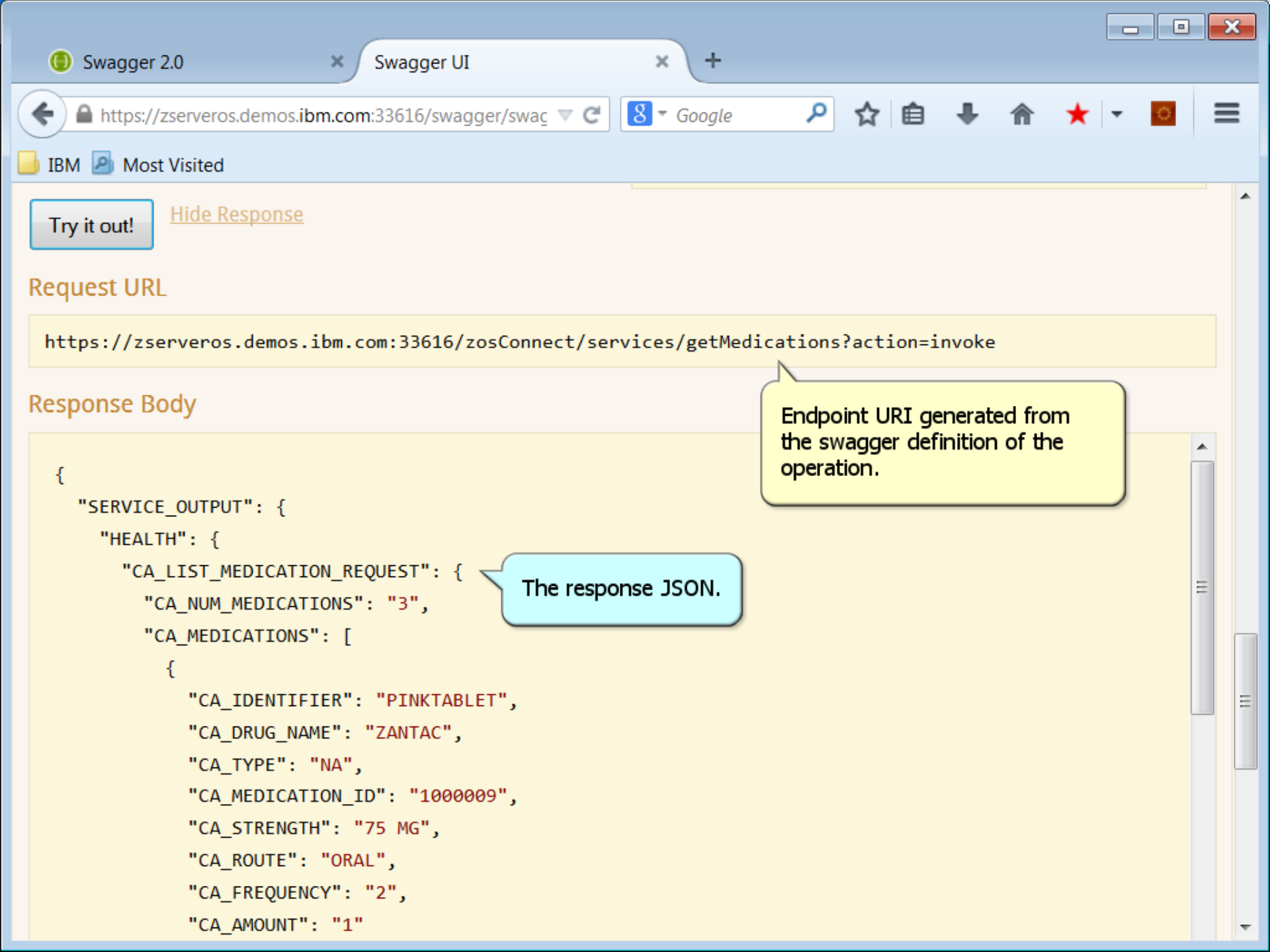

Swagger 2.0
Swagger UI
https://zserveros.demos.ibm.com:33616/swagger/swac
Google
IBM
Most Visited
PUT
/getMedications
Expand the "PUT /getMedications" operation, to view details and optionally invoke the operation with sample input.
Implementation Notes
get medications for a patient
Response Class (Status 200)
Model
Model Schema
{
"SERVICE_OUTPUT": {
"HEALTH": {
"CA_PATIENT_ID": 0,
"CA_RETURN_CODE": 0,
"CA_LIST_MEDICATION_REQUEST": {
"CA_NUM_MEDICATIONS": 0,
"CA_MEDICATIONS": [
{
"CA_IDENTIFIER": "string",
Response Content Type
application/json
Parameters


Swagger 2.0
Swagger UI
https://zserveros.demos.ibm.com:33616/swagger/swac
Google
IBM
Most Visited
PUT
/getMedications
Implementation Notes
get medications for a patient
JSON schema instance (sample JSON) for the response message.
Response Class (Status 200)
Model
Model Schema
"CA_MEDICATIONS": [
{
"CA_IDENTIFIER": "string",
"CA_DRUG_NAME": "string",
"CA_TYPE": "string",
"CA_MEDICATION_ID": 0,
"CA_ROUTE": "string",
"CA_STRENGTH": "string",
"CA_FREQUENCY": "string",
"CA_AMOUNT": 0
Response Content Type
application/json
Parameters


Swagger 2.0
Swagger UI
https://zserveros.demos.ibm.com:33616/swagger/swac
Google
IBM
Most Visited
Response Content Type application/json
Parameters
Parameter
Value
Description
Parameter Type
Data Type
Authorization
Basic ZGRzMzcxNjpmdW4ydGVzdA==
Authorization
header
string
Content-Type
application/json
Content-Type
header
string
action
invoke
action
query
string
input
(required)
input
body
Model
Model Schema
{
"HEALTH": {
"CA_PATIENT_ID": 0
}
}
JSON schema instance (sample JSON) for the response message.
Parameter content type: application/json
Click to set as parameter value
Response Messages
HTTP Status Code
Reason
Response Model
default
unexpected error
Model
Model Schema


Swagger 2.0
Swagger UI
https://zserveros.demos.ibm.com:33616/swagger/swac
Google
IBM
Most Visited
Response Content Type application/json
Parameters
Parameter
Value
Description
Parameter Type
Data Type
Authorization
Basic ZGRzMzcxNjpmdW4ydGVzdA==
Authorization
header
string
Content-Type
application/json
Content-Type
header
string
action
invoke
action
query
string
input
{
"HEALTH": {
"CA_PATIENT_ID": 7
}
}
input
body
Model
Model Schema
{
"HEALTH": {
"CA_PATIENT_ID": 0
}
}
Click to set as parameter value
Parameter content type: application/json
Edit the sample JSON before invoking the operation.
Response Messages
HTTP Status Code
Reason
Response Model
default
unexpected error
Model
Model Schema


Swagger 2.0
Swagger UI
https://zserveros.demos.ibm.com:33616/swagger/swac
Google
IBM
Most Visited
"CA_PATIENT_ID": 7
}
}
Parameter content type: application/json
{
"HEALTH": {
"CA_PATIENT_ID": 0
}
}
Click to set as parameter value
Response Messages
HTTP Status Code
Reason
Response Model
default
unexpected error
Model
Model Schema
{
"code": 0,
"message": "string"
}
Try it out!
Invoke the service.
PUT
/getThreshold
[BASE URL: /zosConnect/services , API VERSION: 1.0.0]


Swagger 2.0
Swagger UI
https://zserveros.demos.ibm.com:33616/swagger/swac
Google
IBM
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Try it out!
Hide Response
Request URL
https://zserveros.demos.ibm.com:33616/zosConnect/services/getMedications?action=invoke
Response Body
Endpoint URI generated from the swagger definition of the operation.
The response JSON.
{
"SERVICE_OUTPUT": {
"HEALTH": {
"CA_LIST_MEDICATION_REQUEST": {
"CA_NUM_MEDICATIONS": "3",
"CA_MEDICATIONS": [
{
"CA_IDENTIFIER": "PINKTABLET",
"CA_DRUG_NAME": "ZANTAC",
"CA_TYPE": "NA",
"CA_MEDICATION_ID": "1000009",
"CA_STRENGTH": "75 MG",
"CA_ROUTE": "ORAL",
"CA_FREQUENCY": "2",
"CA_AMOUNT": "1"

Swagger 2.0

swagger.io

Google

IBM Most Visited

TOOLS

SWAGGER UI

Use a Swagger specification to drive your API documentation.

Demo and **Download**.

SWAGGER EDITOR

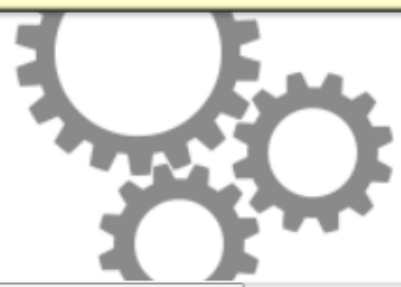
An editor for designing Swagger specifications from scratch, using a simple YAML structure.

Demo and **Source**.

SDK GENERATORS

RESOURCES

Swagger Editor is an online, validating editor for swagger resource definitions. Generation of client or server code is also supported.



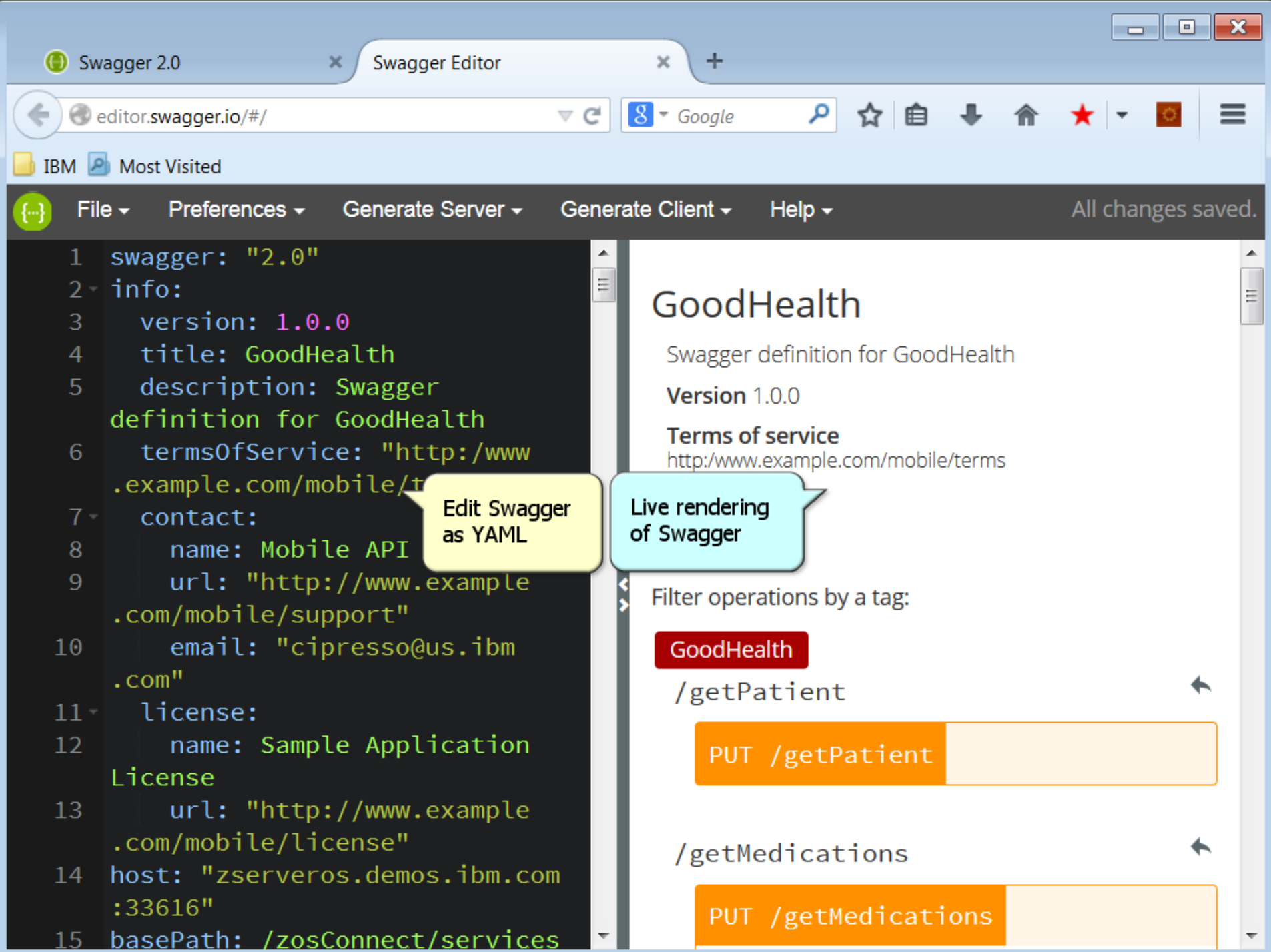
SERVER I

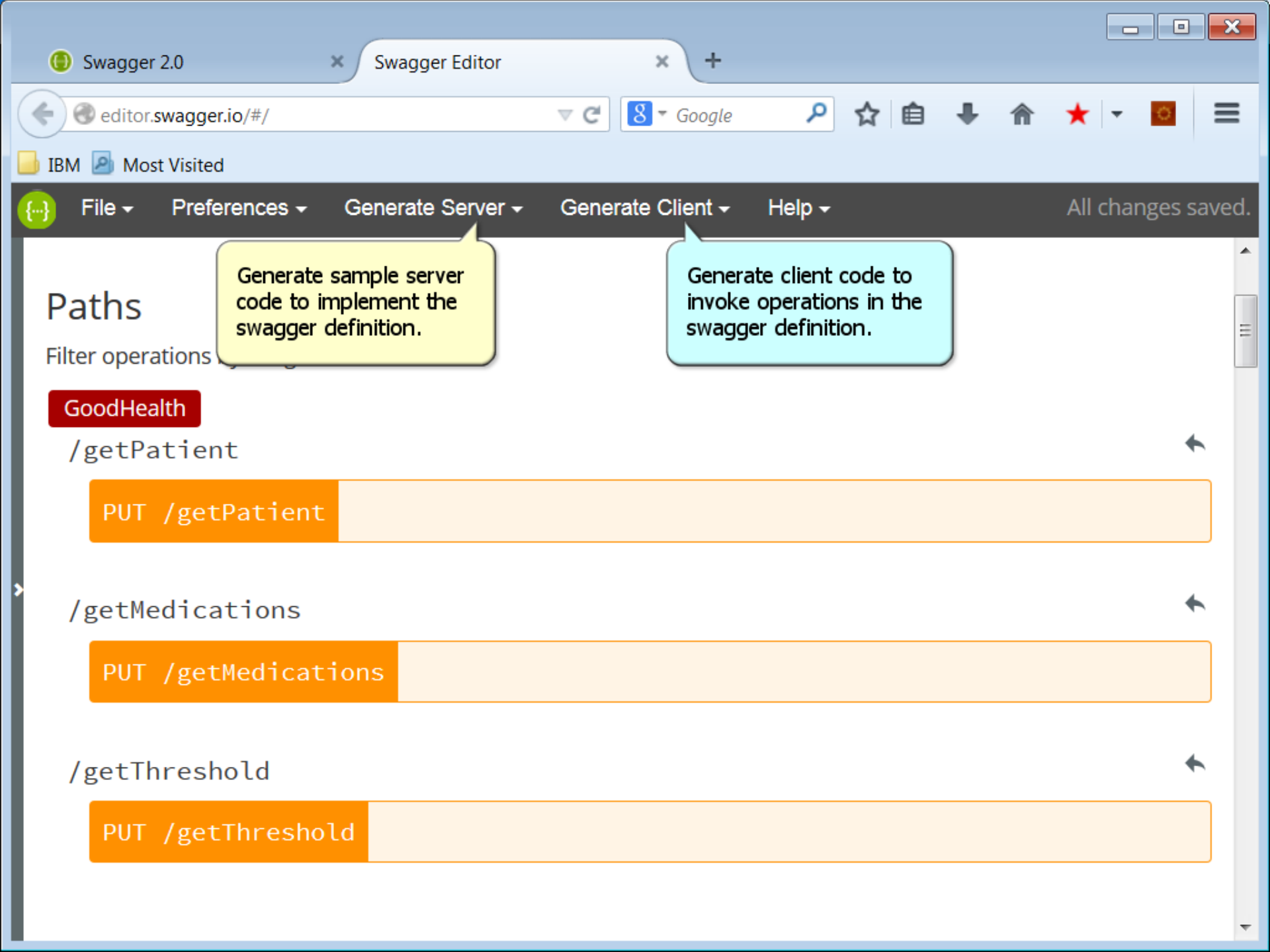
Dozens of
for putting
from both
communit
framewor

SERVICES

From API
Platform a
a number
integrated

more


Swagger 2.0
Swagger Editor
editor.swagger.io/#/
Google
IBM
Most Visited
File
Preferences
Generate Server
Generate Client
Help
All changes saved.
swagger: "2.0"
info:
version: 1.0.0
title: GoodHealth
description: Swagger definition for GoodHealth
termsOfService: "http:/www.example.com/mobile/t
contact:
name: Mobile API
url: "http://www.example.com/mobile/support"
email: "cipresso@us.ibm.com"
license:
name: Sample Application License
url: "http://www.example.com/mobile/license"
host: "zserveros.demos.ibm.com:33616"
basePath: /zosConnect/services
Edit Swagger as YAML
Live rendering of Swagger
GoodHealth
Swagger definition for GoodHealth
Version 1.0.0
Terms of service
http:/www.example.com/mobile/terms
Filter operations by a tag:
GoodHealth
/getPatient
PUT /getPatient
/getMedications
PUT /getMedications


Swagger 2.0
Swagger Editor
editor.swagger.io/#/
Google
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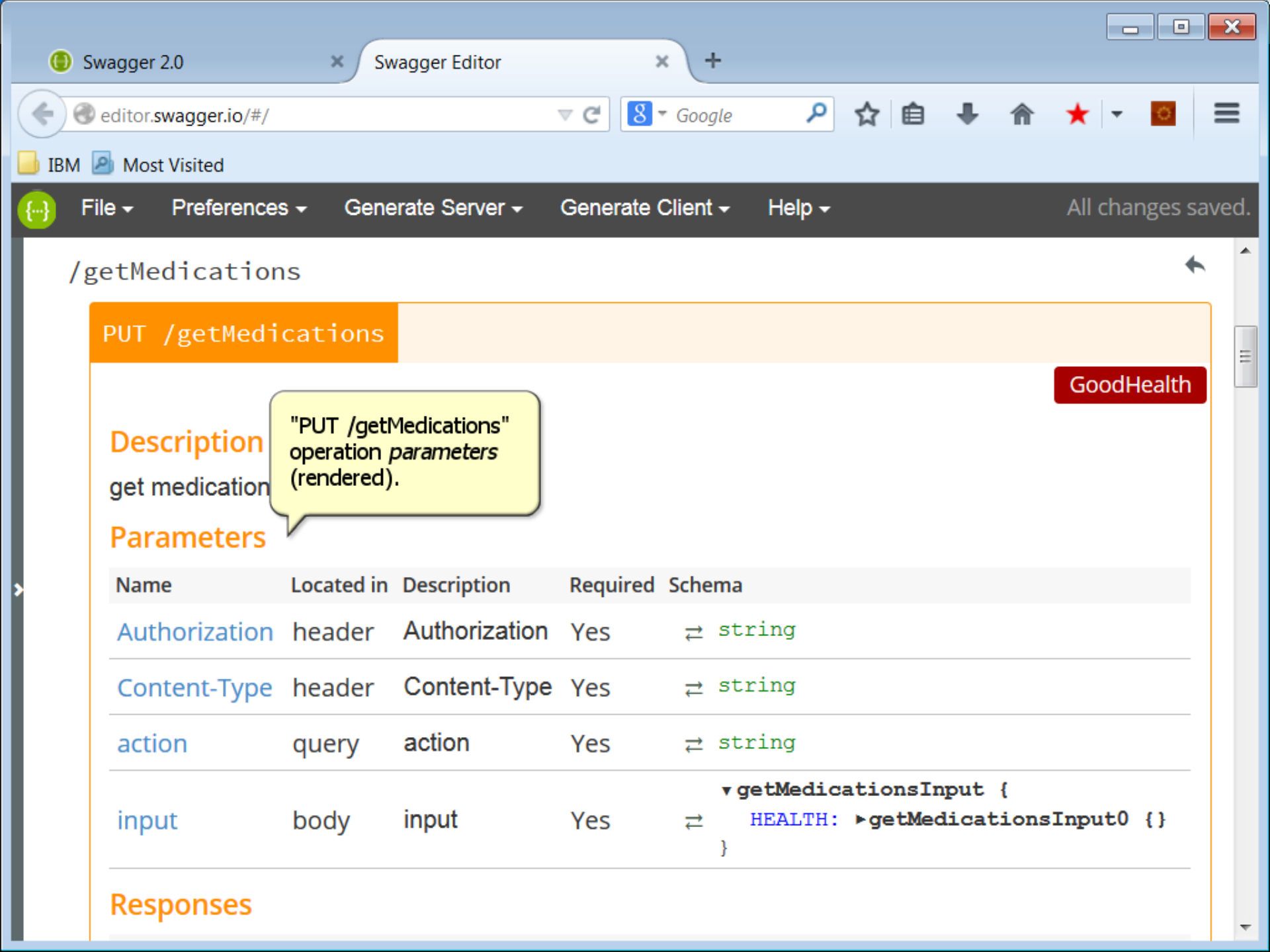
File
Preferences
Generate Server
Generate Client
Help
All changes saved.
Generate sample server code to implement the swagger definition.
Generate client code to invoke operations in the swagger definition.
Paths
Filter operations
GoodHealth
/getPatient
PUT /getPatient
/getMedications
PUT /getMedications
/getThreshold
PUT /getThreshold


Swagger 2.0
Swagger Editor
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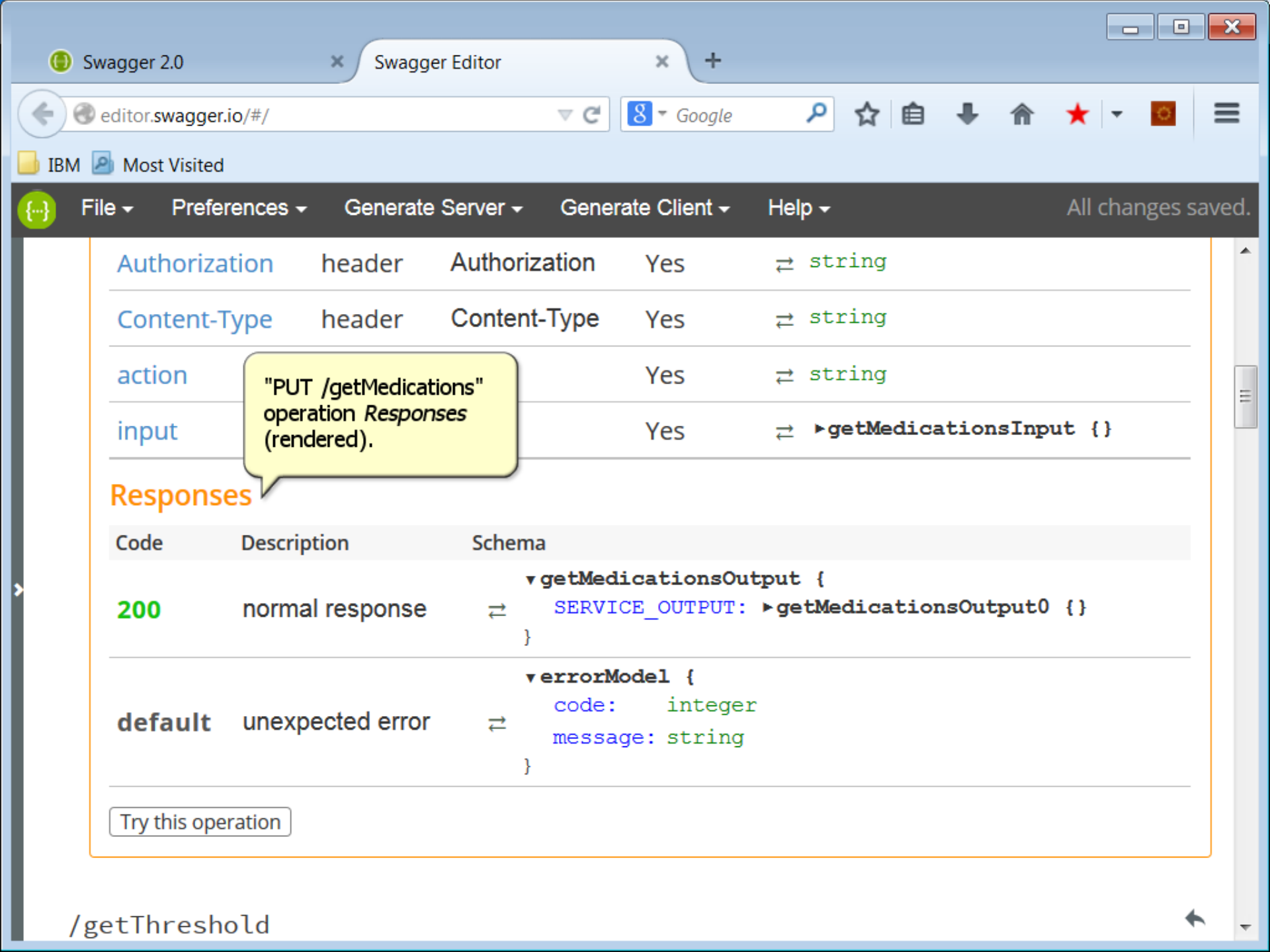
File
Preferences
Generate Server
Generate Client
Help
All changes saved.
/getMedications
PUT /getMedications
GoodHealth
Description
get medication
"PUT /getMedications" operation parameters (rendered).
Parameters
Name
Located in
Description
Required
Schema
Authorization
header
Authorization
Yes
string
Content-Type
header
Content-Type
Yes
string
action
query
action
Yes
string
input
body
input
Yes
getMedicationsInput {
HEALTH: getMedicationsInput0 {}
}
Responses


Swagger 2.0
Swagger Editor
editor.swagger.io/#/
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IBM
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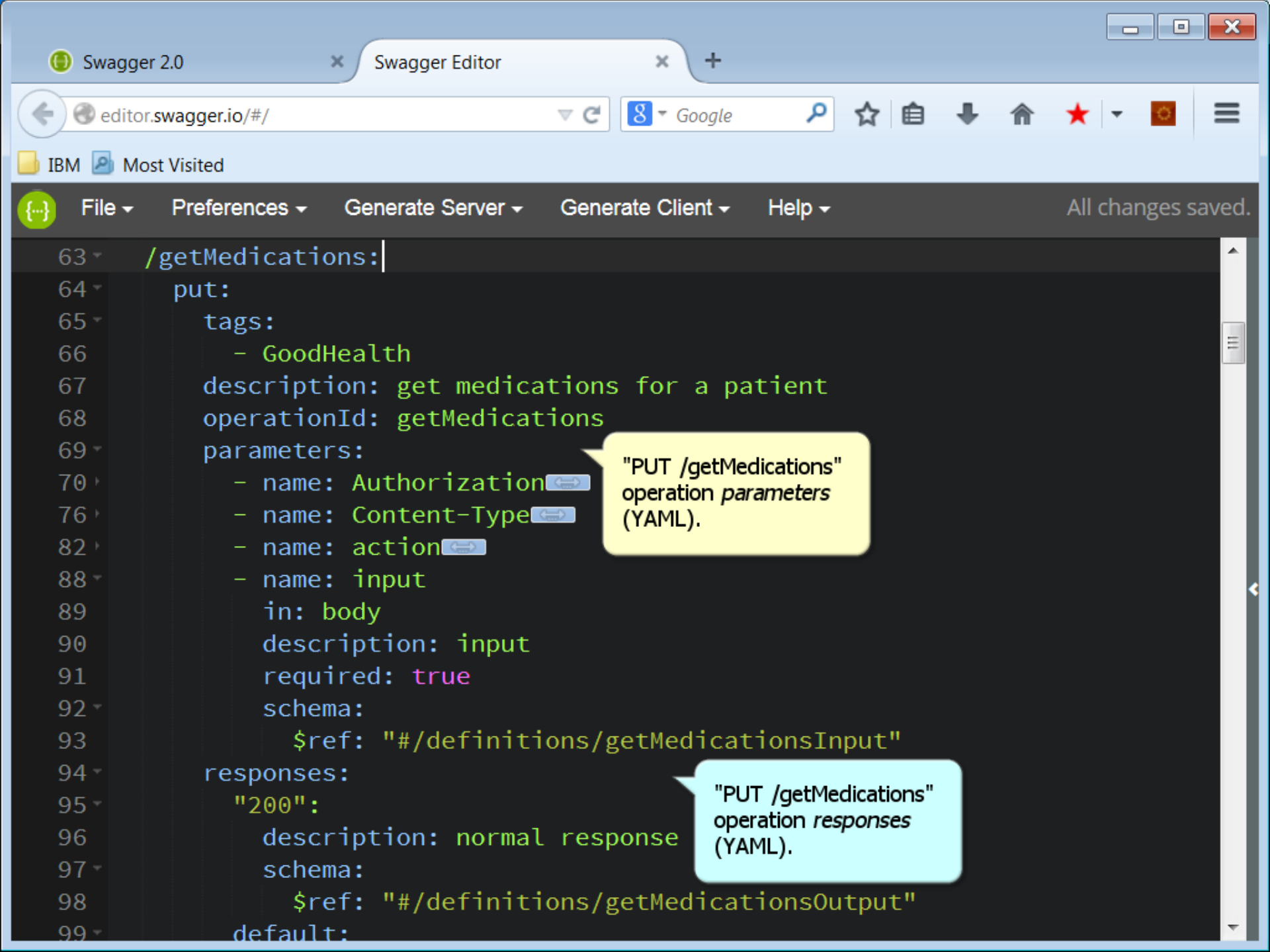
File
Preferences
Generate Server
Generate Client
Help
All changes saved.
Authorization header Authorization Yes ⇄ string
Content-Type header Content-Type Yes ⇄ string
action Yes ⇄ string
input Yes ⇄ ▸getMedicationsInput {}
"PUT /getMedications" operation *Responses* (rendered).
Responses
Code Description Schema
200 normal response ⇄
▾getMedicationsOutput {
SERVICE_OUTPUT: ▸getMedicationsOutput0 {}
}
default unexpected error ⇄
▾errorModel {
code: integer
message: string
}
Try this operation
/getThreshold


Swagger 2.0
Swagger Editor
editor.swagger.io/#/
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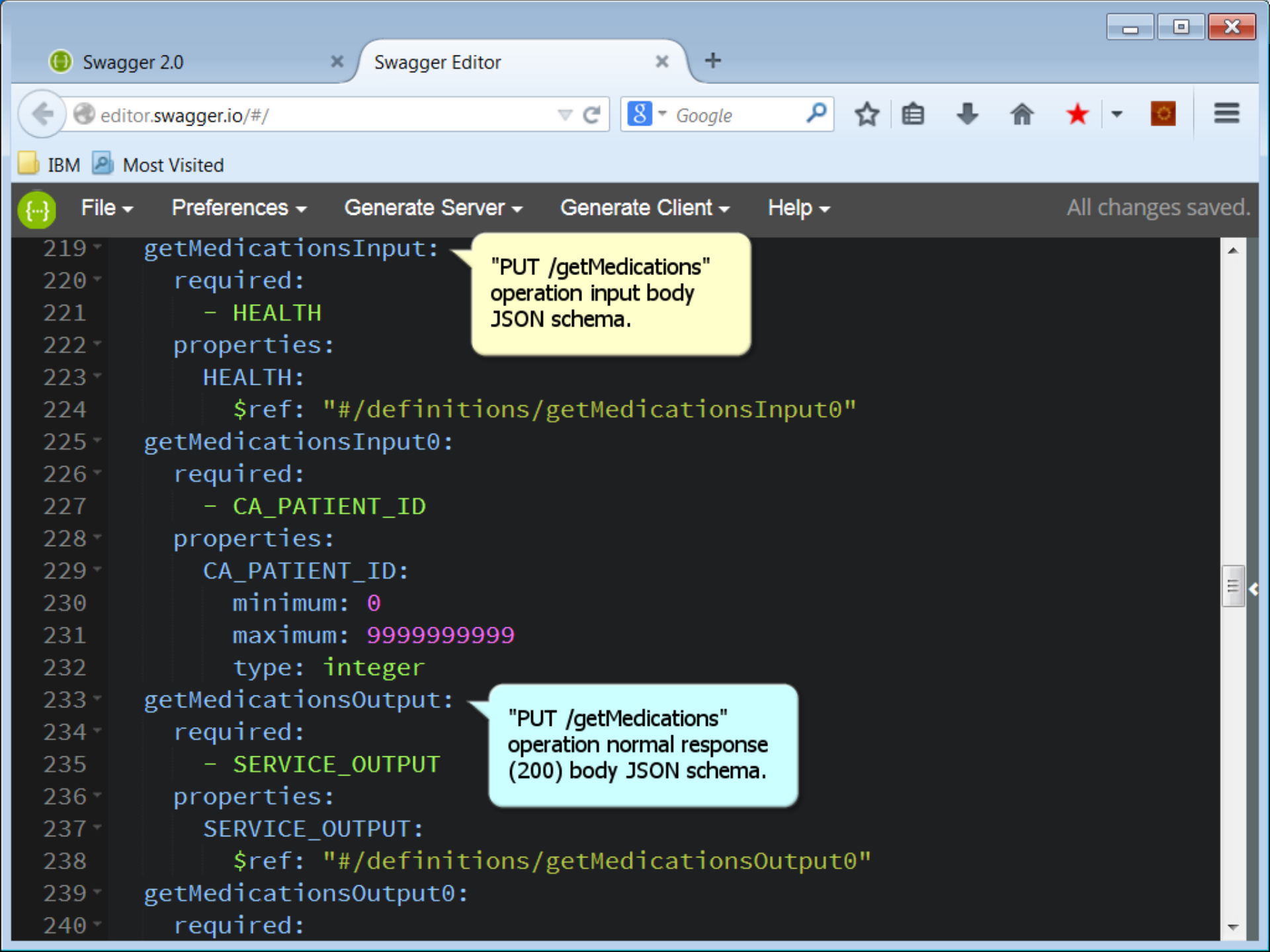
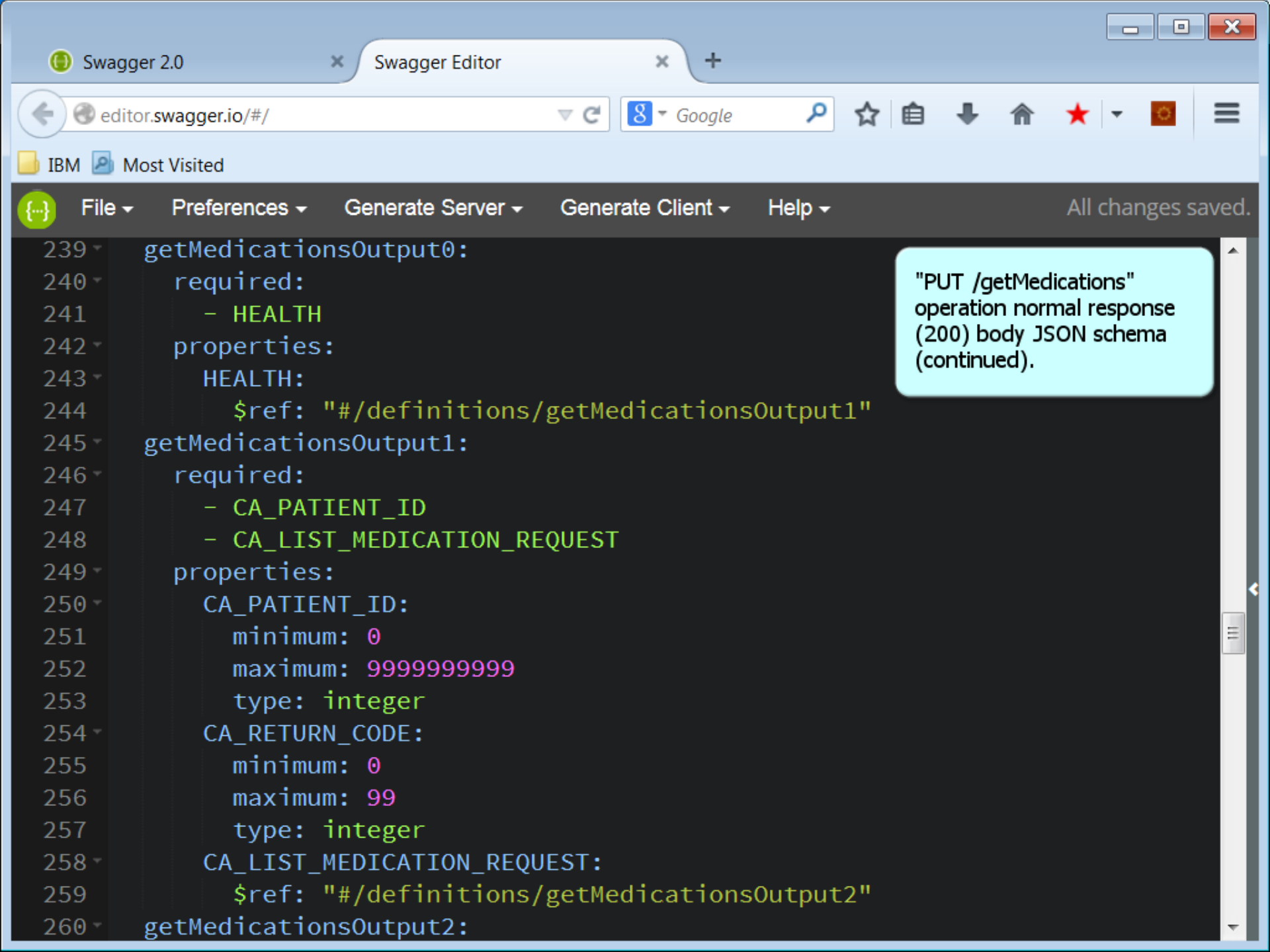
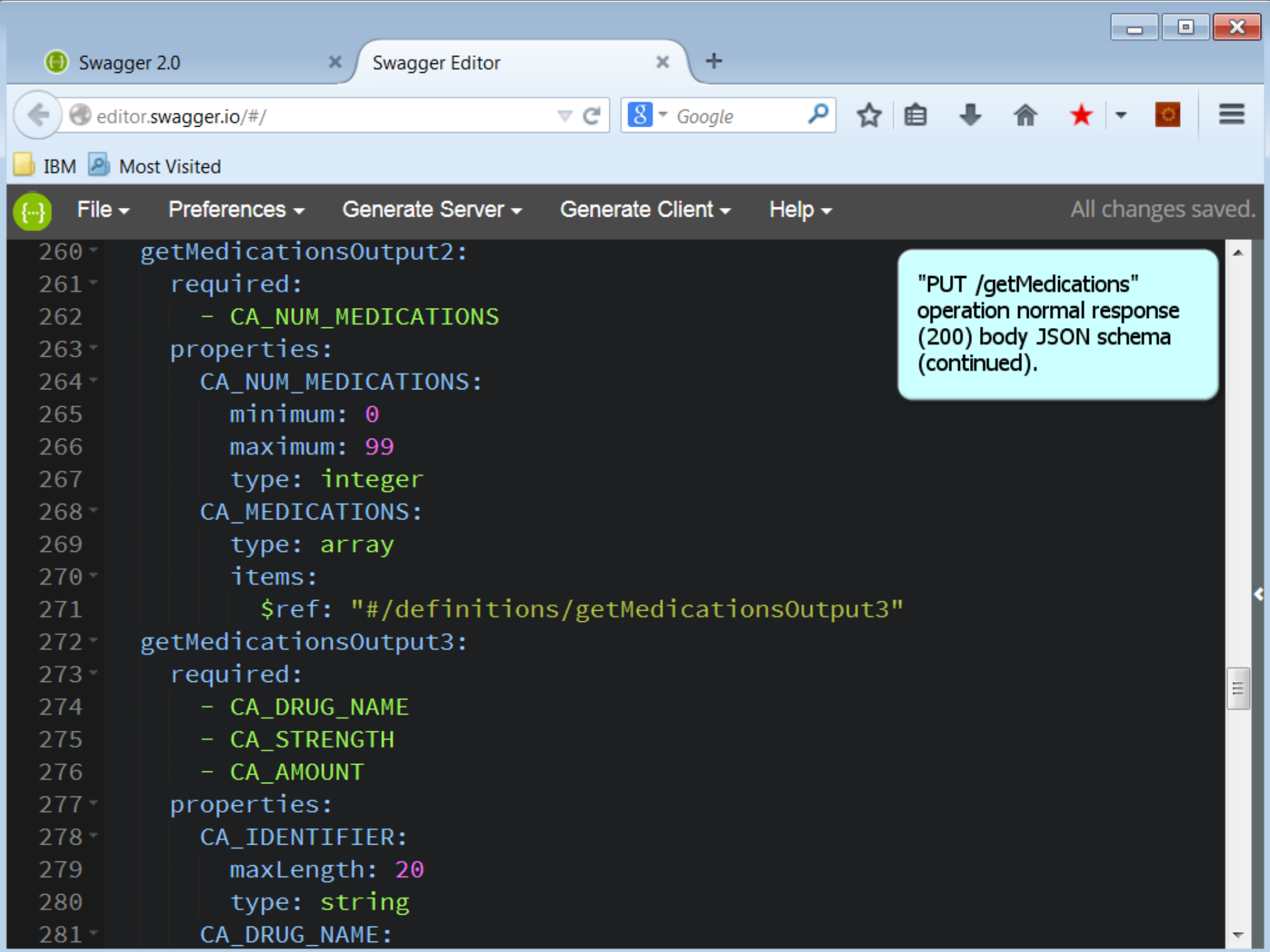
File
Preferences
Generate Server
Generate Client
Help
All changes saved.
/getMedications:
put:
tags:
- GoodHealth
description: get medications for a patient
operationId: getMedications
parameters:
- name: Authorization
- name: Content-Type
- name: action
- name: input
in: body
description: input
required: true
schema:
$ref: "#/definitions/getMedicationsInput"
responses:
"200":
description: normal response
schema:
$ref: "#/definitions/getMedicationsOutput"
default:
"PUT /getMedications" operation parameters (YAML).
"PUT /getMedications" operation responses (YAML).




```
getMedicationsInput:
  required:
    - HEALTH
  properties:
    HEALTH:
      $ref: "#/definitions/getMedicationsInput0"
getMedicationsInput0:
  required:
    - CA_PATIENT_ID
  properties:
    CA_PATIENT_ID:
      minimum: 0
      maximum: 9999999999
      type: integer
getMedicationsOutput:
  required:
    - SERVICE_OUTPUT
  properties:
    SERVICE_OUTPUT:
      $ref: "#/definitions/getMedicationsOutput0"
getMedicationsOutput0:
  required:
```




```
getMedicationsOutput0:
  required:
    - HEALTH
  properties:
    HEALTH:
      $ref: "#/definitions/getMedicationsOutput1"
getMedicationsOutput1:
  required:
    - CA_PATIENT_ID
    - CA_LIST_MEDICATION_REQUEST
  properties:
    CA_PATIENT_ID:
      minimum: 0
      maximum: 9999999999
      type: integer
    CA_RETURN_CODE:
      minimum: 0
      maximum: 99
      type: integer
    CA_LIST_MEDICATION_REQUEST:
      $ref: "#/definitions/getMedicationsOutput2"
getMedicationsOutput2:
```


Swagger 2.0
Swagger Editor
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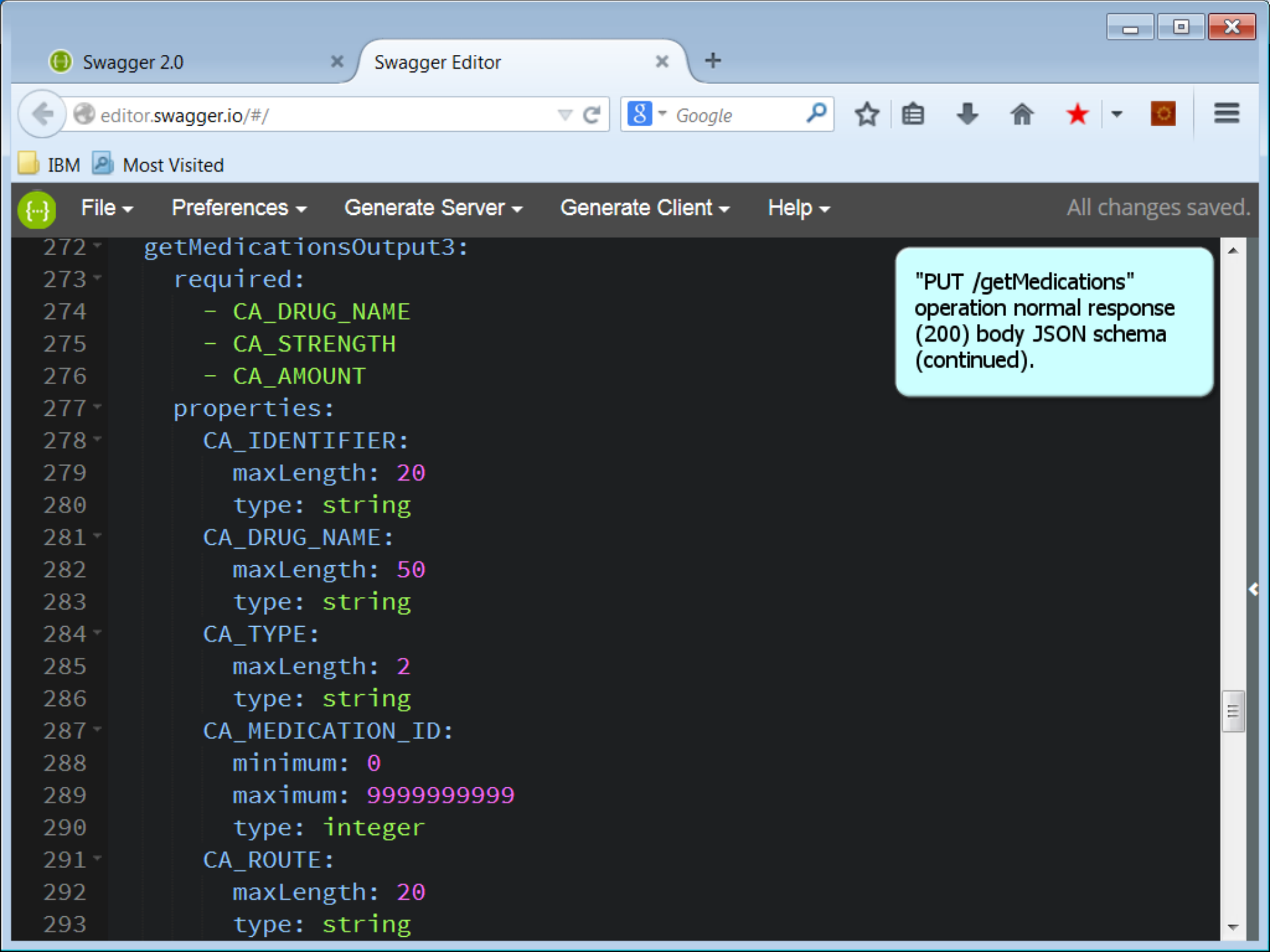
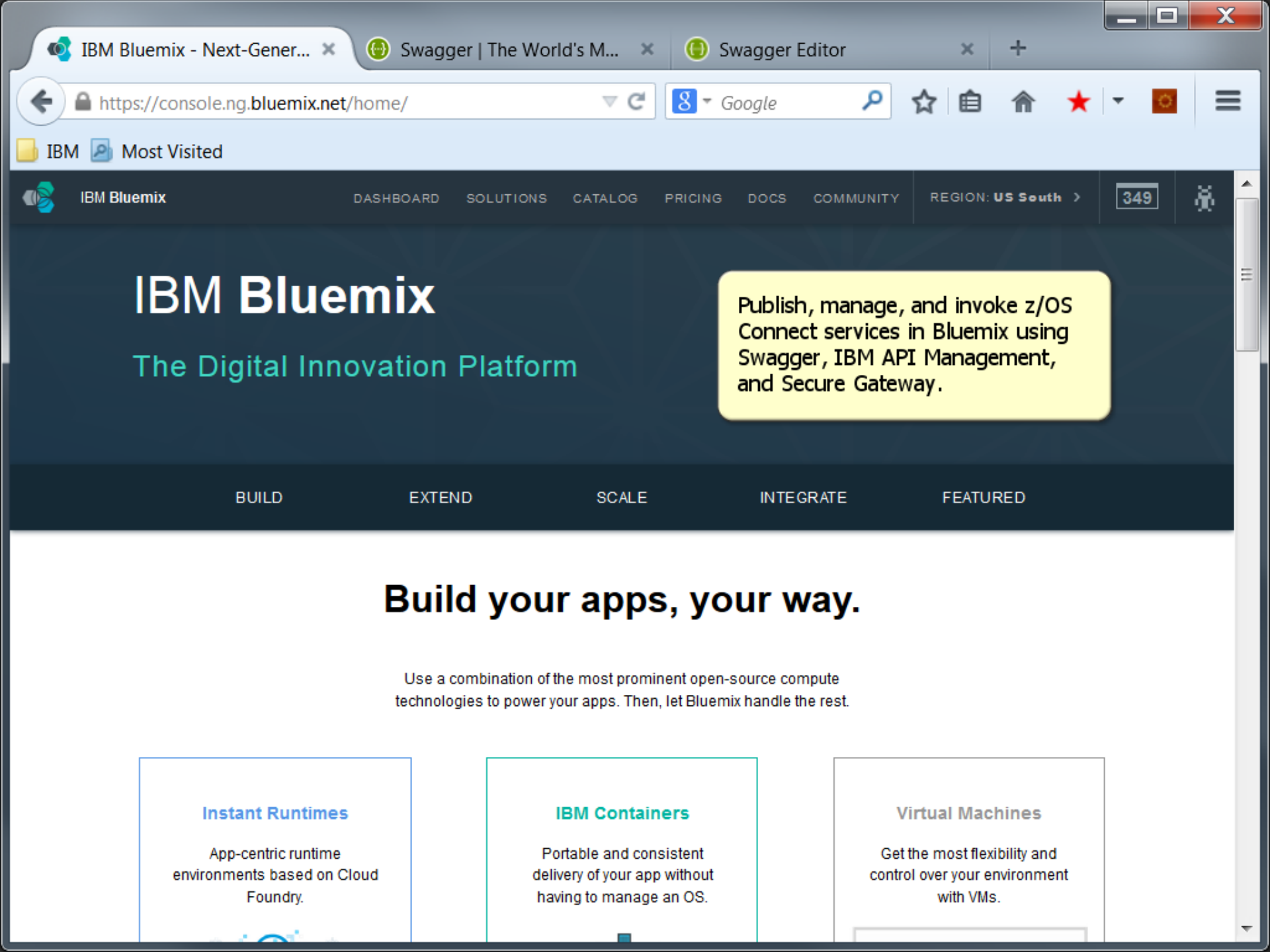
File
Preferences
Generate Server
Generate Client
Help
All changes saved.
"PUT /getMedications" operation normal response (200) body JSON schema (continued).
getMedicationsOutput2:
required:
- CA_NUM_MEDICATIONS
properties:
CA_NUM_MEDICATIONS:
minimum: 0
maximum: 99
type: integer
CA_MEDICATIONS:
type: array
items:
$ref: "#/definitions/getMedicationsOutput3"
getMedicationsOutput3:
required:
- CA_DRUG_NAME
- CA_STRENGTH
- CA_AMOUNT
properties:
CA_IDENTIFIER:
maxLength: 20
type: string
CA_DRUG_NAME:




```
getMedicationsOutput3:
  required:
    - CA_DRUG_NAME
    - CA_STRENGTH
    - CA_AMOUNT
  properties:
    CA_IDENTIFIER:
      maxLength: 20
      type: string
    CA_DRUG_NAME:
      maxLength: 50
      type: string
    CA_TYPE:
      maxLength: 2
      type: string
    CA_MEDICATION_ID:
      minimum: 0
      maximum: 9999999999
      type: integer
    CA_ROUTE:
      maxLength: 20
      type: string
```

Configure Secure Gateway to Integrate On-premise z/OS Connect Services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Swagger Editor
https://console.ng.bluemix.net/home/
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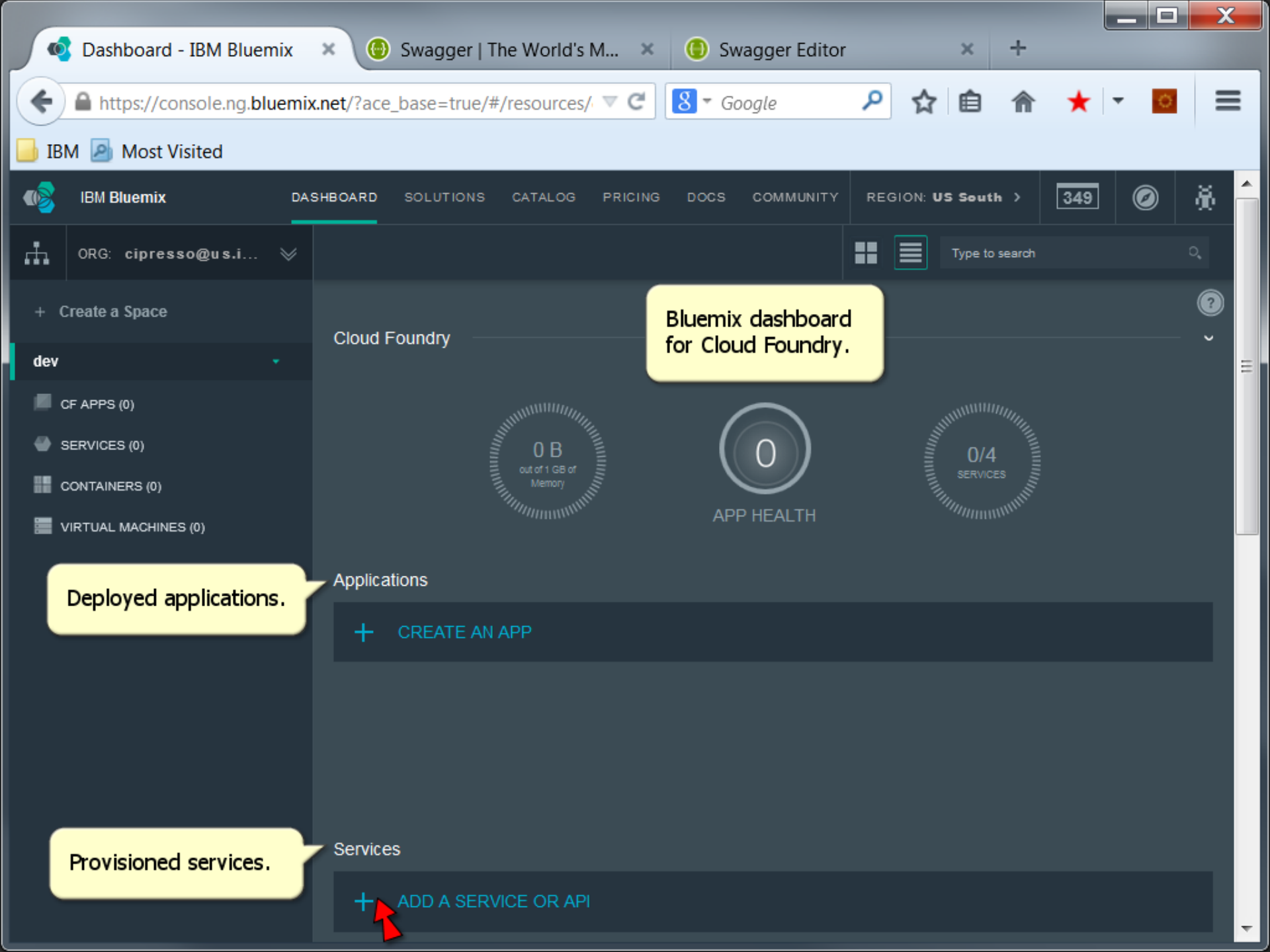
349
IBM Bluemix
The Digital Innovation Platform
Publish, manage, and invoke z/OS Connect services in Bluemix using Swagger, IBM API Management, and Secure Gateway.
BUILD
EXTEND
SCALE
INTEGRATE
FEATURED
Build your apps, your way.
Use a combination of the most prominent open-source compute technologies to power your apps. Then, let Bluemix handle the rest.
Instant Runtimes
App-centric runtime environments based on Cloud Foundry.
IBM Containers
Portable and consistent delivery of your app without having to manage an OS.
Virtual Machines
Get the most flexibility and control over your environment with VMs.


Dashboard - IBM Bluemix
Swagger | The World's M...
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ORG: cipresso@us.i...
Type to search
Create a Space
dev
CF APPS (0)
SERVICES (0)
CONTAINERS (0)
VIRTUAL MACHINES (0)
Cloud Foundry
Bluemix dashboard for Cloud Foundry.
0 B
out of 1 GB of Memory
0
APP HEALTH
0/4
SERVICES
Deployed applications.
Applications
CREATE AN APP
Provisioned services.
Services
ADD A SERVICE OR API

Catalog - IBM Bluemix | Swagger | The World's M... | Swagger Editor

https://console.ng.bluemix.net/?ace_base=true/#/store/tabl

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Secure Gateway

Category

- Watson
- Mobile
- DevOps
- Web and Application
- Integration
- Data Management
- Big Data
- Security
- Business Analytics
- Internet of Things

Support

- IBM
- Third Party
- Community
- Beta

Services // The building blocks of any great app

Integration

Extend existing investments and infrastructure

Secure Gateway

View More

To securely communicate with z/OS Connect from Bluemix, provision the Secure Gateway service.

Looking for more?

Check out the Bluemix Labs Catalog to try out experimental runtimes and services.

Bluemix Labs Catalog

Secure Gateway - IBM Blu... | Swagger | The World's M... | Swagger Editor

https://console.ng.bluemix.net/?ace_base=true/#/store/tabl

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Back to Services

Secure Gateway

IBM

PUBLISH DATE
6/1/2015

TYPE
Service

LOCATION
US South

The Secure Gateway Service brings Hybrid Integration capability to your Bluemix environment. It provides secure connectivity from Bluemix to other applications and data sources running on-premise or in other clouds. A remote client is provided to enable secure connectivity.

- **Fast and Simple**
  Set up Gateways to other environments and monitor your traffic
- **Secure Gateway**
  Create and Manage local endpoint mappings to remote destinations

Pick a plan

Monthly prices shown are for country or region: United States

Plan	Features	Price
✓ Standard	One Gigabyte transmitted outbound each month is free.	$0.10 USD/GIGABYTE

Pay only for outbound data transmissions per Gigabyte. The first Gigabyte each month is free.

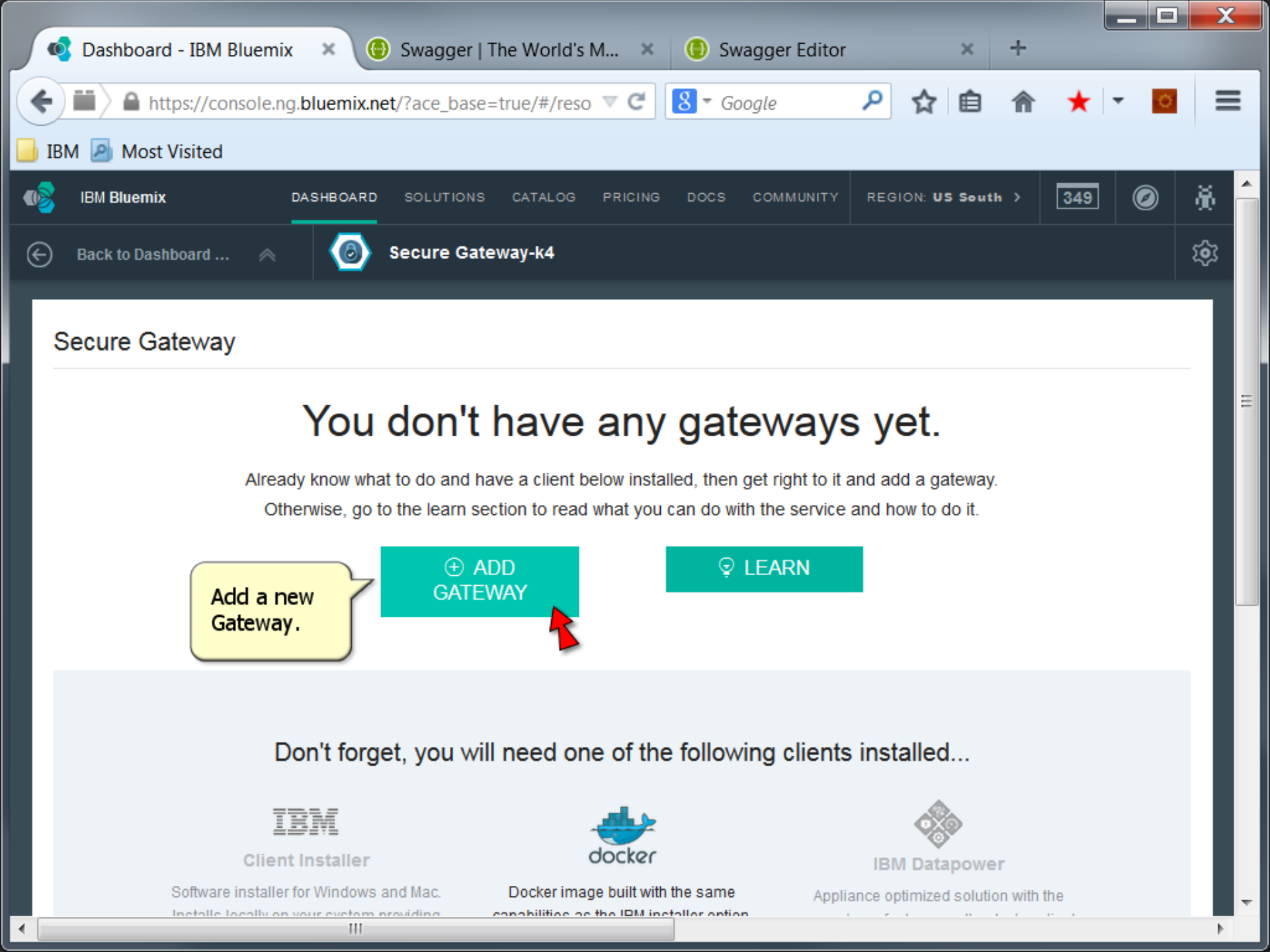
Add Service

Space: dev

App: Leave unbound

Selected Plan: Standard

CREATE


Dashboard - IBM Bluemix
Swagger | The World's M...
Swagger Editor
https://console.ng.bluemix.net/?ace_base=true/#/reso
Google
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Most Visited
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COMMUNITY
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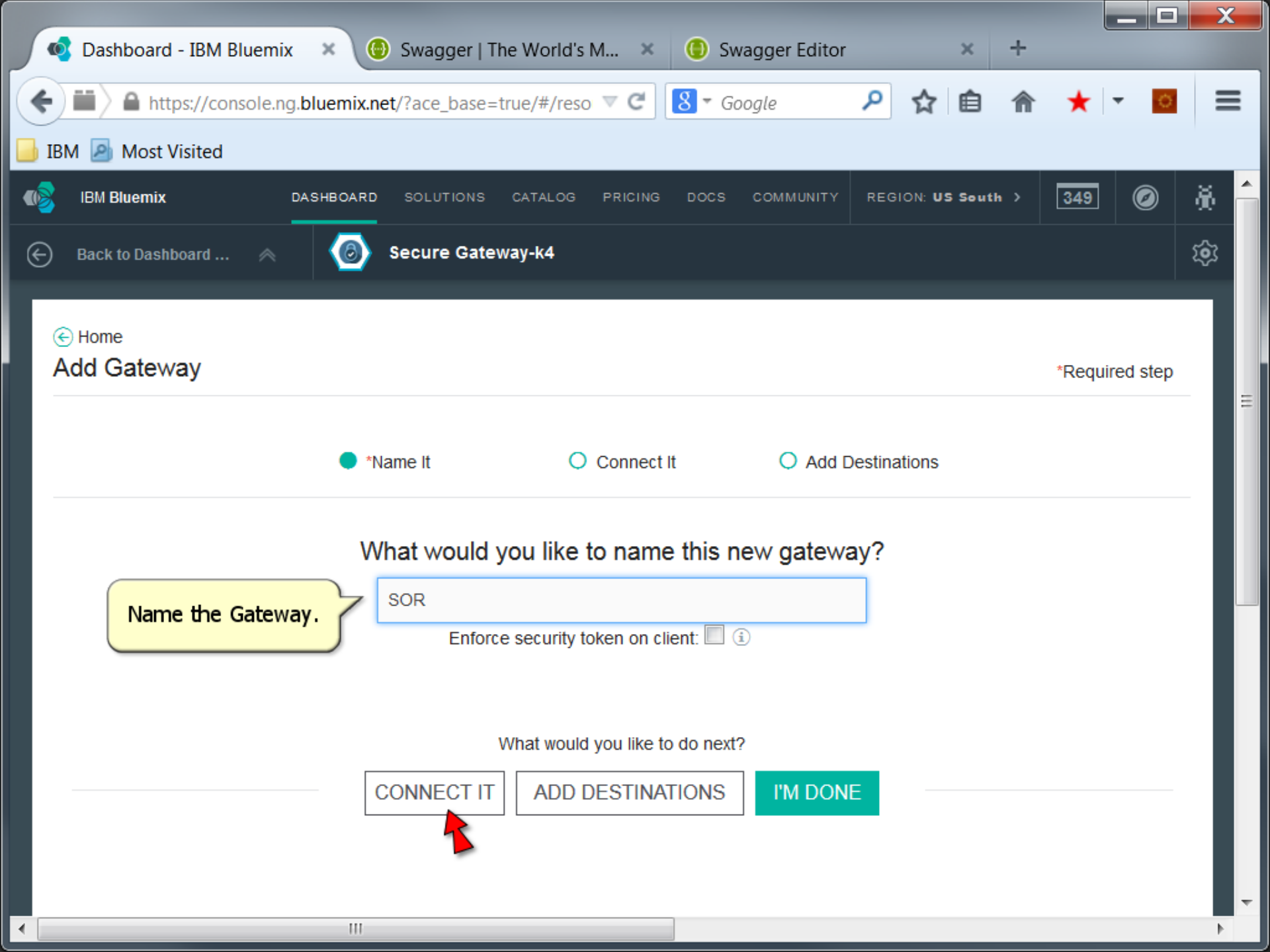
Back to Dashboard ...
Secure Gateway-k4
Secure Gateway
You don't have any gateways yet.
Already know what to do and have a client below installed, then get right to it and add a gateway.
Otherwise, go to the learn section to read what you can do with the service and how to do it.
Add a new Gateway.
ADD GATEWAY
LEARN
Don't forget, you will need one of the following clients installed...
IBM
Client Installer
Software installer for Windows and Mac.
docker
Docker image built with the same
IBM Datapower
Appliance optimized solution with the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Swagger | The World's M...
Swagger Editor
https://console.ng.bluemix.net/?ace_base=true/#/reso
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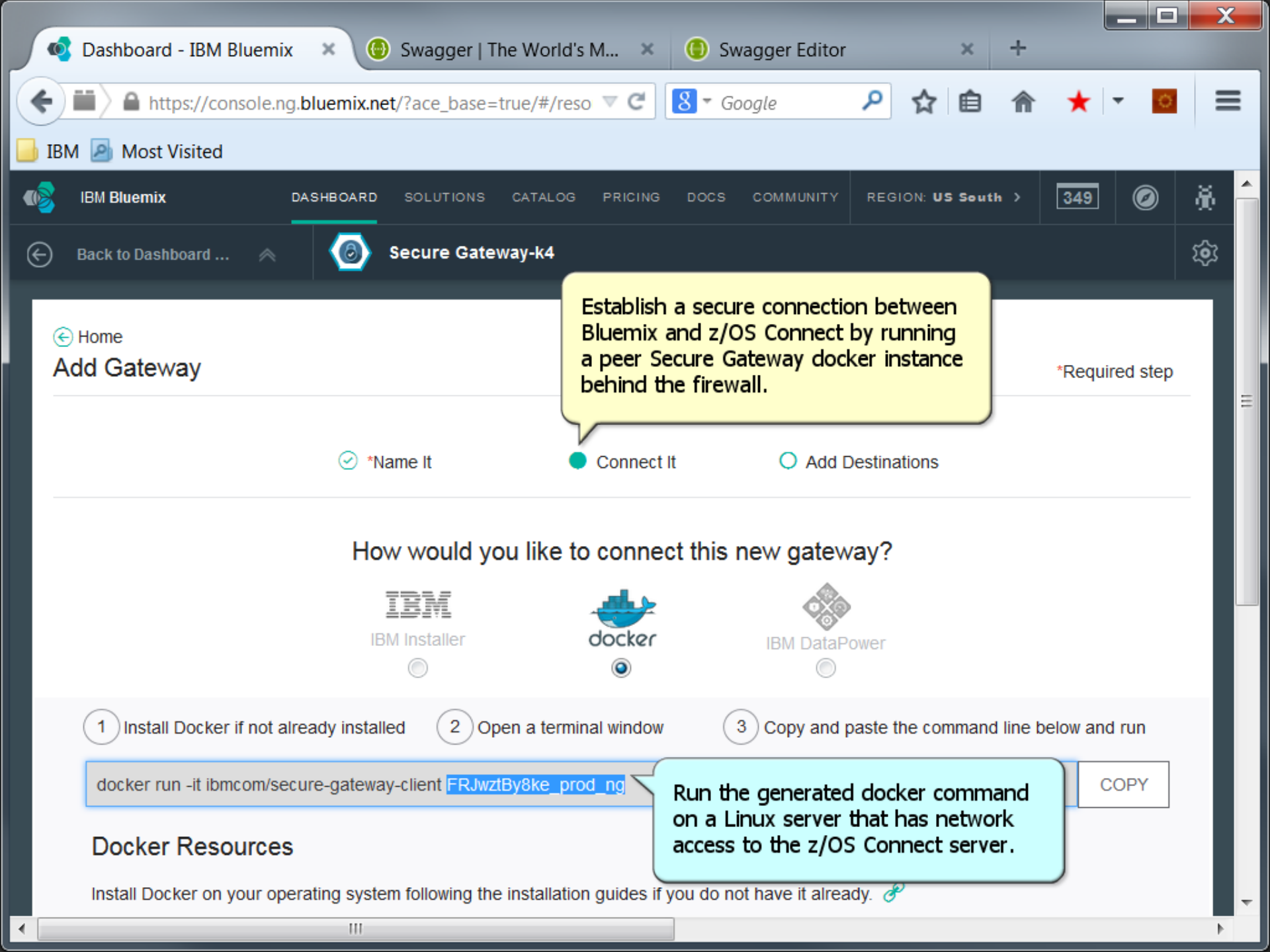
Back to Dashboard ...
Secure Gateway-k4
Home
Add Gateway
*Required step
*Name It
Connect It
Add Destinations
What would you like to name this new gateway?
Name the Gateway.
SOR
Enforce security token on client:
What would you like to do next?
CONNECT IT
ADD DESTINATIONS
I'M DONE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Swagger | The World's M...
Swagger Editor
https://console.ng.bluemix.net/?ace_base=true/#/reso
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DOCS
COMMUNITY
REGION: US South
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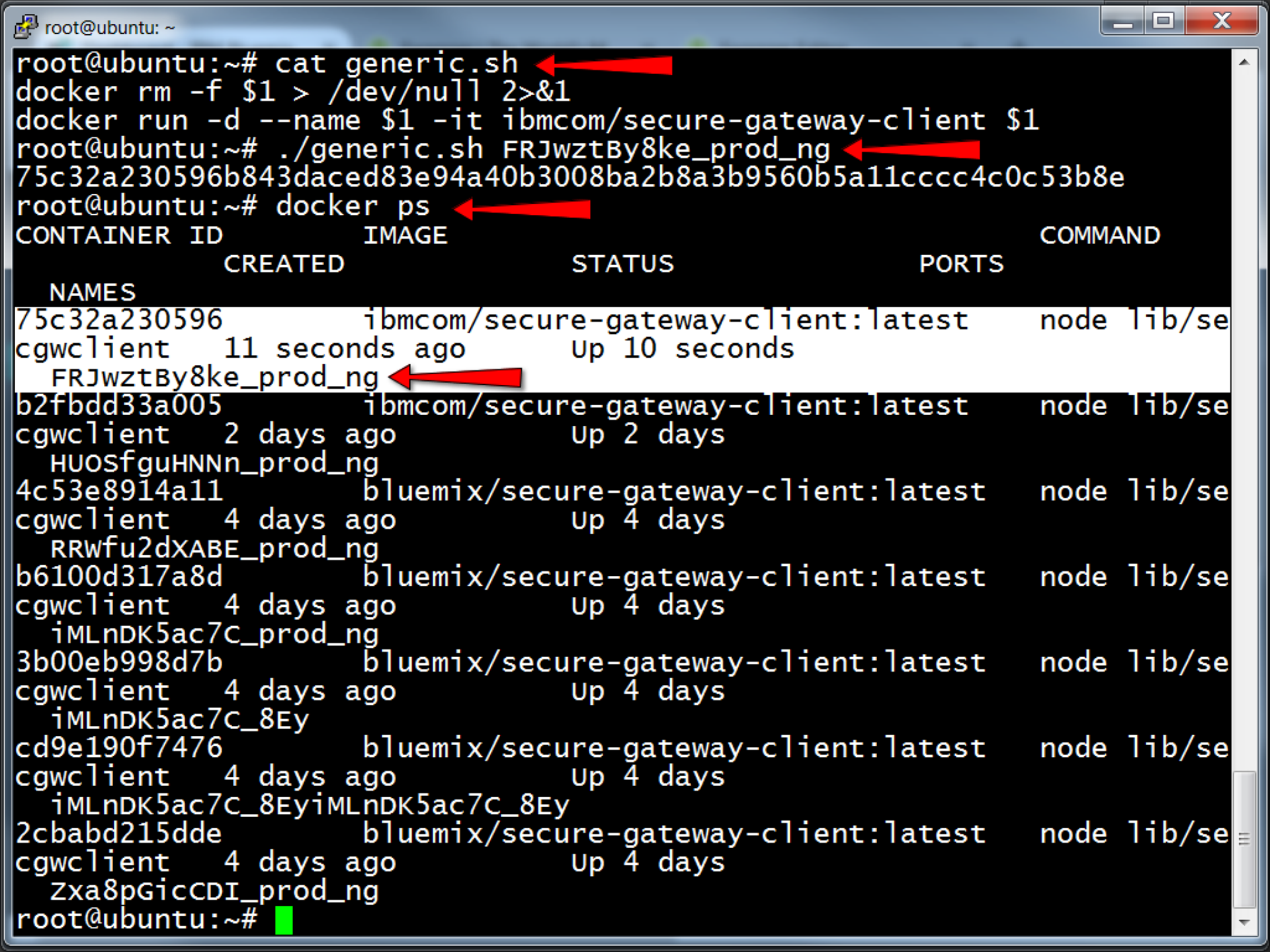
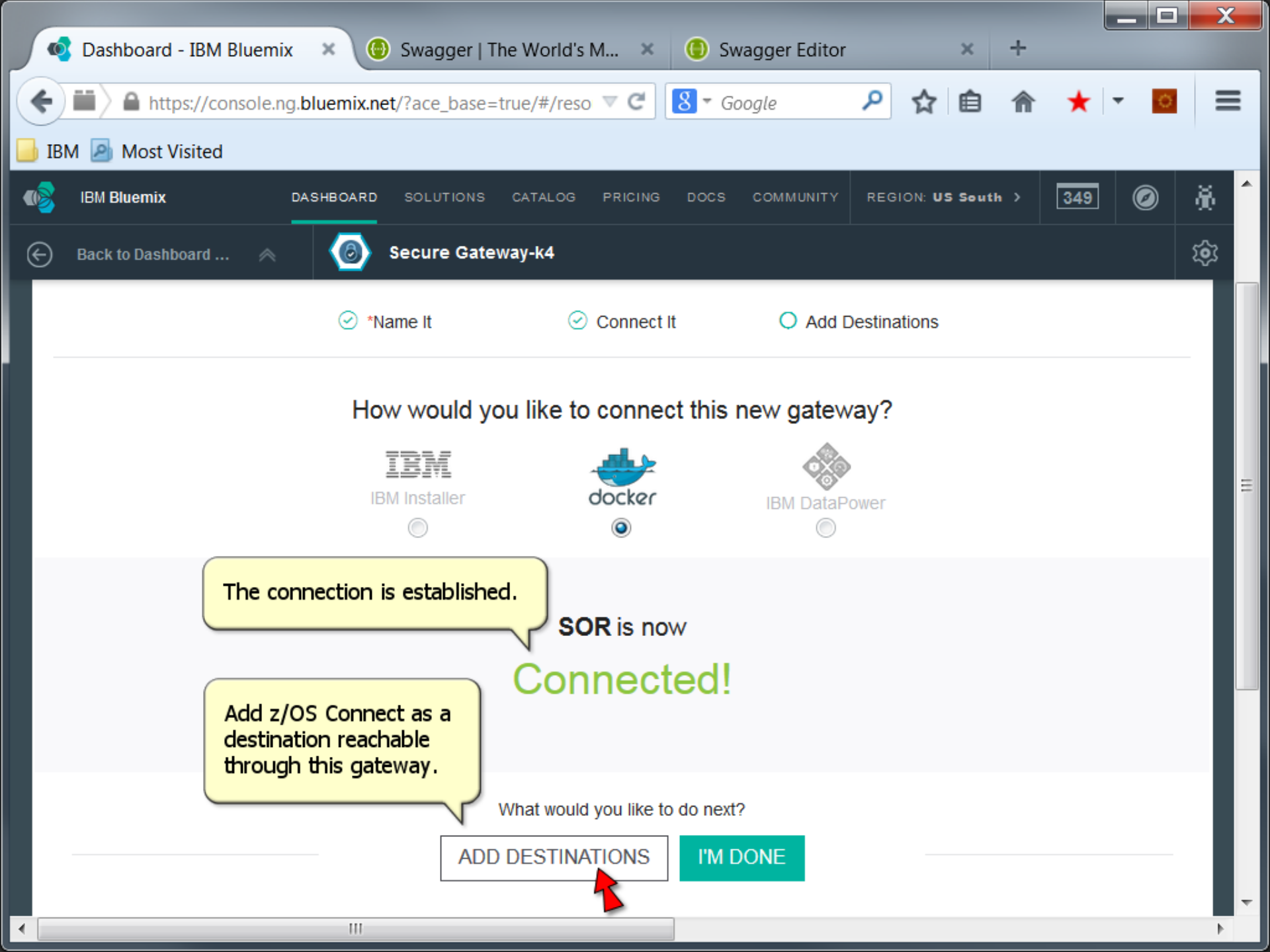
Back to Dashboard ...
Secure Gateway-k4
Establish a secure connection between Bluemix and z/OS Connect by running a peer Secure Gateway docker instance behind the firewall.
Home
Add Gateway
*Required step
*Name It
Connect It
Add Destinations
How would you like to connect this new gateway?
IBM Installer
docker
IBM DataPower
1 Install Docker if not already installed
2 Open a terminal window
3 Copy and paste the command line below and run
docker run -it ibmcom/secure-gateway-client FRJwztBy8ke_prod_ng
COPY
Run the generated docker command on a Linux server that has network access to the z/OS Connect server.
Docker Resources
Install Docker on your operating system following the installation guides if you do not have it already.


root@ubuntu: ~
root@ubuntu:~# cat generic.sh
docker rm -f $1 > /dev/null 2>&1
docker run -d --name $1 -it ibmcom/secure-gateway-client $1
root@ubuntu:~# ./generic.sh FRJwztBy8ke_prod_ng
75c32a230596b843daced83e94a40b3008ba2b8a3b9560b5a11cccc4c0c53b8e
root@ubuntu:~# docker ps
CONTAINER ID IMAGE COMMAND
CREATED STATUS PORTS
NAMES
75c32a230596 ibmcom/secure-gateway-client:latest node lib/se
cgwclient 11 seconds ago Up 10 seconds
FRJwztBy8ke_prod_ng
b2fbdd33a005 ibmcom/secure-gateway-client:latest node lib/se
cgwclient 2 days ago Up 2 days
HUOSfguHNNn_prod_ng
4c53e8914a11 bluemix/secure-gateway-client:latest node lib/se
cgwclient 4 days ago Up 4 days
RRWfu2dXABE_prod_ng
b6100d317a8d bluemix/secure-gateway-client:latest node lib/se
cgwclient 4 days ago Up 4 days
iMLnDK5ac7C_prod_ng
3b00eb998d7b bluemix/secure-gateway-client:latest node lib/se
cgwclient 4 days ago Up 4 days
iMLnDK5ac7C_8Ey
cd9e190f7476 bluemix/secure-gateway-client:latest node lib/se
cgwclient 4 days ago Up 4 days
iMLnDK5ac7C_8EyiMLnDK5ac7C_8Ey
2cbabd215dde bluemix/secure-gateway-client:latest node lib/se
cgwclient 4 days ago Up 4 days
Zxa8pGicCDI_prod_ng
root@ubuntu:~#


Dashboard - IBM Bluemix
Swagger | The World's M...
Swagger Editor
https://console.ng.bluemix.net/?ace_base=true/#/reso
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PRICING
DOCS
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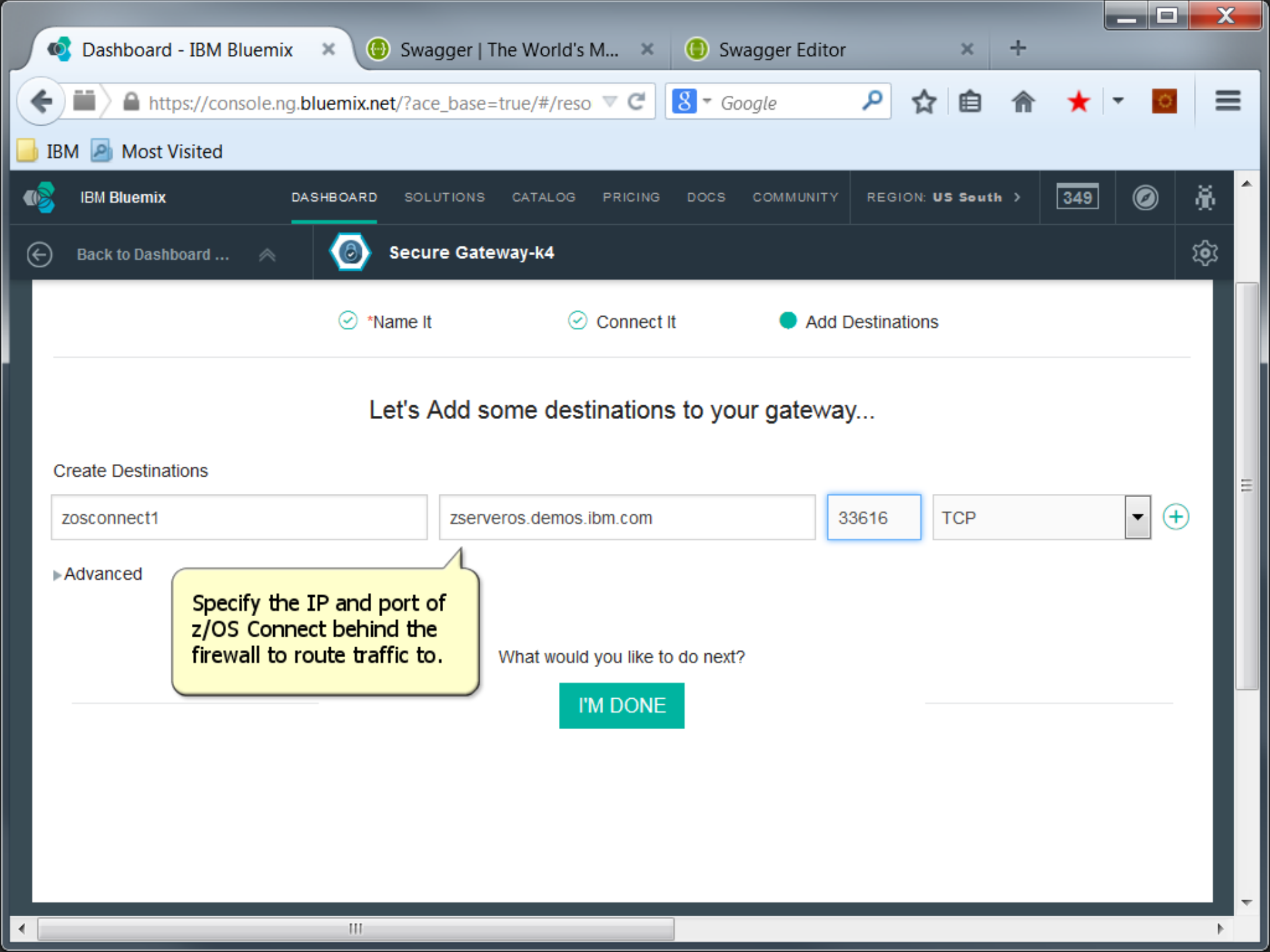
REGION: US South
349
Back to Dashboard ...
Secure Gateway-k4
*Name It
Connect It
Add Destinations
How would you like to connect this new gateway?
IBM Installer
docker
IBM DataPower
The connection is established.
SOR is now
Connected!
Add z/OS Connect as a destination reachable through this gateway.
What would you like to do next?
ADD DESTINATIONS
I'M DONE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Swagger Editor
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PRICING
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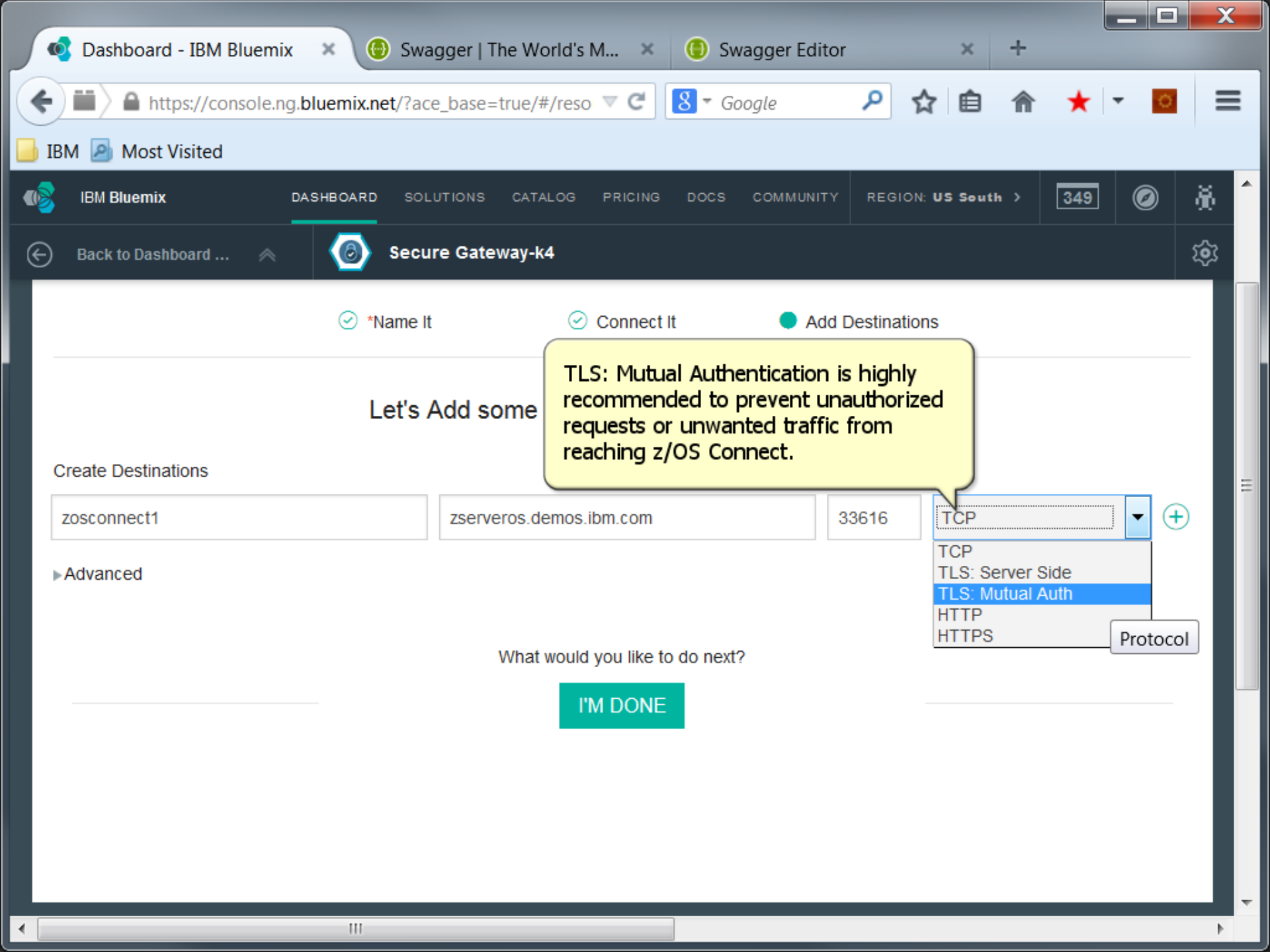
COMMUNITY
REGION: US South
349
Back to Dashboard ...
Secure Gateway-k4
*Name It
Connect It
Add Destinations
Let's Add some destinations to your gateway...
Create Destinations
zosconnect1
zserveros.demos.ibm.com
33616
TCP
Advanced
Specify the IP and port of z/OS Connect behind the firewall to route traffic to.
What would you like to do next?
I'M DONE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Back to Dashboard ...
Secure Gateway-k4
*Name It
Connect It
Add Destinations
TLS: Mutual Authentication is highly recommended to prevent unauthorized requests or unwanted traffic from reaching z/OS Connect.
Let's Add some
Create Destinations
zosconnect1
zserveros.demos.ibm.com
33616
TCP
TCP
TLS: Server Side
TLS: Mutual Auth
HTTP
HTTPS
Protocol
Advanced
What would you like to do next?
I'M DONE

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https://console.ng.bluemix.net/?ace_base=true/#/reso

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Back to Dashboard ... | Secure Gateway-k4

*Name It | Connect It | Add Destinations

Let's Add some destinations to your gateway...

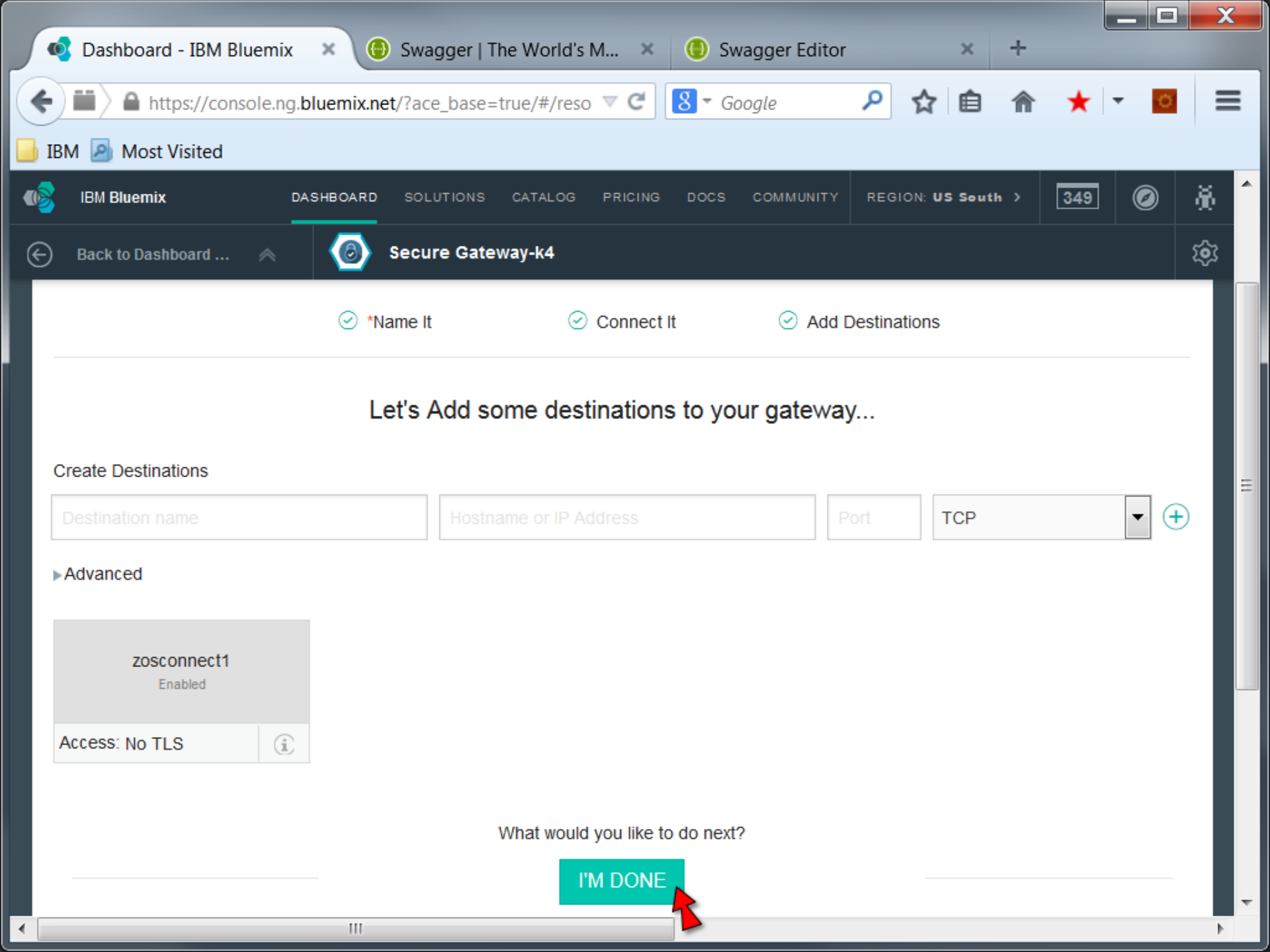
Create Destinations

zosconnect1	zserveros.demos.ibm.com	33616	TCP

▸Advanced

What would you like to do next?

I'M DONE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REGION: US South
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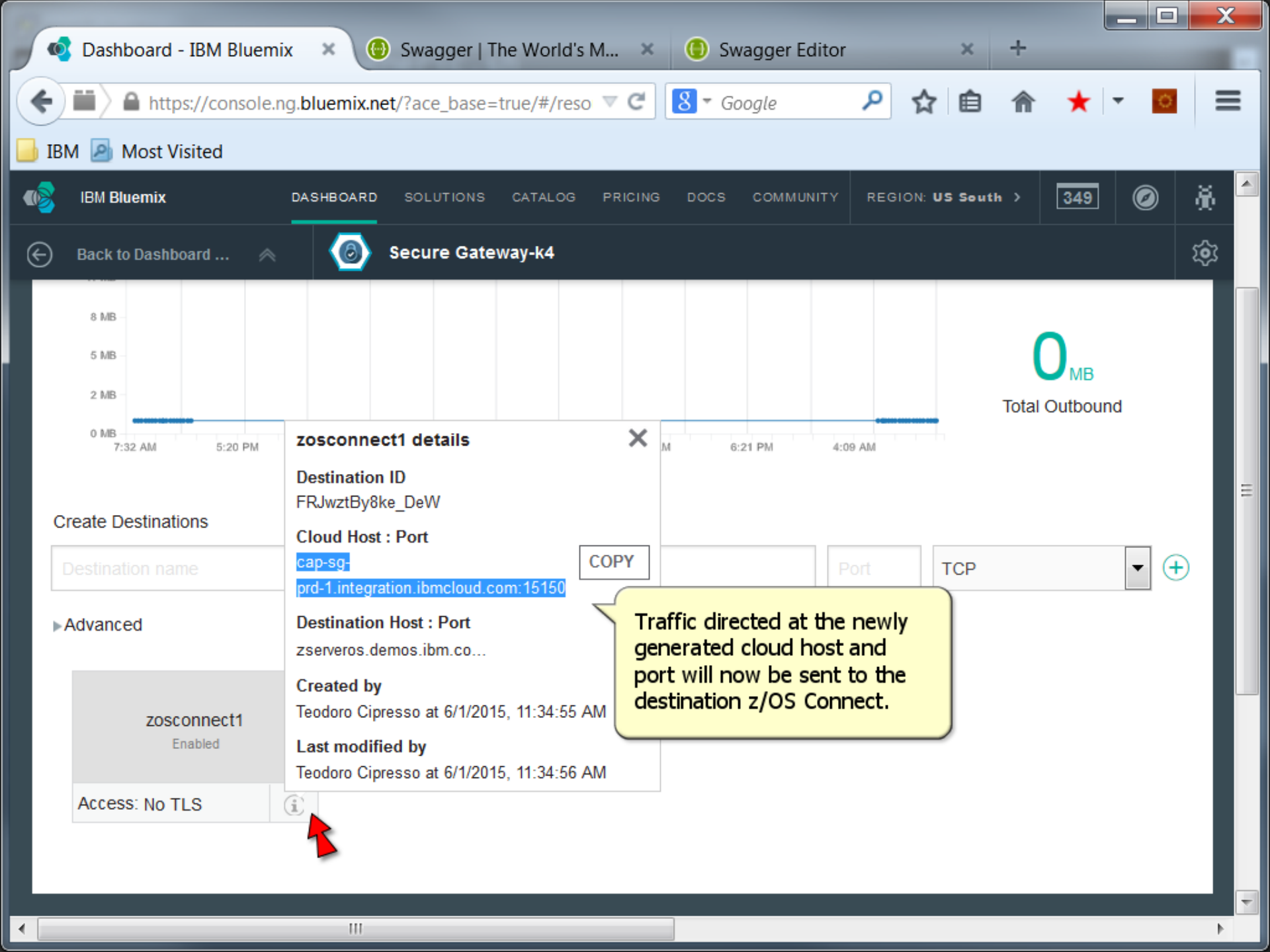
Back to Dashboard ...
Secure Gateway-k4
*Name It
Connect It
Add Destinations
Let's Add some destinations to your gateway...
Create Destinations
Destination name
Hostname or IP Address
Port
TCP
Advanced
zosconnect1
Enabled
Access: No TLS
What would you like to do next?
I'M DONE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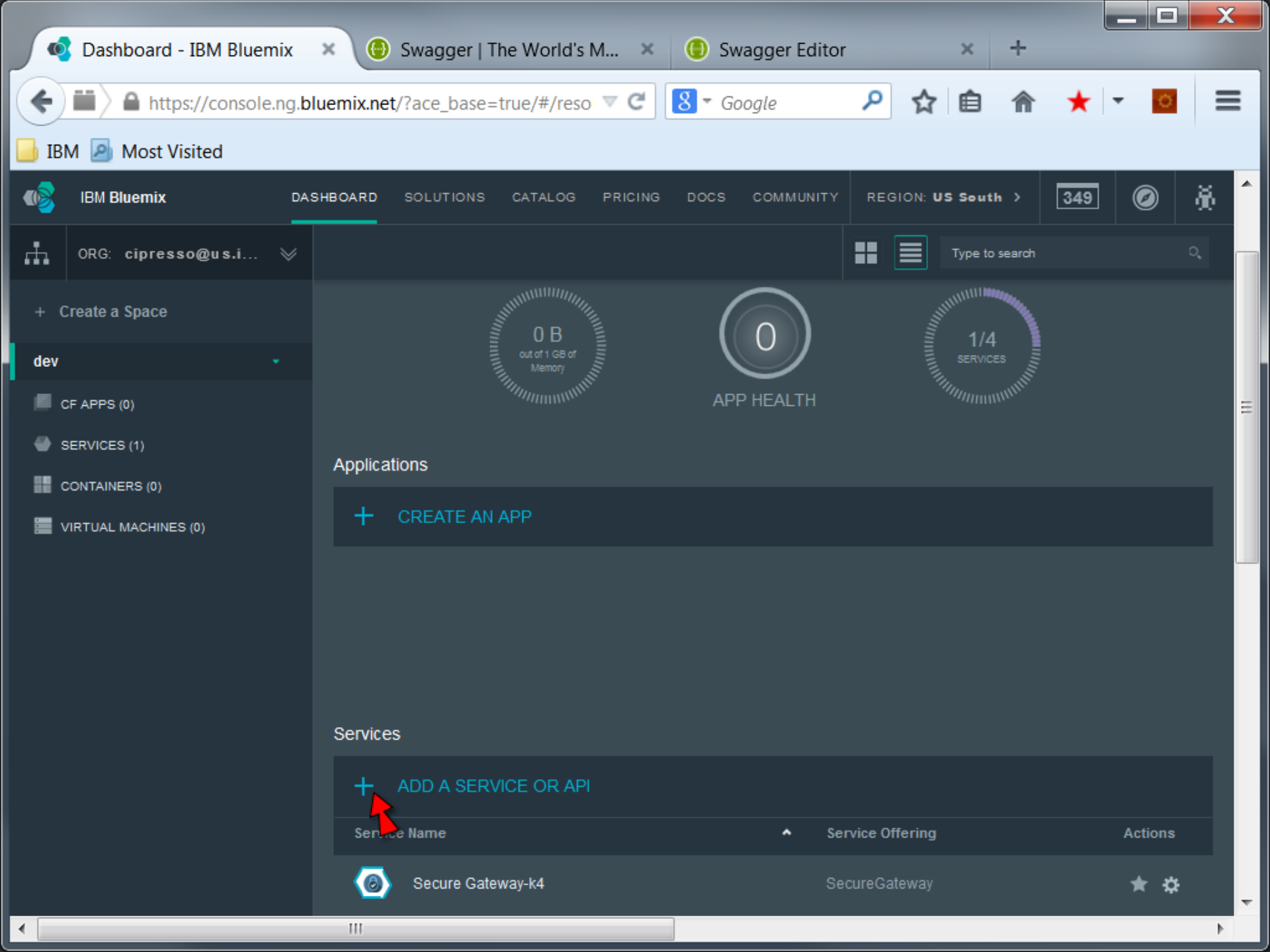
Back to Dashboard ...
Secure Gateway-k4
8 MB
5 MB
2 MB
0 MB
7:32 AM
5:20 PM
6:21 PM
4:09 AM
0 MB
Total Outbound
zosconnect1 details
Destination ID
FRJwztBy8ke_DeW
Cloud Host : Port
cap-sg-
prd-1.integration.ibmcloud.com:15150
COPY
Destination Host : Port
zserveros.demos.ibm.co...
Created by
Teodoro Cipresso at 6/1/2015, 11:34:55 AM
Last modified by
Teodoro Cipresso at 6/1/2015, 11:34:56 AM
Create Destinations
Destination name
Port
TCP
Advanced
zosconnect1
Enabled
Access: No TLS
Traffic directed at the newly generated cloud host and port will now be sent to the destination z/OS Connect.

Use Swagger and API Management to Manage and Publish z/OS Connect Services in Bluemix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349
ORG: cipresso@us.i...
Type to search
Create a Space
dev
CF APPS (0)
SERVICES (1)
CONTAINERS (0)
VIRTUAL MACHINES (0)
0 B
out of 1 GB of Memory
0
APP HEALTH
1/4
SERVICES
Applications
CREATE AN APP
Services
ADD A SERVICE OR API
Service Name
Service Offering
Actions
Secure Gateway-k4
SecureGateway

Catalog - IBM Bluemix | Swagger | The World's M... | Swagger Editor

https://console.ng.bluemix.net/?ace_base=true/#/store/tabl

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cipresso@us.i...

api management

Category

- Watson
- Mobile
- DevOps
- Web and Application
- Integration
- Data Management
- Big Data
- Security
- Business Analytics
- Internet of Things

Support

- IBM
- Third Party
- Community
- Beta

Services // The building blocks of any great app

Integration

Extend existing investments and infrastructure

API Management

View More

Looking for more?

Check out the Bluemix Labs Catalog to try out experimental runtimes and services.

Bluemix Labs Catalog

API Management - IBM Bl... | Swagger | The World's M... | Swagger Editor

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Back to Services

API Management

IBM

PUBLISH DATE
5/21/2015

TYPE
Service

VIEW DOCS

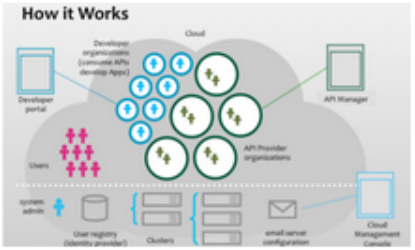
The API Management Service allows you to rapidly create, deploy, and share APIs through a configuration based approach. It provides a simple and consumable way of controlling API access, managing multiple versions of an API, establishing rate limits, and ultimately tracking the performance metrics and analytics of each API in your portfolio.

- **Discover Existing APIs**

  Easily find and expose REST and SOAP services by discovering them from custom registries, such as those on z/OS. Then manage, track, and limit the discovered services.

- **Design New APIs**

  Composite multiple existing APIs into a new, more powerful API. Import APIs from Swagger or WSDL definitions, or build one from scratch.



Pick a plan

Monthly prices shown are for country or region: United States

Plan	Features	Price

Add Service

Space:

dev

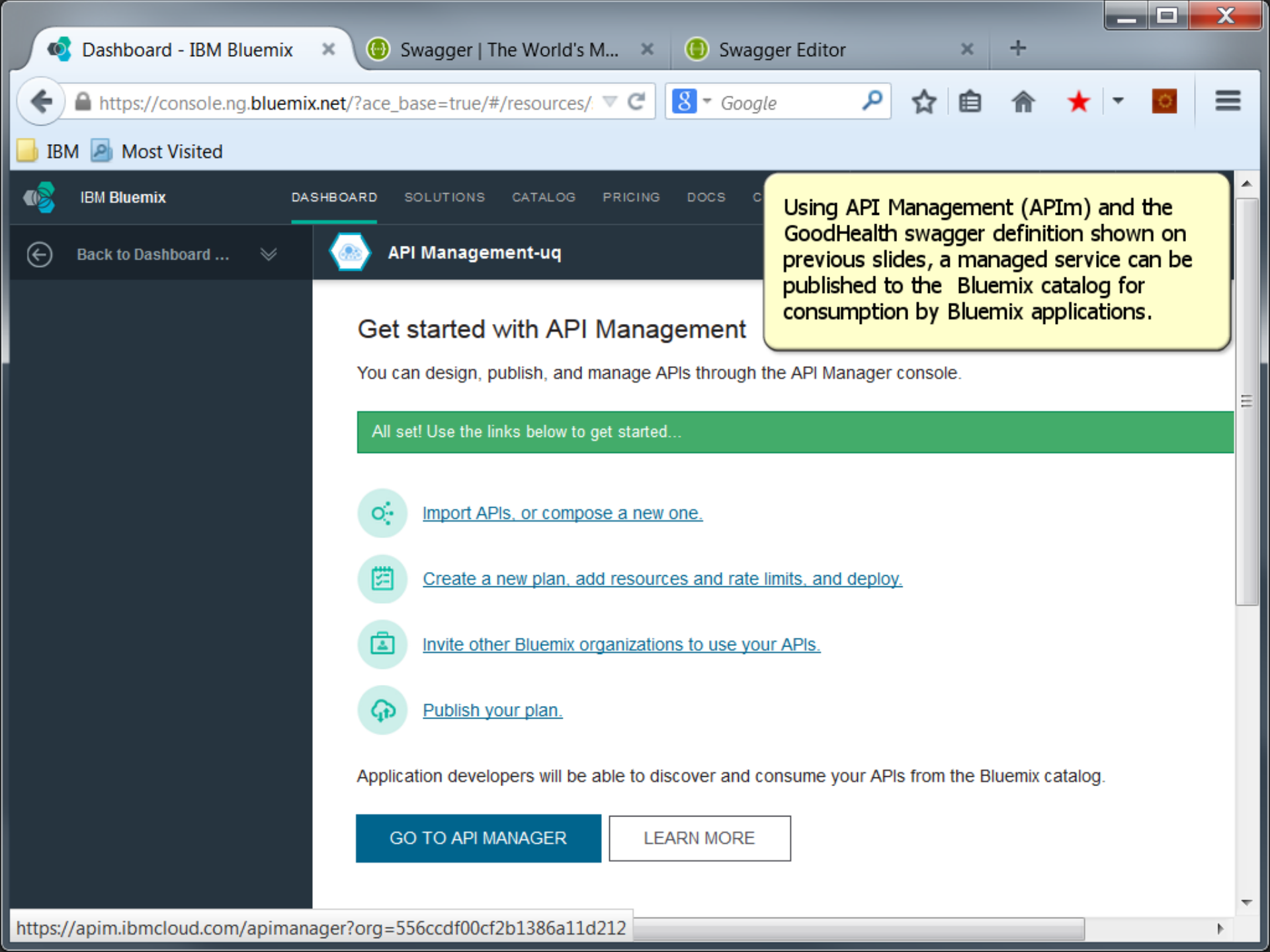
Service name:

API Management-uq

Selected Plan:

Standard

CREATE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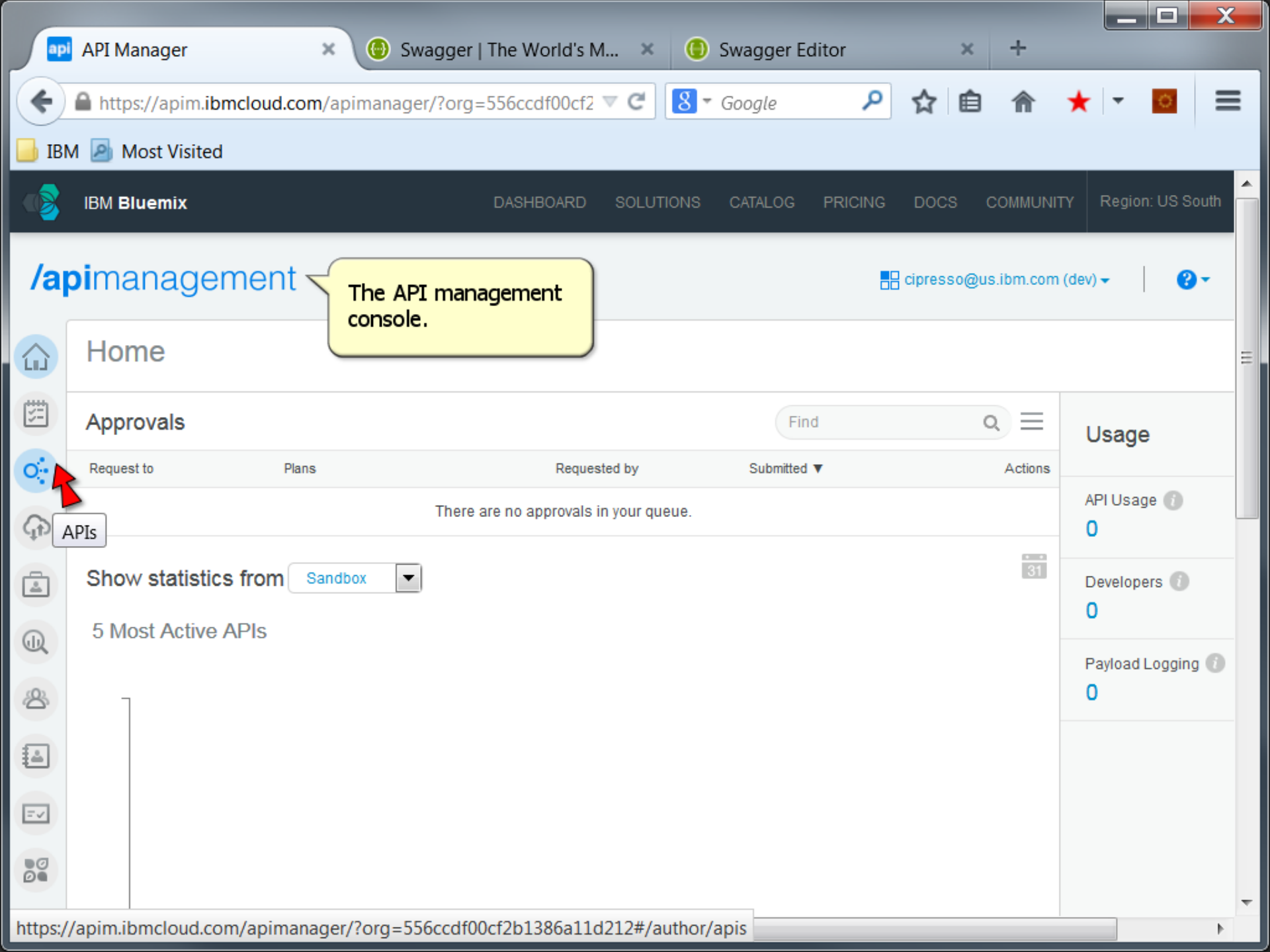
API Management-uq
Using API Management (APIm) and the GoodHealth swagger definition shown on previous slides, a managed service can be published to the Bluemix catalog for consumption by Bluemix applications.
Get started with API Management
You can design, publish, and manage APIs through the API Manager console.
All set! Use the links below to get started...
Import APIs, or compose a new one.
Create a new plan, add resources and rate limits, and deploy.
Invite other Bluemix organizations to use your APIs.
Publish your plan.
Application developers will be able to discover and consume your APIs from the Bluemix catalog.
GO TO API MANAGER
LEARN MORE
https://apim.ibmcloud.com/apimanager?org=556ccdf00cf2b1386a11d212


API Manager
Swagger | The World's M...
Swagger Editor
https://apim.ibmcloud.com/apimanager/?org=556ccdf00cf2
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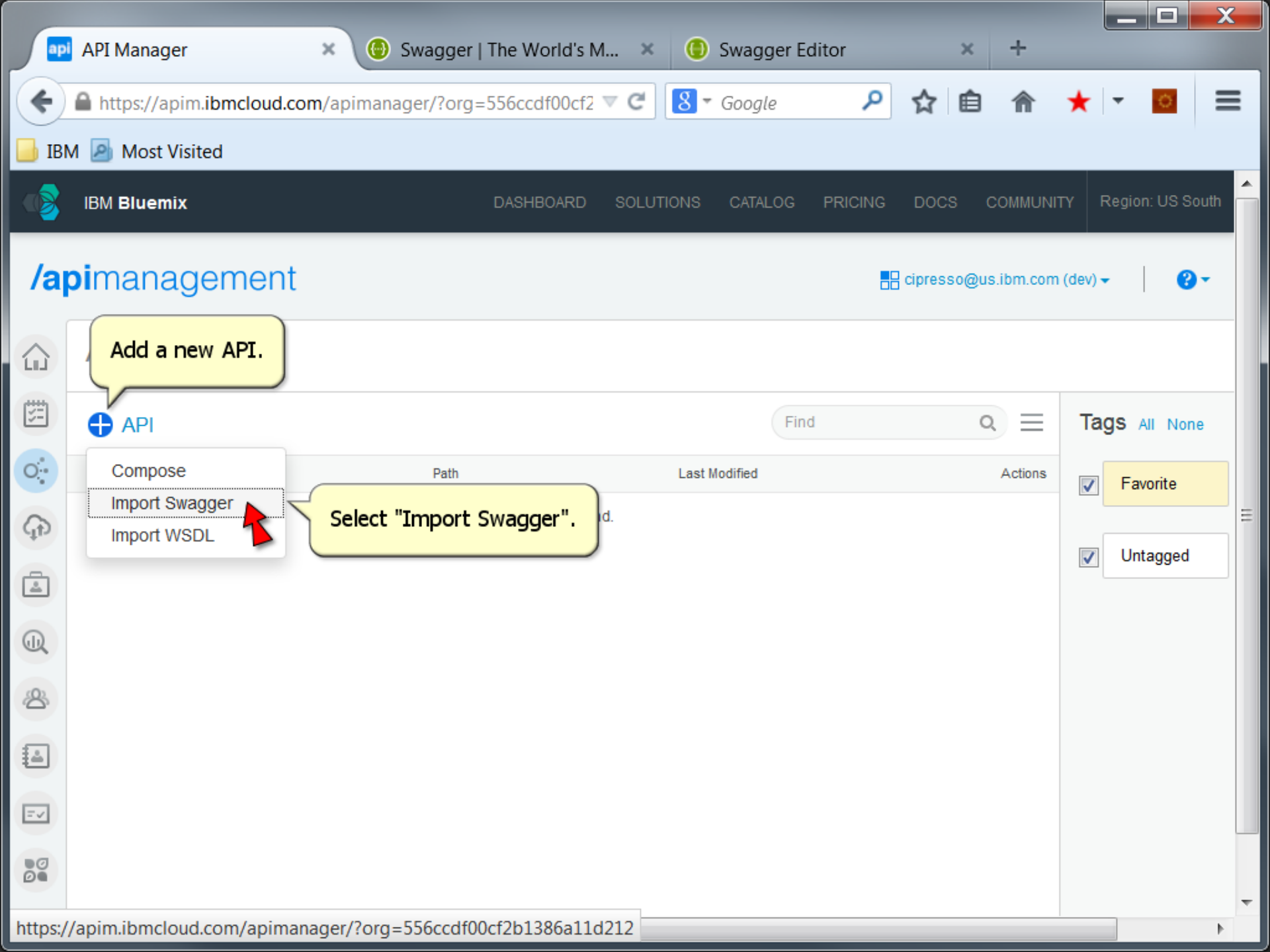
Region: US South
/apimanagement
The API management console.
cipresso@us.ibm.com (dev)
Home
Approvals
Find
Request to
Plans
Requested by
Submitted
Actions
There are no approvals in your queue.
APIs
Show statistics from
Sandbox
5 Most Active APIs
Usage
API Usage
0
Developers
0
Payload Logging
0
https://apim.ibmcloud.com/apimanager/?org=556ccdf00cf2b1386a11d212#/author/apis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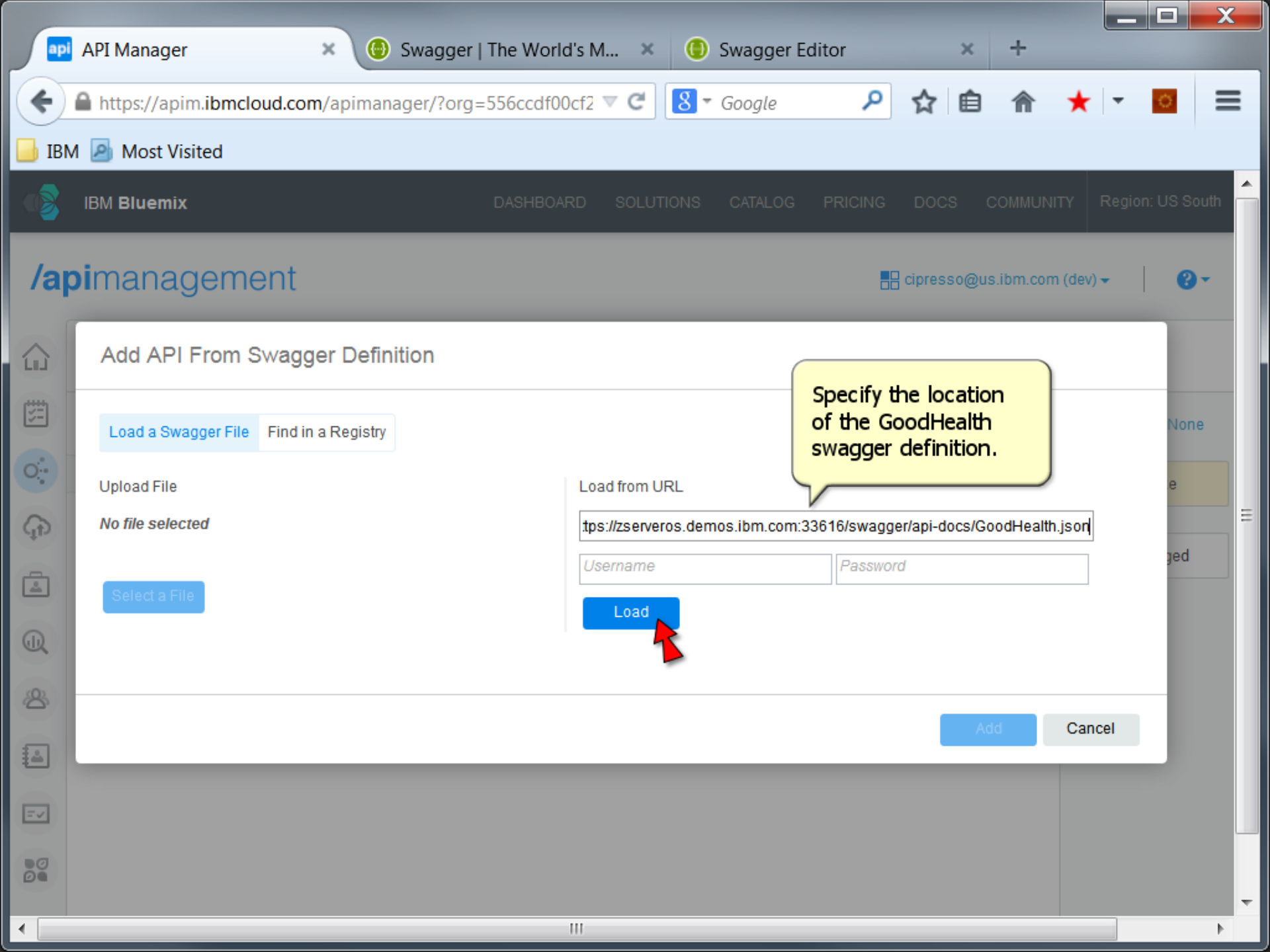
COMMUNITY
Region: US South
/apimanagement
cipresso@us.ibm.com (dev)
Add a new API.
API
Compose
Import Swagger
Import WSDL
Select "Import Swagger".
Find
Path
Last Modified
Actions
Tags
All
None
Favorite
Untagged
https://apim.ibmcloud.com/apimanager/?org=556ccdf00cf2b1386a11d212


API Manager
Swagger | The World's M...
Swagger Editor
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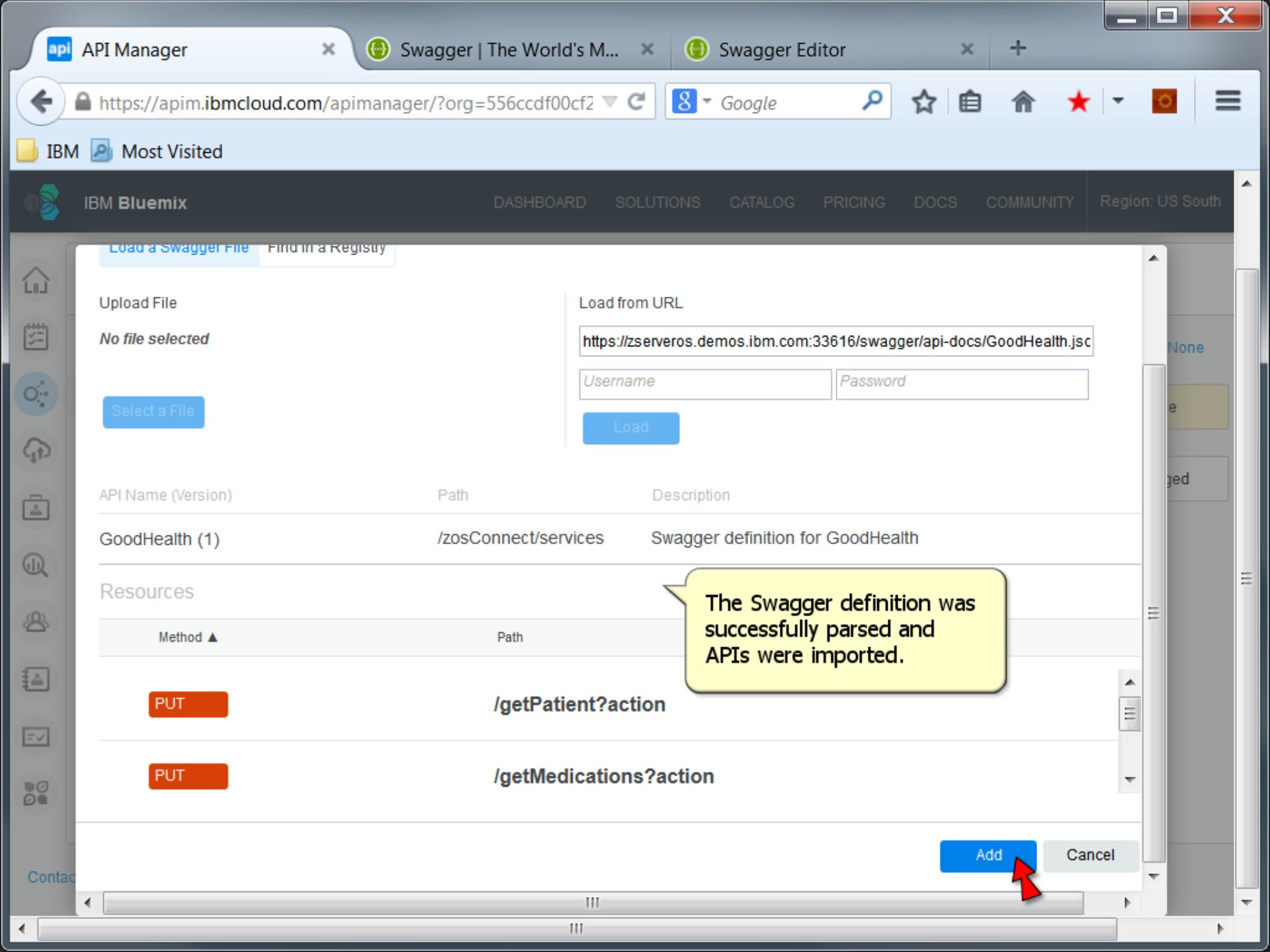
Region: US South
/apimanagement
cipresso@us.ibm.com (dev)
Add API From Swagger Definition
Load a Swagger File
Find in a Registry
Upload File
No file selected
Select a File
Load from URL
tps://zserveros.demos.ibm.com:33616/swagger/api-docs/GoodHealth.json
Username
Password
Load
Specify the location of the GoodHealth swagger definition.
Add
Cancel


API Manager
Swagger | The World's M...
Swagger Editor
https://apim.ibmcloud.com/apimanager/?org=556ccdf00cf2
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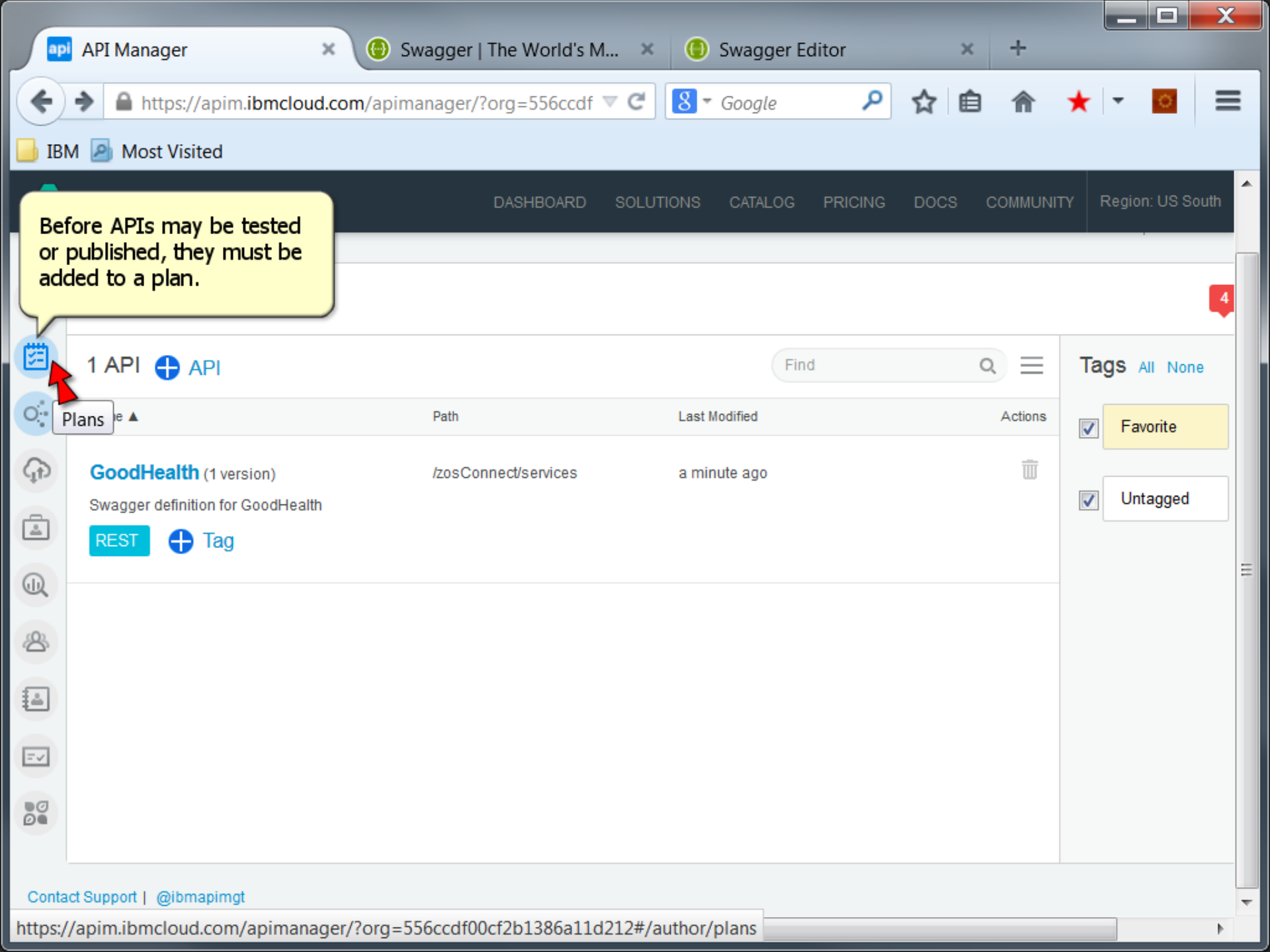
Region: US South
Load a Swagger File
Find in a Registry
Upload File
No file selected
Select a File
Load from URL
https://zserveros.demos.ibm.com:33616/swagger/api-docs/GoodHealth.jsc
Username
Password
Load
API Name (Version)
Path
Description
GoodHealth (1)
/zosConnect/services
Swagger definition for GoodHealth
Resources
Method ▲
Path
The Swagger definition was successfully parsed and APIs were imported.
PUT
/getPatient?action
PUT
/getMedications?action
Add
Cancel


API Manager
Swagger | The World's M...
Swagger Editor
https://apim.ibmcloud.com/apimanager/?org=556ccdf
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DOCS
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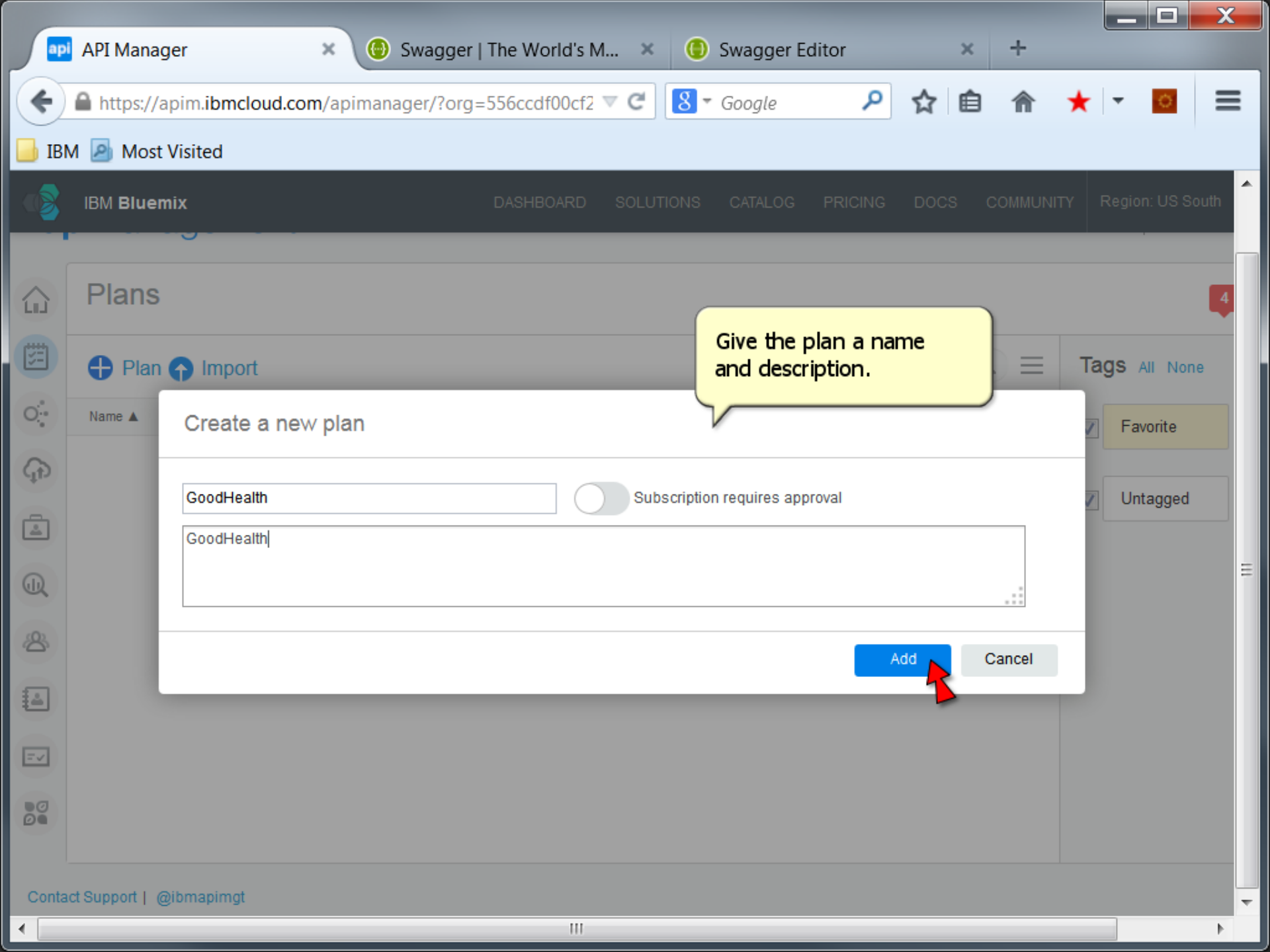
Region: US South
Before APIs may be tested or published, they must be added to a plan.
Plans
1 API
API
Find
Tags
All
None
Path
Last Modified
Actions
GoodHealth (1 version)
/zosConnect/services
a minute ago
Swagger definition for GoodHealth
REST
Tag
Favorite
Untagged
Contact Support | @ibmapimgt
https://apim.ibmcloud.com/apimanager/?org=556ccdf00cf2b1386a11d212#/author/plans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Swagger | The World's M...
Swagger Editor
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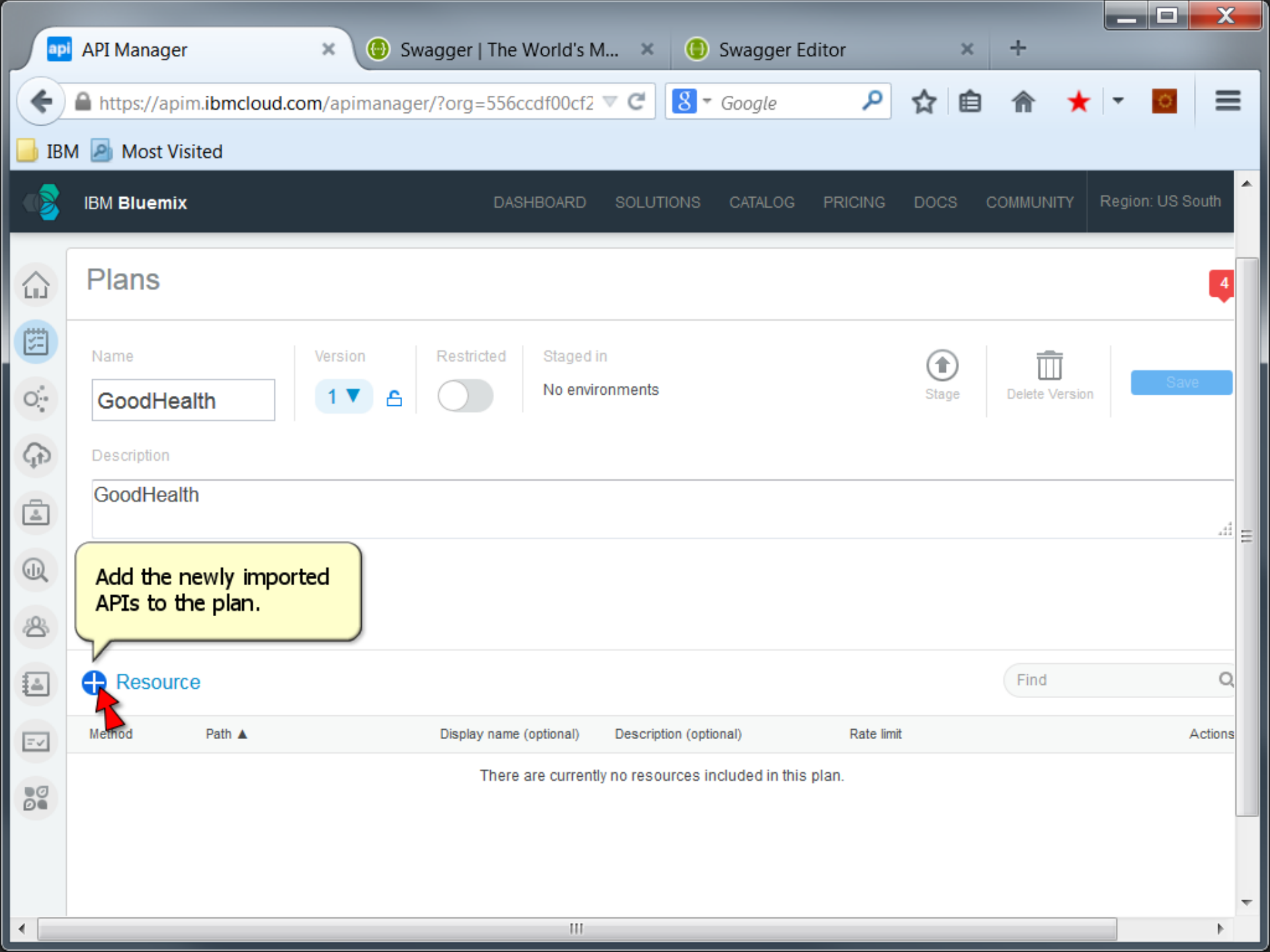
DOCS
COMMUNITY
Region: US South
Plans
Plan
Import
Name
Tags
All
None
Favorite
Untagged
Give the plan a name and description.
Create a new plan
GoodHealth
Subscription requires approval
GoodHealth
Add
Cancel
Contact Support | @ibmapimgt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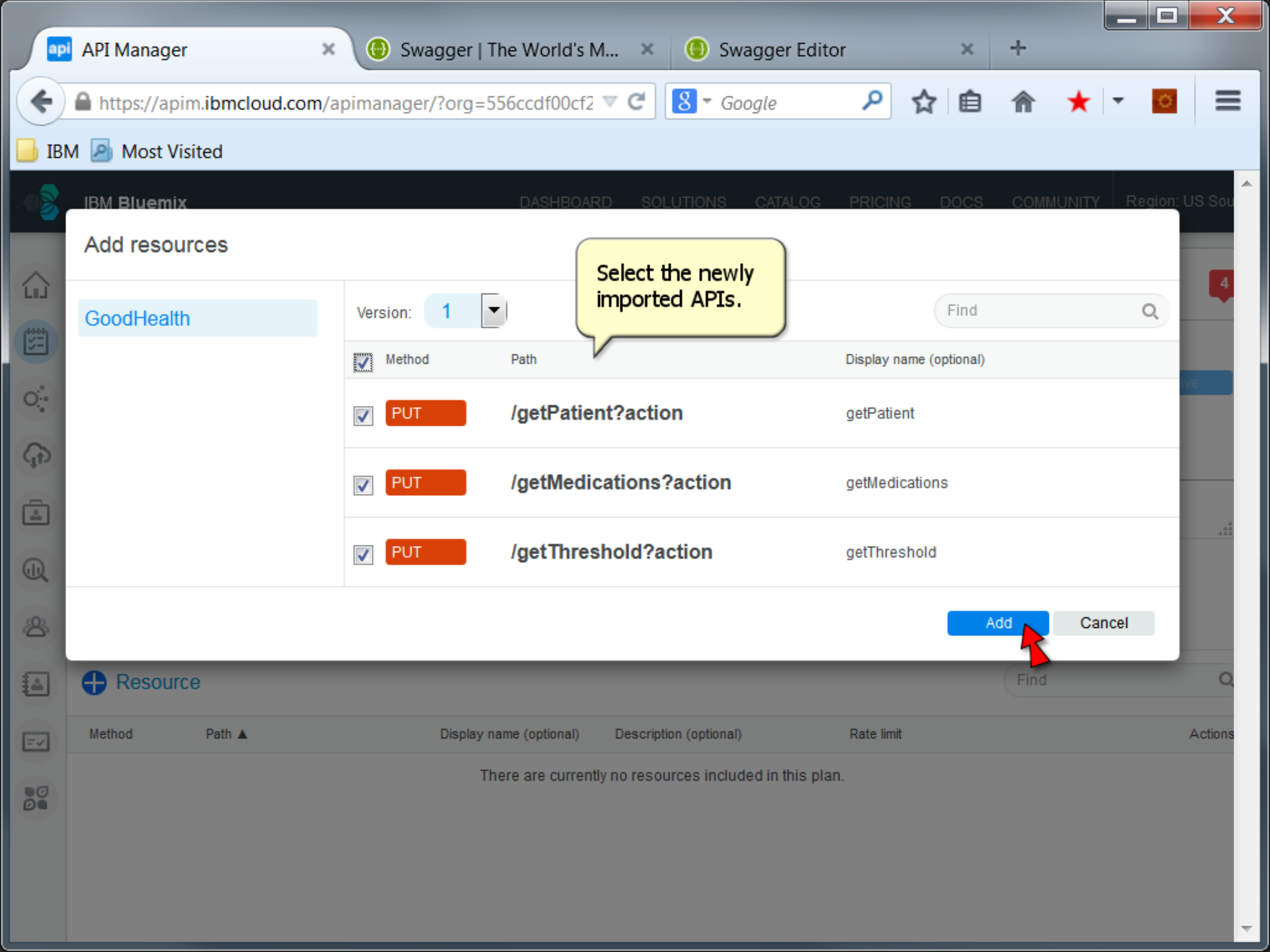
Region: US South
Plans
4
Name
GoodHealth
Version
1
Restricted
Staged in
No environments
Stage
Delete Version
Save
Description
GoodHealth
Add the newly imported APIs to the plan.
Resource
Find
Method
Path ▲
Display name (optional)
Description (optional)
Rate limit
Actions
There are currently no resources included in this plan.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Swagger | The World's M...
Swagger Editor
https://apim.ibmcloud.com/apimanager/?org=556ccdf00cf2
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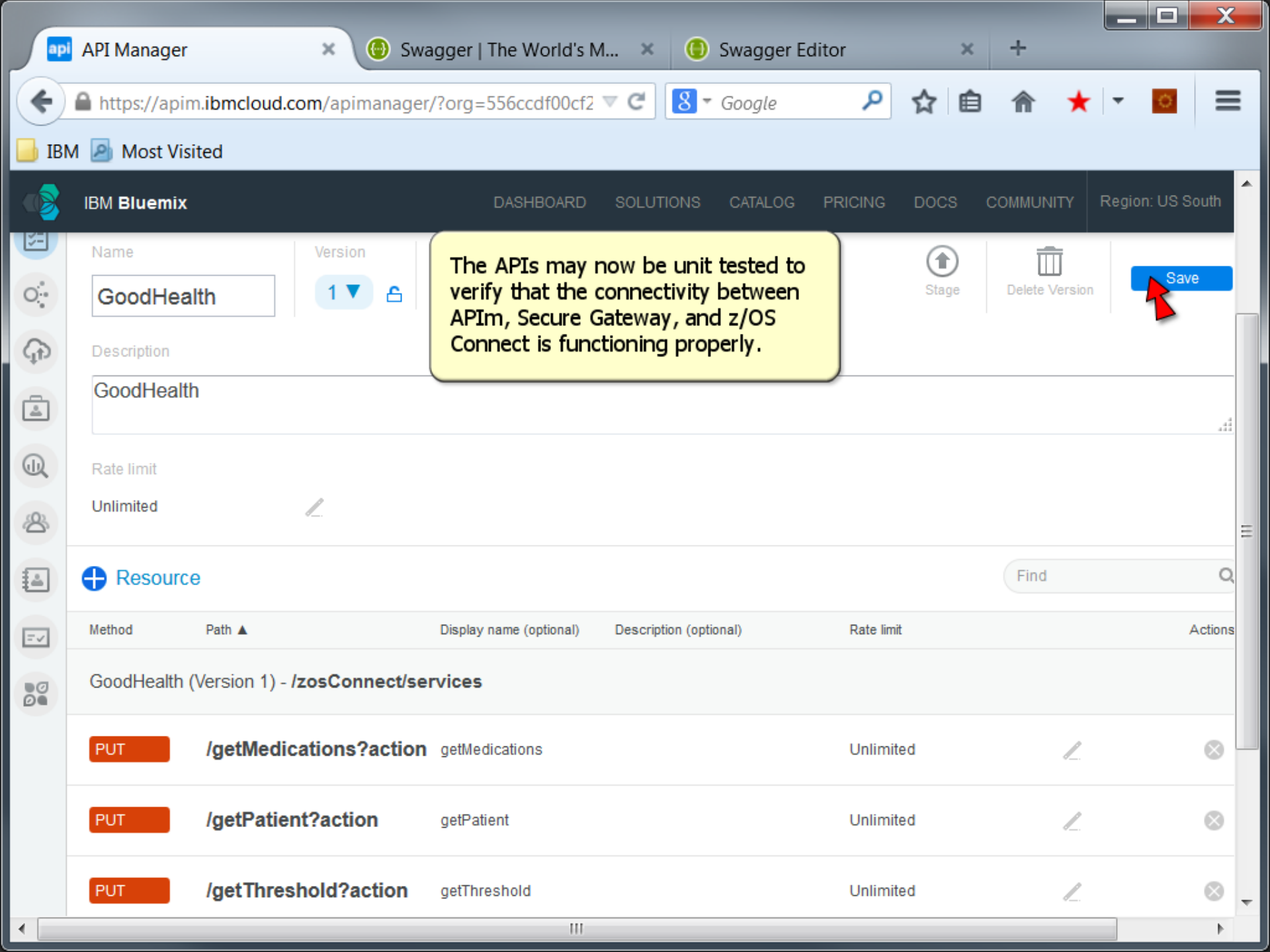
COMMUNITY
Add resources
GoodHealth
Version: 1
Select the newly imported APIs.
Find
Method
Path
Display name (optional)
PUT
/getPatient?action
getPatient
PUT
/getMedications?action
getMedications
PUT
/getThreshold?action
getThreshold
Add
Cancel
Resource
Find
Method
Path
Display name (optional)
Description (optional)
Rate limit
Actions
There are currently no resources included in this plan.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Swagger | The World's M...
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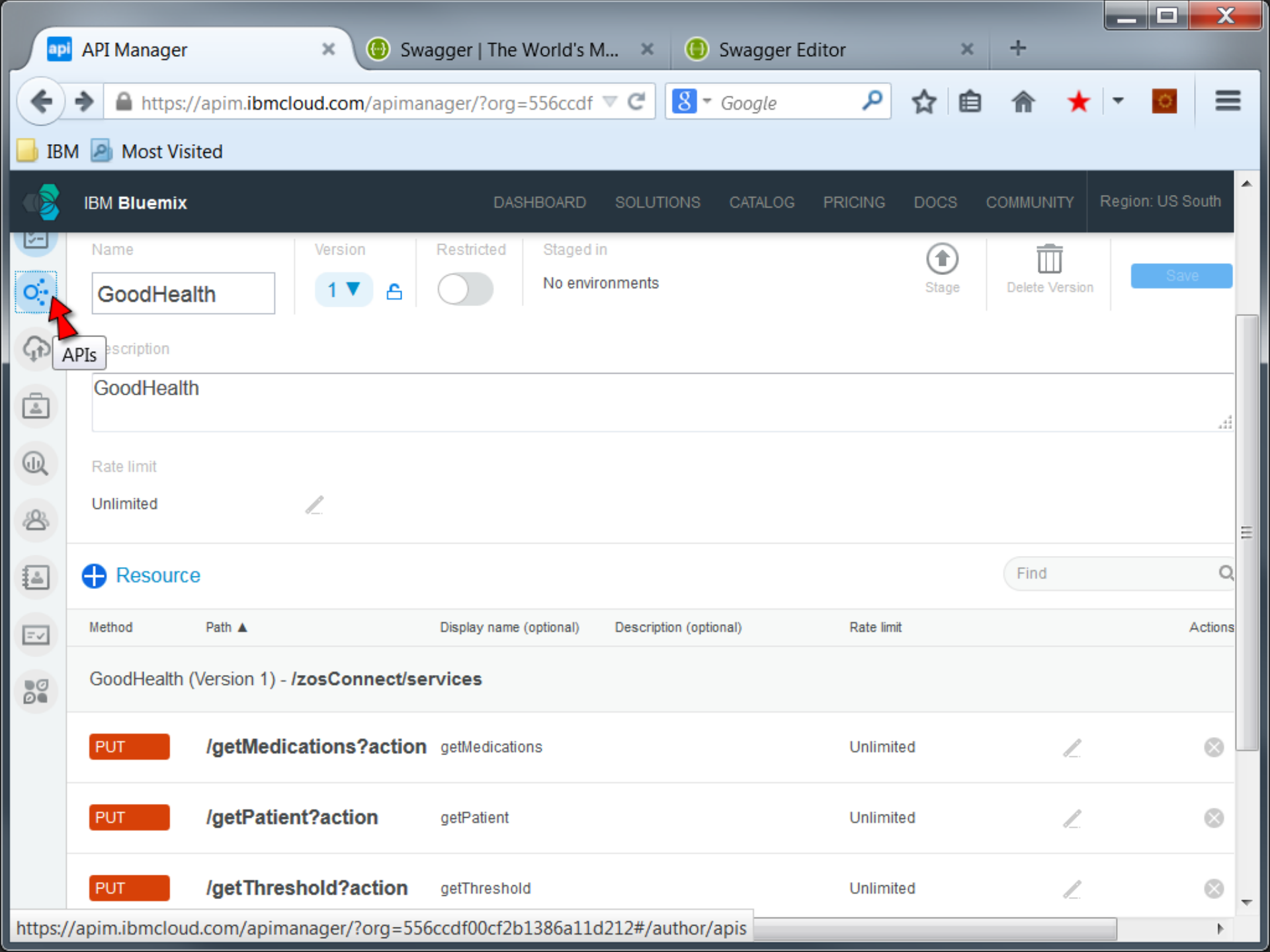
DOCS
COMMUNITY
Region: US South
Name
GoodHealth
Version
1
Stage
Delete Version
Save
The APIs may now be unit tested to verify that the connectivity between APIm, Secure Gateway, and z/OS Connect is functioning properly.
Description
GoodHealth
Rate limit
Unlimited
Resource
Find
Method
Path ▲
Display name (optional)
Description (optional)
Rate limit
Actions
GoodHealth (Version 1) - /zosConnect/services
PUT
/getMedications?action
getMedications
Unlimited
PUT
/getPatient?action
getPatient
Unlimited
PUT
/getThreshold?action
getThreshold
Unlimited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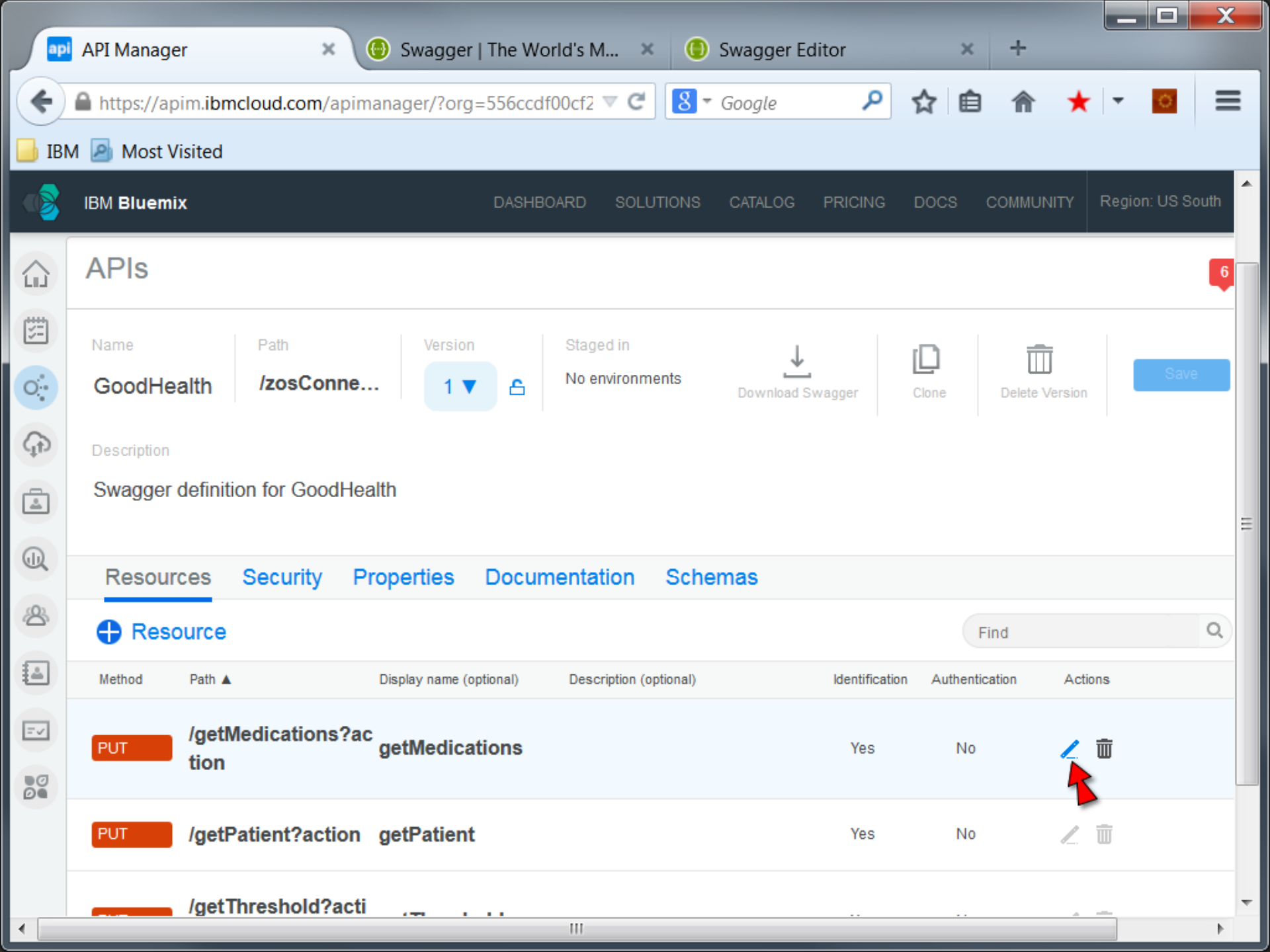
CATALOG
PRICING
DOCS
COMMUNITY
Region: US South
Name
GoodHealth
Version
1
Restricted
Staged in
No environments
Stage
Delete Version
Save
APIs
GoodHealth
Rate limit
Unlimited
Resource
Find
Method
Path ▲
Display name (optional)
Description (optional)
Rate limit
Actions
GoodHealth (Version 1) - /zosConnect/services
PUT
/getMedications?action
getMedications
Unlimited
PUT
/getPatient?action
getPatient
Unlimited
PUT
/getThreshold?action
getThreshold
Unlimited
https://apim.ibmcloud.com/apimanager/?org=556ccdf00cf2b1386a11d212#/author/apis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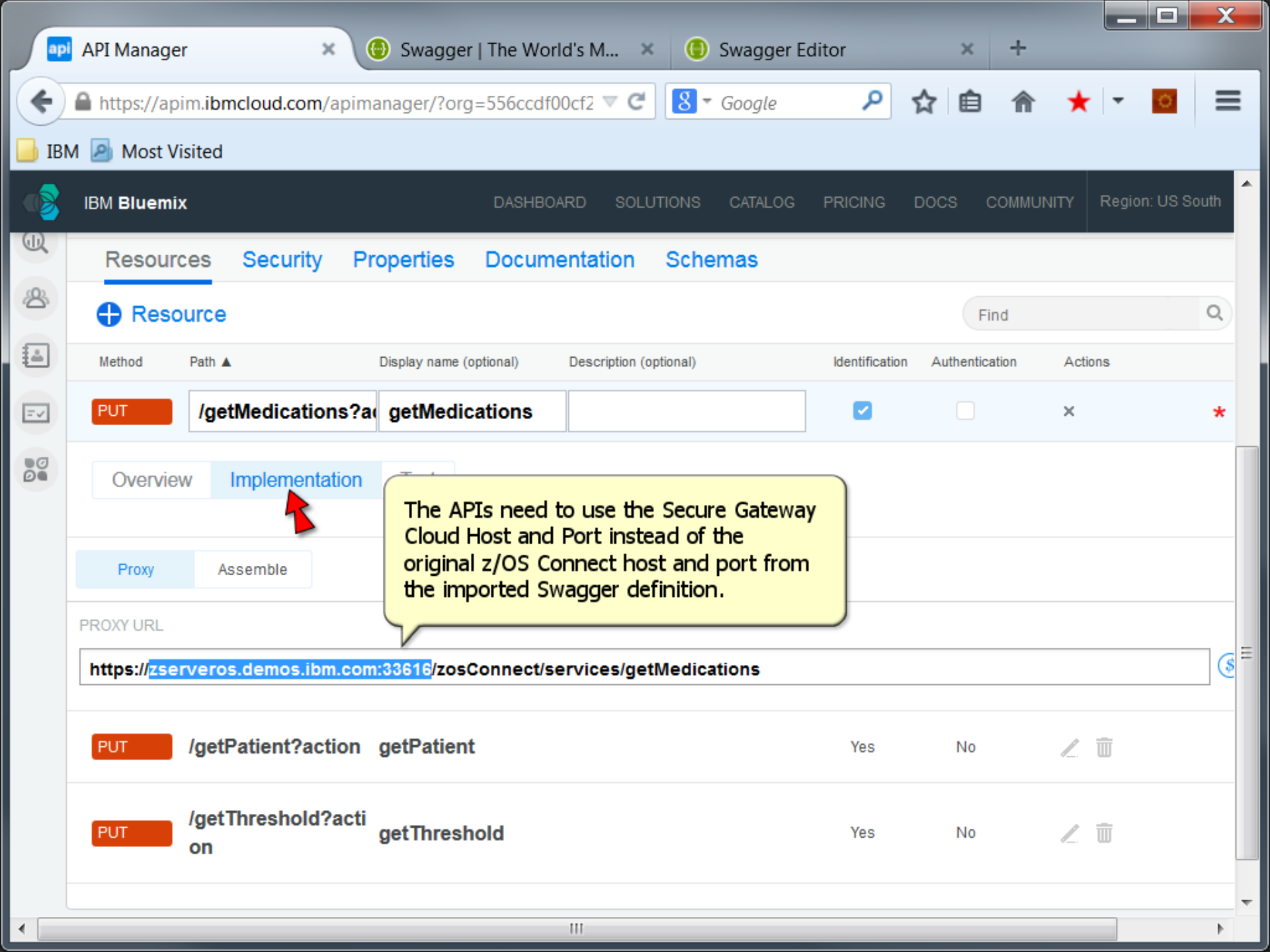
Region: US South
APIs
6
Name
GoodHealth
Path
/zosConne...
Version
1
Staged in
No environments
Download Swagger
Clone
Delete Version
Save
Description
Swagger definition for GoodHealth
Resources
Security
Properties
Documentation
Schemas
Resource
Find
Method
Path ▲
Display name (optional)
Description (optional)
Identification
Authentication
Actions
PUT
/getMedications?action
getMedications
Yes
No
PUT
/getPatient?action
getPatient
Yes
No
/getThreshold?acti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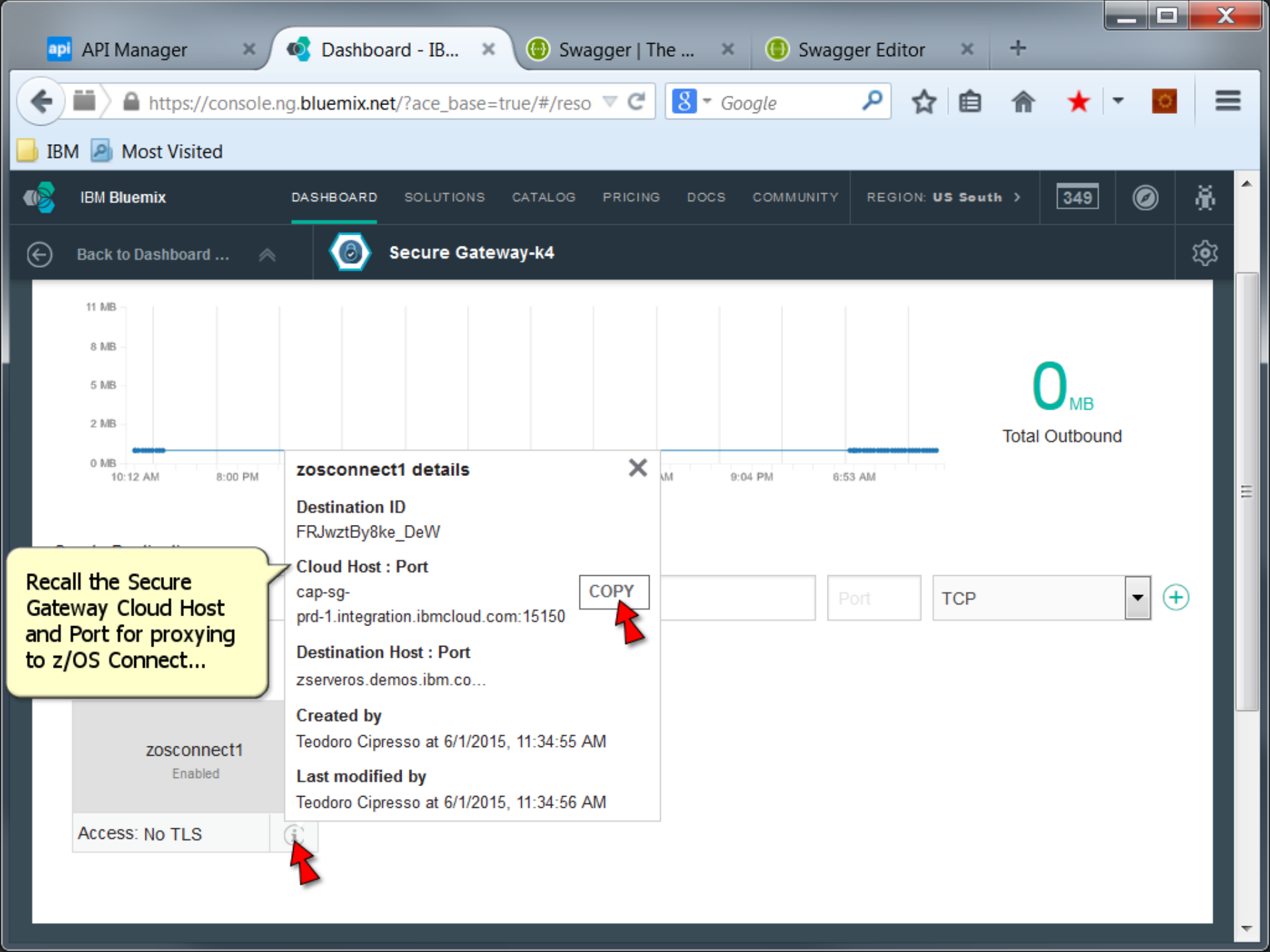
Region: US South
Resources
Security
Properties
Documentation
Schemas
Resource
Find
Method
Path ▲
Display name (optional)
Description (optional)
Identification
Authentication
Actions
PUT
/getMedications?a
getMedications
Overview
Implementation
The APIs need to use the Secure Gateway Cloud Host and Port instead of the original z/OS Connect host and port from the imported Swagger definition.
Proxy
Assemble
PROXY URL
https://zserveros.demos.ibm.com:33616/zosConnect/services/getMedications
PUT
/getPatient?action
getPatient
Yes
No
PUT
/getThreshold?action
getThreshold
Yes
No


API Manager
Dashboard - IB...
Swagger | The ...
Swagger Editor
https://console.ng.bluemix.net/?ace_base=true/#/reso
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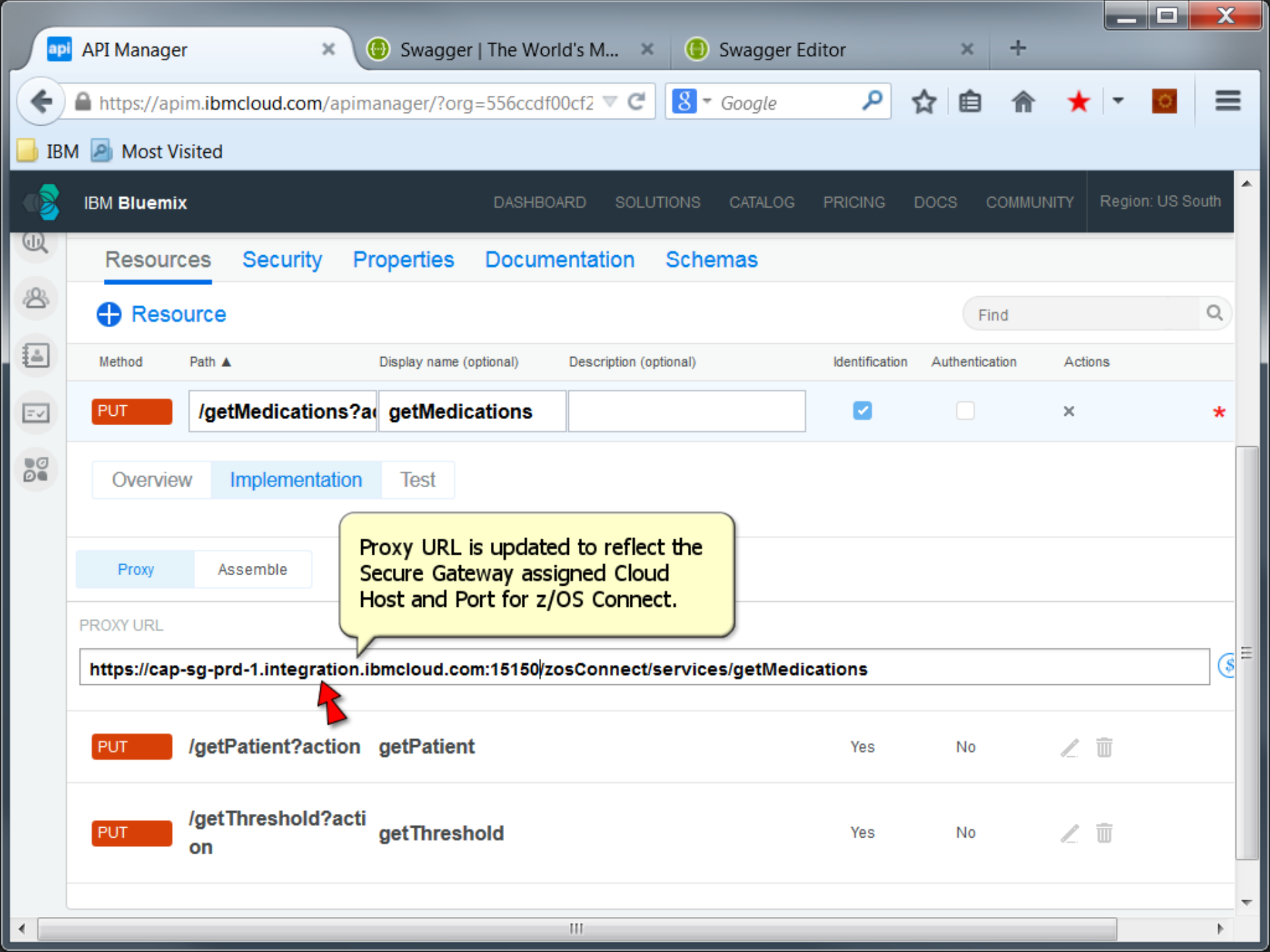
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
REGION: US South
349
Back to Dashboard ...
Secure Gateway-k4
11 MB
8 MB
5 MB
2 MB
0 MB
10:12 AM
8:00 PM
9:04 PM
6:53 AM
0 MB
Total Outbound
zosconnect1 details
Destination ID
FRJwztBy8ke_DeW
Cloud Host : Port
cap-sg-prd-1.integration.ibmcloud.com:15150
COPY
Destination Host : Port
zserveros.demos.ibm.co...
Created by
Teodoro Cipresso at 6/1/2015, 11:34:55 AM
Last modified by
Teodoro Cipresso at 6/1/2015, 11:34:56 AM
Recall the Secure Gateway Cloud Host and Port for proxying to z/OS Connect...
Port
TCP
zosconnect1
Enabled
Access: No TLS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https://apim.ibmcloud.com/apimanager/?org=556ccdf00cf2
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SOLUTIONS
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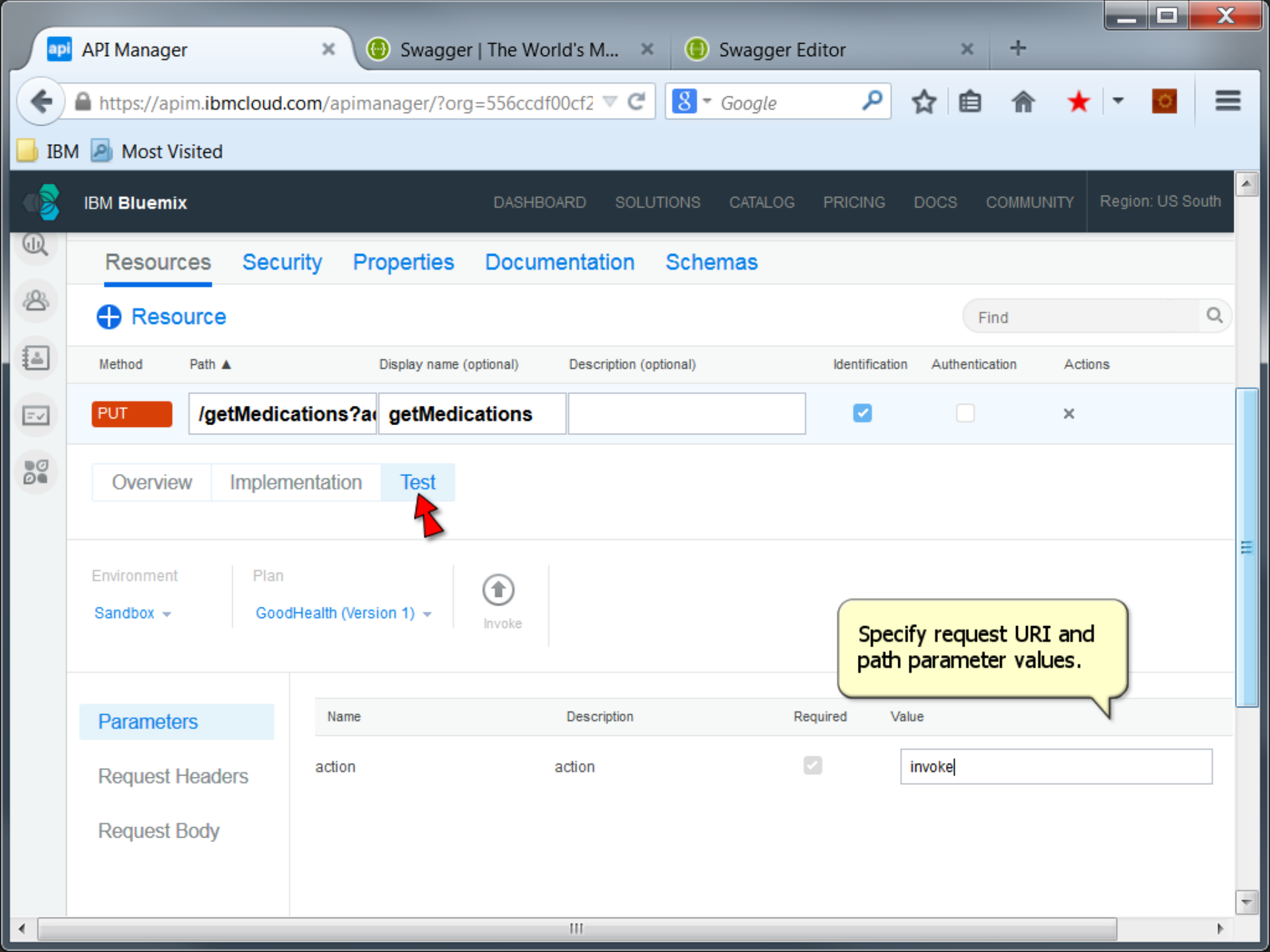
PRICING
DOCS
COMMUNITY
Region: US South
Resources
Security
Properties
Documentation
Schemas
Resource
Find
Method
Path ▲
Display name (optional)
Description (optional)
Identification
Authentication
Actions
PUT
/getMedications?a
getMedications
Overview
Implementation
Test
Proxy
Assemble
Proxy URL is updated to reflect the Secure Gateway assigned Cloud Host and Port for z/OS Connect.
PROXY URL
https://cap-sg-prd-1.integration.ibmcloud.com:15150/zosConnect/services/getMedications
PUT
/getPatient?action
getPatient
Yes
No
PUT
/getThreshold?action
getThreshold
Yes
No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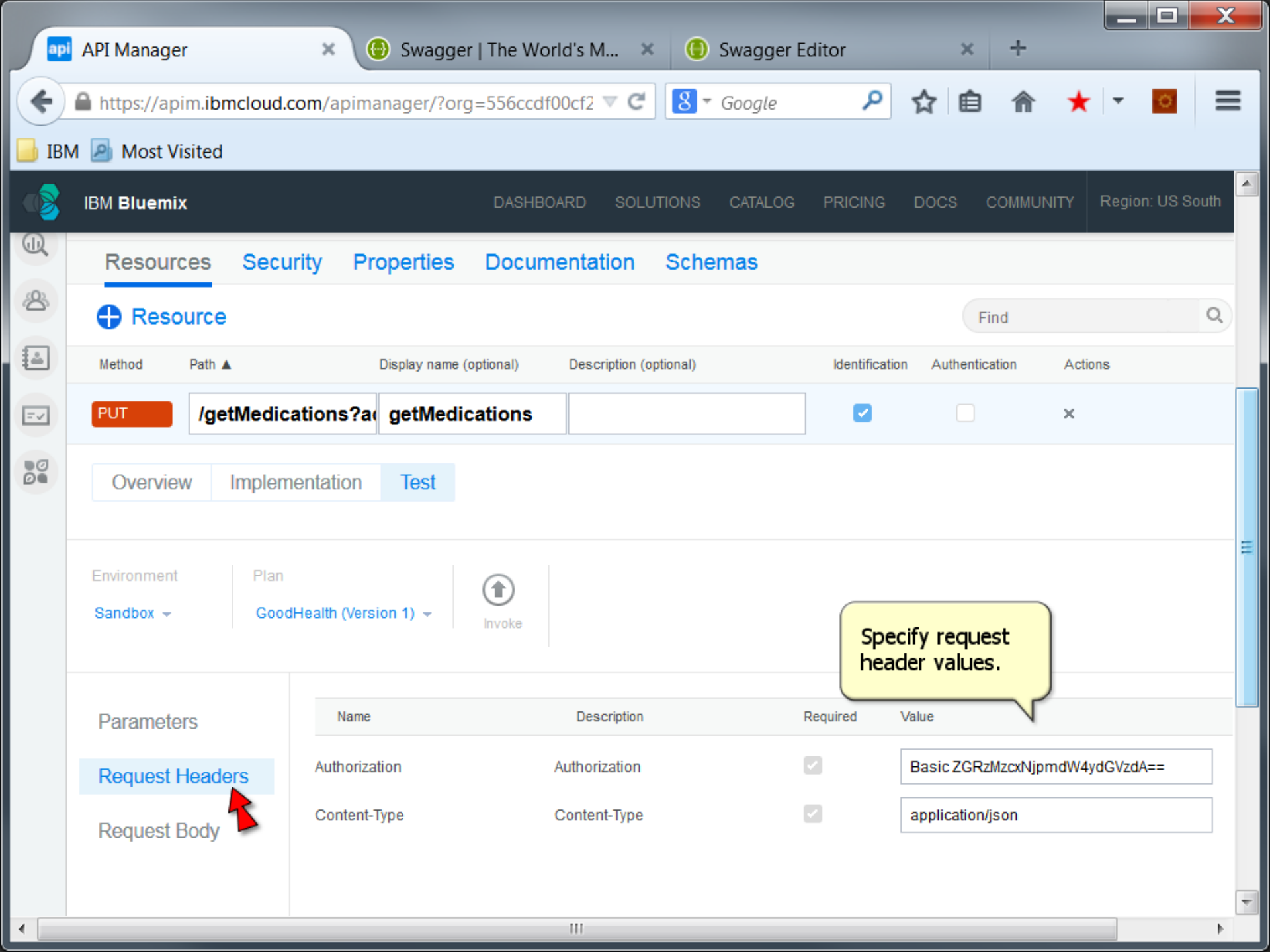
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
Region: US South
Resources
Security
Properties
Documentation
Schemas
Resource
Find
Method
Path ▲
Display name (optional)
Description (optional)
Identification
Authentication
Actions
PUT
/getMedications?a
getMedications
Overview
Implementation
Test
Environment
Sandbox
Plan
GoodHealth (Version 1)
Invoke
Specify request URI and path parameter values.
Parameters
Request Headers
Request Body
Name
Description
Required
Value
action
action
invoke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Swagger Editor
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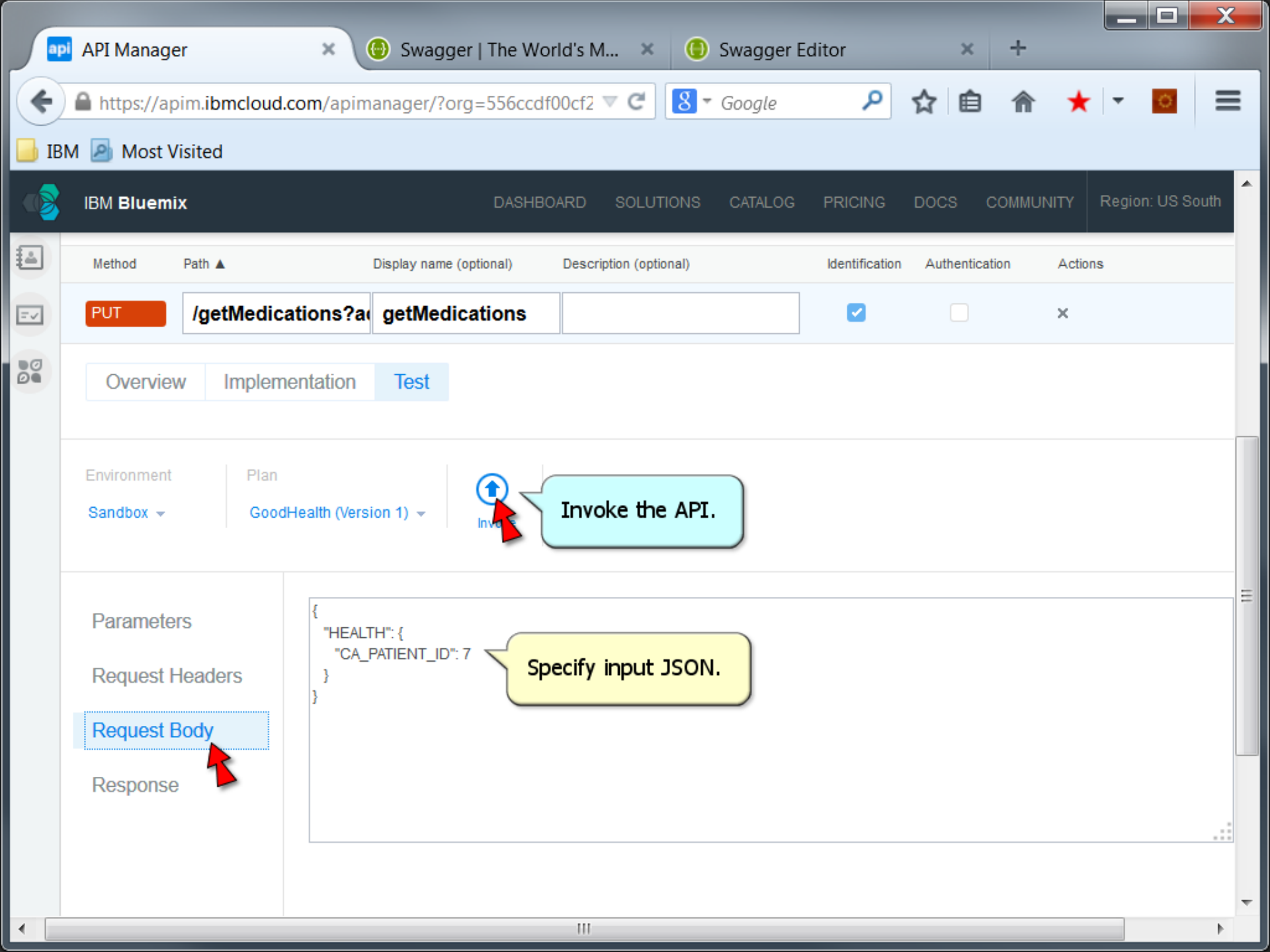
DASHBOARD
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
Region: US South
Resources
Security
Properties
Documentation
Schemas
Resource
Find
Method
Path ▲
Display name (optional)
Description (optional)
Identification
Authentication
Actions
PUT
/getMedications?a
getMedications
Overview
Implementation
Test
Environment
Sandbox
Plan
GoodHealth (Version 1)
Invoke
Specify request header values.
Parameters
Request Headers
Request Body
Name
Description
Required
Value
Authorization
Authorization
Basic ZGRzMzcxNjpmdW4ydGVzdA==
Content-Type
Content-Type
application/json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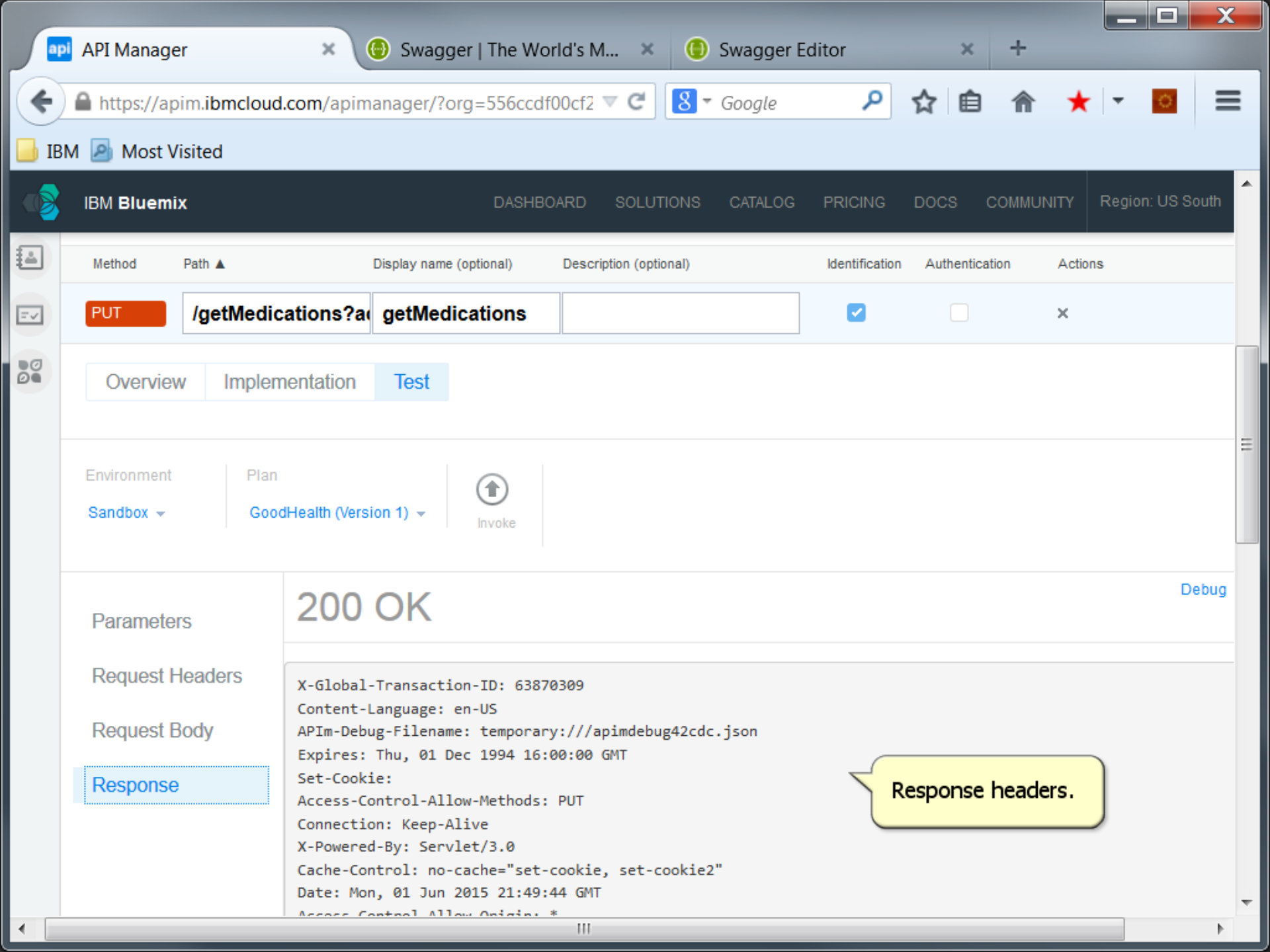
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
Region: US South
Method
Path ▲
Display name (optional)
Description (optional)
Identification
Authentication
Actions
PUT
/getMedications?a
getMedications
Overview
Implementation
Test
Environment
Sandbox
Plan
GoodHealth (Version 1)
Invoke the API.
Parameters
Request Headers
Request Body
Response
{
"HEALTH": {
"CA_PATIENT_ID": 7
}
}
Specify input JSON.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Swagger Editor
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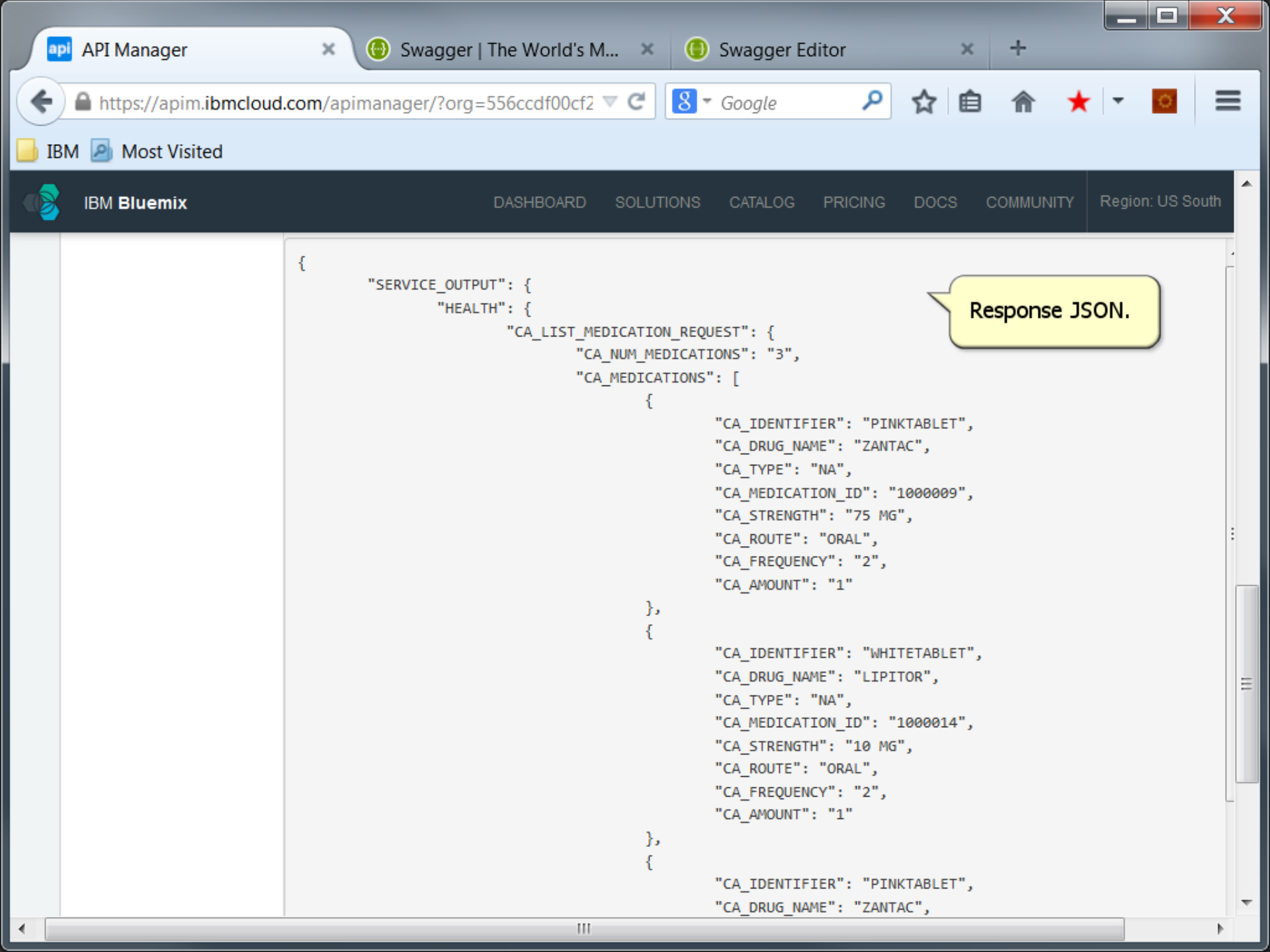
DASHBOARD
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
Region: US South
Method
Path ▲
Display name (optional)
Description (optional)
Identification
Authentication
Actions
PUT
/getMedications?a
getMedications
Overview
Implementation
Test
Environment
Sandbox
Plan
GoodHealth (Version 1)
Invoke
Parameters
Request Headers
Request Body
Response
200 OK
Debug
X-Global-Transaction-ID: 63870309
Content-Language: en-US
APIm-Debug-Filename: temporary:///apimdebug42cdc.json
Expires: Thu, 01 Dec 1994 16:00:00 GMT
Set-Cookie:
Access-Control-Allow-Methods: PUT
Connection: Keep-Alive
X-Powered-By: Servlet/3.0
Cache-Control: no-cache="set-cookie, set-cookie2"
Date: Mon, 01 Jun 2015 21:49:44 GMT
Response headers.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Swagger Editor
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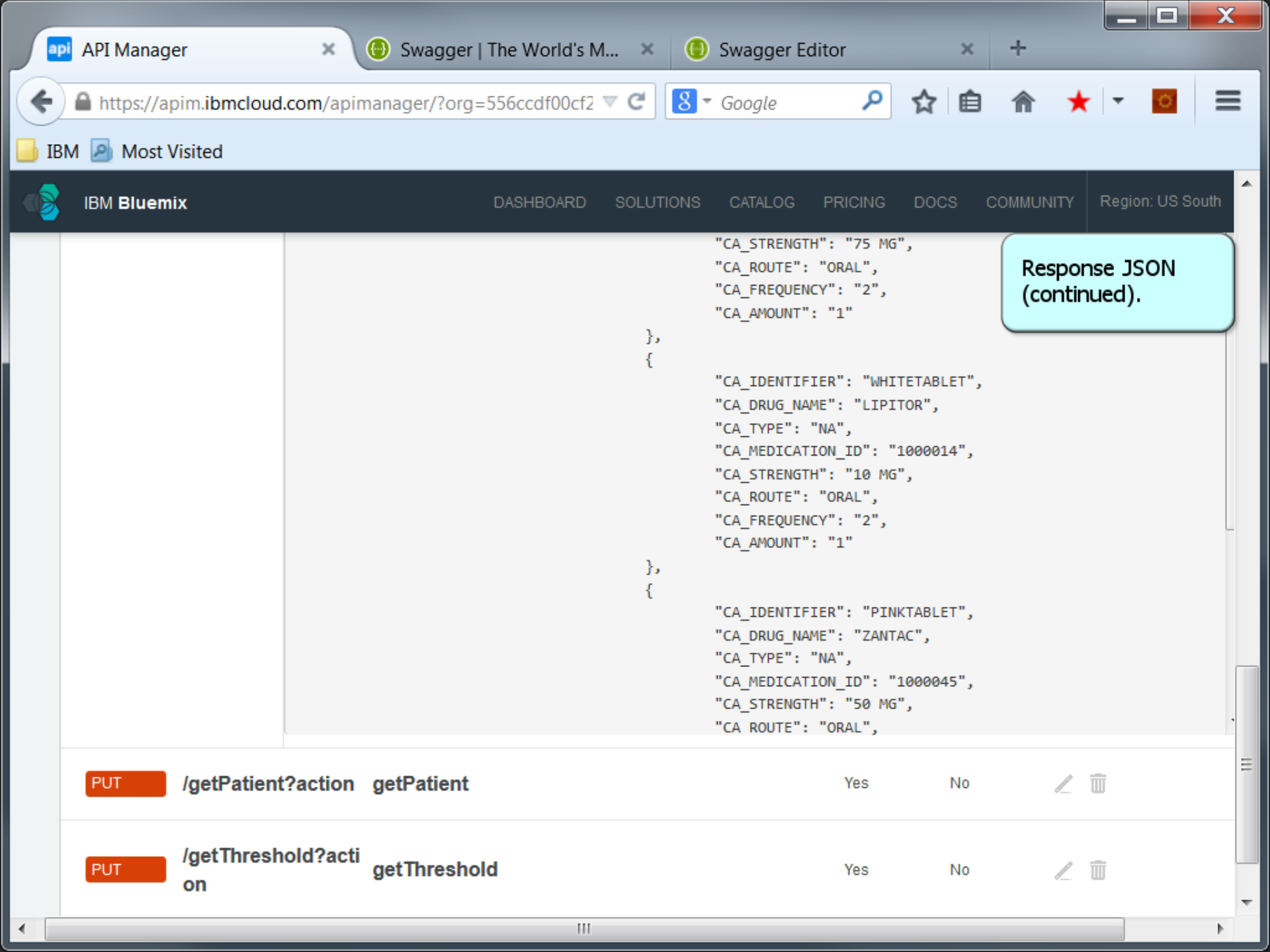
DASHBOARD
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
Region: US South
Response JSON.
{
"SERVICE_OUTPUT": {
"HEALTH": {
"CA_LIST_MEDICATION_REQUEST": {
"CA_NUM_MEDICATIONS": "3",
"CA_MEDICATIONS": [
{
"CA_IDENTIFIER": "PINKTABLET",
"CA_DRUG_NAME": "ZANTAC",
"CA_TYPE": "NA",
"CA_MEDICATION_ID": "1000009",
"CA_STRENGTH": "75 MG",
"CA_ROUTE": "ORAL",
"CA_FREQUENCY": "2",
"CA_AMOUNT": "1"
},
{
"CA_IDENTIFIER": "WHITETABLET",
"CA_DRUG_NAME": "LIPITOR",
"CA_TYPE": "NA",
"CA_MEDICATION_ID": "1000014",
"CA_STRENGTH": "10 MG",
"CA_ROUTE": "ORAL",
"CA_FREQUENCY": "2",
"CA_AMOUNT": "1"
},
{
"CA_IDENTIFIER": "PINKTABLET",
"CA_DRUG_NAME": "ZANTAC",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Swagger Editor
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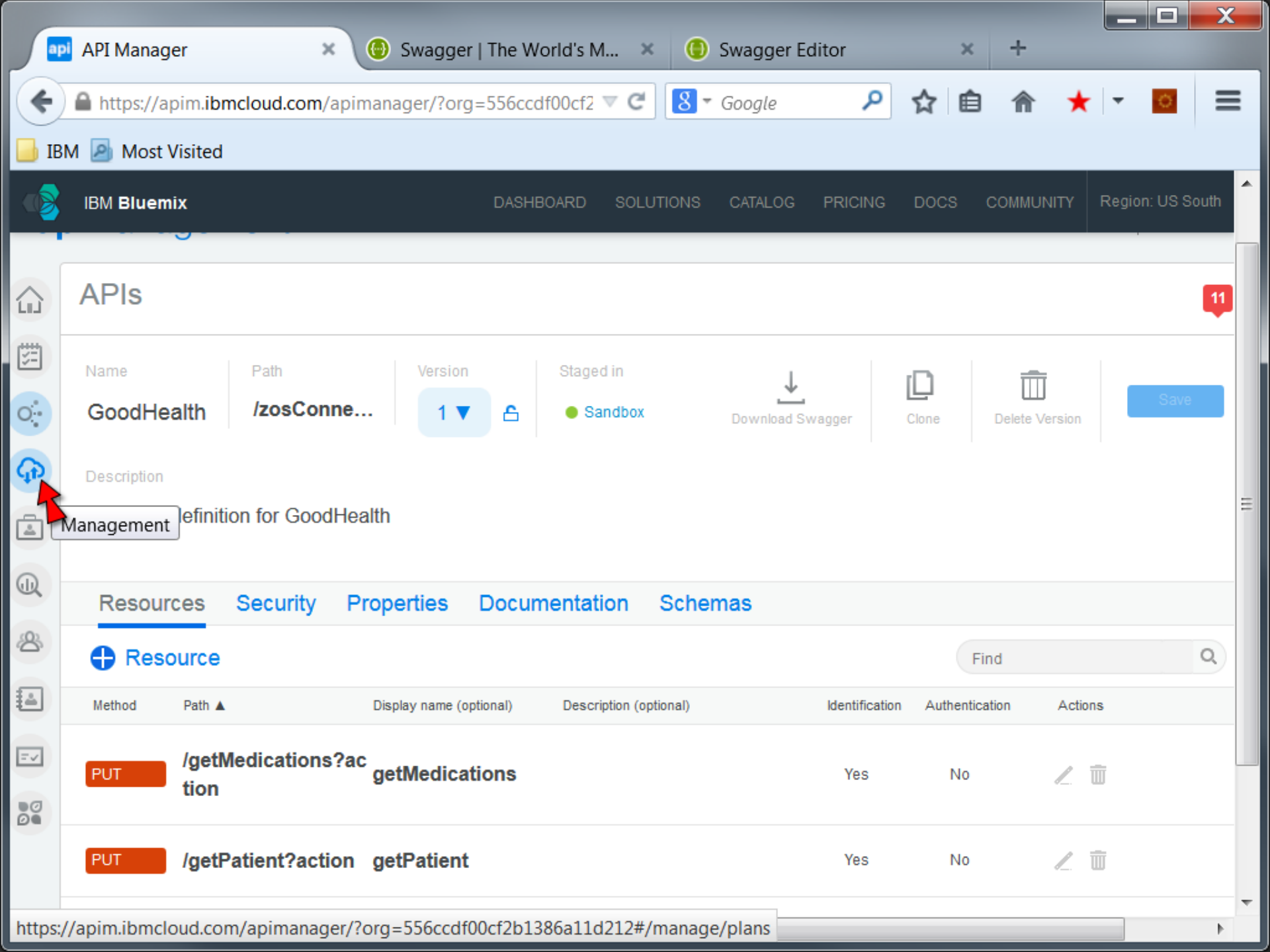
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
Region: US South
"CA_STRENGTH": "75 MG",
"CA_ROUTE": "ORAL",
"CA_FREQUENCY": "2",
"CA_AMOUNT": "1"
},
{
"CA_IDENTIFIER": "WHITETABLET",
"CA_DRUG_NAME": "LIPITOR",
"CA_TYPE": "NA",
"CA_MEDICATION_ID": "1000014",
"CA_STRENGTH": "10 MG",
"CA_ROUTE": "ORAL",
"CA_FREQUENCY": "2",
"CA_AMOUNT": "1"
},
{
"CA_IDENTIFIER": "PINKTABLET",
"CA_DRUG_NAME": "ZANTAC",
"CA_TYPE": "NA",
"CA_MEDICATION_ID": "1000045",
"CA_STRENGTH": "50 MG",
"CA_ROUTE": "ORAL",
Response JSON (continued).
PUT /getPatient?action getPatient Yes No
PUT /getThreshold?action getThreshold Yes No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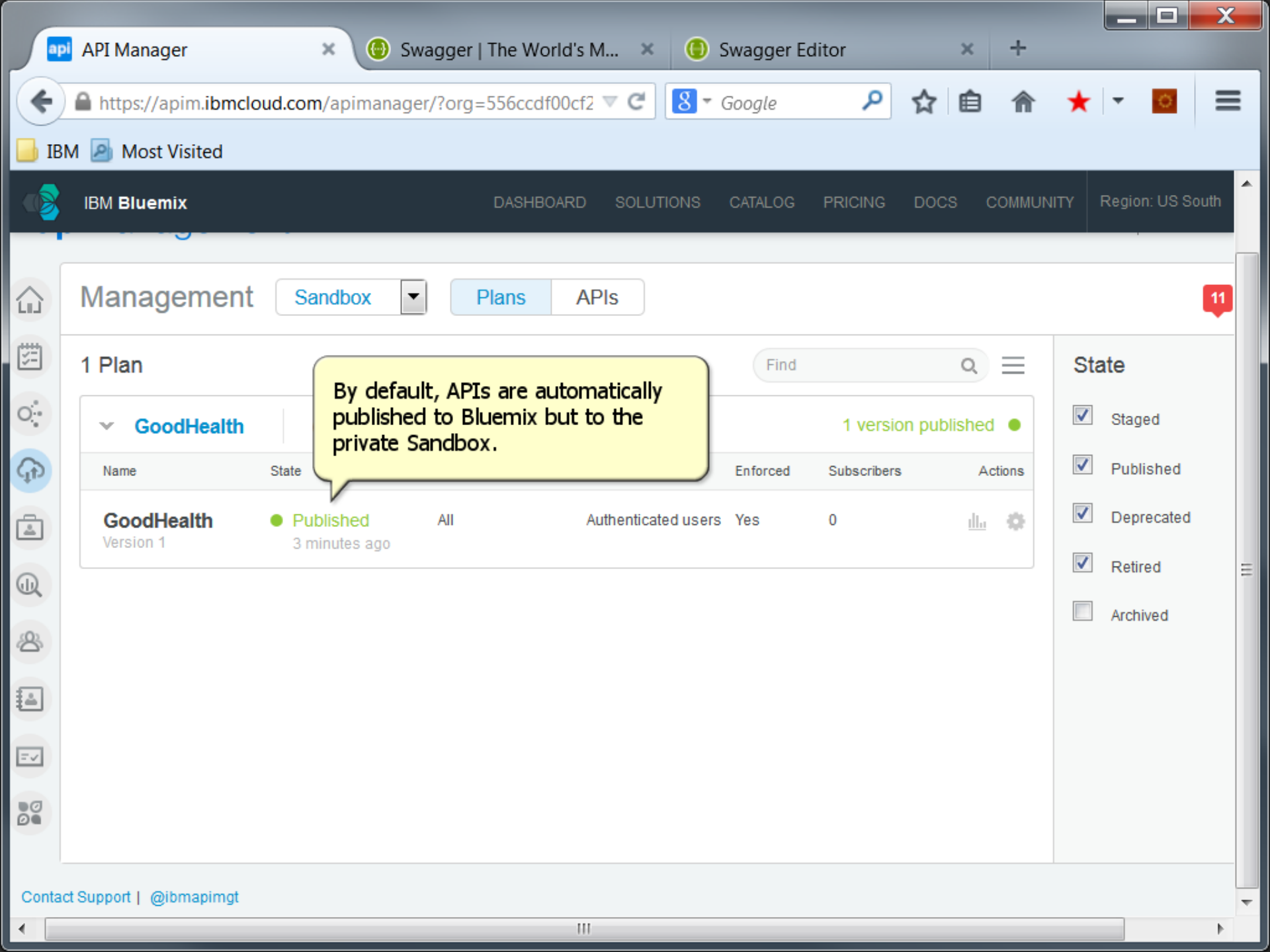
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
Region: US South
APIs
11
Name
GoodHealth
Path
/zosConne...
Version
1
Staged in
Sandbox
Download Swagger
Clone
Delete Version
Save
Description
efinition for GoodHealth
Management
Resources
Security
Properties
Documentation
Schemas
Resource
Find
Method
Path ▲
Display name (optional)
Description (optional)
Identification
Authentication
Actions
PUT
/getMedications?action
getMedications
Yes
No
PUT
/getPatient?action
getPatient
Yes
No
https://apim.ibmcloud.com/apimanager/?org=556ccdf00cf2b1386a11d212#/manage/plans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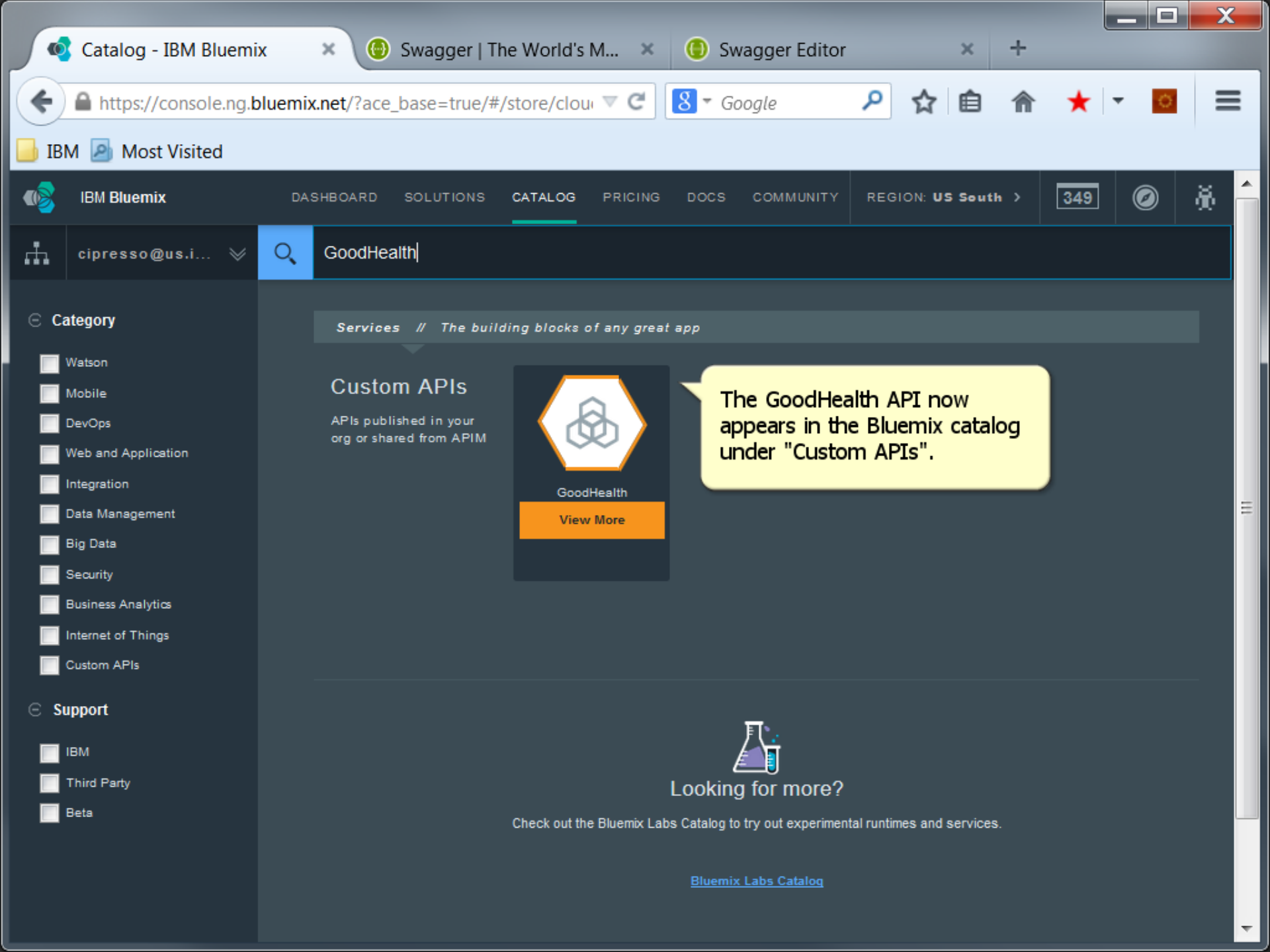
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
Region: US South
Management
Sandbox
Plans
APIs
11
1 Plan
Find
By default, APIs are automatically published to Bluemix but to the private Sandbox.
GoodHealth
1 version published
Name
State
Enforced
Subscribers
Actions
GoodHealth
Version 1
Published
3 minutes ago
All
Authenticated users
Yes
0
State
Staged
Published
Deprecated
Retired
Archived
Contact Support | @ibmapimgt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Swagger | The World's M...
Swagger Editor
https://console.ng.bluemix.net/?ace_base=true/#/store/clou
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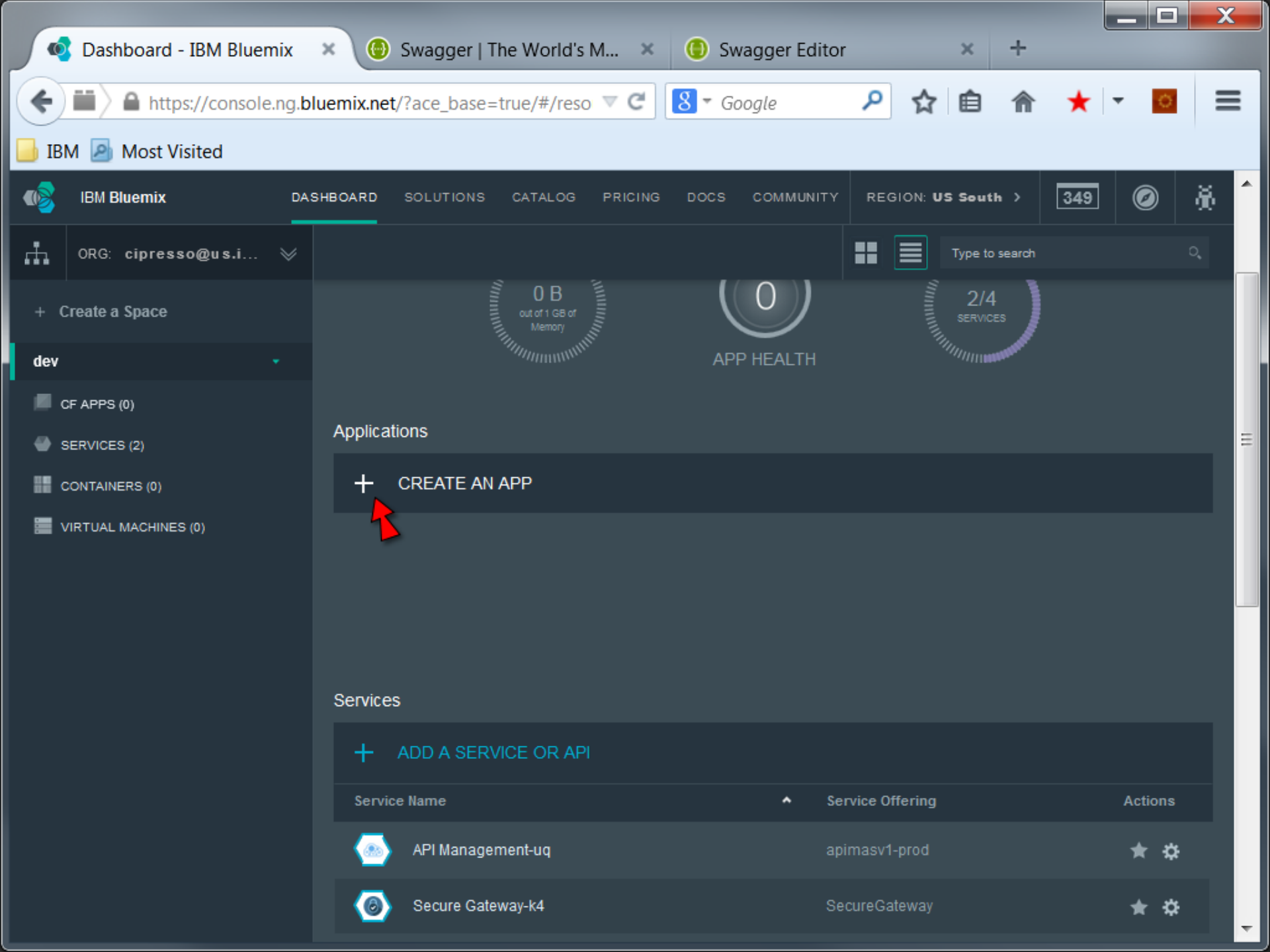
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
REGION: US South
349
cipresso@us.i...
GoodHealth
Category
Watson
Mobile
DevOps
Web and Application
Integration
Data Management
Big Data
Security
Business Analytics
Internet of Things
Custom APIs
Support
IBM
Third Party
Beta
Services // The building blocks of any great app
Custom APIs
APIs published in your org or shared from APIM
GoodHealth
View More
The GoodHealth API now appears in the Bluemix catalog under "Custom APIs".
Looking for more?
Check out the Bluemix Labs Catalog to try out experimental runtimes and services.
Bluemix Labs Catalog

Create a Bluemix Hybrid Cloud App that leverages z/OS Connect Services in Bluemix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Swagger | The World's M...
Swagger Editor
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DASHBOARD
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
REGION: US South
349
ORG: cipresso@us.i...
Type to search
Create a Space
dev
CF APPS (0)
SERVICES (2)
CONTAINERS (0)
VIRTUAL MACHINES (0)
0 B
out of 1 GB of Memory
0
APP HEALTH
2/4
SERVICES
Applications
CREATE AN APP
Services
ADD A SERVICE OR API
Service Name
Service Offering
Actions
API Management-uq
apimasv1-prod
Secure Gateway-k4
SecureGateway

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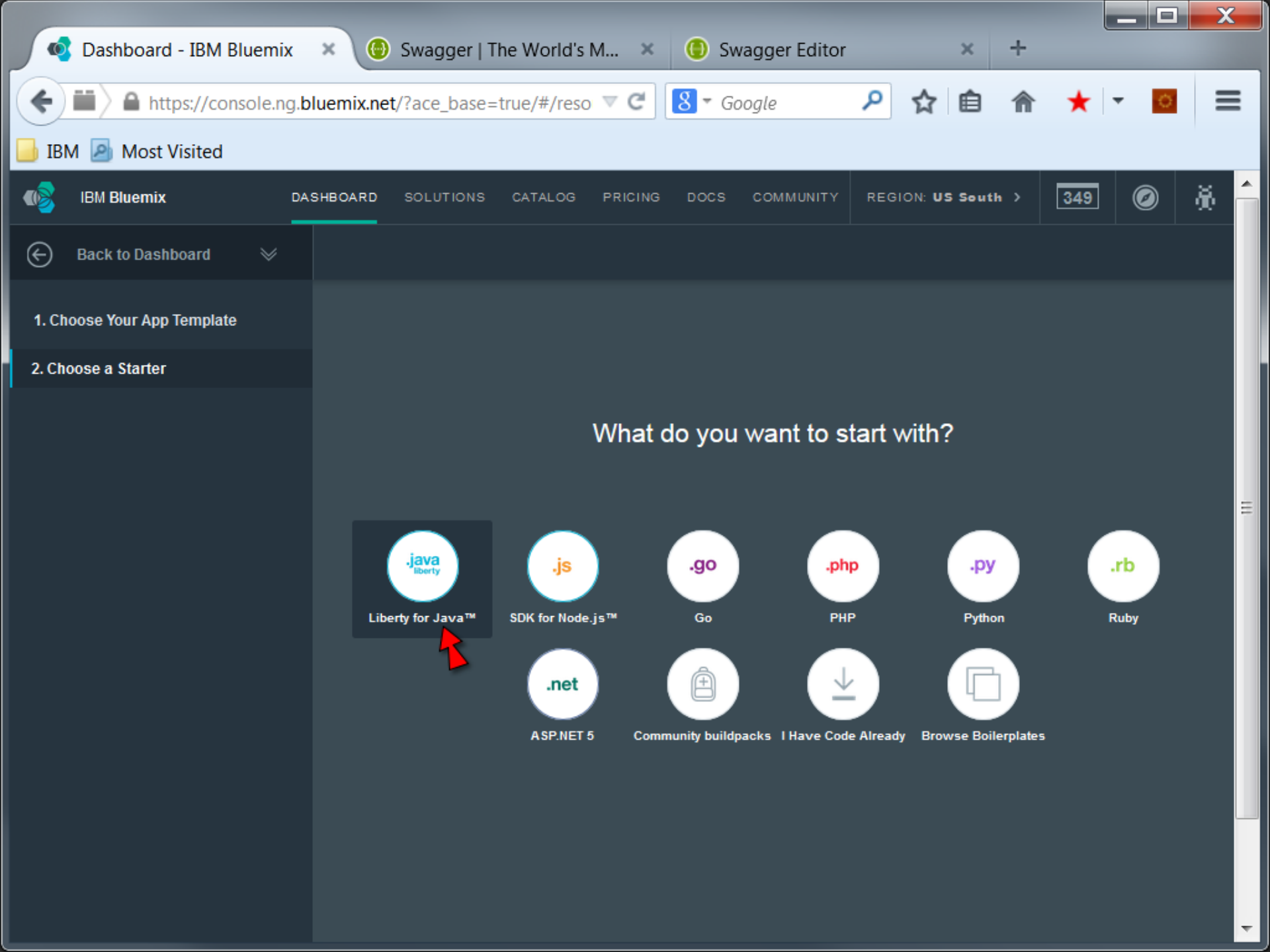
Back to Dashboard

1. Choose Your App Template

What kind of app are you creating?

Or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Swagger | The World's M...
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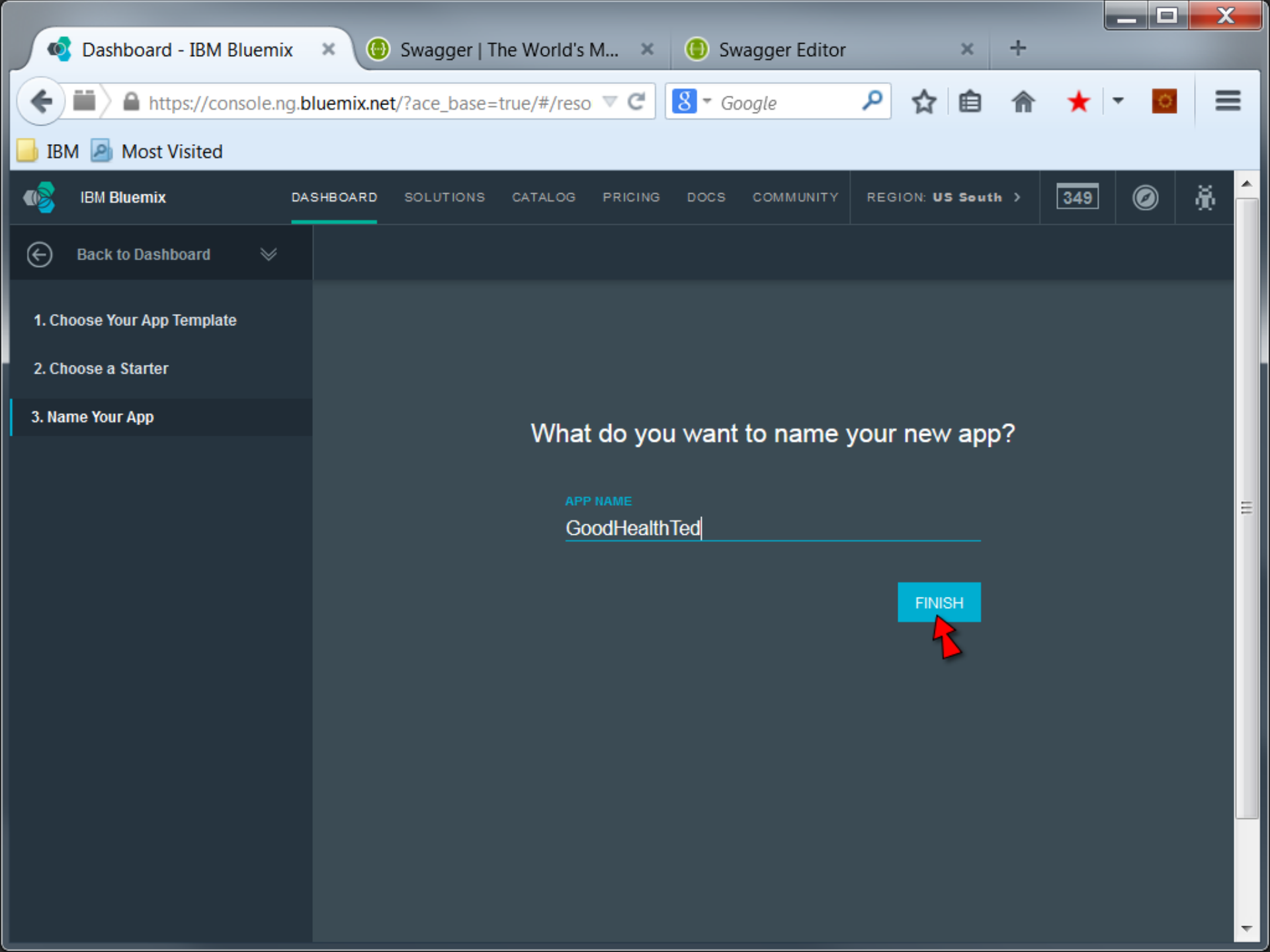
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
REGION: US South
349
Back to Dashboard
1. Choose Your App Template
2. Choose a Starter
What do you want to start with?
Liberty for Java™
SDK for Node.js™
Go
PHP
Python
Ruby
ASP.NET 5
Community buildpacks
I Have Code Already
Browse Boilerplates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Swagger | The World's M...
Swagger Editor
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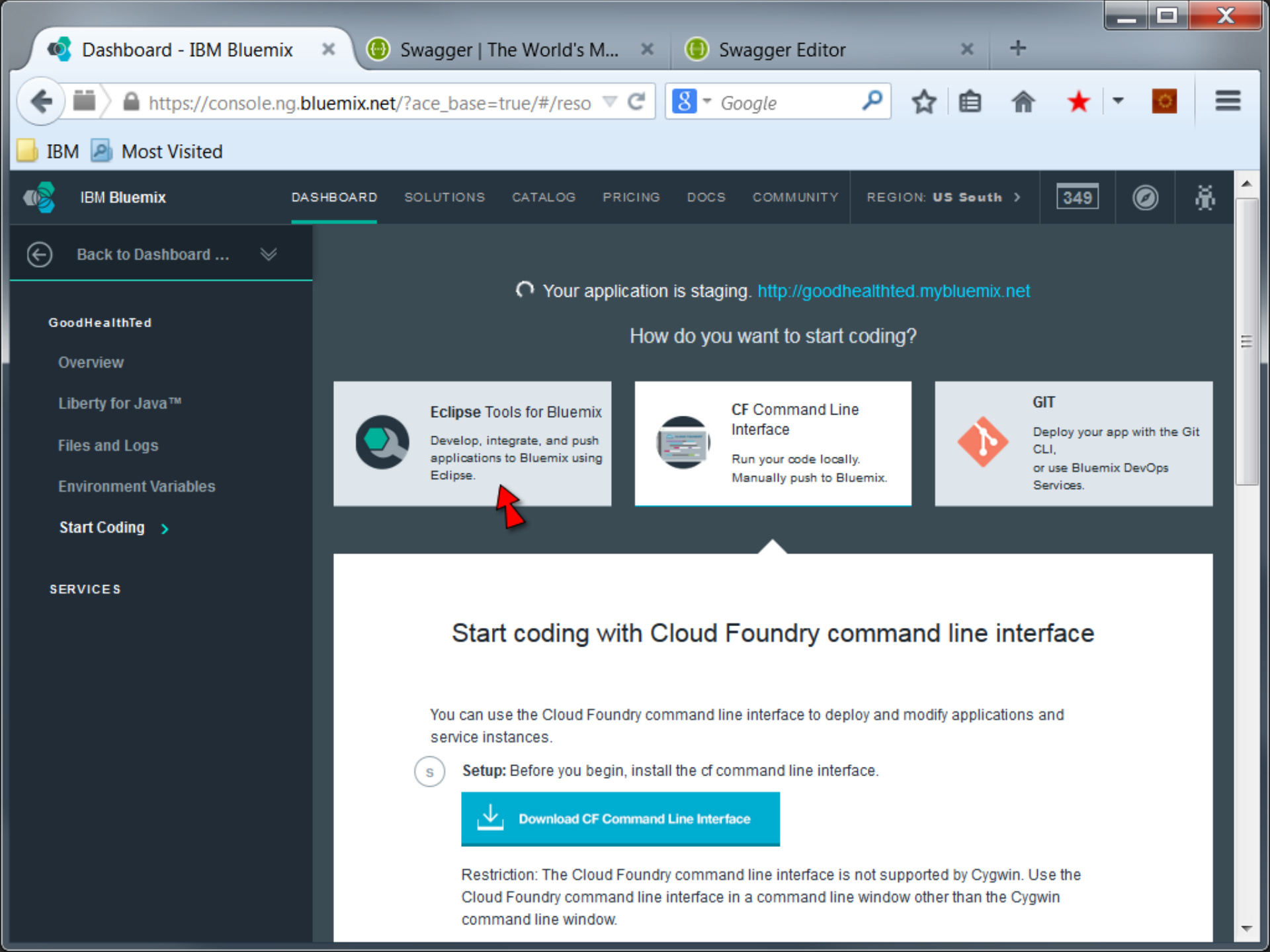
DASHBOARD
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
REGION: US South
349
Back to Dashboard
1. Choose Your App Template
2. Choose a Starter
3. Name Your App
What do you want to name your new app?
APP NAME
GoodHealthTed
FINISH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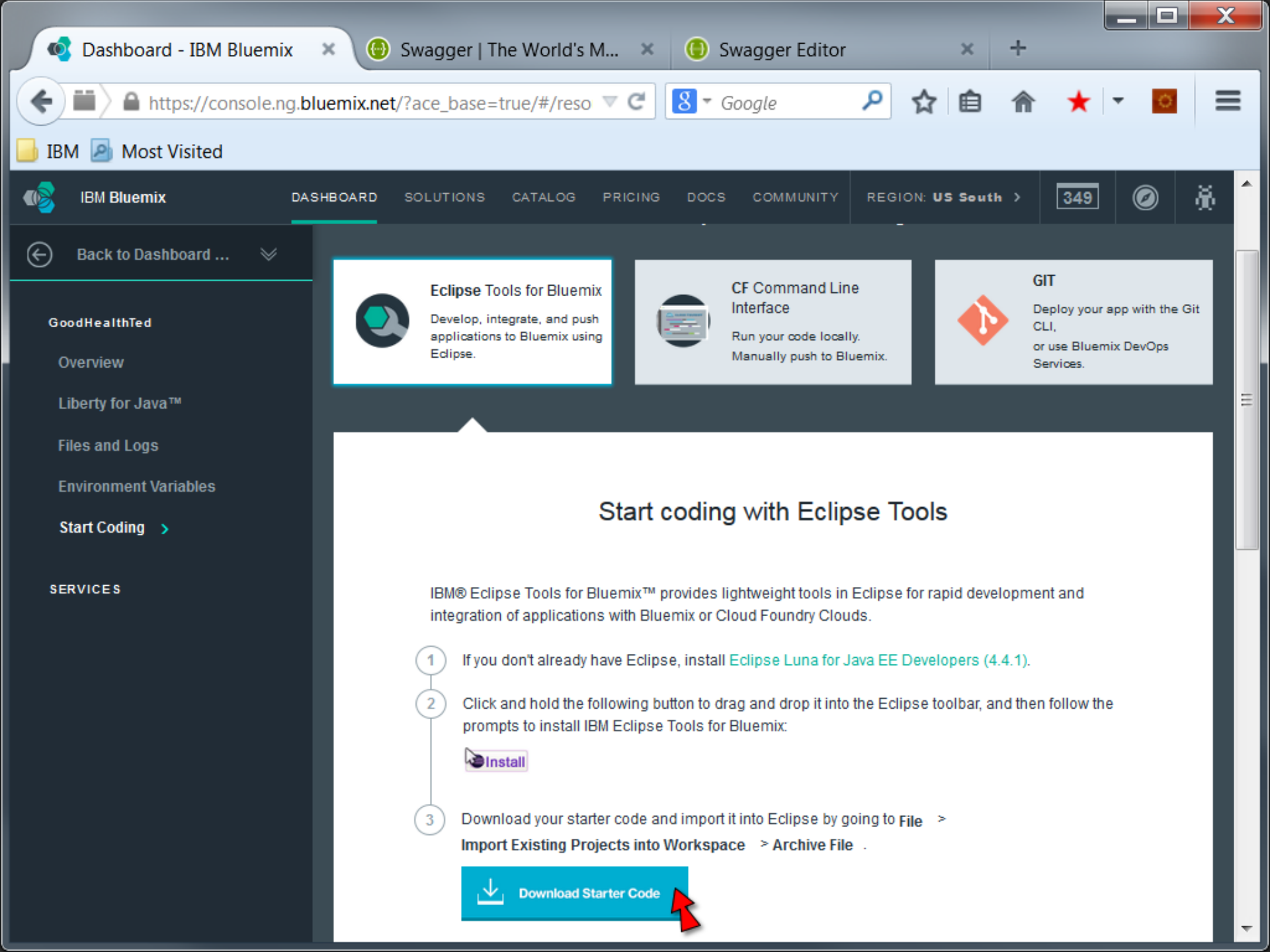
Swagger | The World's M...
Swagger Editor
https://console.ng.bluemix.net/?ace_base=true/#/reso
Google
IBM
Most Visited
IBM Bluemix
DASHBOARD
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
REGION: US South
349
Back to Dashboard ...
GoodHealthTed
Overview
Liberty for Java™
Files and Logs
Environment Variables
Start Coding
SERVICES
Your application is staging. http://goodhealthted.mybluemix.net
How do you want to start coding?
Eclipse Tools for Bluemix
Develop, integrate, and push applications to Bluemix using Eclipse.
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.
Start coding with Cloud Foundry command line interface
You can use the Cloud Foundry command line interface to deploy and modify applications and service instances.
Setup: Before you begin, install the cf command line interface.
Download CF Command Line Interface
Restriction: The Cloud Foundry command line interface is not supported by Cygwin. Use the Cloud Foundry command line interface in a command line window other than the Cygwin command line window.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Swagger | The World's M...
Swagger Editor
https://console.ng.bluemix.net/?ace_base=true/#/reso
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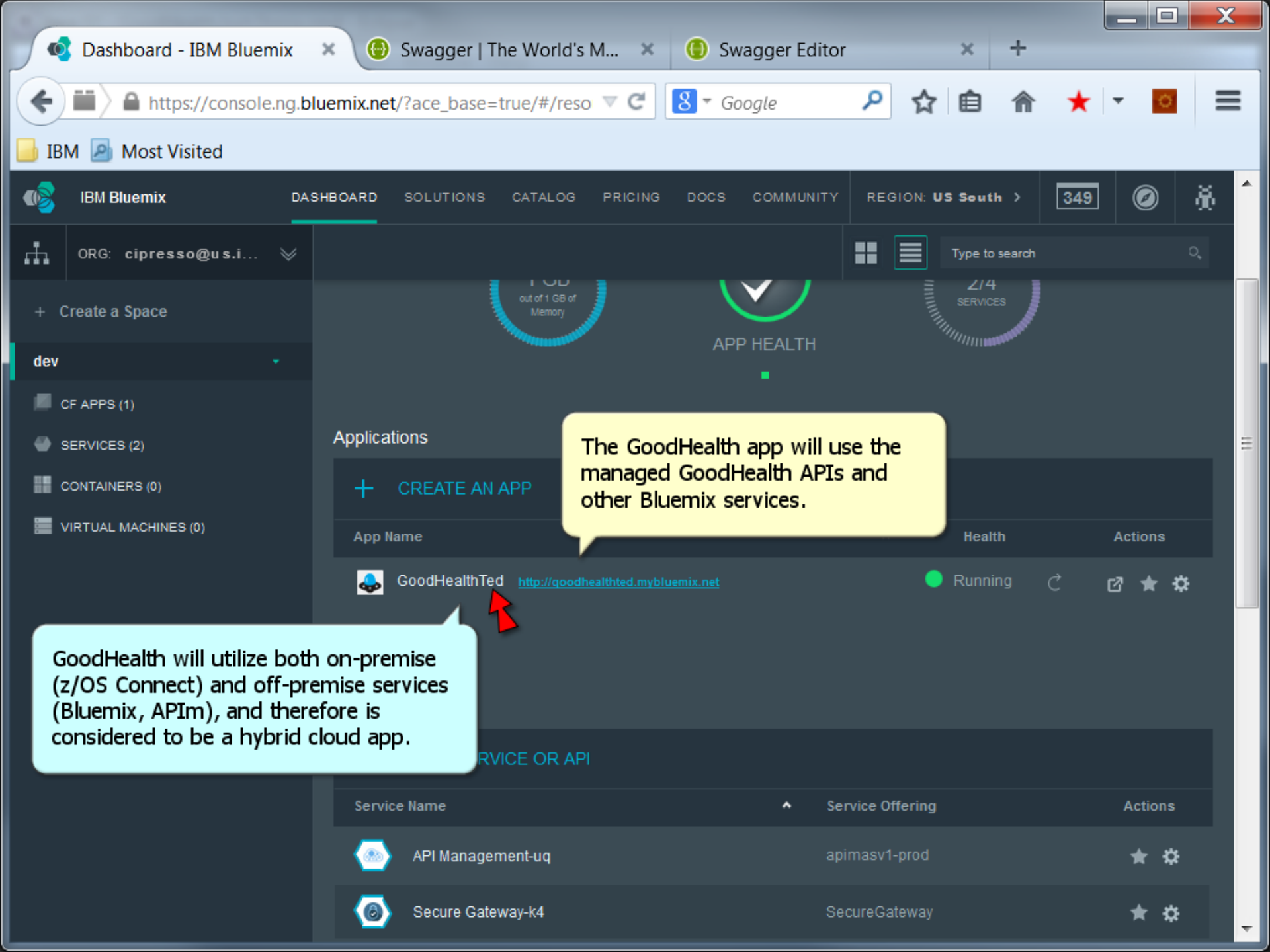
IBM Bluemix
DASHBOARD
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
REGION: US South
349
Back to Dashboard ...
GoodHealthTed
Overview
Liberty for Java™
Files and Logs
Environment Variables
Start Coding
SERVICES
Eclipse Tools for Bluemix
Develop, integrate, and push applications to Bluemix using Eclipse.
CF Command Line Interface
Run your code locally.
Manually push to Bluemix.
GIT
Deploy your app with the Git CLI,
or use Bluemix DevOps Services.
Start coding with Eclipse Tools
IBM® Eclipse Tools for Bluemix™ provides lightweight tools in Eclipse for rapid development and integration of applications with Bluemix or Cloud Foundry Clouds.
1
If you don't already have Eclipse, install Eclipse Luna for Java EE Developers (4.4.1).
2
Click and hold the following button to drag and drop it into the Eclipse toolbar, and then follow the prompts to install IBM Eclipse Tools for Bluemix:
Install
3
Download your starter code and import it into Eclipse by going to File > Import Existing Projects into Workspace > Archive File .
Download Starter Code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Swagger | The World's M...
Swagger Editor
https://console.ng.bluemix.net/?ace_base=true/#/reso
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IBM Bluemix
DASHBOARD
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
REGION: US South
349
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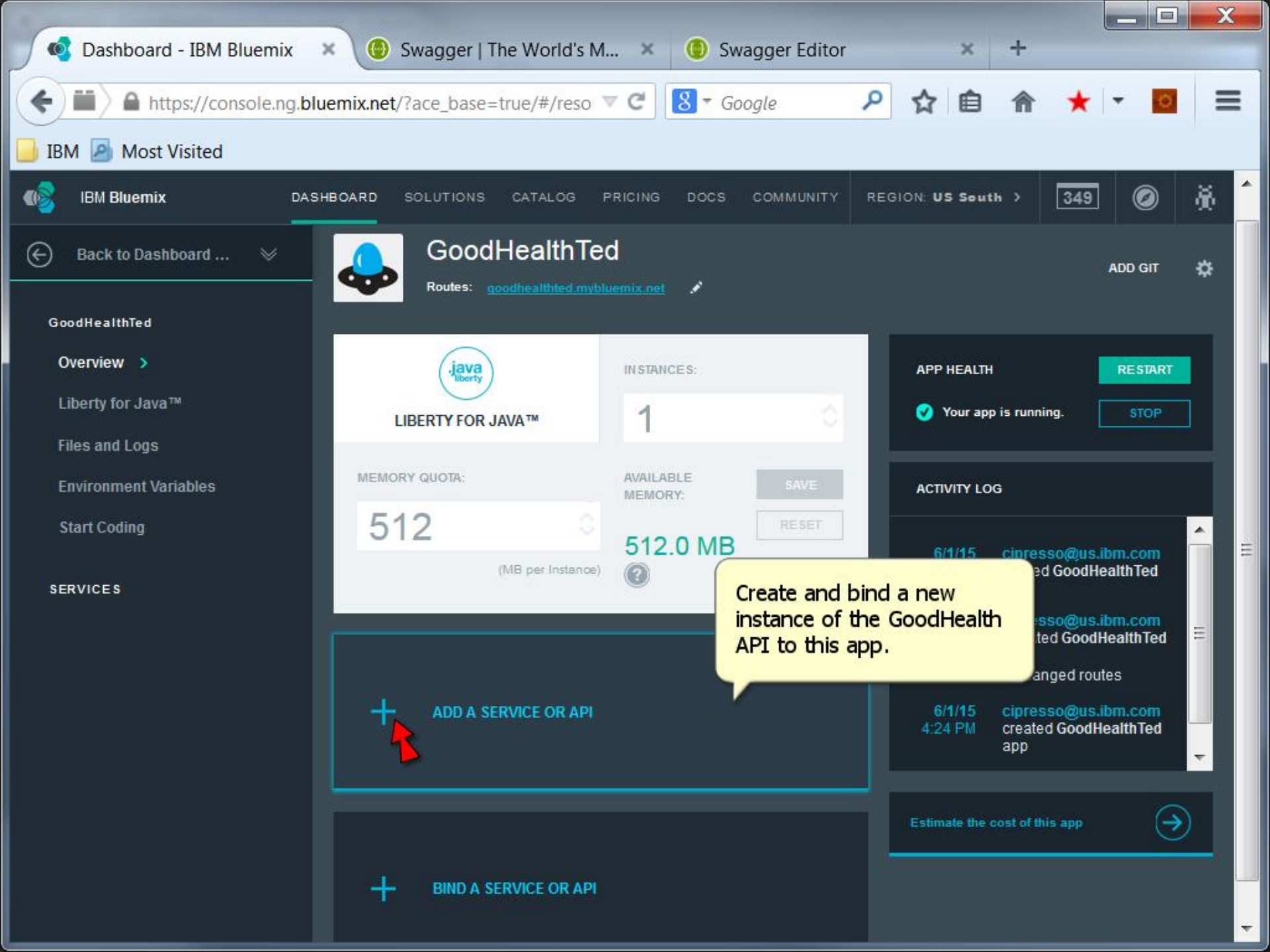
Type to search
Create a Space
dev
CF APPS (1)
SERVICES (2)
CONTAINERS (0)
VIRTUAL MACHINES (0)
out of 1 GB of Memory
APP HEALTH
SERVICES
Applications
CREATE AN APP
The GoodHealth app will use the managed GoodHealth APIs and other Bluemix services.
App Name
Health
Actions
GoodHealthTed
http://goodhealthted.mybluemix.net
Running
GoodHealth will utilize both on-premise (z/OS Connect) and off-premise services (Bluemix, APIm), and therefore is considered to be a hybrid cloud app.
RVICE OR API
Service Name
Service Offering
Actions
API Management-uq
apimasv1-prod
Secure Gateway-k4
SecureGateway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Swagger | The World's M...
Swagger Editor
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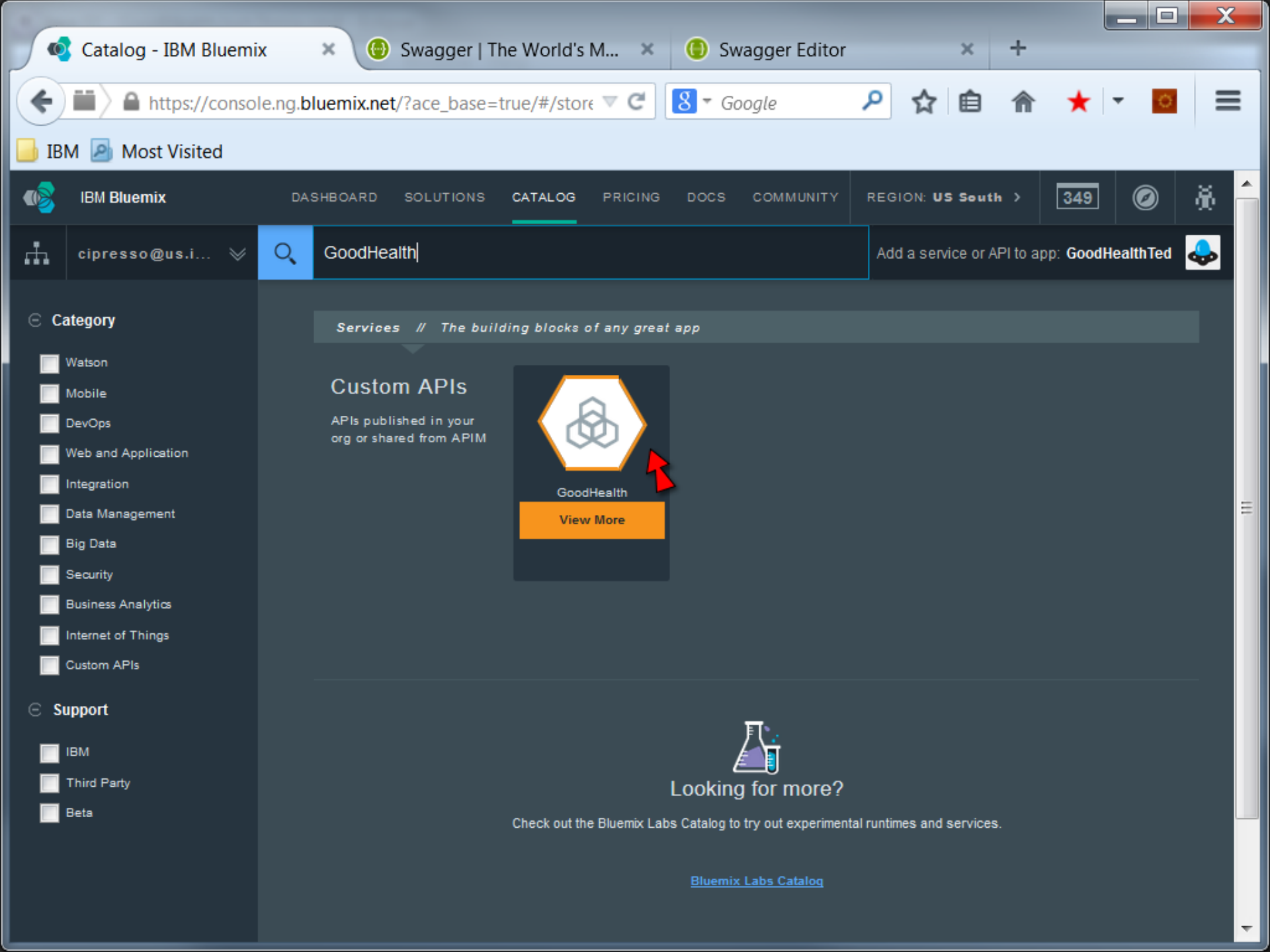
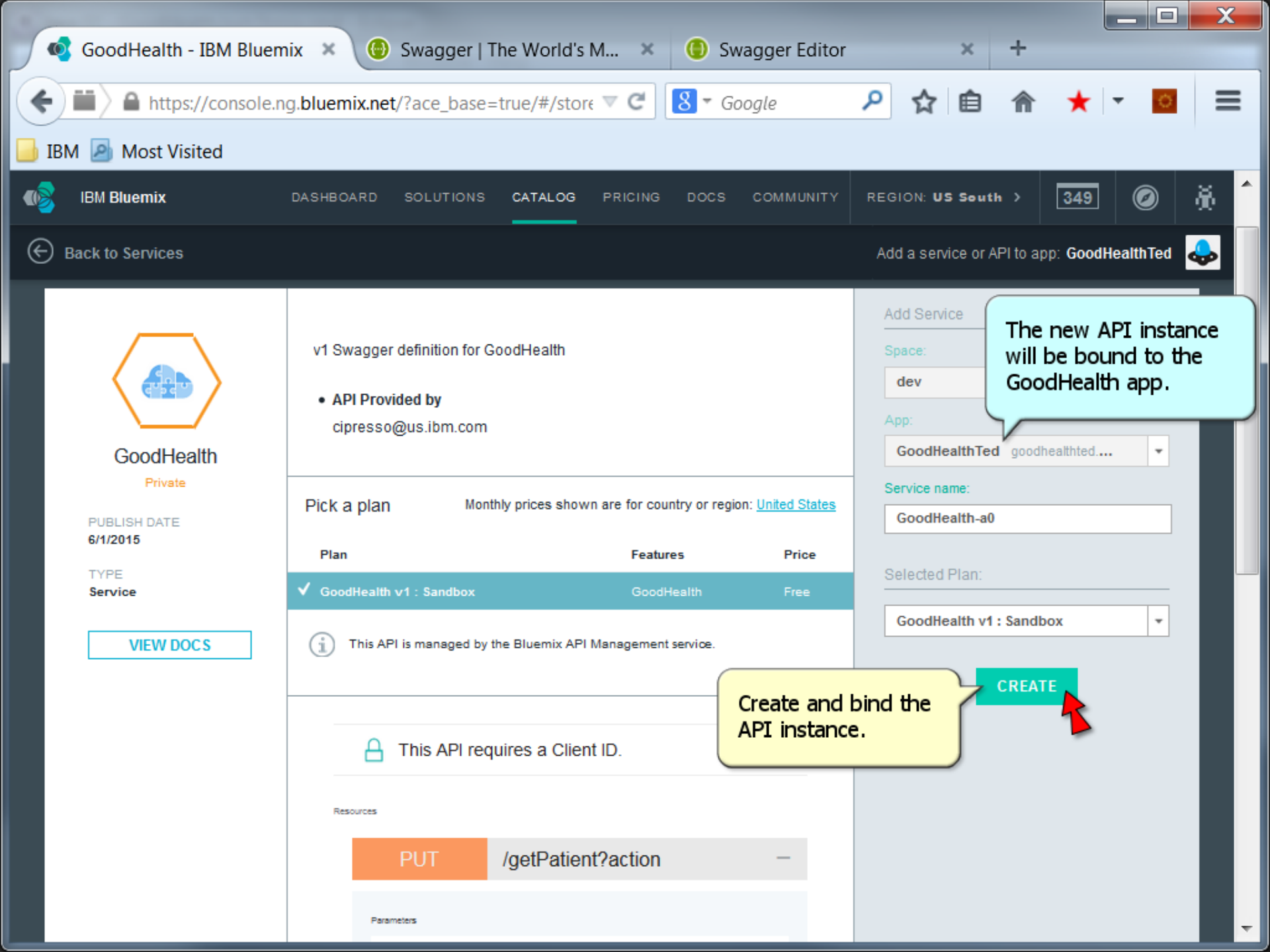
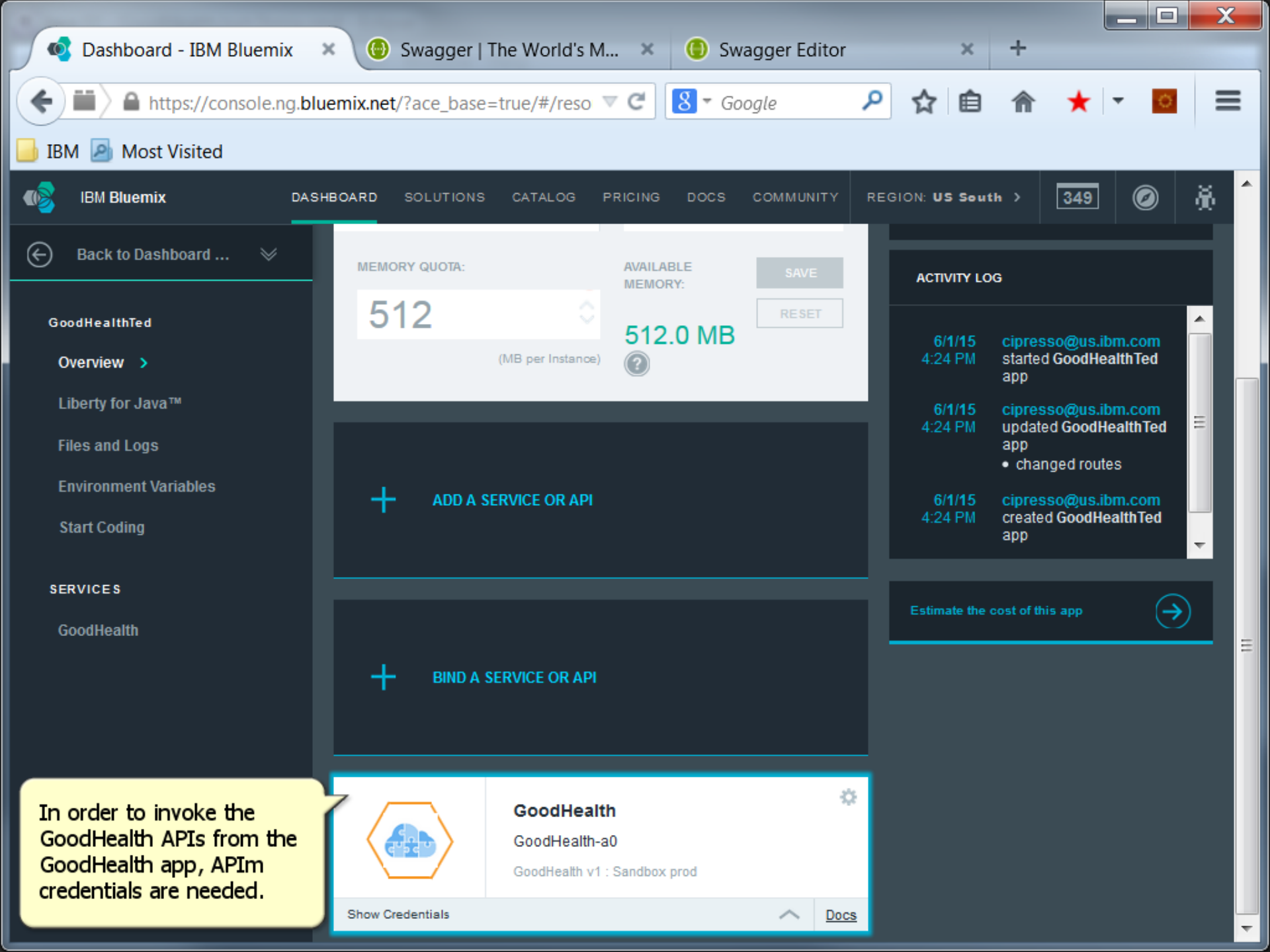
Google
IBM
Most Visited
IBM Bluemix
DASHBOARD
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
REGION: US South
349
Back to Dashboard ...
GoodHealthTed
Overview
Liberty for Java™
Files and Logs
Environment Variables
Start Coding
SERVICES
GoodHealthTed
Routes: goodhealthted.mybluemix.net
ADD GIT
java liberty
LIBERTY FOR JAVA™
INSTANCES:
1
MEMORY QUOTA:
512
(MB per Instance)
AVAILABLE MEMORY:
512.0 MB
SAVE
RESET
APP HEALTH
RESTART
Your app is running.
STOP
ACTIVITY LOG
6/1/15 cipresso@us.ibm.com
ed GoodHealthTed
sso@us.ibm.com
ted GoodHealthTed
anged routes
6/1/15 4:24 PM cipresso@us.ibm.com created GoodHealthTed app
Create and bind a new instance of the GoodHealth API to this app.
ADD A SERVICE OR API
BIND A SERVICE OR API
Estimate the cost of this app


Catalog - IBM Bluemix
Swagger | The World's M...
Swagger Editor
https://console.ng.bluemix.net/?ace_base=true/#/store
Google
IBM
Most Visited
IBM Bluemix
DASHBOARD
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
REGION: US South
349
cipresso@us.i...
GoodHealth
Add a service or API to app: GoodHealthTed
Category
Watson
Mobile
DevOps
Web and Application
Integration
Data Management
Big Data
Security
Business Analytics
Internet of Things
Custom APIs
Support
IBM
Third Party
Beta
Services // The building blocks of any great app
Custom APIs
APIs published in your org or shared from APIM
GoodHealth
View More
Looking for more?
Check out the Bluemix Labs Catalog to try out experimental runtimes and services.
Bluemix Labs Catalog


GoodHealth - IBM Bluemix
Swagger | The World's M...
Swagger Editor
https://console.ng.bluemix.net/?ace_base=true/#/store
Google
IBM
Most Visited
IBM Bluemix
DASHBOARD
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
REGION: US South
349
Back to Services
Add a service or API to app: GoodHealthTed
GoodHealth
Private
PUBLISH DATE
6/1/2015
TYPE
Service
VIEW DOCS
v1 Swagger definition for GoodHealth
API Provided by
cipresso@us.ibm.com
Pick a plan
Monthly prices shown are for country or region: United States
Plan
Features
Price
GoodHealth v1 : Sandbox
GoodHealth
Free
This API is managed by the Bluemix API Management service.
This API requires a Client ID.
Resources
PUT
/getPatient?action
Parameters
Add Service
Space:
dev
App:
GoodHealthTed
goodhealthted....
Service name:
GoodHealth-a0
Selected Plan:
GoodHealth v1 : Sandbox
CREATE
The new API instance will be bound to the GoodHealth app.
Create and bind the API instance.


Dashboard - IBM Bluemix
Swagger | The World's M...
Swagger Editor
https://console.ng.bluemix.net/?ace_base=true/#/reso
Google
IBM
Most Visited
IBM Bluemix
DASHBOARD
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
REGION: US South
349
Back to Dashboard ...
GoodHealthTed
Overview
Liberty for Java™
Files and Logs
Environment Variables
Start Coding
SERVICES
GoodHealth
MEMORY QUOTA:
512
(MB per Instance)
AVAILABLE MEMORY:
512.0 MB
SAVE
RESET
ADD A SERVICE OR API
BIND A SERVICE OR API
ACTIVITY LOG
6/1/15 4:24 PM cipresso@us.ibm.com started GoodHealthTed app
6/1/15 4:24 PM cipresso@us.ibm.com updated GoodHealthTed app
• changed routes
6/1/15 4:24 PM cipresso@us.ibm.com created GoodHealthTed app
Estimate the cost of this app
GoodHealth
GoodHealth-a0
GoodHealth v1 : Sandbox prod
Show Credentials
Docs
In order to invoke the GoodHealth APIs from the GoodHealth app, APIm credentials are needed.

Untitled - Notepad

File Edit Format View Help

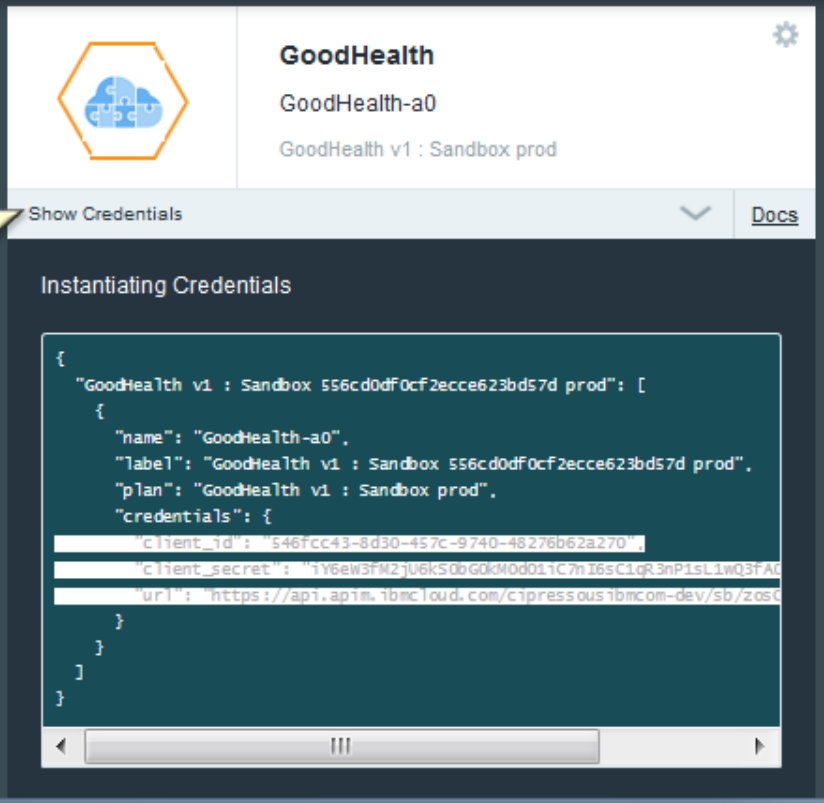

```
{
  "GoodHealth v1 : Sandbox 556cd0df0cf2ecce623bd57d prod": [
    {
      "name": "GoodHealth-a0",
      "label": "GoodHealth v1 : Sandbox 556cd0df0cf2ecce623bd57d prod",
      "plan": "GoodHealth v1 : Sandbox prod",
      "credentials": {
        "client_id": "546fcc43-8d30-457c-9740-48276b62a270",
        "client_secret": "iY6eW3fM2jU6kS0bG0kM0d01iC7nI6sC1qR3nP1sL1wQ3fA0mJ",
        "url": "https://api.apim.ibmcloud.com/cipressousibmcom-dev/sb/zosConnect/services"
      }
    }
  ]
}
```

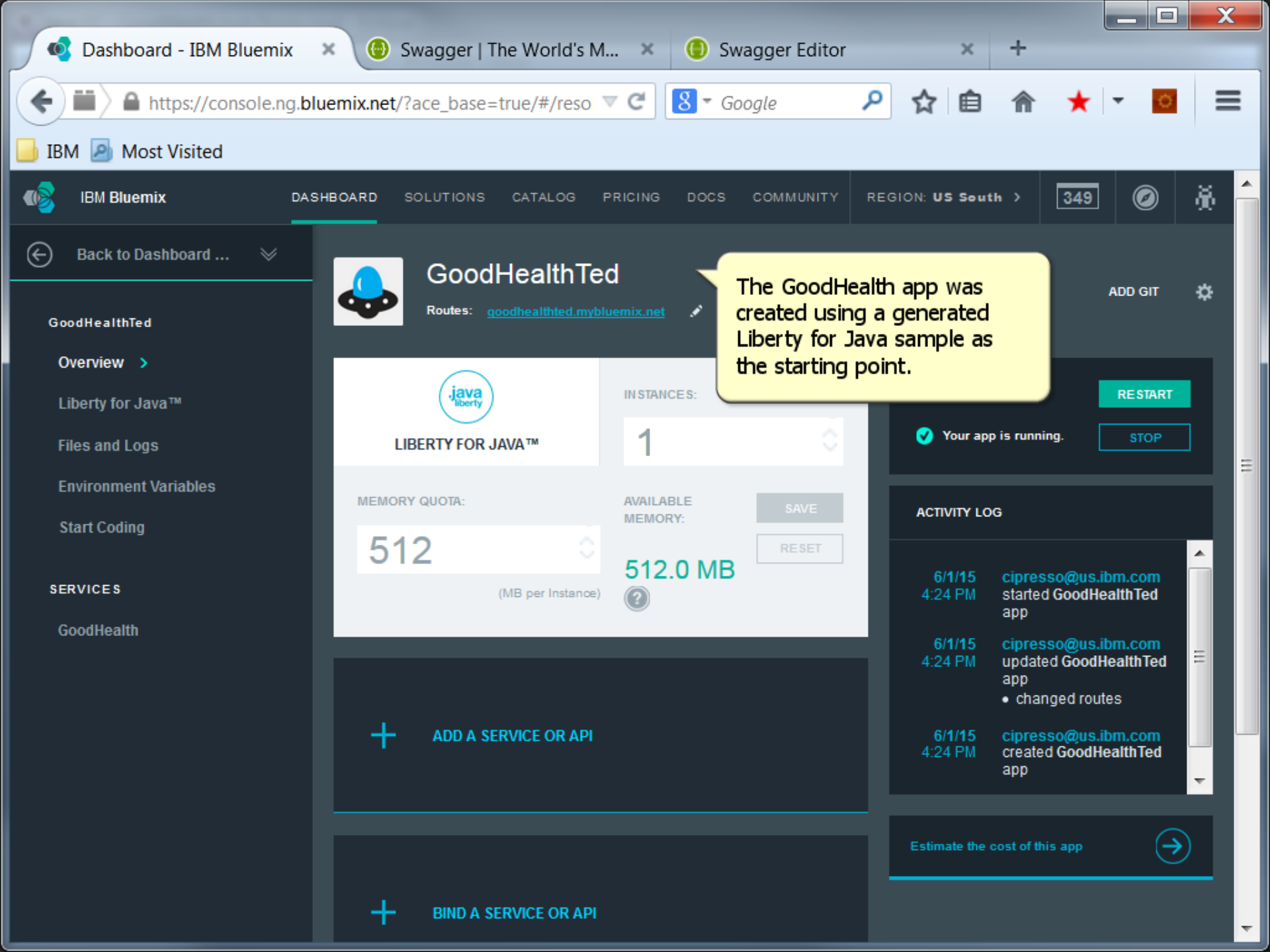

Files and Logs

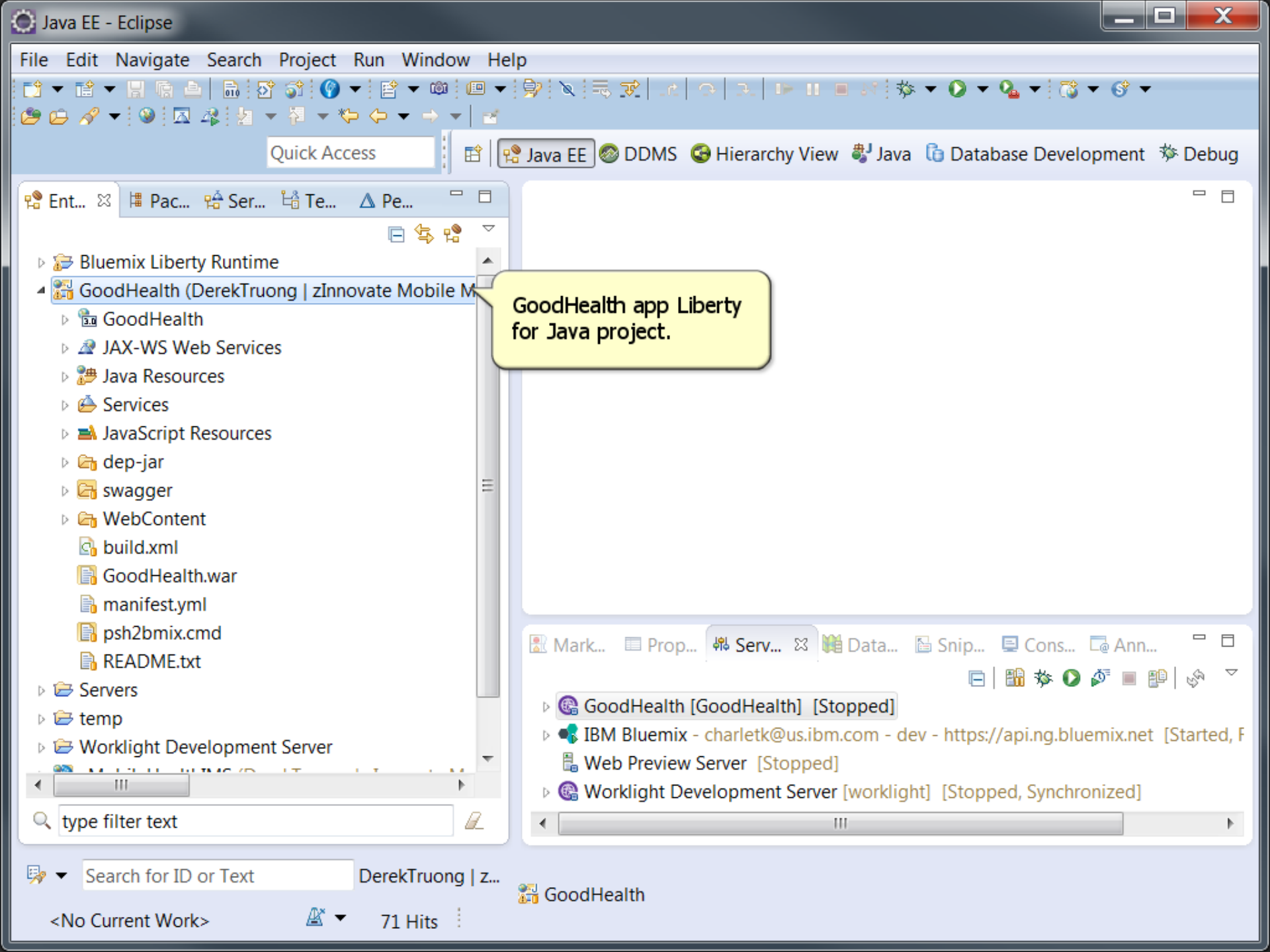
Environment Variables

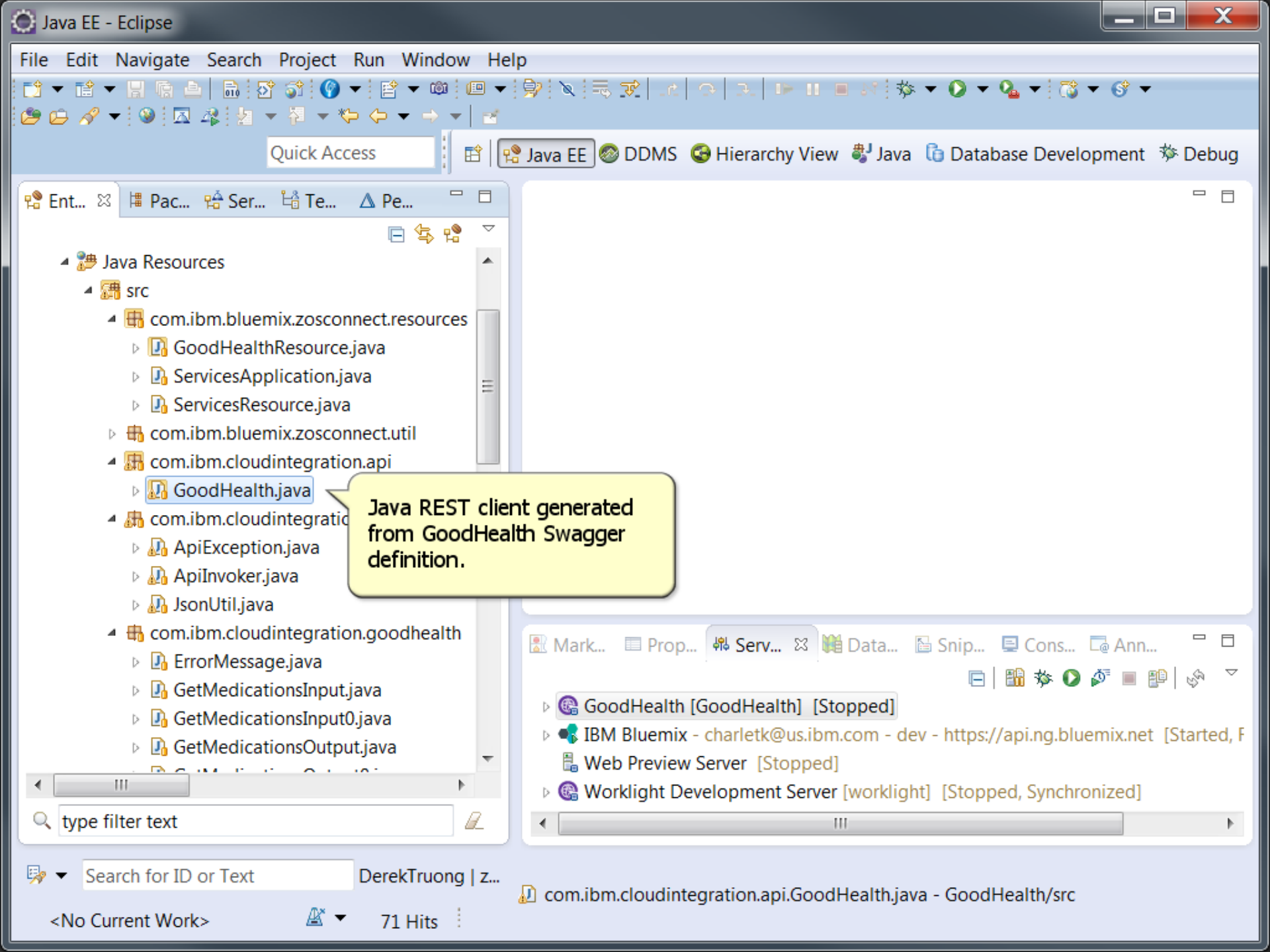
Start Coding

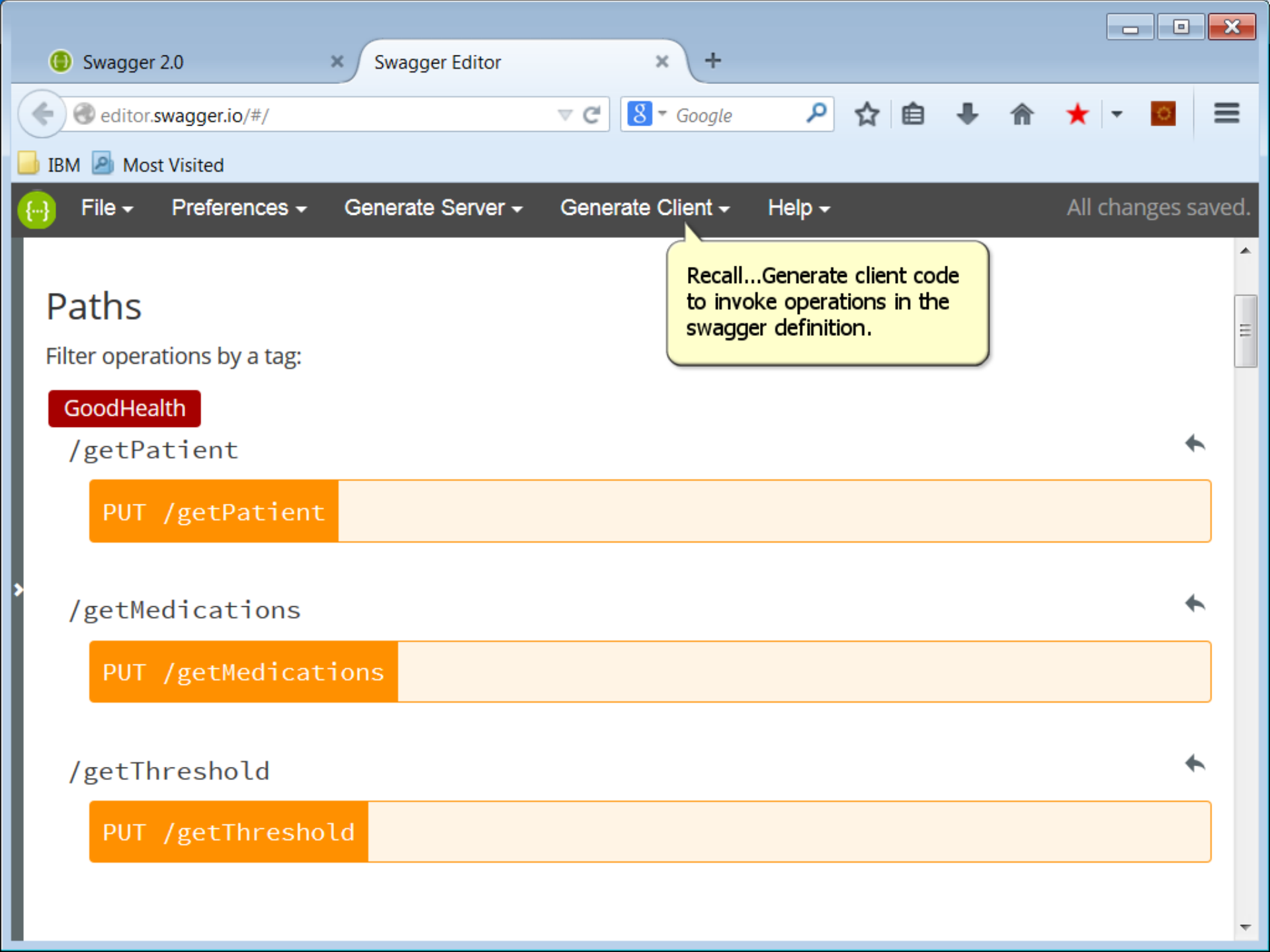
Display credentials for the GoodHealth app's instance of the GoodHealth API.

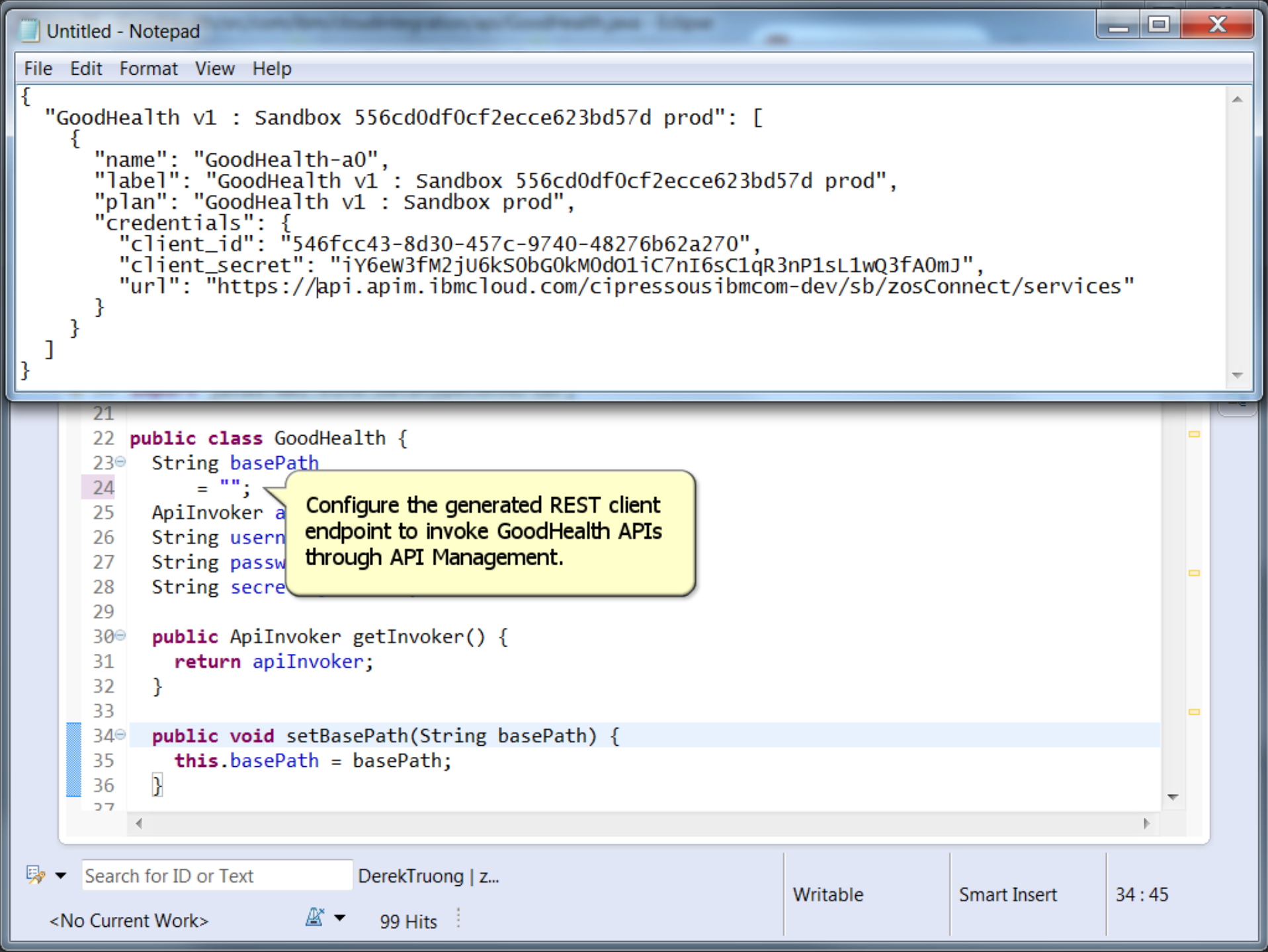


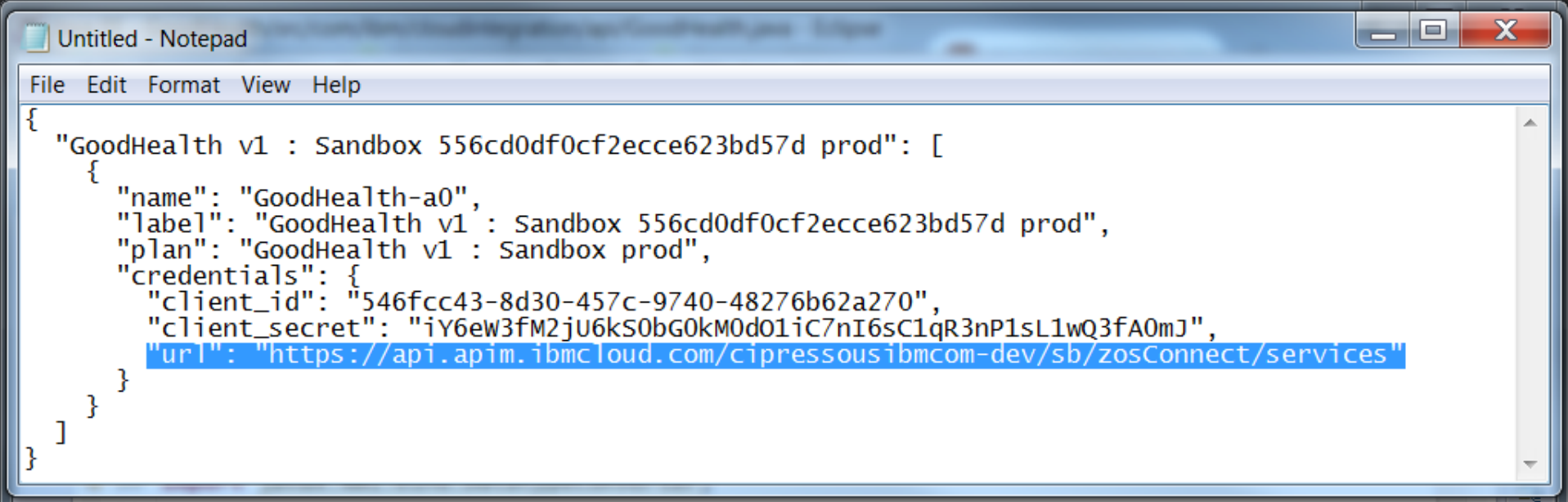

Dashboard - IBM Bluemix
Swagger | The World's M...
Swagger Editor
https://console.ng.bluemix.net/?ace_base=true/#/reso
Google
IBM
Most Visited
IBM Bluemix
DASHBOARD
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
REGION: US South
349
Back to Dashboard ...
GoodHealthTed
Overview
Liberty for Java™
Files and Logs
Environment Variables
Start Coding
SERVICES
GoodHealth
GoodHealthTed
Routes: goodhealthted.mybluemix.net
The GoodHealth app was created using a generated Liberty for Java sample as the starting point.
ADD GIT
java liberty
LIBERTY FOR JAVA™
INSTANCES:
1
MEMORY QUOTA:
512
(MB per Instance)
AVAILABLE MEMORY:
512.0 MB
SAVE
RESET
RESTART
Your app is running.
STOP
ACTIVITY LOG
6/1/15 4:24 PM cipresso@us.ibm.com started GoodHealthTed app
6/1/15 4:24 PM cipresso@us.ibm.com updated GoodHealthTed app
• changed routes
6/1/15 4:24 PM cipresso@us.ibm.com created GoodHealthTed app
ADD A SERVICE OR API
BIND A SERVICE OR API
Estimate the cost of this app


Java EE - Eclipse
File Edit Navigate Search Project Run Window Help
Quick Access
Java EE
DDMS
Hierarchy View
Java
Database Development
Debug
Ent...
Pac...
Ser...
Te...
Pe...
Bluemix Liberty Runtime
GoodHealth (DerekTruong | zInnovate Mobile M
GoodHealth
JAX-WS Web Services
Java Resources
Services
JavaScript Resources
dep-jar
swagger
WebContent
build.xml
GoodHealth.war
manifest.yml
psh2bmix.cmd
README.txt
Servers
temp
Worklight Development Server
type filter text
GoodHealth app Liberty for Java project.
Mark...
Prop...
Serv...
Data...
Snip...
Cons...
Ann...
GoodHealth [GoodHealth] [Stopped]
IBM Bluemix - charletk@us.ibm.com - dev - https://api.ng.bluemix.net [Started, F
Web Preview Server [Stopped]
Worklight Development Server [worklight] [Stopped, Synchronized]
Search for ID or Text
DerekTruong | z...
GoodHealth
<No Current Work>
71 Hits


Java EE - Eclipse
File Edit Navigate Search Project Run Window Help
Quick Access
Java EE DDMS Hierarchy View Java Database Development Debug
Java Resources
src
com.ibm.bluemix.zosconnect.resources
GoodHealthResource.java
ServicesApplication.java
ServicesResource.java
com.ibm.bluemix.zosconnect.util
com.ibm.cloudintegration.api
GoodHealth.java
com.ibm.cloudintegratio
ApiException.java
ApiInvoker.java
JsonUtil.java
com.ibm.cloudintegration.goodhealth
ErrorMessage.java
GetMedicationsInput.java
GetMedicationsInput0.java
GetMedicationsOutput.java
Java REST client generated from GoodHealth Swagger definition.
type filter text
GoodHealth [GoodHealth] [Stopped]
IBM Bluemix - charletk@us.ibm.com - dev - https://api.ng.bluemix.net [Started,
Web Preview Server [Stopped]
Worklight Development Server [worklight] [Stopped, Synchronized]
Search for ID or Text
DerekTruong | z...
com.ibm.cloudintegration.api.GoodHealth.java - GoodHealth/src
<No Current Work>
71 Hits


Swagger 2.0
Swagger Editor
editor.swagger.io/#/
Google
IBM
Most Visited
File
Preferences
Generate Server
Generate Client
Help
All changes saved.
Recall...Generate client code to invoke operations in the swagger definition.
Paths
Filter operations by a tag:
GoodHealth
/getPatient
PUT /getPatient
/getMedications
PUT /getMedications
/getThreshold
PUT /getThreshold


Untitled - Notepad
File Edit Format View Help
{
"GoodHealth v1 : Sandbox 556cd0df0cf2ecce623bd57d prod": [
{
"name": "GoodHealth-a0",
"label": "GoodHealth v1 : Sandbox 556cd0df0cf2ecce623bd57d prod",
"plan": "GoodHealth v1 : Sandbox prod",
"credentials": {
"client_id": "546fcc43-8d30-457c-9740-48276b62a270",
"client_secret": "iY6eW3fM2jU6kS0bG0kM0d01iC7nI6sC1qR3nP1sL1wQ3fA0mJ",
"url": "https://api.apim.ibmcloud.com/cipressousibmcom-dev/sb/zosConnect/services"
}
}
]
}
public class GoodHealth {
String basePath
= "";
ApiInvoker a
String usern
String passw
String secre
public ApiInvoker getInvoker() {
return apiInvoker;
}
public void setBasePath(String basePath) {
this.basePath = basePath;
}
Configure the generated REST client endpoint to invoke GoodHealth APIs through API Management.
Search for ID or Text
DerekTruong | z...
<No Current Work>
99 Hits
Writable
Smart Insert
34 : 45




```
21
22 public class GoodHealth {
23   String basePath
24       = "https://api.apim.ibmcloud.com/cipressousibmcom-dev/sb/zosConnect/services";
25   ApiInvoker apiInvoker = ApiInvoker.getInstance();
26   String username = null;
27   String password = null;
28   String secretKey = null;
29
30   public ApiInvoker getInvoker() {
31     return apiInvoker;
32   }
33
34   public void setBasePath(String basePath) {
35     this.basePath = basePath;
36   }
```

Search for ID or Text | DerekTruong | z... | Writable | Smart Insert | 24 : 83

<No Current Work> | 99 Hits

Untitled - Notepad

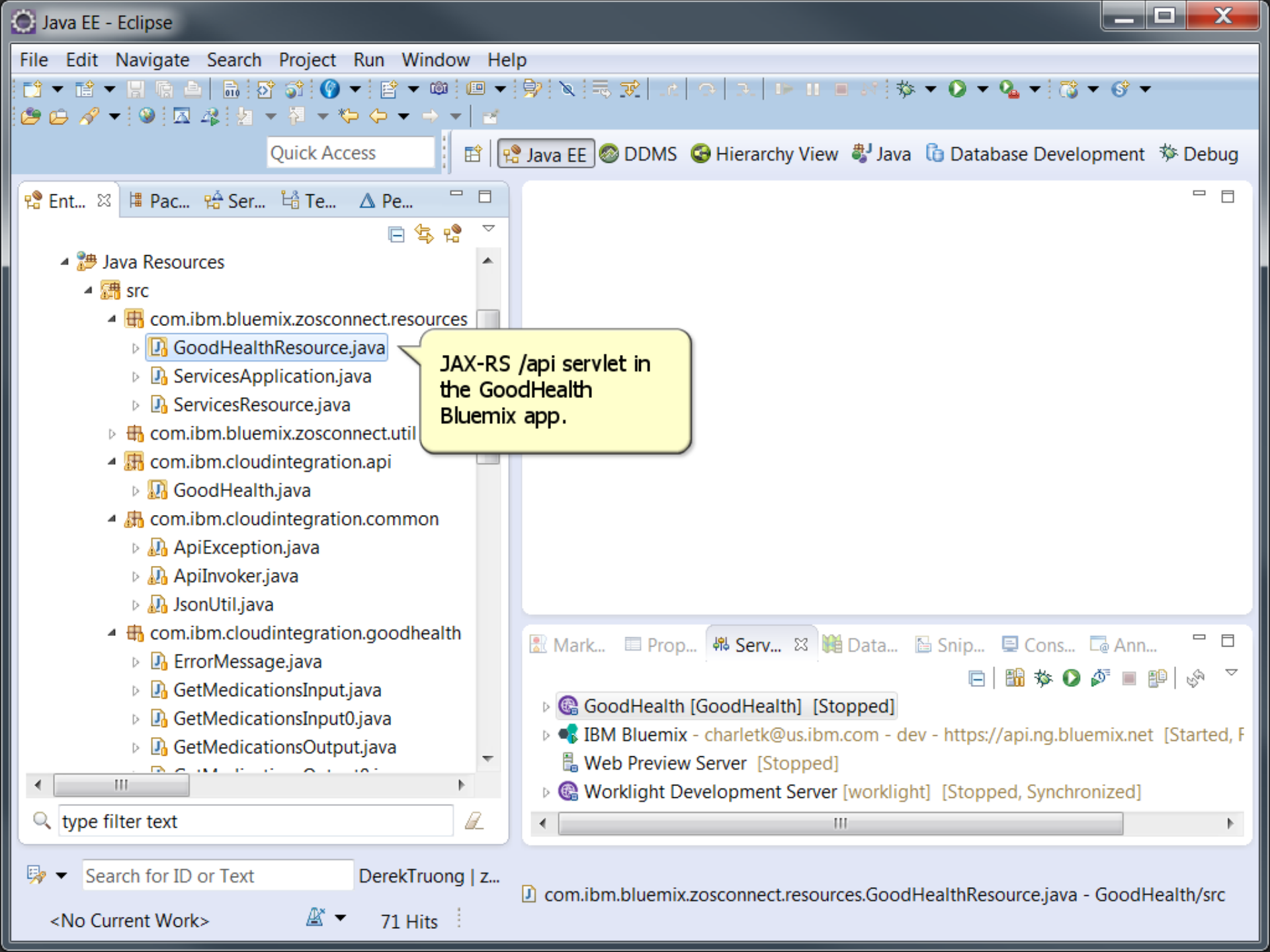
File Edit Format View Help

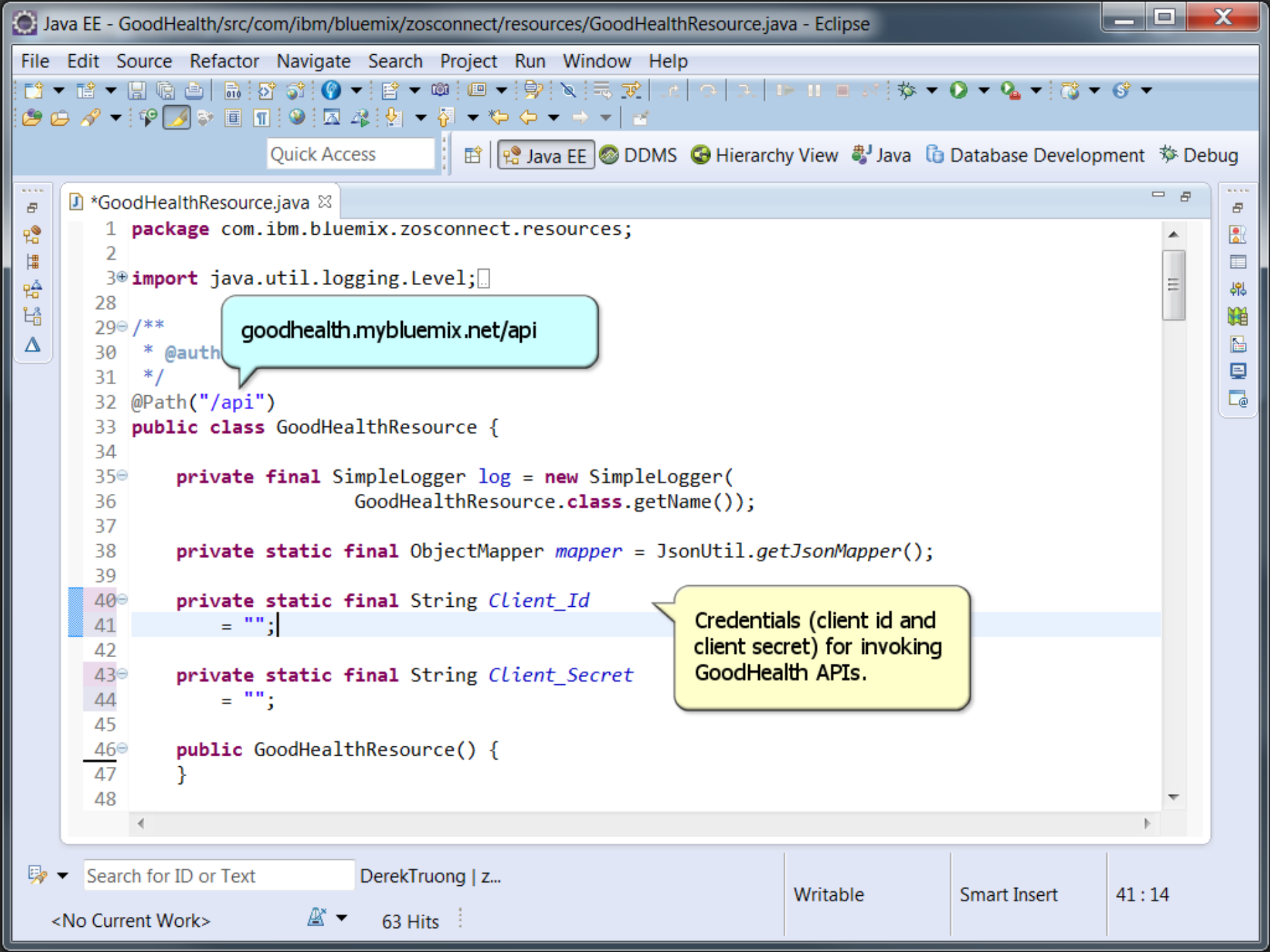
```
{
  "GoodHealth v1 : Sandbox 556cd0df0cf2ecce623bd57d prod": [
    {
      "name": "GoodHealth-a0",
      "label": "GoodHealth v1 : Sandbox 556cd0df0cf2ecce623bd57d prod",
      "plan": "GoodHealth v1 : Sandbox prod",
      "credentials": {
        "client_id": "546fcc43-8d30-457c-9740-48276b62a270",
        "client_secret": "iY6eW3fM2jU6kS0bG0kM0d01iC7nI6sC1qR3nP1sL1wQ3fA0mJ",
        "url": "https://api.apim.ibmcloud.com/cipressousibmcom-dev/sb/zosConnect/services"
      }
    }
  ]
}
```

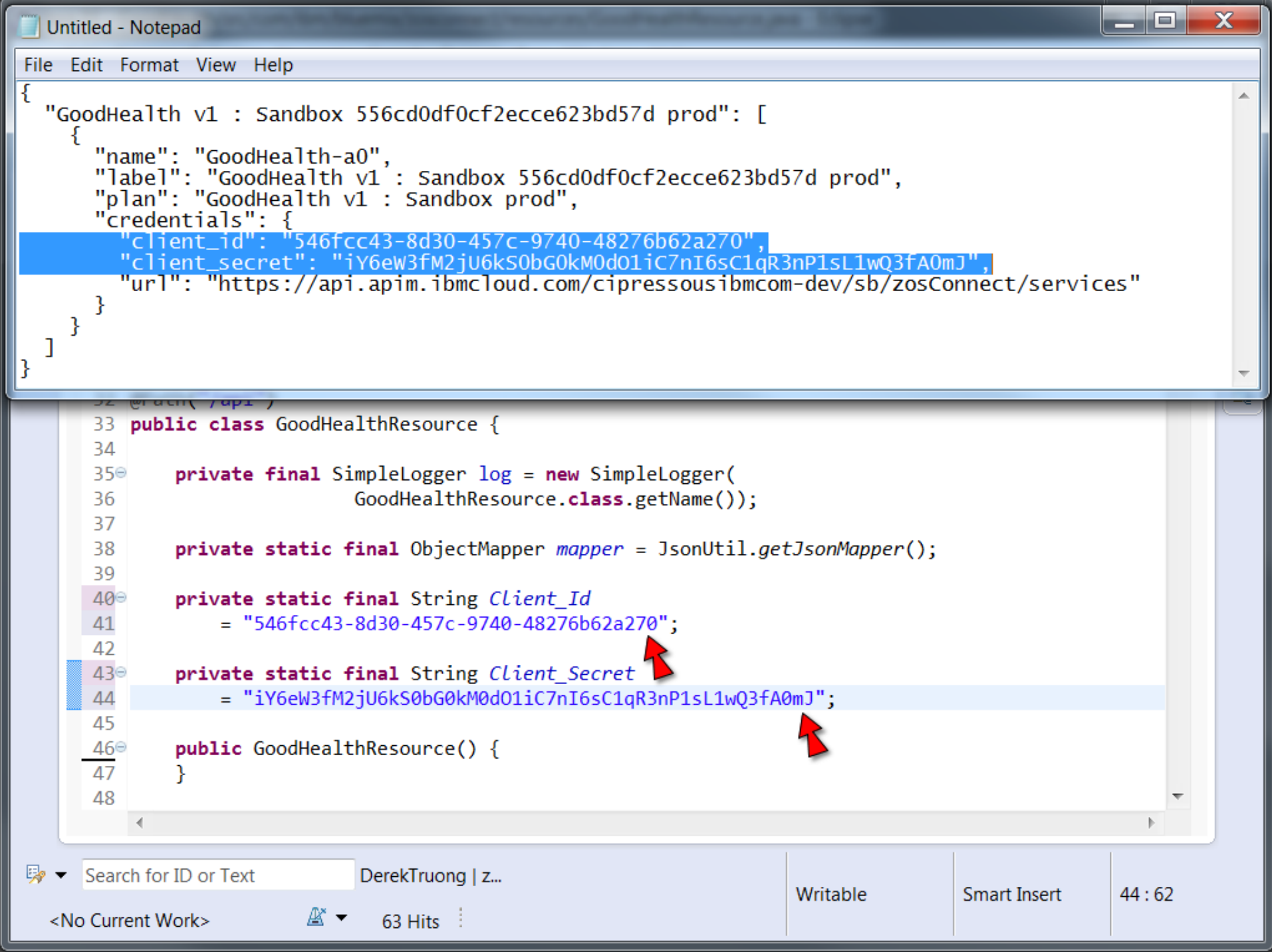
```
21
22 public class GoodHealth {
23   String basePath
24       = "https://api.apim.ibmcloud.com/cipressousibmcom-dev/sb/zosConnect/services";
25   ApiInvoker apiInvoker = ApiInvoker.getInstance();
26   String username = null;
27   String password = null;
28   String secretKey = null;
29
30   public ApiInvoker getInvoker() {
31     return apiInvoker;
32   }
33
34   public void setBasePath(String basePath) {
35     this.basePath = basePath;
36   }
```

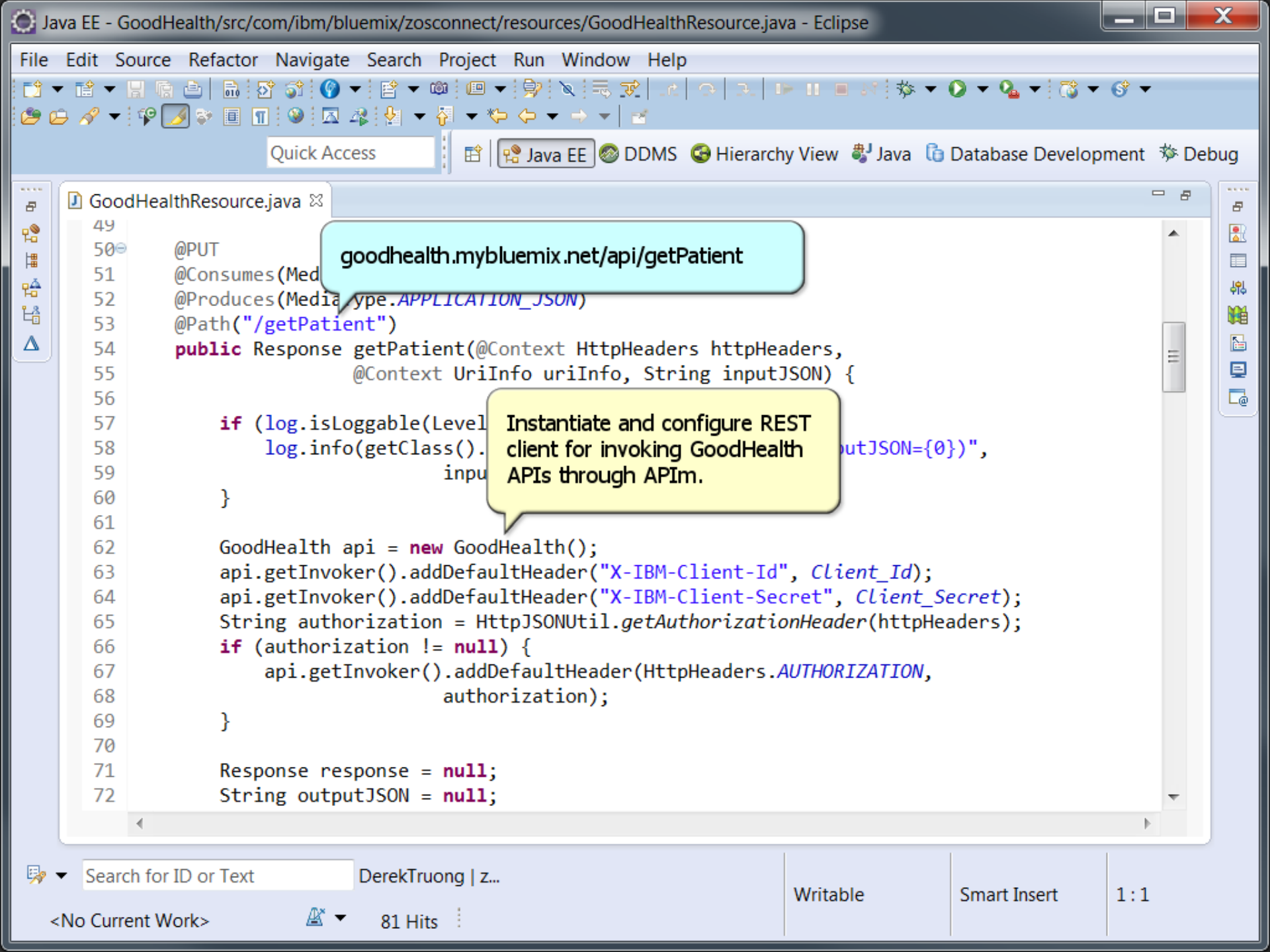
Search for ID or Text | DerekTruong | z...

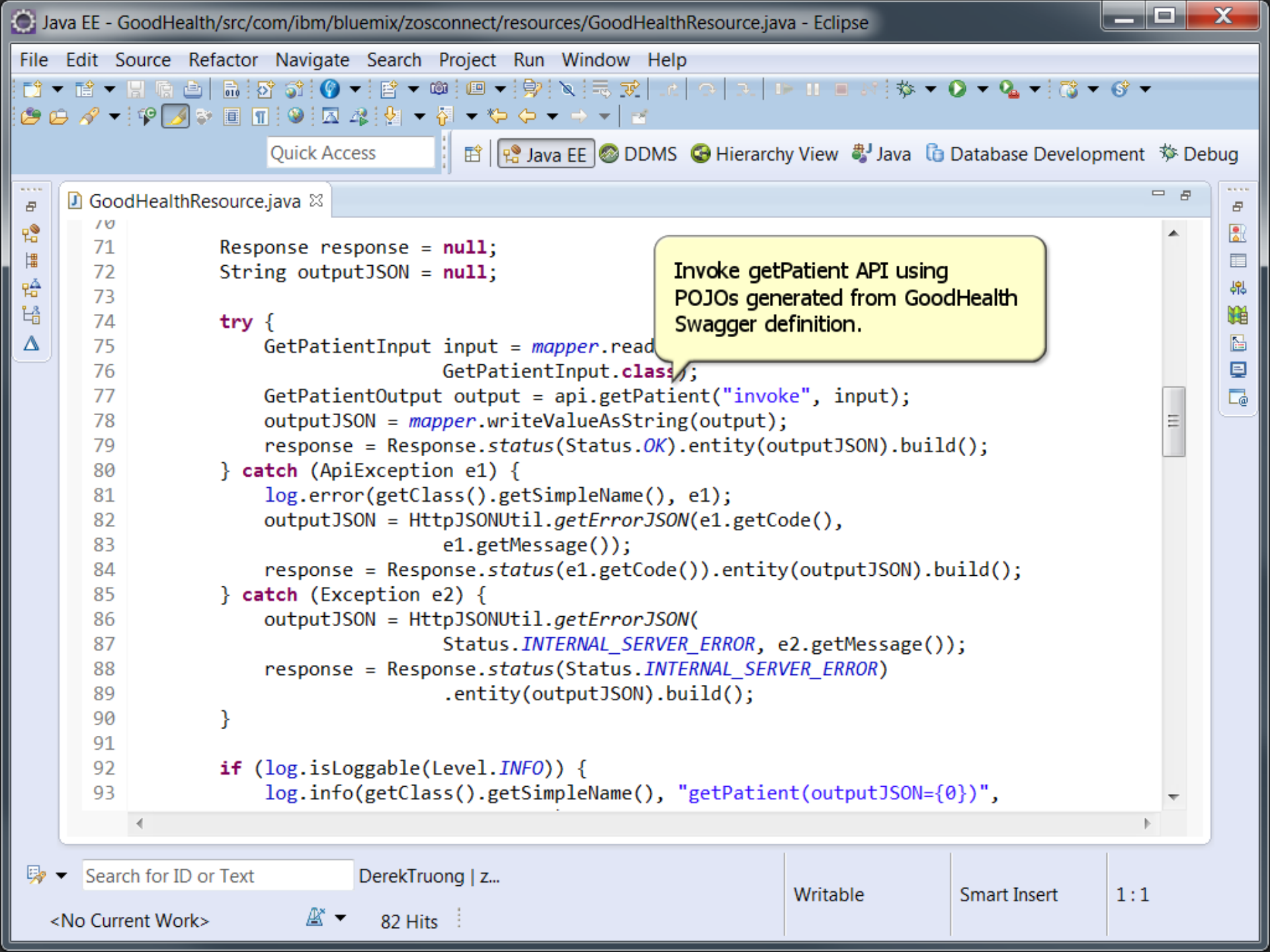
<No Current Work> | 100 Hits | Writable | Smart Insert | 24 : 10

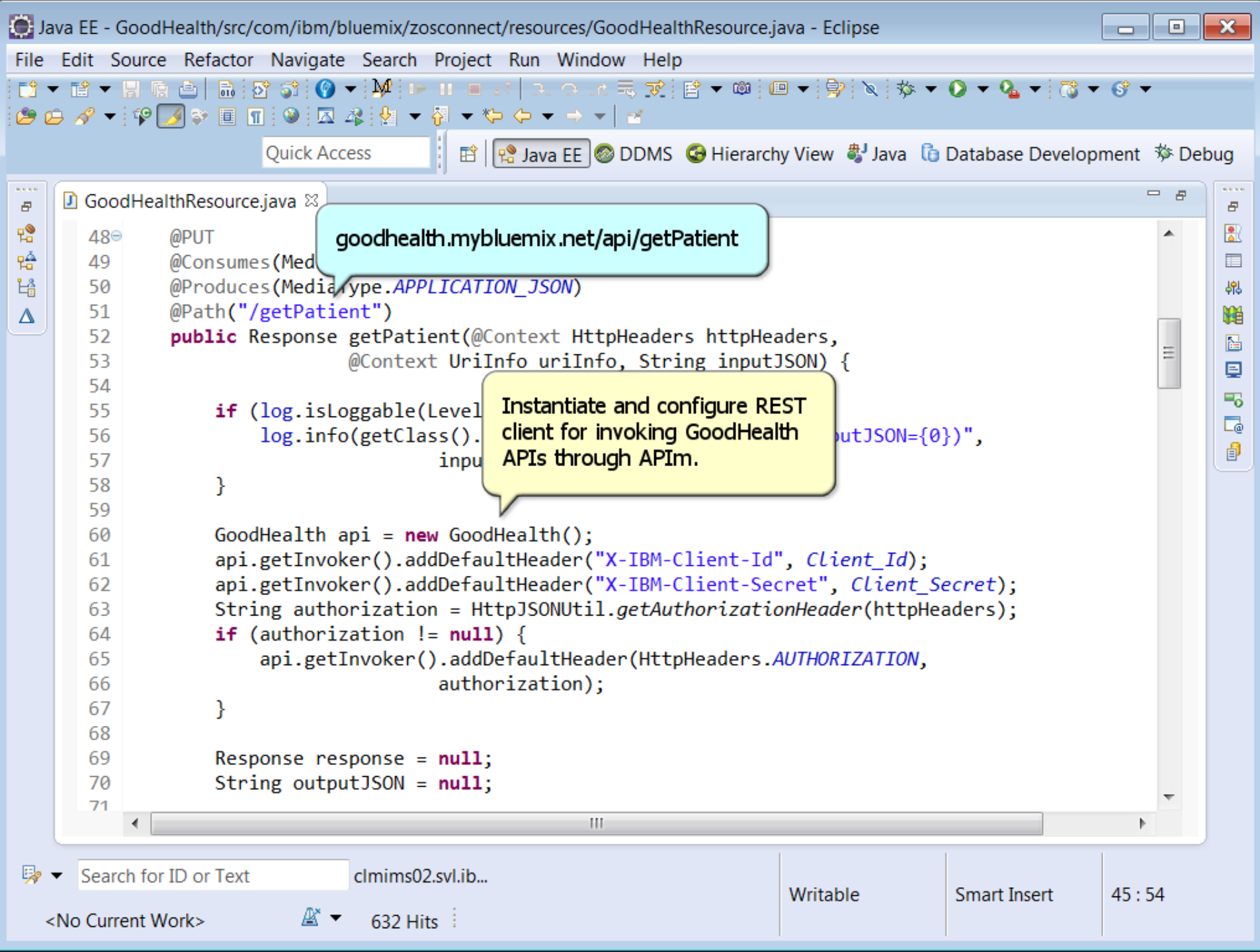

Java EE - Eclipse
File Edit Navigate Search Project Run Window Help
Quick Access
Java EE
DDMS
Hierarchy View
Java
Database Development
Debug
Java Resources
src
com.ibm.bluemix.zosconnect.resources
GoodHealthResource.java
ServicesApplication.java
ServicesResource.java
com.ibm.bluemix.zosconnect.util
com.ibm.cloudintegration.api
GoodHealth.java
com.ibm.cloudintegration.common
ApiException.java
ApiInvoker.java
JsonUtil.java
com.ibm.cloudintegration.goodhealth
ErrorMessage.java
GetMedicationsInput.java
GetMedicationsInput0.java
GetMedicationsOutput.java
JAX-RS /api servlet in the GoodHealth Bluemix app.
type filter text
GoodHealth [GoodHealth] [Stopped]
IBM Bluemix - charletk@us.ibm.com - dev - https://api.ng.bluemix.net [Started,
Web Preview Server [Stopped]
Worklight Development Server [worklight] [Stopped, Synchronized]
Search for ID or Text
DerekTruong | z...
<No Current Work>
71 Hits
com.ibm.bluemix.zosconnect.resources.GoodHealthResource.java - GoodHealth/src

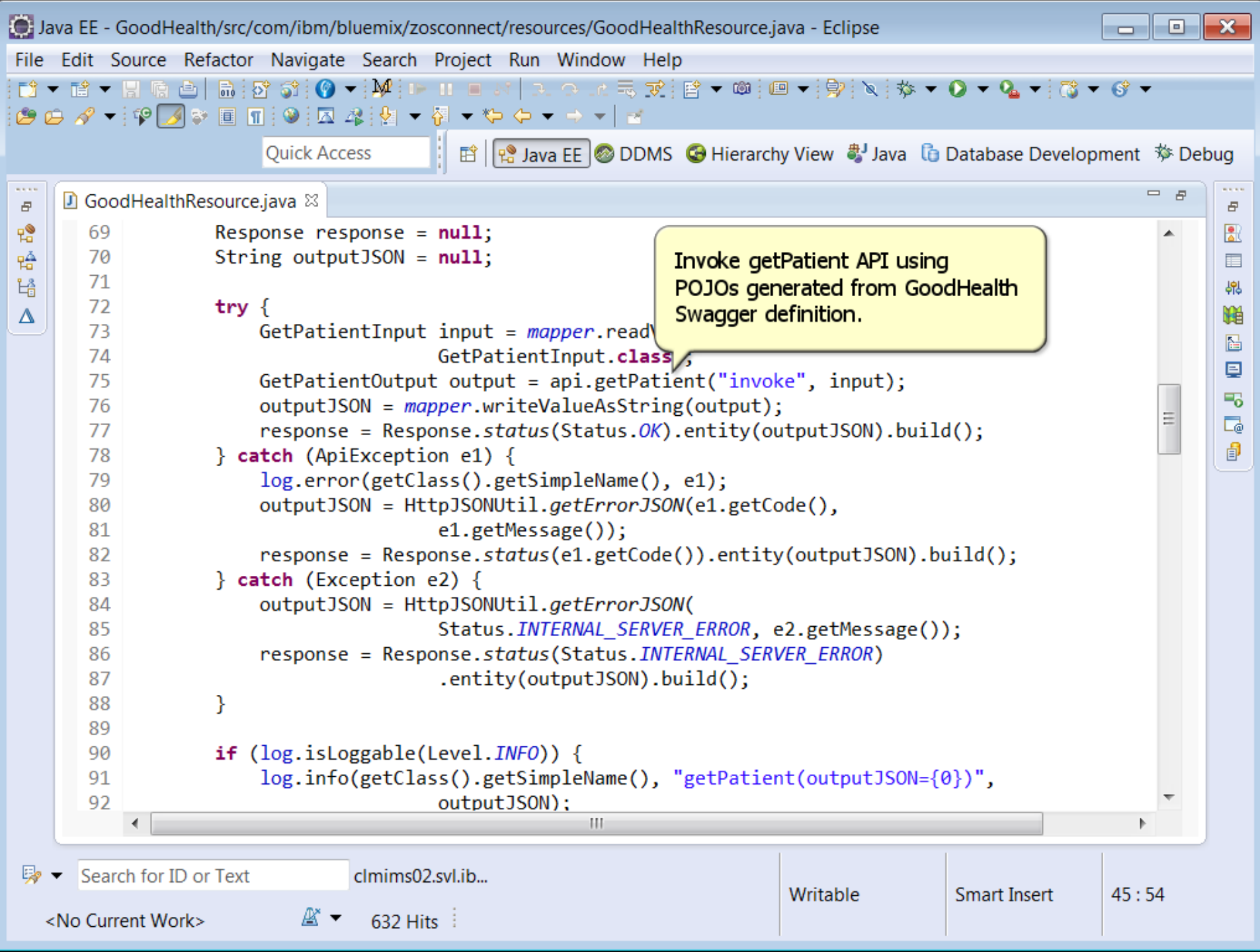

Java EE - GoodHealth/src/com/ibm/bluemix/zosconnect/resources/GoodHealthResource.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Java EE DDMS Hierarchy View Java Database Development Debug
*GoodHealthResource.java
1 package com.ibm.bluemix.zosconnect.resources;
2
3 import java.util.logging.Level;
28
29 /**
30 * @auth
31 */
32 @Path("/api")
33 public class GoodHealthResource {
34
35 private final SimpleLogger log = new SimpleLogger(
36 GoodHealthResource.class.getName());
37
38 private static final ObjectMapper mapper = JsonUtil.getJsonMapper();
39
40 private static final String Client_Id
41 = "";
42
43 private static final String Client_Secret
44 = "";
45
46 public GoodHealthResource() {
47 }
48
goodhealth.mybluemix.net/api
Credentials (client id and client secret) for invoking GoodHealth APIs.
Search for ID or Text
DerekTruong | z...
<No Current Work>
63 Hits
Writable
Smart Insert
41 : 14


Untitled - Notepad
File Edit Format View Help
{
"GoodHealth v1 : Sandbox 556cd0df0cf2ecce623bd57d prod": [
{
"name": "GoodHealth-a0",
"label": "GoodHealth v1 : Sandbox 556cd0df0cf2ecce623bd57d prod",
"plan": "GoodHealth v1 : Sandbox prod",
"credentials": {
"client_id": "546fcc43-8d30-457c-9740-48276b62a270",
"client_secret": "iY6eW3fM2jU6kS0bG0kM0dO1iC7nI6sC1qR3nP1sL1wQ3fA0mJ",
"url": "https://api.apim.ibmcloud.com/cipressousibmcom-dev/sb/zosConnect/services"
}
}
]
}
33 public class GoodHealthResource {
35 private final SimpleLogger log = new SimpleLogger(
36 GoodHealthResource.class.getName());
38 private static final ObjectMapper mapper = JsonUtil.getJsonMapper();
40 private static final String Client_Id
41 = "546fcc43-8d30-457c-9740-48276b62a270";
43 private static final String Client_Secret
44 = "iY6eW3fM2jU6kS0bG0kM0dO1iC7nI6sC1qR3nP1sL1wQ3fA0mJ";
46 public GoodHealthResource() {
47 }
Search for ID or Text
DerekTruong | z...
<No Current Work>
63 Hits
Writable
Smart Insert
44 : 62

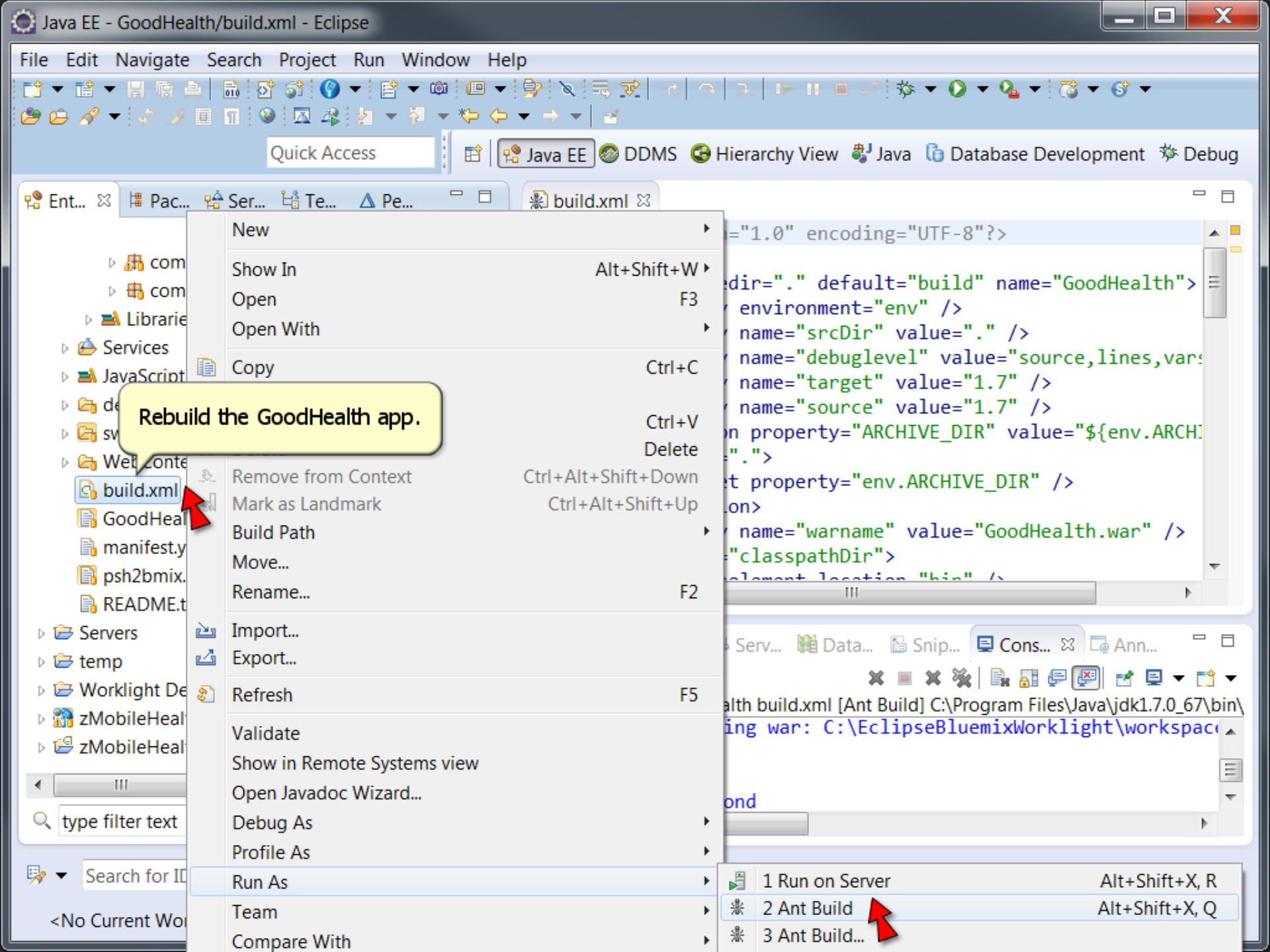

Java EE - GoodHealth/src/com/ibm/bluemix/zosconnect/resources/GoodHealthResource.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Java EE
DDMS
Hierarchy View
Java
Database Development
Debug
GoodHealthResource.java
goodhealth.mybluemix.net/api/getPatient
Instantiate and configure REST client for invoking GoodHealth APIs through APIm.
@PUT
@Consumes(Med
@Produces(Media ype.APPLICATION_JSON)
@Path("/getPatient")
public Response getPatient(@Context HttpHeaders httpHeaders,
@Context UriInfo uriInfo, String inputJSON) {
if (log.isLoggable(Level
log.info(getClass().
utJSON={0})",
inpu
}
GoodHealth api = new GoodHealth();
api.getInvoker().addDefaultHeader("X-IBM-Client-Id", Client_Id);
api.getInvoker().addDefaultHeader("X-IBM-Client-Secret", Client_Secret);
String authorization = HttpJSONUtil.getAuthorizationHeader(httpHeaders);
if (authorization != null) {
api.getInvoker().addDefaultHeader(HttpHeaders.AUTHORIZATION,
authorization);
}
Response response = null;
String outputJSON = null;
Search for ID or Text
DerekTruong | z...
<No Current Work>
81 Hits
Writable
Smart Insert
1 : 1

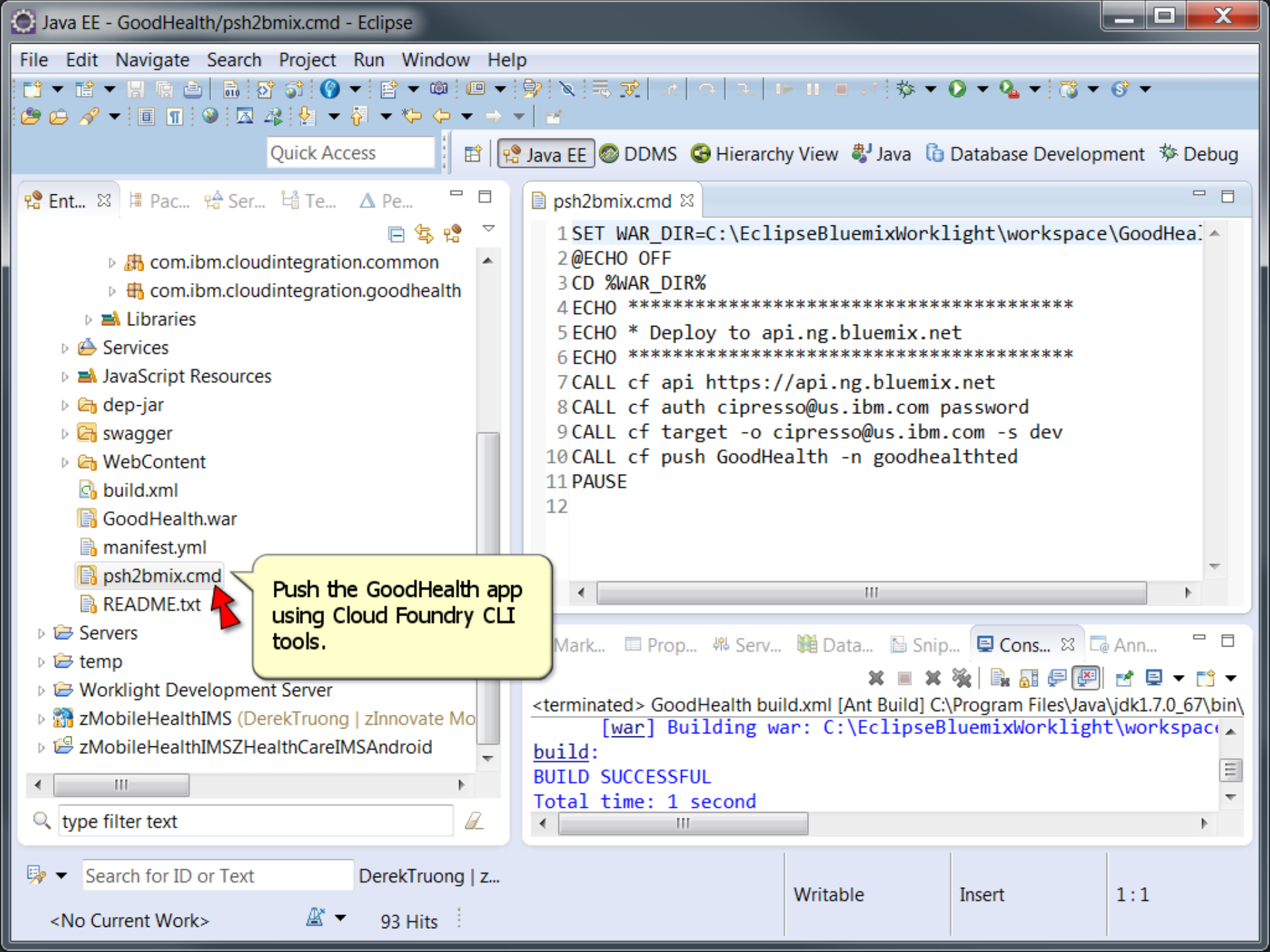

Java EE - GoodHealth/src/com/ibm/bluemix/zosconnect/resources/GoodHealthResource.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Java EE
DDMS
Hierarchy View
Java
Database Development
Debug
GoodHealthResource.java
Response response = null;
String outputJSON = null;
try {
GetPatientInput input = mapper.read
GetPatientInput.class);
GetPatientOutput output = api.getPatient("invoke", input);
outputJSON = mapper.writeValueAsString(output);
response = Response.status(Status.OK).entity(outputJSON).build();
} catch (ApiException e1) {
log.error(getClass().getSimpleName(), e1);
outputJSON = HttpJSONUtil.getErrorJSON(e1.getCode(),
e1.getMessage());
response = Response.status(e1.getCode()).entity(outputJSON).build();
} catch (Exception e2) {
outputJSON = HttpJSONUtil.getErrorJSON(
Status.INTERNAL_SERVER_ERROR, e2.getMessage());
response = Response.status(Status.INTERNAL_SERVER_ERROR)
.entity(outputJSON).build();
}
if (log.isLoggable(Level.INFO)) {
log.info(getClass().getSimpleName(), "getPatient(outputJSON={0})",
Invoke getPatient API using POJOs generated from GoodHealth Swagger definition.
Search for ID or Text
DerekTruong | z...
<No Current Work>
82 Hits
Writable
Smart Insert
1 : 1

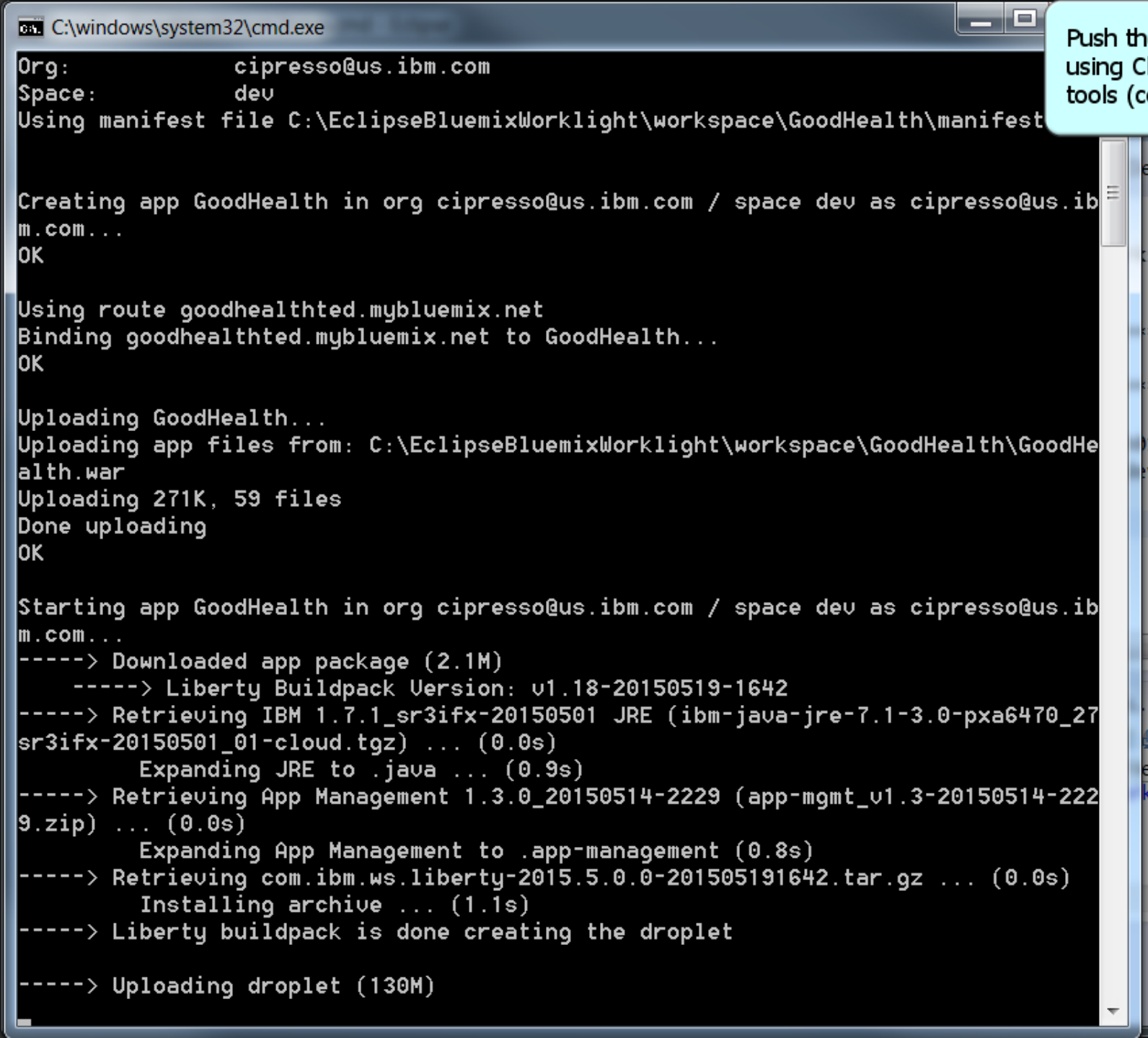

Java EE - GoodHealth/src/com/ibm/bluemix/zosconnect/resources/GoodHealthResource.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Java EE DDMS Hierarchy View Java Database Development Debug
GoodHealthResource.java
goodhealth.mybluemix.net/api/getPatient
Instantiate and configure REST client for invoking GoodHealth APIs through APIm.
48 @PUT
49 @Consumes(Med
50 @Produces(MediaType.APPLICATION_JSON)
51 @Path("/getPatient")
52 public Response getPatient(@Context HttpHeaders httpHeaders,
53 @Context UriInfo uriInfo, String inputJSON) {
54
55 if (log.isLoggable(Level
56 log.info(getClass().
57 inpu
58 }
59
60 GoodHealth api = new GoodHealth();
61 api.getInvoker().addDefaultHeader("X-IBM-Client-Id", Client_Id);
62 api.getInvoker().addDefaultHeader("X-IBM-Client-Secret", Client_Secret);
63 String authorization = HttpJSONUtil.getAuthorizationHeader(httpHeaders);
64 if (authorization != null) {
65 api.getInvoker().addDefaultHeader(HttpHeaders.AUTHORIZATION,
66 authorization);
67 }
68
69 Response response = null;
70 String outputJSON = null;
Search for ID or Text
clmims02.svl.ib...
<No Current Work>
632 Hits
Writable
Smart Insert
45 : 54

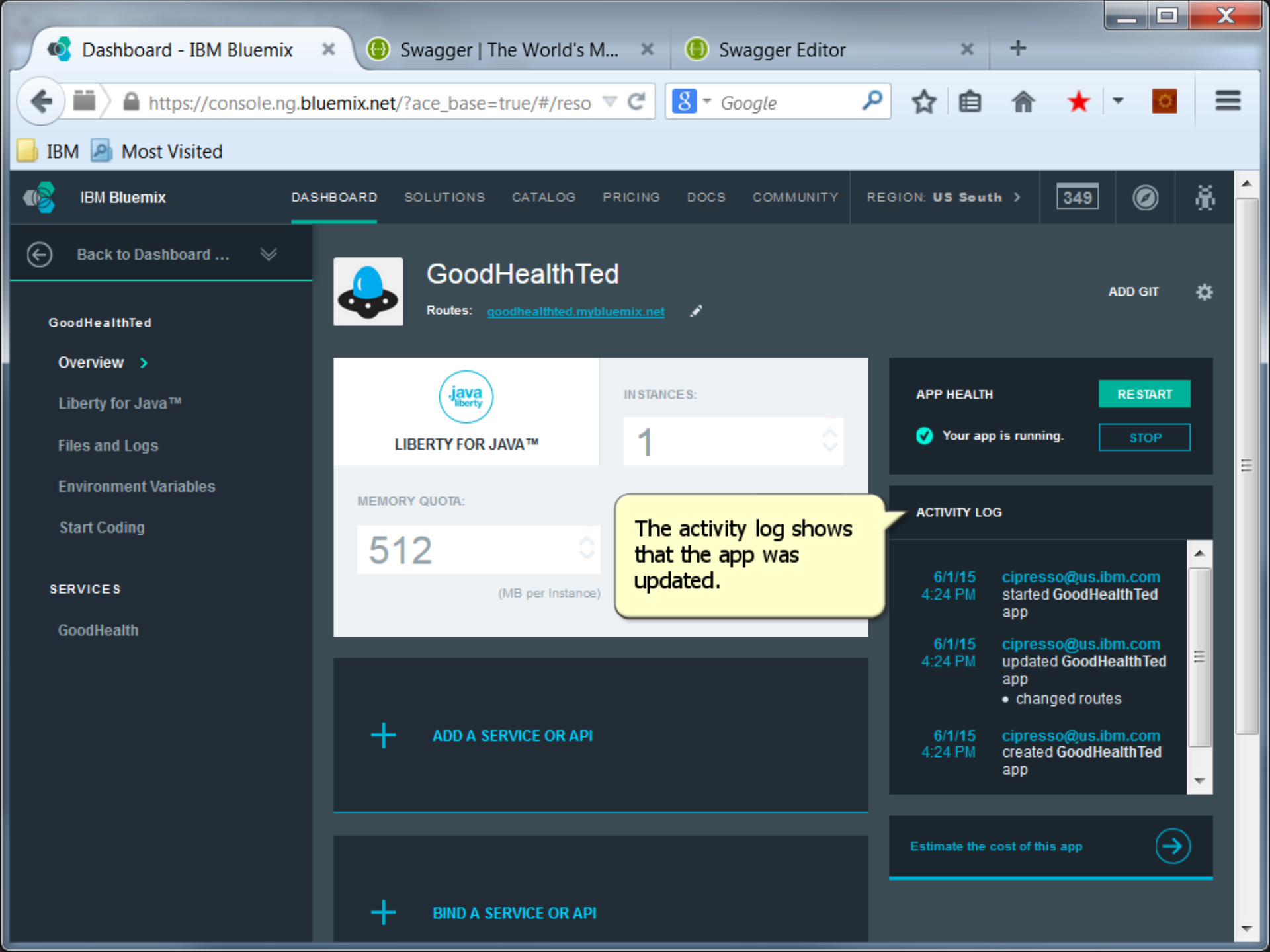


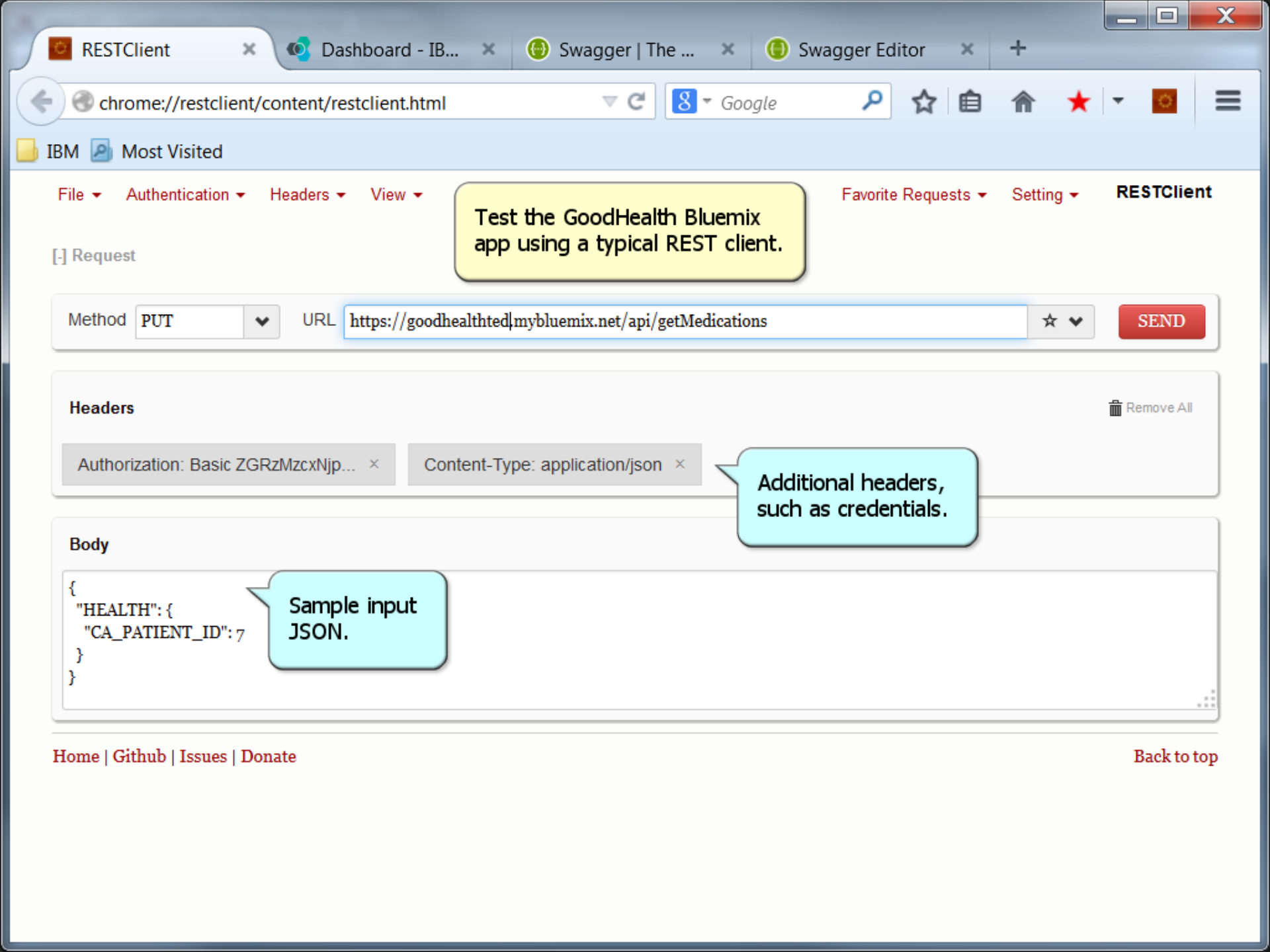

```
69          Response response = null;
70          String outputJSON = null;
71
72          try {
73              GetPatientInput input = mapper.readV
74                              GetPatientInput.class);
75              GetPatientOutput output = api.getPatient("invoke", input);
76              outputJSON = mapper.writeValueAsString(output);
77              response = Response.status(Status.OK).entity(outputJSON).build();
78          } catch (ApiException e1) {
79              log.error(getClass().getSimpleName(), e1);
80              outputJSON = HttpJSONUtil.getErrorJSON(e1.getCode(),
81                              e1.getMessage());
82              response = Response.status(e1.getCode()).entity(outputJSON).build();
83          } catch (Exception e2) {
84              outputJSON = HttpJSONUtil.getErrorJSON(
85                              Status.INTERNAL_SERVER_ERROR, e2.getMessage());
86              response = Response.status(Status.INTERNAL_SERVER_ERROR)
87                              .entity(outputJSON).build();
88          }
89
90          if (log.isLoggable(Level.INFO)) {
91              log.info(getClass().getSimpleName(), "getPatient(outputJSON={0})",
92                              outputJSON);
```

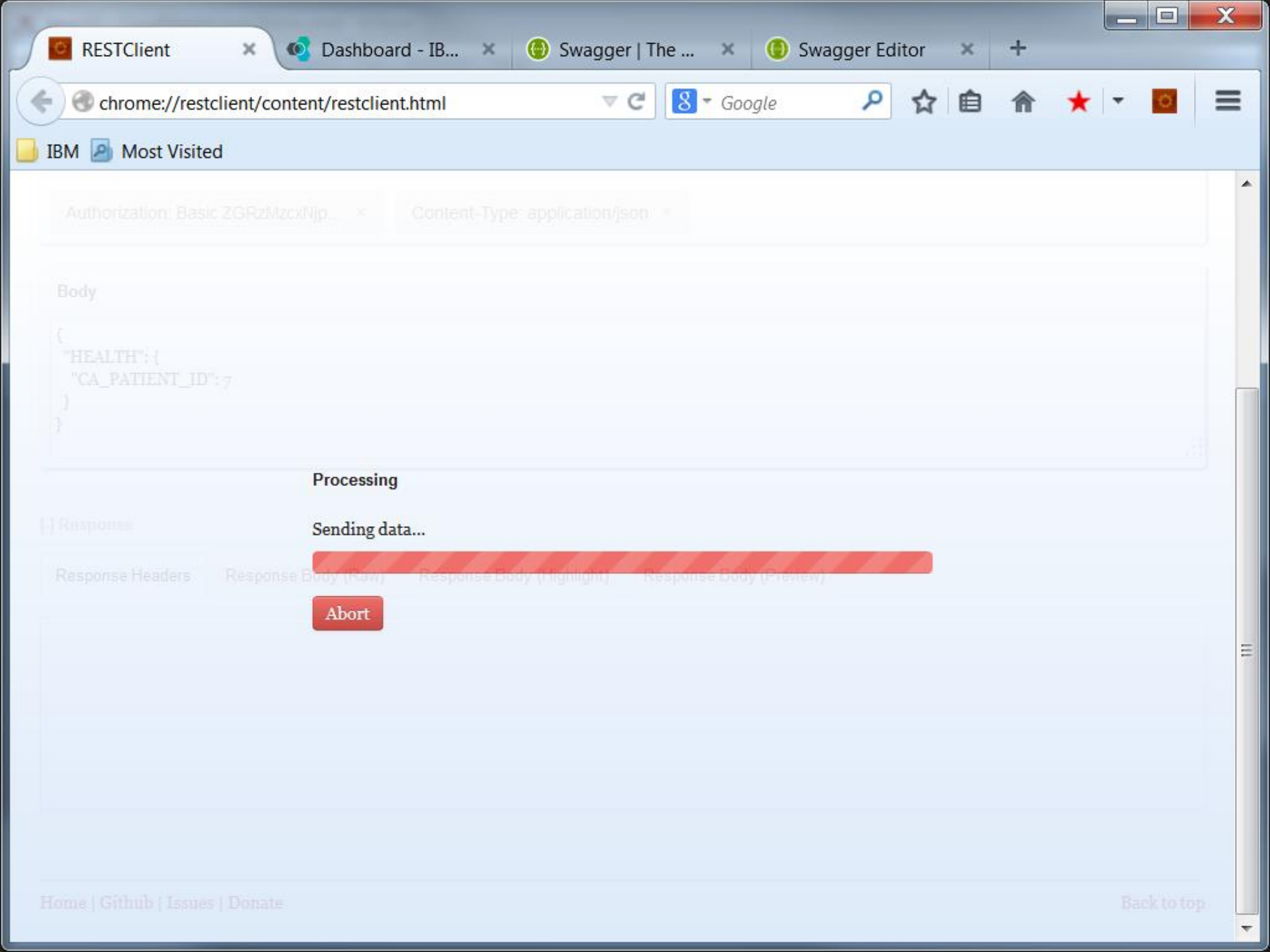

Java EE - GoodHealth/build.xml - Eclipse
File Edit Navigate Search Project Run Window Help
Quick Access
Java EE
DDMS
Hierarchy View
Java
Database Development
Debug
build.xml
Rebuild the GoodHealth app.
New
Show In Alt+Shift+W
Open F3
Open With
Copy Ctrl+C
Ctrl+V
Delete
Remove from Context Ctrl+Alt+Shift+Down
Mark as Landmark Ctrl+Alt+Shift+Up
Build Path
Move...
Rename... F2
Import...
Export...
Refresh F5
Validate
Show in Remote Systems view
Open Javadoc Wizard...
Debug As
Profile As
Run As
Team
Compare With
1 Run on Server Alt+Shift+X, R
2 Ant Build Alt+Shift+X, Q
3 Ant Build...
build.xml
GoodHealth
Servers
temp
type filter text

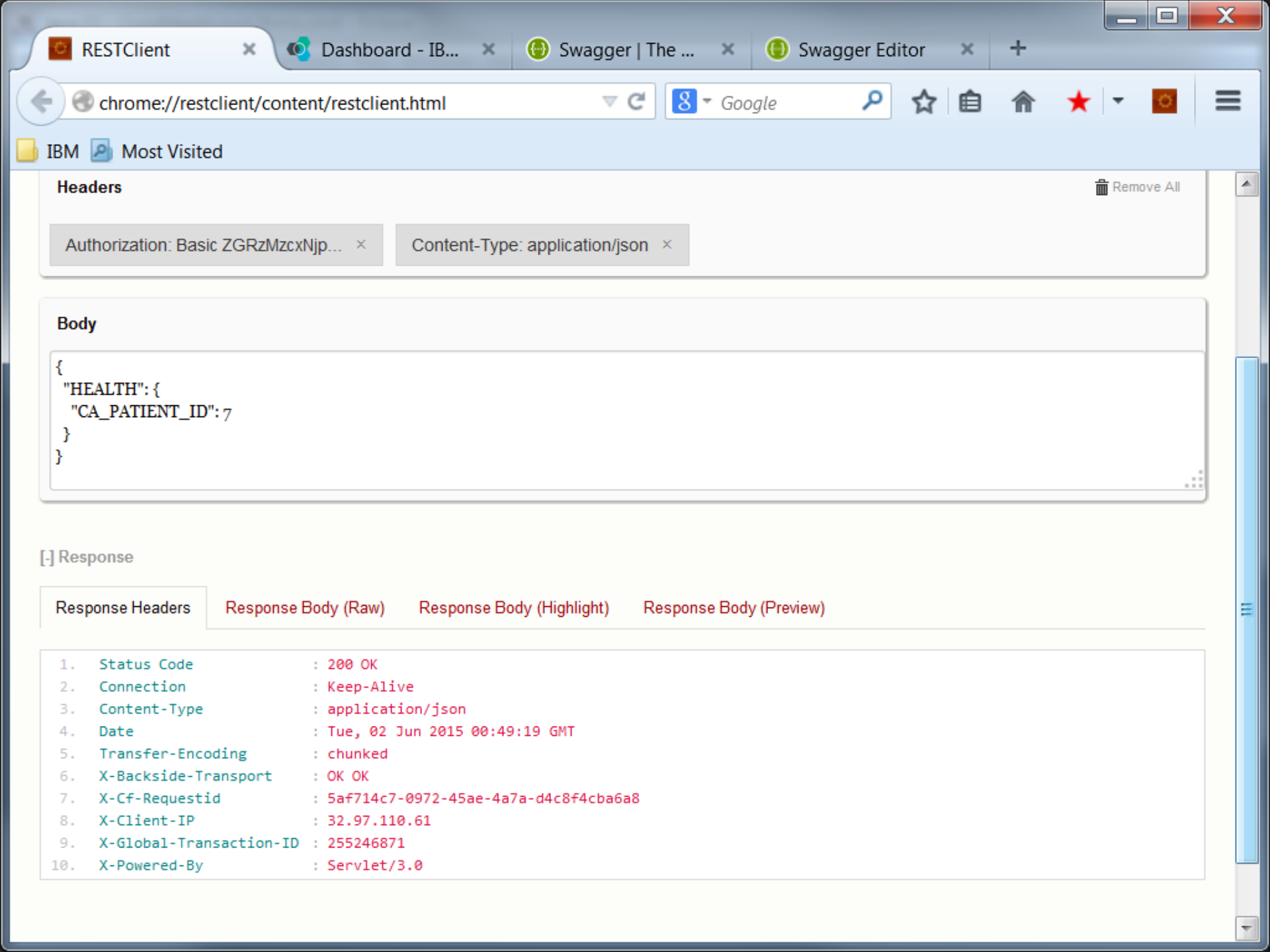

Java EE - GoodHealth/psh2bmix.cmd - Eclipse
File Edit Navigate Search Project Run Window Help
Quick Access
Java EE
DDMS
Hierarchy View
Java
Database Development
Debug
com.ibm.cloudintegration.common
com.ibm.cloudintegration.goodhealth
Libraries
Services
JavaScript Resources
dep-jar
swagger
WebContent
build.xml
GoodHealth.war
manifest.yml
psh2bmix.cmd
README.txt
Servers
temp
Worklight Development Server
zMobileHealthIMS (DerekTruong | zInnovate Mo
zMobileHealthIMSZHealthCareIMSAndroid
type filter text
psh2bmix.cmd
1 SET WAR_DIR=C:\EclipseBluemixWorklight\workspace\GoodHea
2 @ECHO OFF
3 CD %WAR_DIR%
4 ECHO **
5 ECHO * Deploy to api.ng.bluemix.net
6 ECHO **
7 CALL cf api https://api.ng.bluemix.net
8 CALL cf auth cipresso@us.ibm.com password
9 CALL cf target -o cipresso@us.ibm.com -s dev
10 CALL cf push GoodHealth -n goodhealthted
11 PAUSE
12
Push the GoodHealth app using Cloud Foundry CLI tools.
<terminated> GoodHealth build.xml [Ant Build] C:\Program Files\Java\jdk1.7.0_67\bin\
[war] Building war: C:\EclipseBluemixWorklight\workspac
build:
BUILD SUCCESSFUL
Total time: 1 second
Search for ID or Text
DerekTruong | z...
<No Current Work>
93 Hits
Writable
Insert
1 : 1

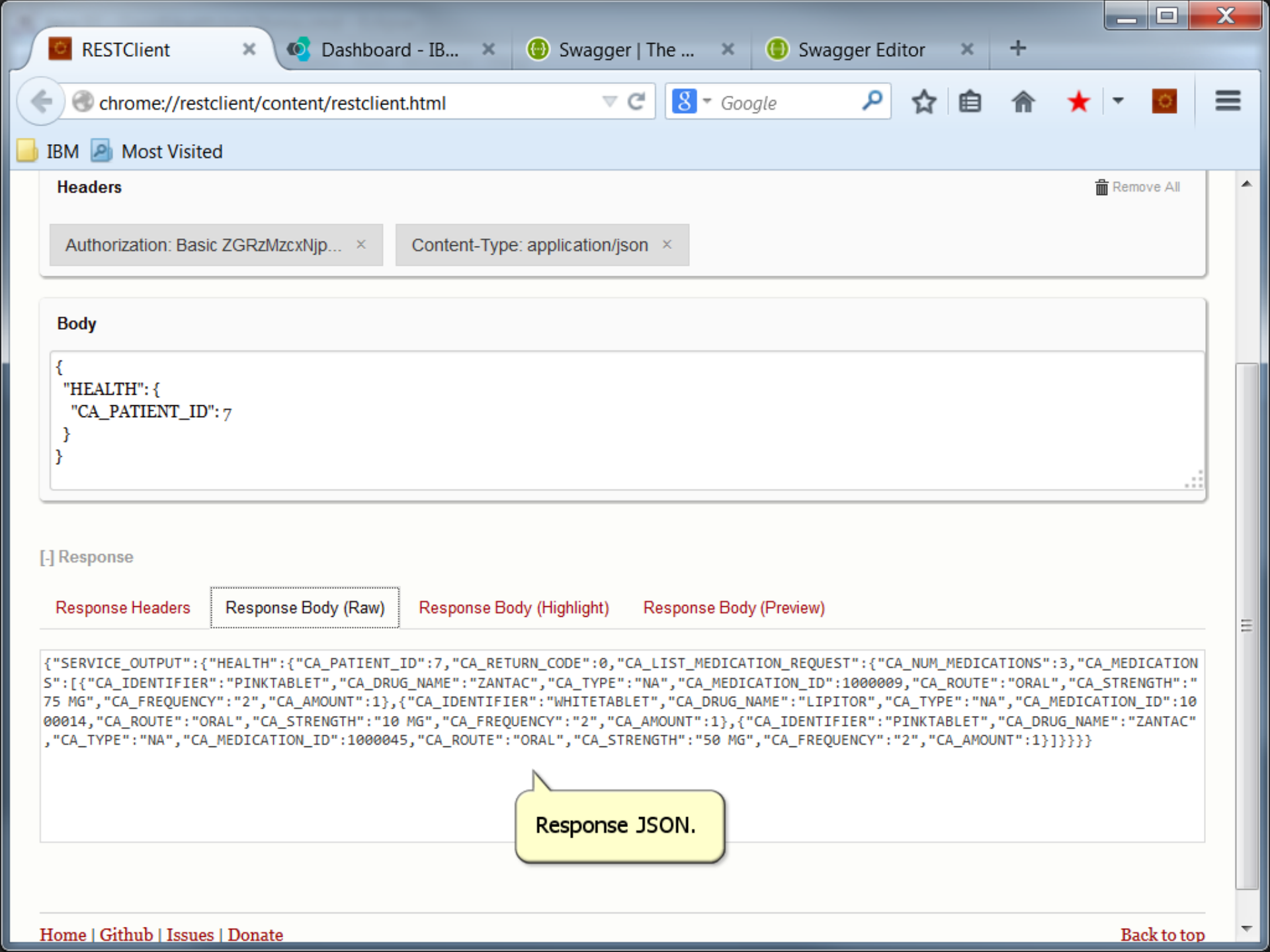

C:\windows\system32\cmd.exe
Org: cipresso@us.ibm.com
Space: dev
Using manifest file C:\EclipseBluemixWorklight\workspace\GoodHealth\manifest
Creating app GoodHealth in org cipresso@us.ibm.com / space dev as cipresso@us.ibm.com...
OK
Using route goodhealthted.mybluemix.net
Binding goodhealthted.mybluemix.net to GoodHealth...
OK
Uploading GoodHealth...
Uploading app files from: C:\EclipseBluemixWorklight\workspace\GoodHealth\GoodHealth.war
Uploading 271K, 59 files
Done uploading
OK
Starting app GoodHealth in org cipresso@us.ibm.com / space dev as cipresso@us.ibm.com...
-----> Downloaded app package (2.1M)
-----> Liberty Buildpack Version: v1.18-20150519-1642
-----> Retrieving IBM 1.7.1_sr3ifx-20150501 JRE (ibm-java-jre-7.1-3.0-pxa6470_27sr3ifx-20150501_01-cloud.tgz) ... (0.0s)
Expanding JRE to .java ... (0.9s)
-----> Retrieving App Management 1.3.0_20150514-2229 (app-mgmt_v1.3-20150514-2229.zip) ... (0.0s)
Expanding App Management to .app-management (0.8s)
-----> Retrieving com.ibm.ws.liberty-2015.5.0.0-201505191642.tar.gz ... (0.0s)
Installing archive ... (1.1s)
-----> Liberty buildpack is done creating the droplet
-----> Uploading droplet (130M)
Push the GoodHealth app using Cloud Foundry CLI tools (continued).
evelopment
Debug

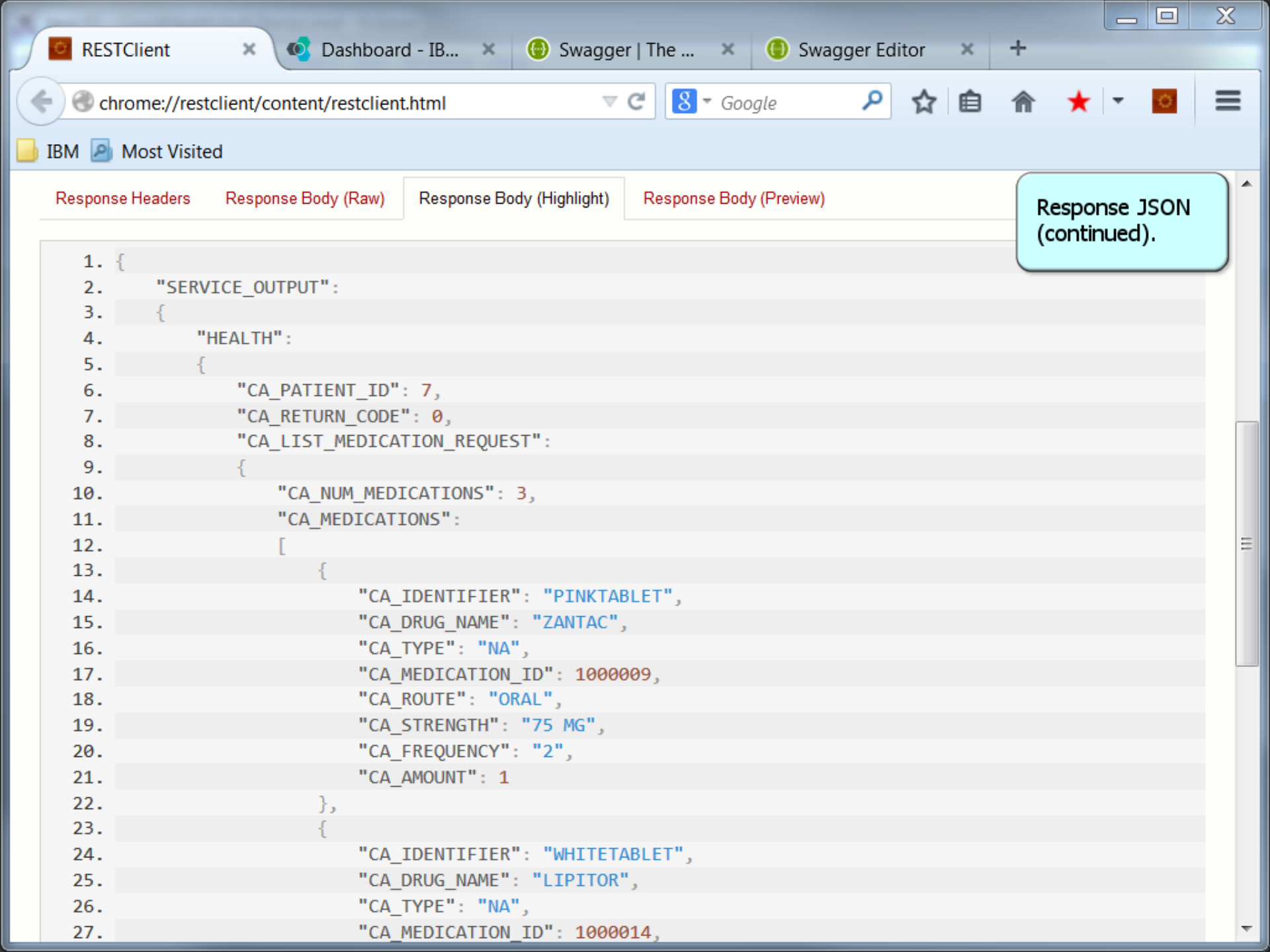

Dashboard - IBM Bluemix
Swagger | The World's M...
Swagger Editor
https://console.ng.bluemix.net/?ace_base=true/#/reso
Google
IBM
Most Visited
IBM Bluemix
DASHBOARD
SOLUTIONS
CATALOG
PRICING
DOCS
COMMUNITY
REGION: US South
349
Back to Dashboard ...
GoodHealthTed
Overview
Liberty for Java™
Files and Logs
Environment Variables
Start Coding
SERVICES
GoodHealth
GoodHealthTed
Routes: goodhealthted.mybluemix.net
ADD GIT
java liberty
LIBERTY FOR JAVA™
INSTANCES:
1
MEMORY QUOTA:
512
(MB per Instance)
The activity log shows that the app was updated.
APP HEALTH
RESTART
Your app is running.
STOP
ACTIVITY LOG
6/1/15 4:24 PM
cipresso@us.ibm.com started GoodHealthTed app
6/1/15 4:24 PM
cipresso@us.ibm.com updated GoodHealthTed app
• changed routes
6/1/15 4:24 PM
cipresso@us.ibm.com created GoodHealthTed app
ADD A SERVICE OR API
BIND A SERVICE OR API
Estimate the cost of this app

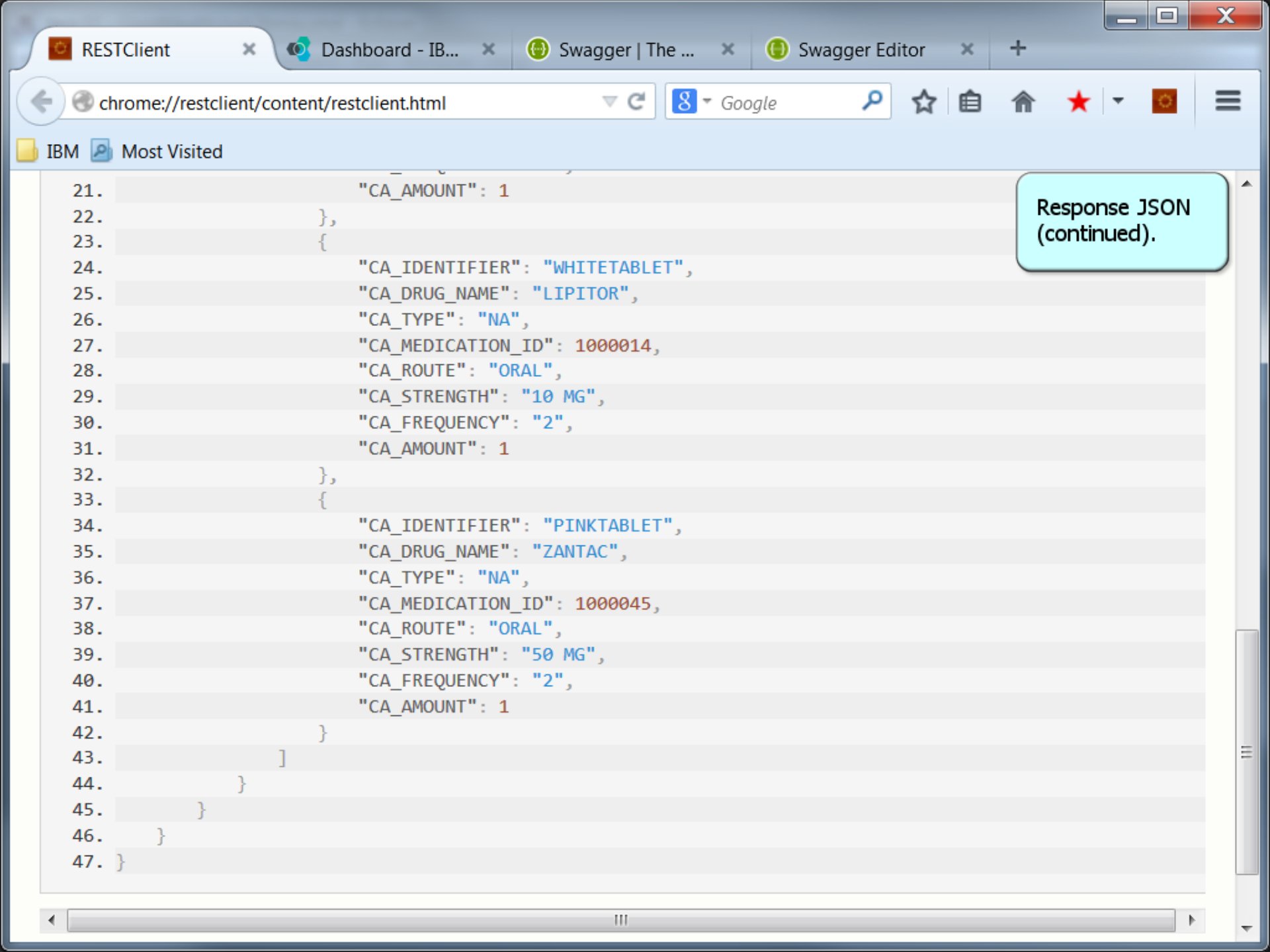

RESTClient
Dashboard - IB...
Swagger | The ...
Swagger Editor
chrome://restclient/content/restclient.html
Google
IBM
Most Visited
File
Authentication
Headers
View
Favorite Requests
Setting
RESTClient
Test the GoodHealth Bluemix app using a typical REST client.
[-] Request
Method
PUT
URL
https://goodhealthted.mybluemix.net/api/getMedications
SEND
Headers
Remove All
Authorization: Basic ZGRzMzcxNjp...
Content-Type: application/json
Additional headers, such as credentials.
Body
{
"HEALTH": {
"CA_PATIENT_ID": 7
}
}
Sample input JSON.
Home | Github | Issues | Donate
Back to top


RESTClient
Dashboard - IB...
Swagger | The ...
Swagger Editor
chrome://restclient/content/restclient.html
Google
IBM
Most Visited
Authorization: Basic ZGRzMzcxNjp
Content-Type: application/json
Body
{
"HEALTH": {
"CA_PATIENT_ID": 7
}
}
Processing
Sending data...
Abort
[-] Response
Response Headers
Response Body (Raw)
Response Body (Highlight)
Response Body (Preview)
Home | Github | Issues | Donate
Back to top


RESTClient
Dashboard - IB...
Swagger | The ...
Swagger Editor
chrome://restclient/content/restclient.html
Google
IBM
Most Visited
Headers
Remove All
Authorization: Basic ZGRzMzcxNjp...
Content-Type: application/json
Body
{
"HEALTH": {
"CA_PATIENT_ID": 7
}
}
[-] Response
Response Headers
Response Body (Raw)
Response Body (Highlight)
Response Body (Preview)
1. Status Code : 200 OK
2. Connection : Keep-Alive
3. Content-Type : application/json
4. Date : Tue, 02 Jun 2015 00:49:19 GMT
5. Transfer-Encoding : chunked
6. X-Backside-Transport : OK OK
7. X-Cf-Requestid : 5af714c7-0972-45ae-4a7a-d4c8f4cba6a8
8. X-Client-IP : 32.97.110.61
9. X-Global-Transaction-ID : 255246871
10. X-Powered-By : Servlet/3.0


RESTClient
Dashboard - IB...
Swagger | The ...
Swagger Editor
chrome://restclient/content/restclient.html
Google
IBM
Most Visited
Headers
Remove All
Authorization: Basic ZGRzMzcxNjp...
Content-Type: application/json
Body
{
"HEALTH": {
"CA_PATIENT_ID": 7
}
}
[-] Response
Response Headers
Response Body (Raw)
Response Body (Highlight)
Response Body (Preview)
{"SERVICE_OUTPUT":{"HEALTH":{"CA_PATIENT_ID":7,"CA_RETURN_CODE":0,"CA_LIST_MEDICATION_REQUEST":{"CA_NUM_MEDICATIONS":3,"CA_MEDICATIONS":[{"CA_IDENTIFIER":"PINKTABLET","CA_DRUG_NAME":"ZANTAC","CA_TYPE":"NA","CA_MEDICATION_ID":1000009,"CA_ROUTE":"ORAL","CA_STRENGTH":"75 MG","CA_FREQUENCY":"2","CA_AMOUNT":1},{"CA_IDENTIFIER":"WHITETABLET","CA_DRUG_NAME":"LIPITOR","CA_TYPE":"NA","CA_MEDICATION_ID":1000014,"CA_ROUTE":"ORAL","CA_STRENGTH":"10 MG","CA_FREQUENCY":"2","CA_AMOUNT":1},{"CA_IDENTIFIER":"PINKTABLET","CA_DRUG_NAME":"ZANTAC","CA_TYPE":"NA","CA_MEDICATION_ID":1000045,"CA_ROUTE":"ORAL","CA_STRENGTH":"50 MG","CA_FREQUENCY":"2","CA_AMOUNT":1}]}}}}
Response JSON.
Home | Github | Issues | Donate
Back to top


RESTClient
Dashboard - IB...
Swagger | The ...
Swagger Editor
chrome://restclient/content/restclient.html
Google
IBM
Most Visited
Response Headers
Response Body (Raw)
Response Body (Highlight)
Response Body (Preview)
Response JSON (continued).
{
"SERVICE_OUTPUT":
{
"HEALTH":
{
"CA_PATIENT_ID": 7,
"CA_RETURN_CODE": 0,
"CA_LIST_MEDICATION_REQUEST":
{
"CA_NUM_MEDICATIONS": 3,
"CA_MEDICATIONS":
[
{
"CA_IDENTIFIER": "PINKTABLET",
"CA_DRUG_NAME": "ZANTAC",
"CA_TYPE": "NA",
"CA_MEDICATION_ID": 1000009,
"CA_ROUTE": "ORAL",
"CA_STRENGTH": "75 MG",
"CA_FREQUENCY": "2",
"CA_AMOUNT": 1
},
{
"CA_IDENTIFIER": "WHITETABLET",
"CA_DRUG_NAME": "LIPITOR",
"CA_TYPE": "NA",
"CA_MEDICATION_ID": 1000014,


RESTClient
Dashboard - IB...
Swagger | The ...
Swagger Editor
chrome://restclient/content/restclient.html
Google
IBM
Most Visited
"CA_AMOUNT": 1
},
{
"CA_IDENTIFIER": "WHITETABLET",
"CA_DRUG_NAME": "LIPITOR",
"CA_TYPE": "NA",
"CA_MEDICATION_ID": 1000014,
"CA_ROUTE": "ORAL",
"CA_STRENGTH": "10 MG",
"CA_FREQUENCY": "2",
"CA_AMOUNT": 1
},
{
"CA_IDENTIFIER": "PINKTABLET",
"CA_DRUG_NAME": "ZANTAC",
"CA_TYPE": "NA",
"CA_MEDICATION_ID": 1000045,
"CA_ROUTE": "ORAL",
"CA_STRENGTH": "50 MG",
"CA_FREQUENCY": "2",
"CA_AMOUNT": 1
}
]
}
}
}
}
Response JSON (continued).

Thank You!

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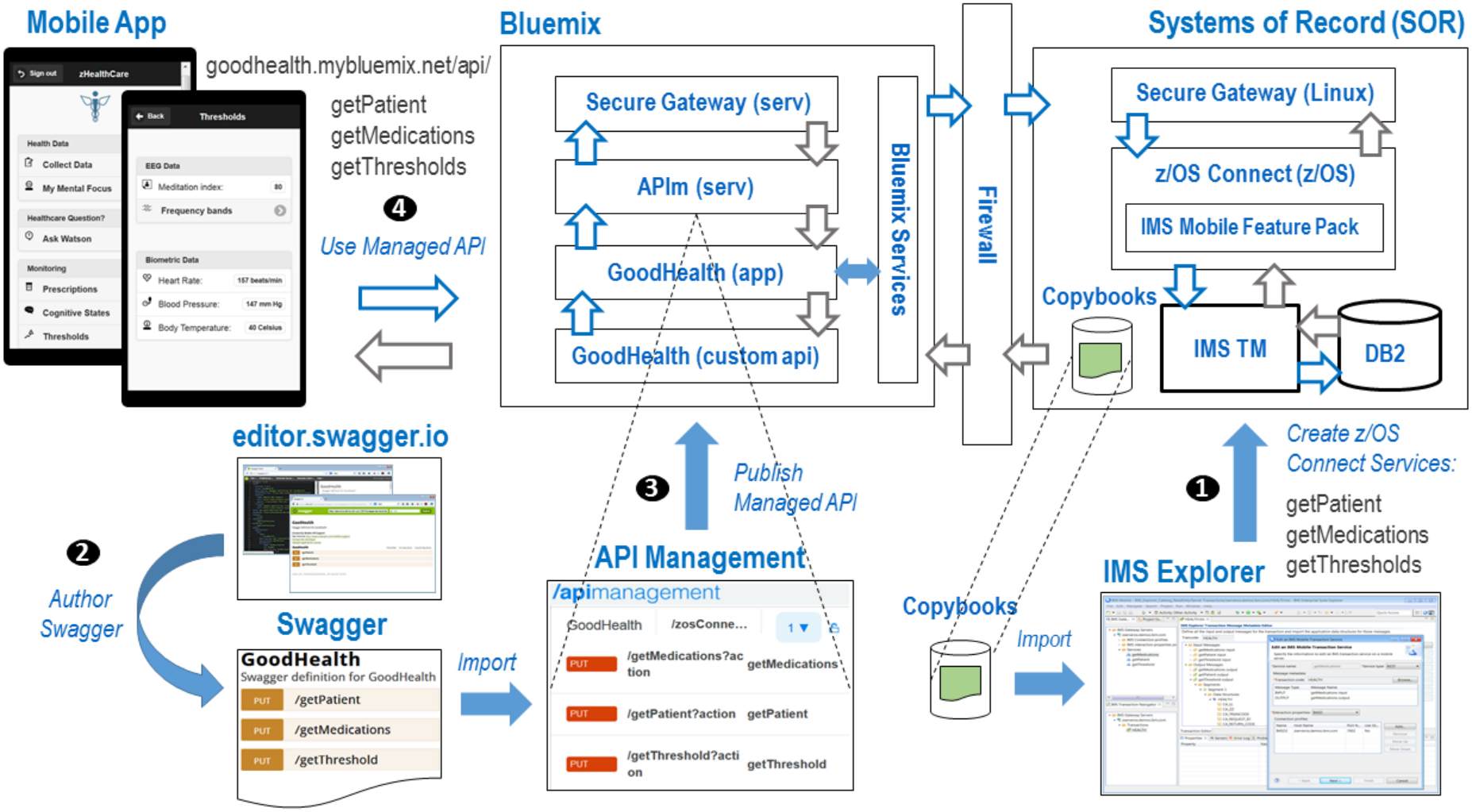
Mobile App SOR Asset Integration Overview



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