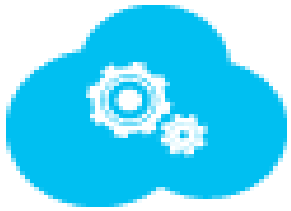
IBM Integration Bus and Cloud

John Hosie, IBM Integration Bus Development
23rd March 2015

The Layers of Cloud

SaaS	**Software as a Service** “Applications”
PaaS	**Platform as a Service** “Operating System”
IaaS	**Infrastructure as a Service** “Hardware & Environments”

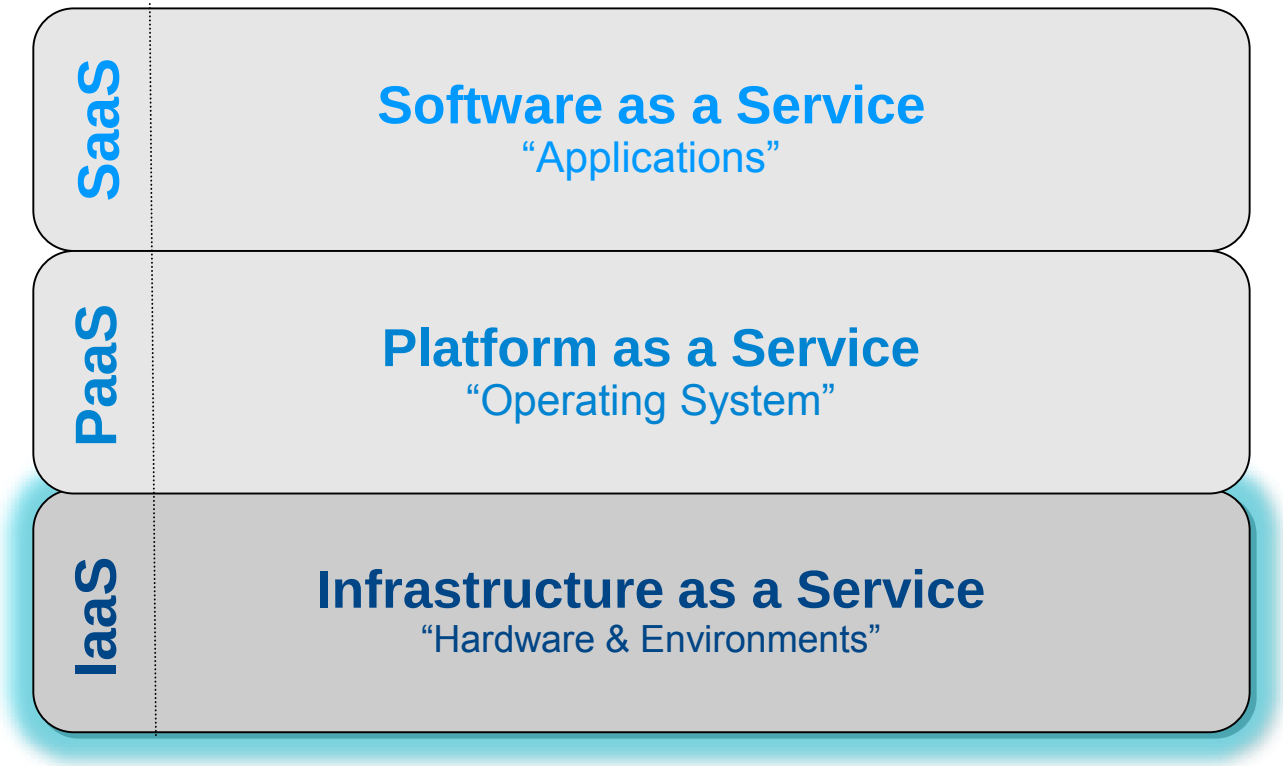
SaaS



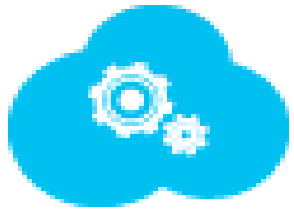
PaaS

IaaS

The Layers of Cloud



SaaS



PaaS

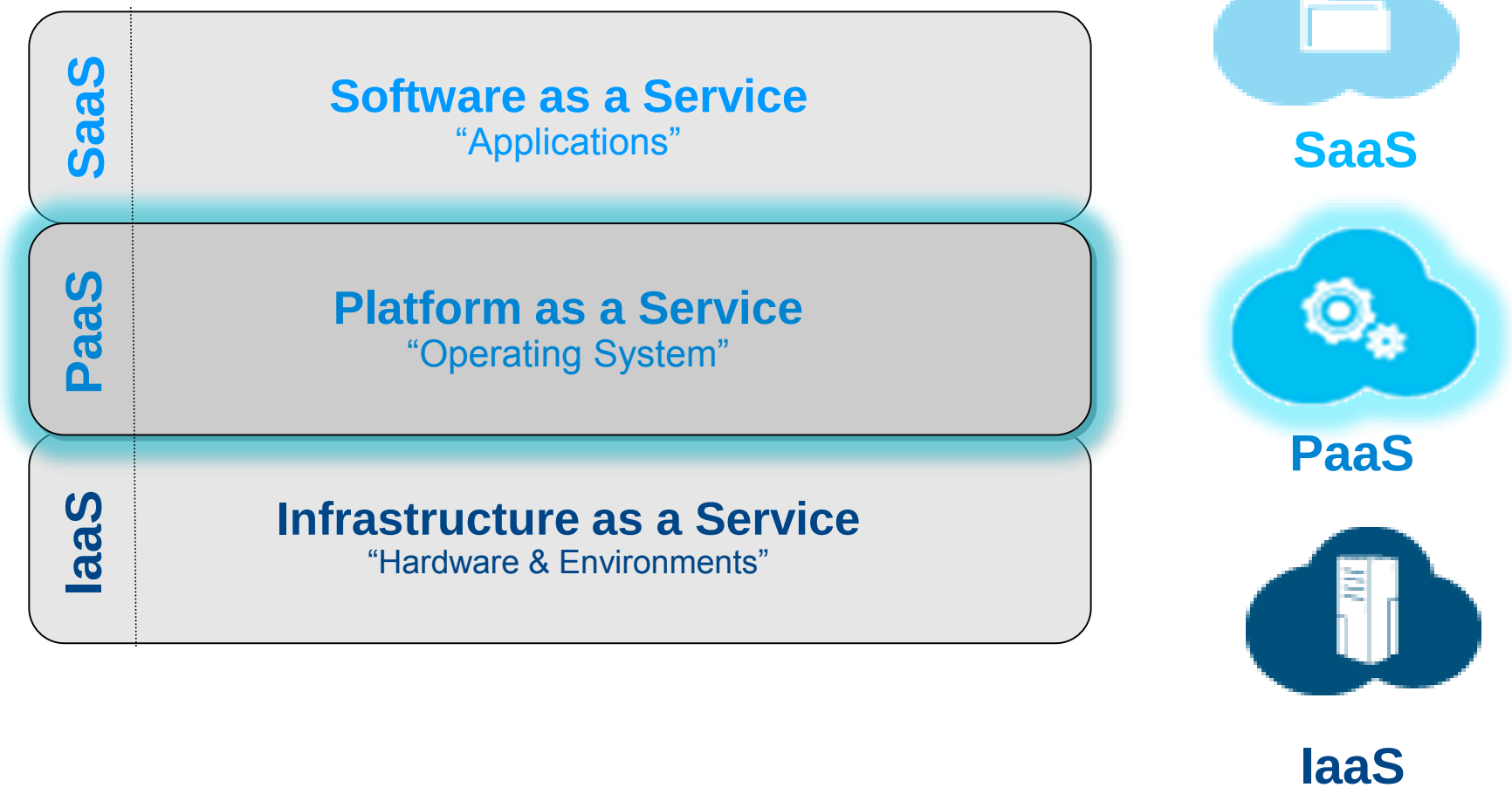
IaaS

Infrastructure as a Service (IaaS)

- Basic Layer – (Parallels to “Hardware”)
  - Compute
  - Memory
  - Storage
  - Network Resources
- Charged by (Virtual) Machine Capacity
- IaaS APIs:
  - Create Server, Delete Server
  - Add Memory, remove memory
  - Create Environment
- Examples:
  - Virtualization Providers:
    - Softlayer
    - Amazon EC2
    - VMWare
    - Azure
    - PureSystems
  - Automation Tools:
    - Chef
    - Puppet
    - uDeploy
    - PowerShell DSC

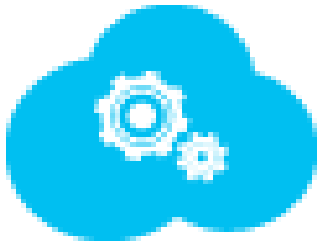
- Many organizations already have experience with these technologies
- Flexibility – Automate creation of a machine that can run any application

The Layers of Cloud



Platform as a Service (PaaS)

- Application Centric View – (Parallels to 'Operating System')
  - Applications
    - J2EE
    - Spring
    - Rails
    - Play
  - Services
    - MongoDB
    - Postgre SQL
    - Elastic MQ



- Changed by licensed capacity or usage
- PaaS APIs:
  - Deploy Application, Destroy Application
  - Scale Application
  - List Databases, Bind Application To Database

- Examples:
  - CloudFoundry
  - IBM BlueMix
  - Heroku
  - Open Shift

- Developers are trying these platforms today, adoption growing

The Layers of Cloud

SaaS

Software as a Service
"Applications"

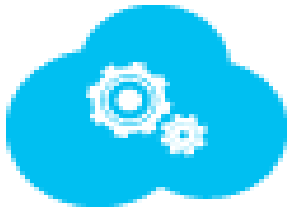
PaaS

Platform as a Service
"Operating System"

IaaS

Infrastructure as a Service
"Hardware & Environments"

SaaS



PaaS

IaaS

Software as a Service (SaaS)

- Provides access to hosted applications or services
- Trades off hosting flexibility for ease of use
- Usage based charging
  - Per Hour, Day, Week, Month
  - Per Transaction
- SaaS APIs:
  - Dependent on what the solution offers
  - Examples:
    - Query Product
    - Order Product
- Examples:
  - SalesForce
  - Google Apps
  - Office 365
- Particular applications are very popular

The Layers of Cloud

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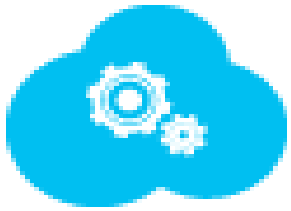
SaaS



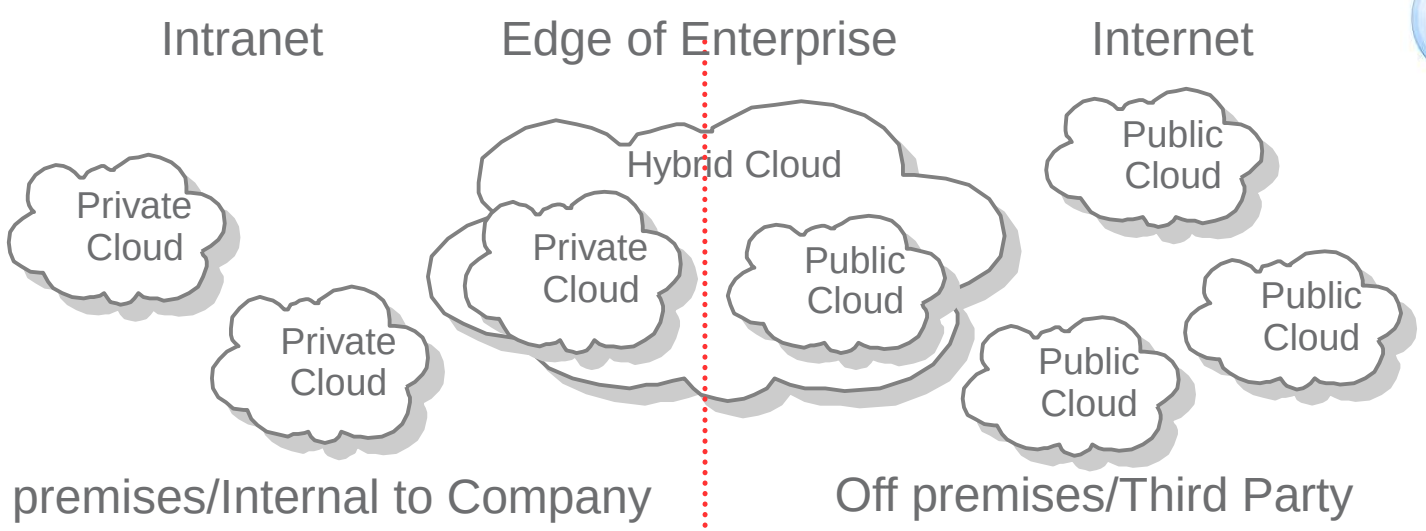
PaaS

IaaS

These are *Independent Concepts*

They can be used together, but *don't have to be*

On-Premise, Off-premise and Hybrid Clouds



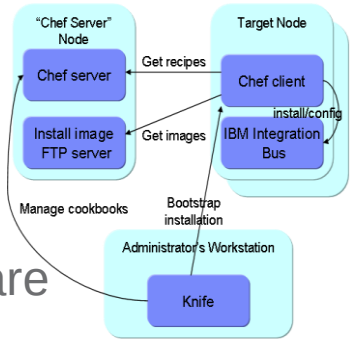
- IaaS, PaaS and SaaS can each be on-premise, off-premise or hybrid
  - Data sensitivity is the key concern
- Motivations
  - Adding workload: start private, add public capacity
  - Reducing workload: start private, move to public
  - Moving workload: start public, move to private
- Economics
  - Less expensive to use a public cloud
    - For low utilization, rental is cheaper
    - For spontaneous capacity. rental is cheaper
    - Private Cloud incurs hosting costs
  - Match risk to cost as business grows

IaaS

Infrastructure as a Service

"Hardware & Environments"

IBM Integration and IaaS



- **Chef**
  - Open Source technology focussing on managing middleware install/config
  - Installs IIB and MQ, creates queue managers and integration nodes
- **Pure Application System or Pure Application Service**
  - Automated provisioning of machines as well as deployment of middleware
- **IBM UrbanCode Deploy**
  - Orchestrates and automates the deployment of applications, middleware configurations, and database changes into development, test, and production environment
- **Bring you own software license and rental pricing for**
  - Softlayer
  - Amazon EC2
  - Micosoft Azure

SOFTLAYER

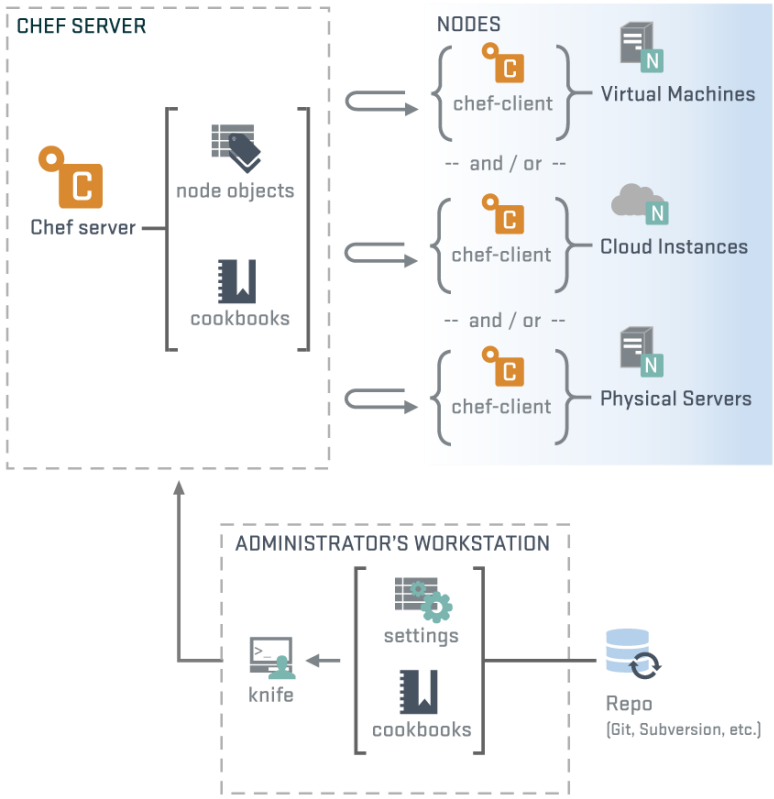
Azure

amazon web services EC2

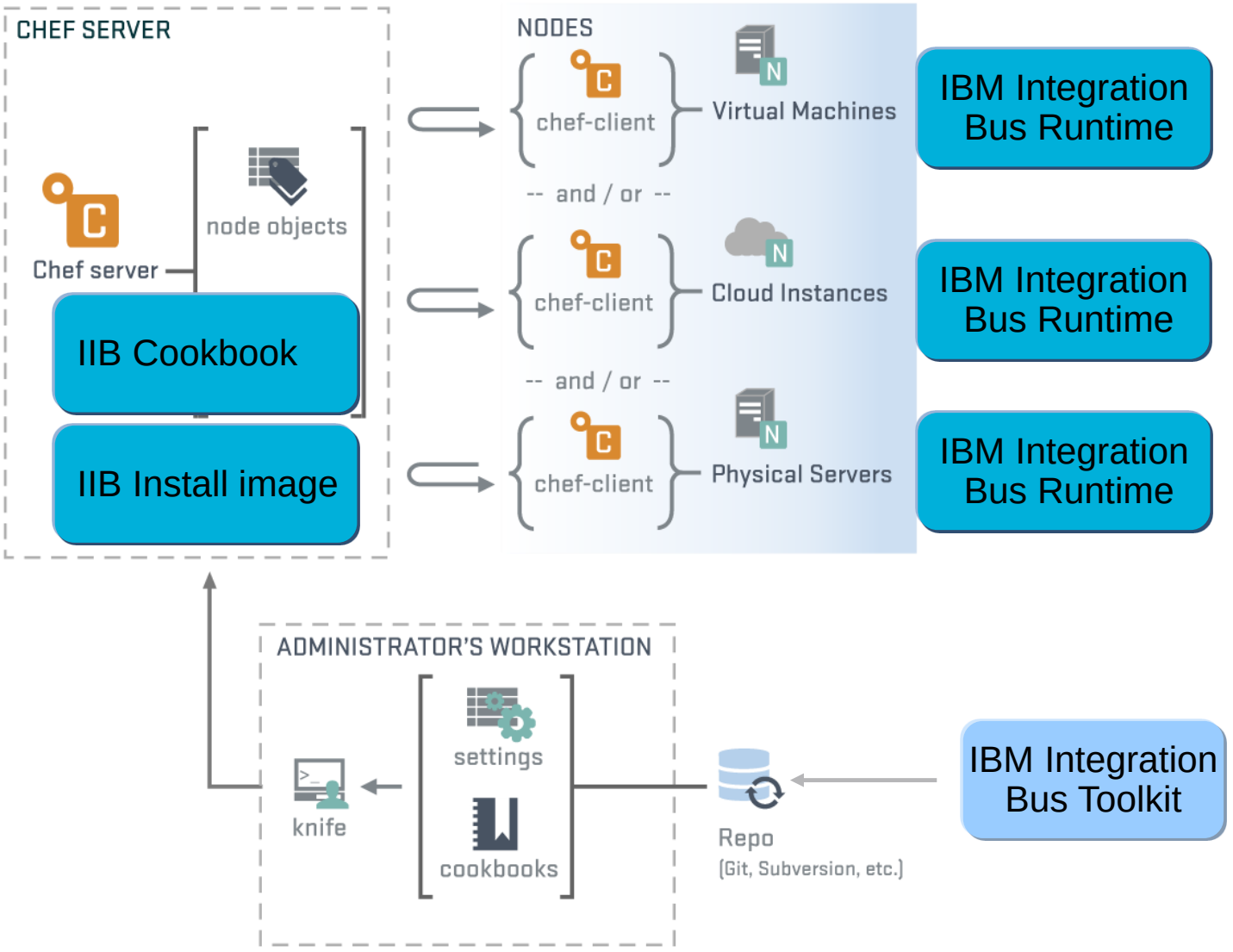
Chef Overview

- "Chef is an automation platform that transforms infrastructure into code"

- Chef concepts:
  - **Recipe**: a script which automates an install or configuration step
  - **Cookbook**: a set of recipes plus metadata and additional files
  - **Chef client**: an agent running on the target node which runs recipes and monitors the node's state
  - **Chef server**: a central component that manages the chef clients and distributes deployment requests to appropriate nodes
  - **Chef solo**: a chef client which allows chef recipes to be run by an external manager



Chef Interactions: Managed by Chef Server

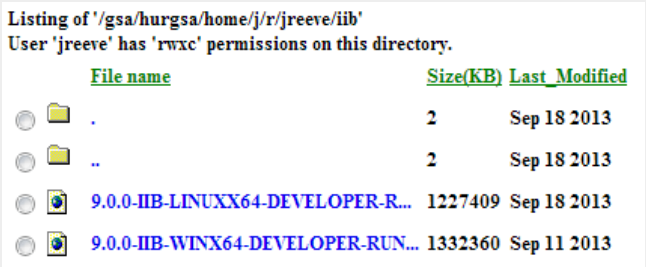


What the user has to do...

Download the install images for IBM Integration Bus.

Download the Chef Cookbook for IBM Integration Bus.

Setup HTTP or FTP server with install images.

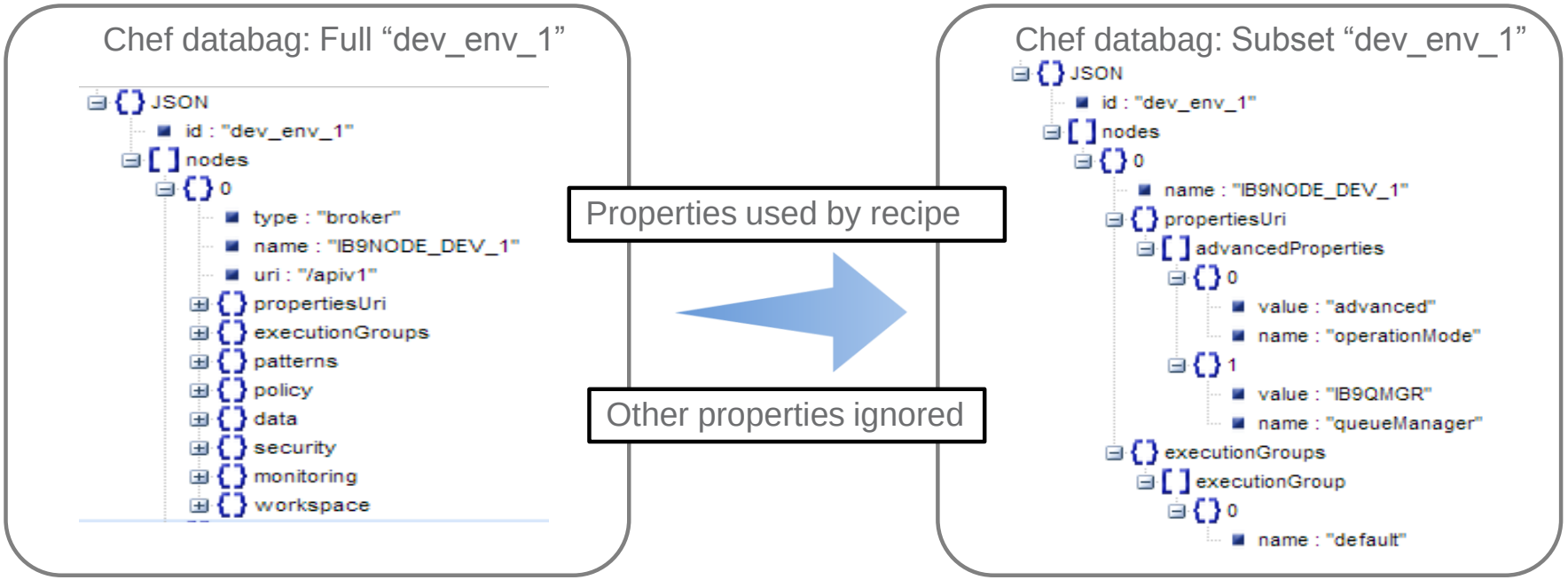


Add IBM Integration Bus chef cookbook to chef server (or add to file system if using chef solo).
Set attributes to point to FTP/HTTP server.

Run chef scripts on new node.

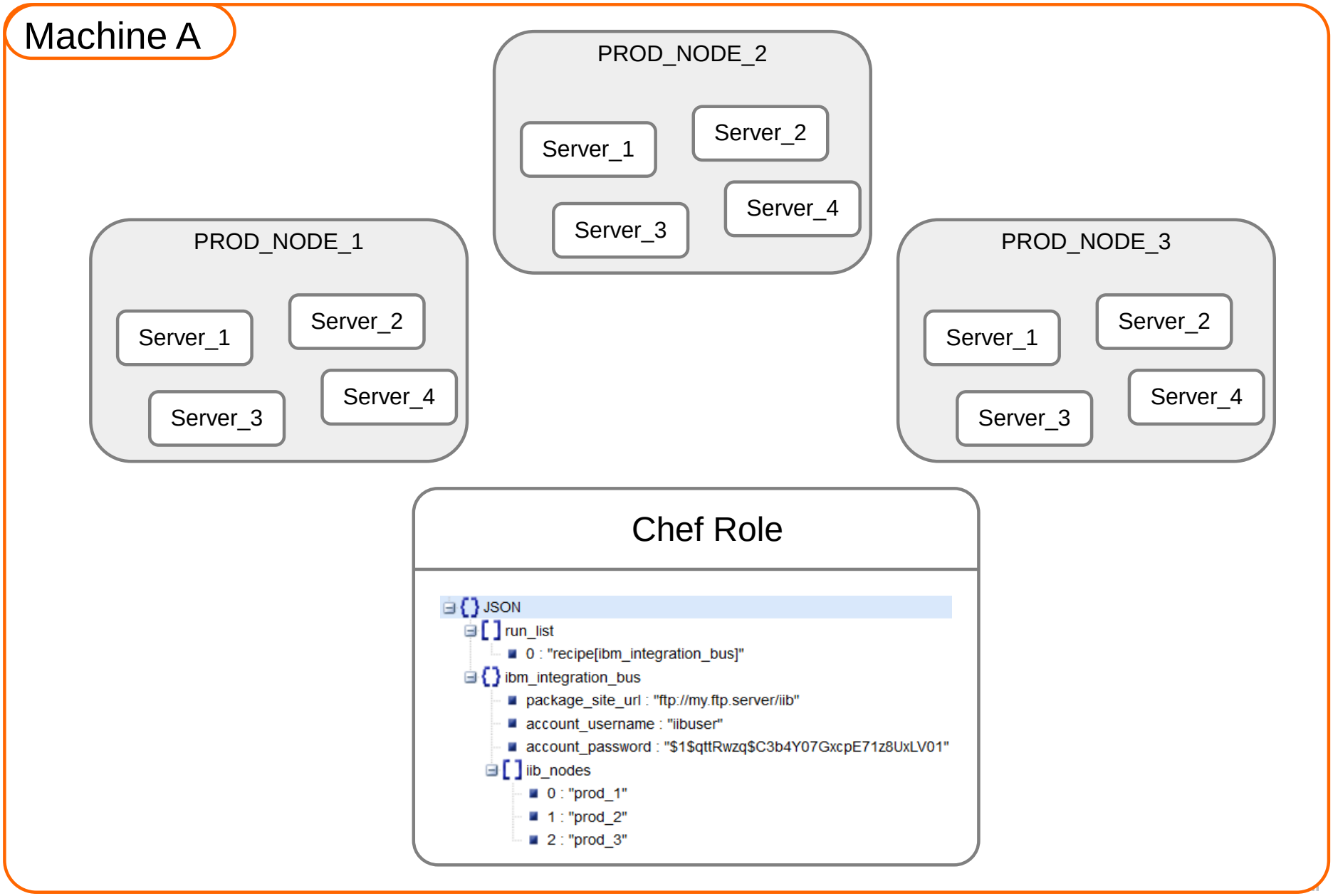
Full system set up:
- **Runtime, Toolkit, MQ, Explorer.**
- **Operating system tuned.**
- **User account created.**
- **Broker created and started.**

Databag features

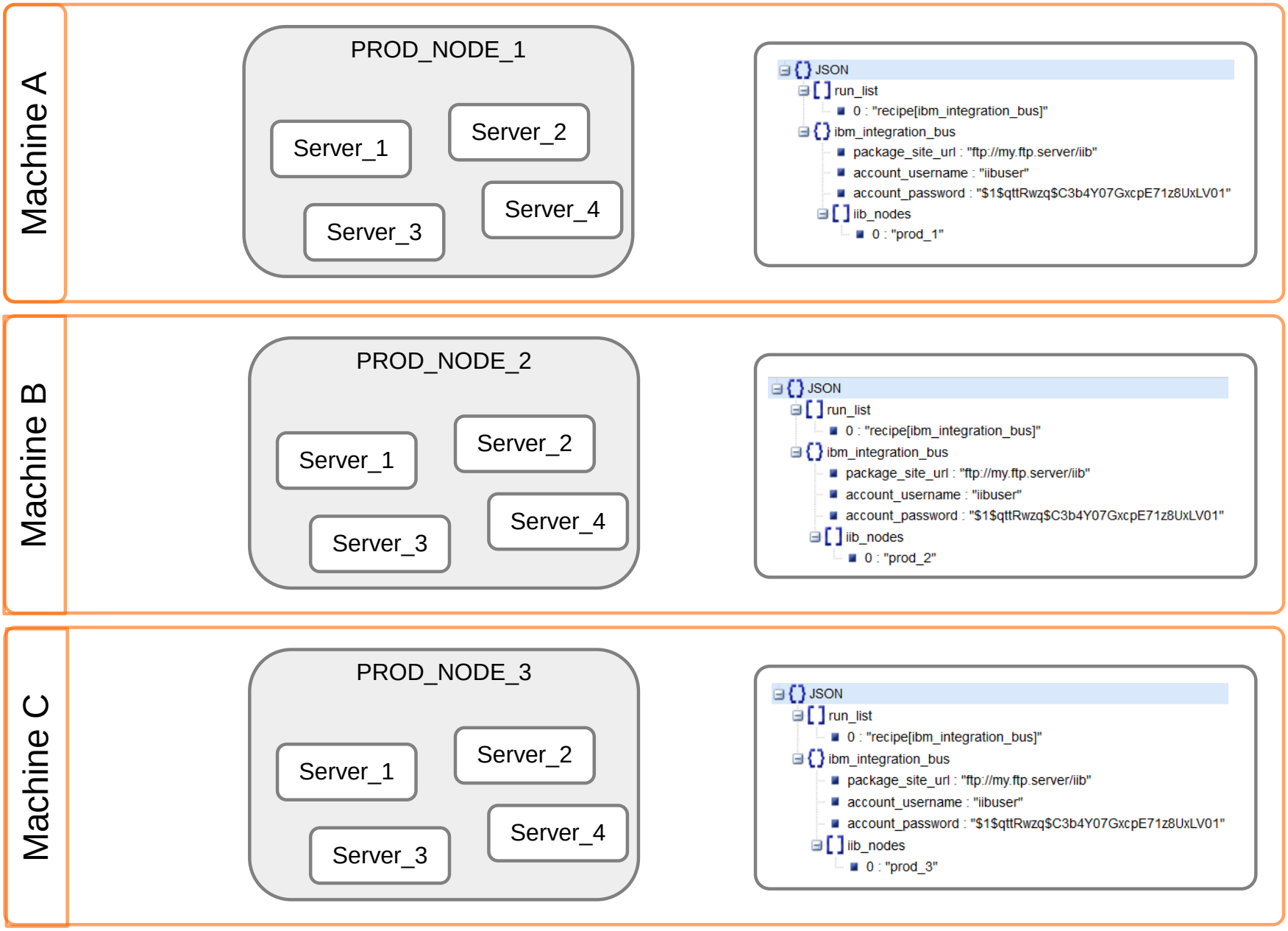


- Structure is identical to the JSON from a get request to the IIB REST API.
- Captured via REST call an existing IIB node.
- Allows backing up and restoring a broker onto a new vanilla machine.
- Only basic properties to start with but can be expanded to include everything:
  - Polices and configurable services
  - Deployed bar files

A complex system on a single machine...



A complex system on multiple machines...



Open Source

GitHub

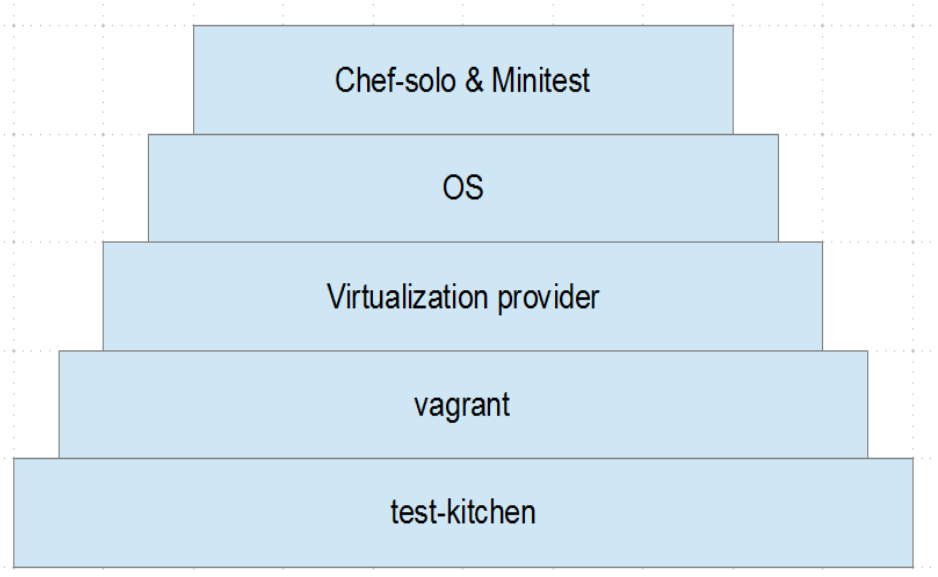
- Licensed under the Eclipse Public License
  - Cookbook hosted publicly on GitHub
  - Opscode Community Site
- Natural Extension points
  - Additional properties
    - Integration Node
    - Integration Server
  - Policy
  - Deployed BARs
- Contributions are welcome!

Available from:
https://github.com/ot4i-cookbooks/ibm_integration_bus
http://community.opscode.com/cookbooks/ibm_integration_bus

Testing chef recipes – Test kitchen

- Integration test harness for Chef Cookbooks
  - Open source available on Github
  - Configured via a .kitchen.yml file
  - Use to add tests to ibm_integration_bus Cookbook

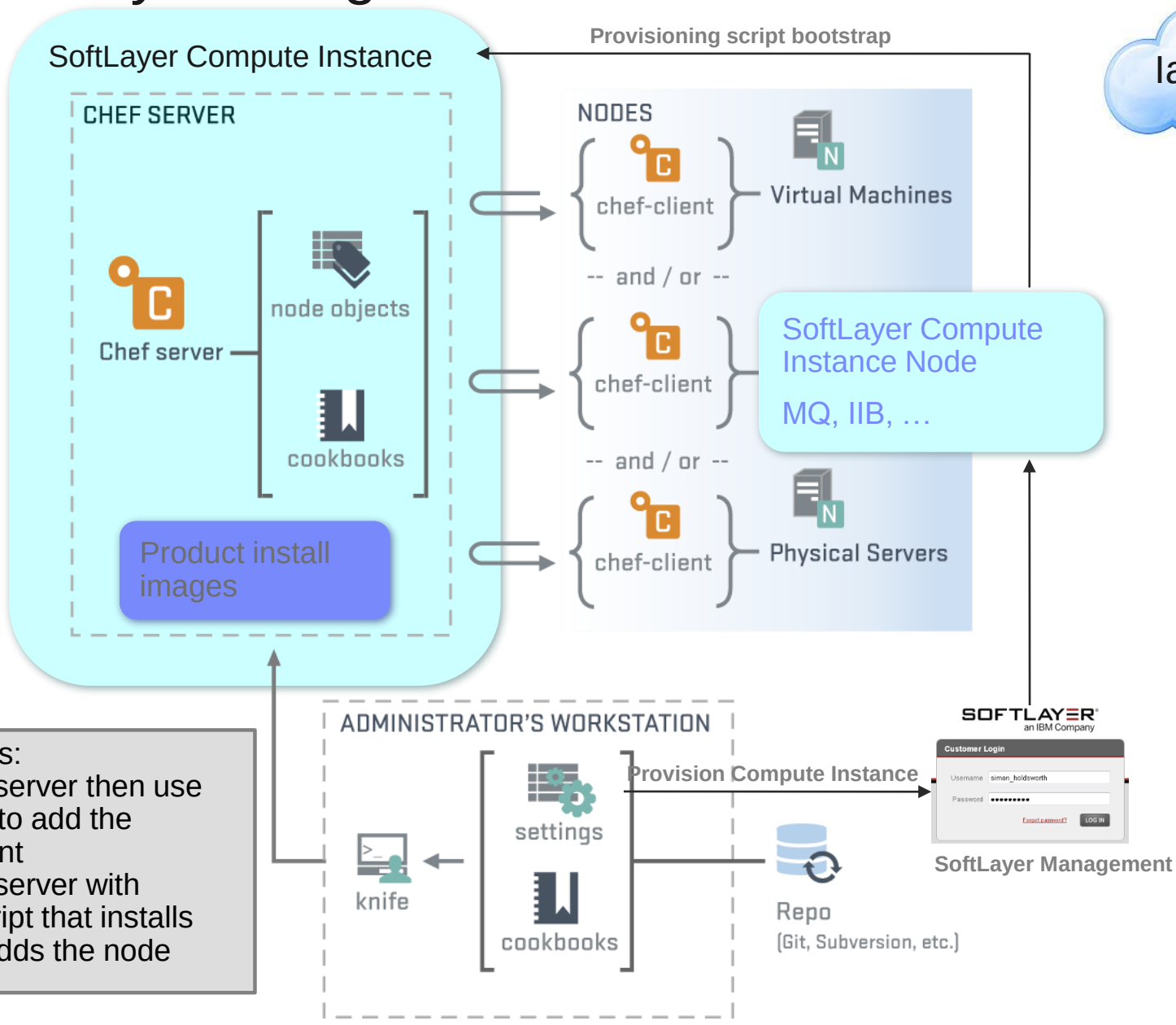
- What it does…
  - Uses Vagrant to create & access a VM
  - Installs Chef Client
  - Uploads relevant files
  - Runs recipes using Chef Solo



- Enables smoother contribution process
  - Speedy verification process
  - Faster “time to known quality”

https://github.com/test-kitchen/test-kitchen

IIB on Softlayer using Chef

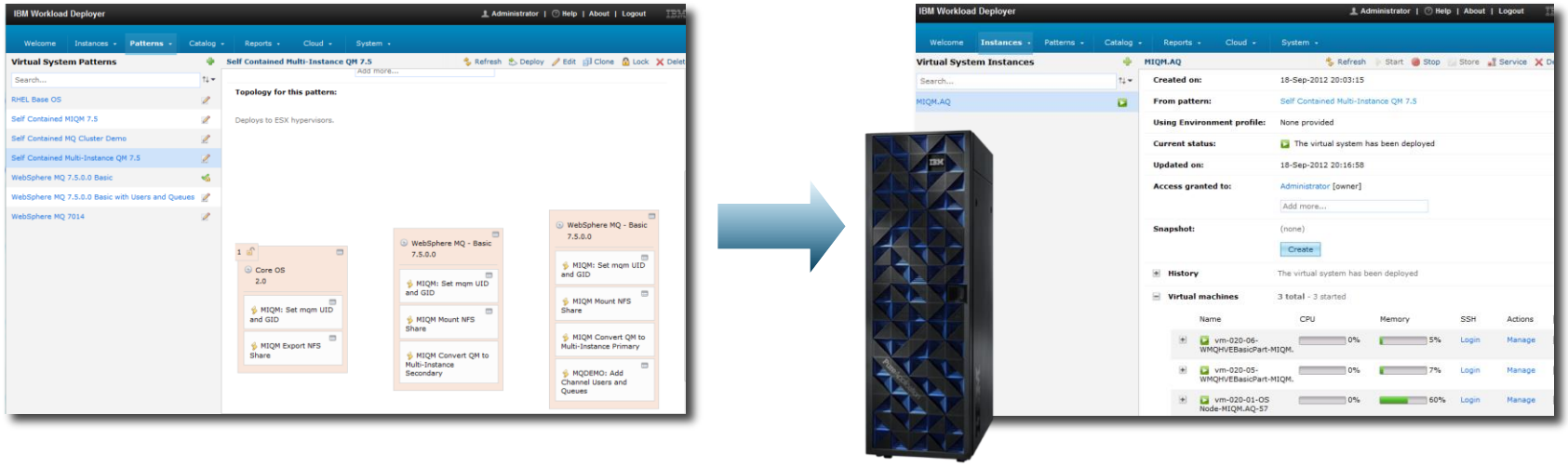


Two approaches:

- Provisions SL server then use knife bootstrap to add the node/install client
- Provisions SL server with provisioning script that installs the client and adds the node

PureApplication System Patterns

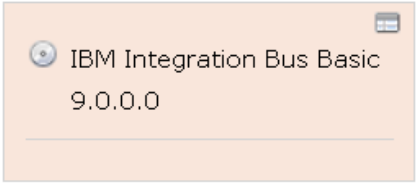
Automate provisioning of standardised integration environments

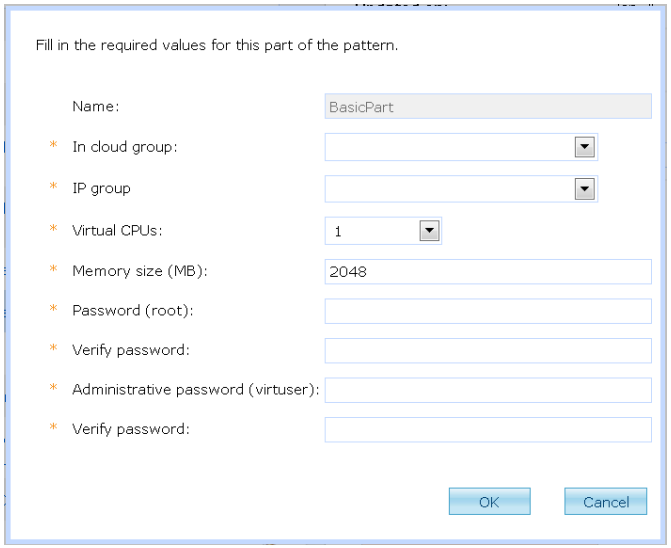


- IIB Hypervisor Edition automates and standardises IIB install, which combined with PureApp gives many benefits:
- Automated provisioning reduces errors and speeds time to value
- Standardization of software images reduces risk and simplifies scheduling of maintenance tasks on critical systems
- Applying software maintenance is simpler and quicker using PureApp GUI or CLI
- Comprehensive history/audit is maintained; license tracking is integrated
- Run onsite on PureApp hardware or hosted on SoftLayer

IIB PureApp Configuration - Patterns

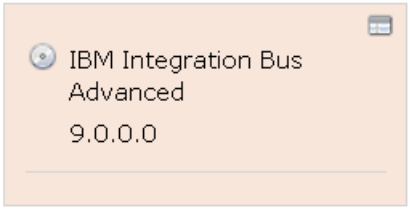
- IIB 9 or WMB 8 (Basic)
  - Basic configuration parameters
  - VM specific configuration parameters
    - No specific MB or MQ configuration

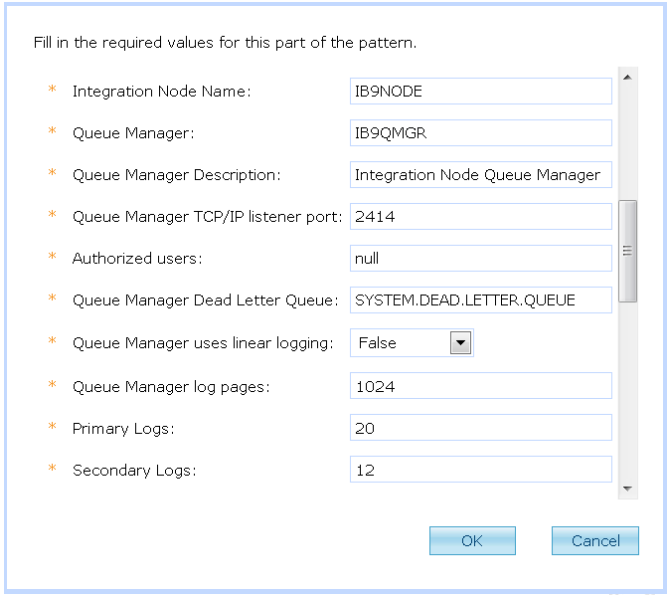




Basic

- IIB 9 or WMB 8 (Advanced)
  - Extensive configuration parameters
    - MB and MQ
    - Defaults provided

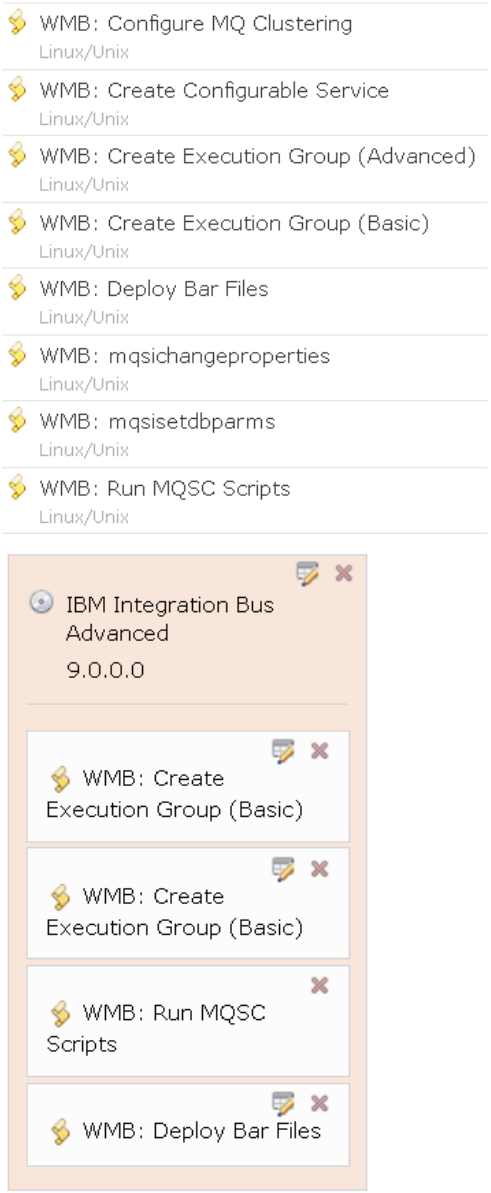




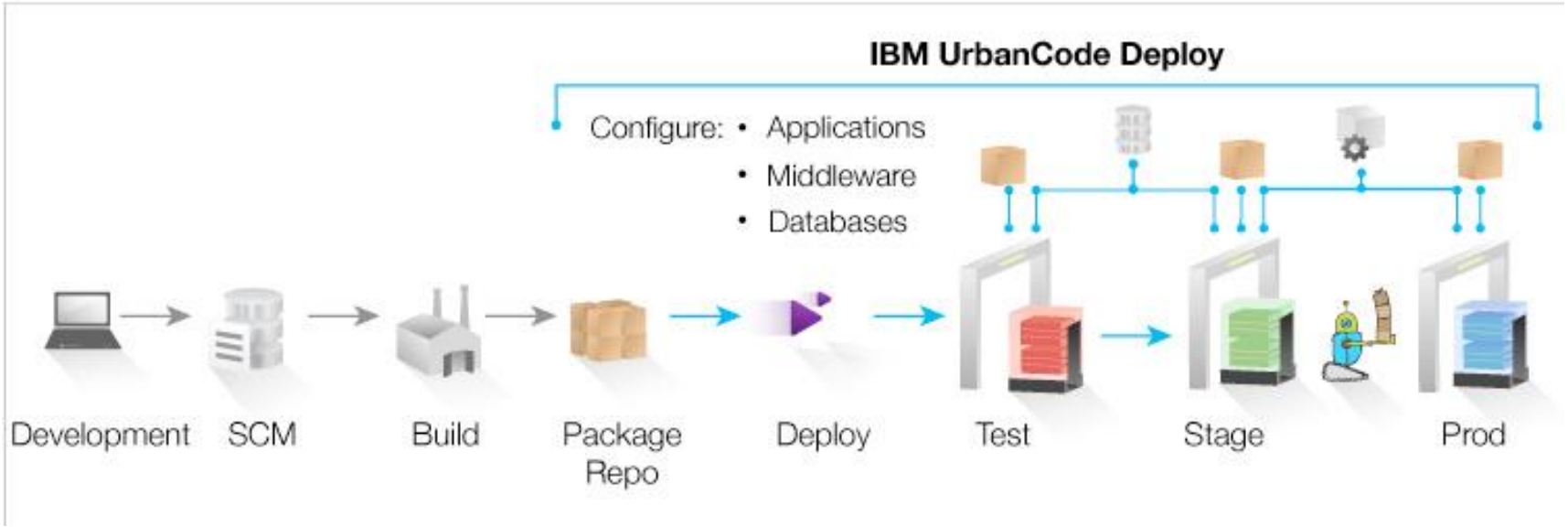
Advanced

IIB PureApp Configuration – Script Packages

- Used for additional configuration
- Drag and Drop onto pattern
- Allows the appropriate properties to be configured directly on the script package residing on the pattern
- User can create script packages to perform additional tasks

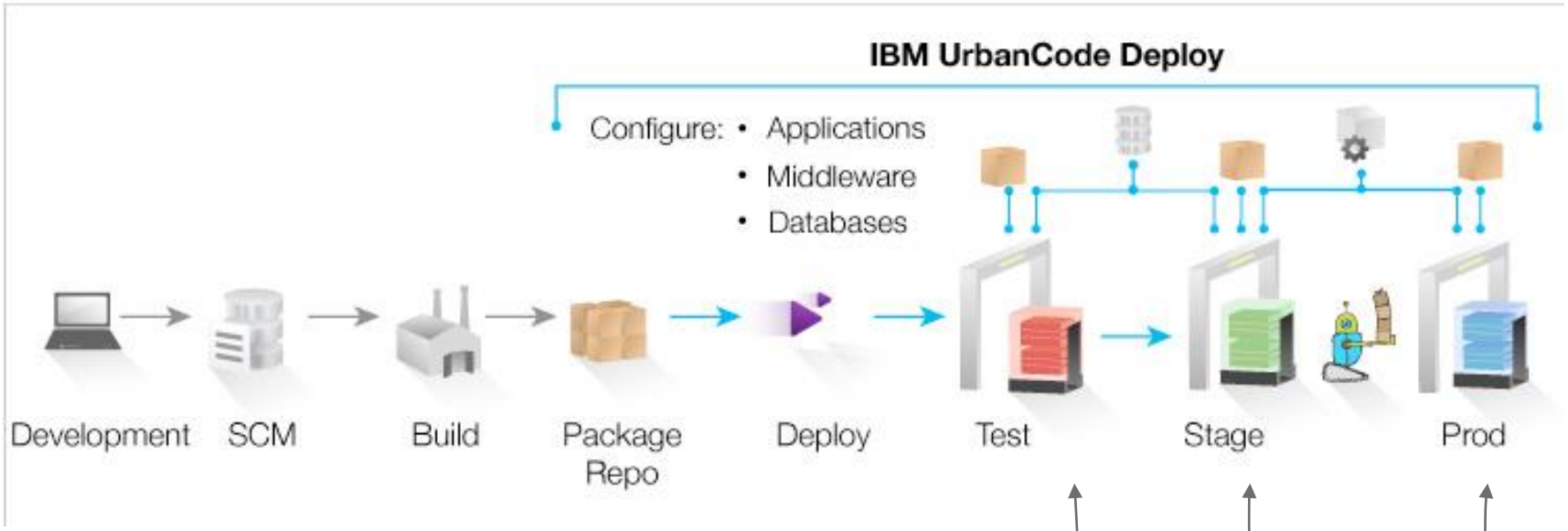


Continuous Delivery: IBM UrbanCode Deploy

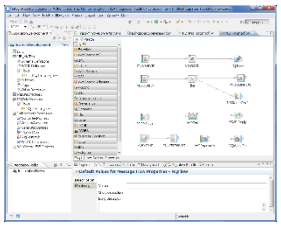


"IBM UrbanCode Deploy orchestrates and automates the deployment of applications, middleware configurations, and database changes into development, test, and production environments"

IBM UrbanCode Deploy – Continuous Delivery for IIB apps



Automated application deployment

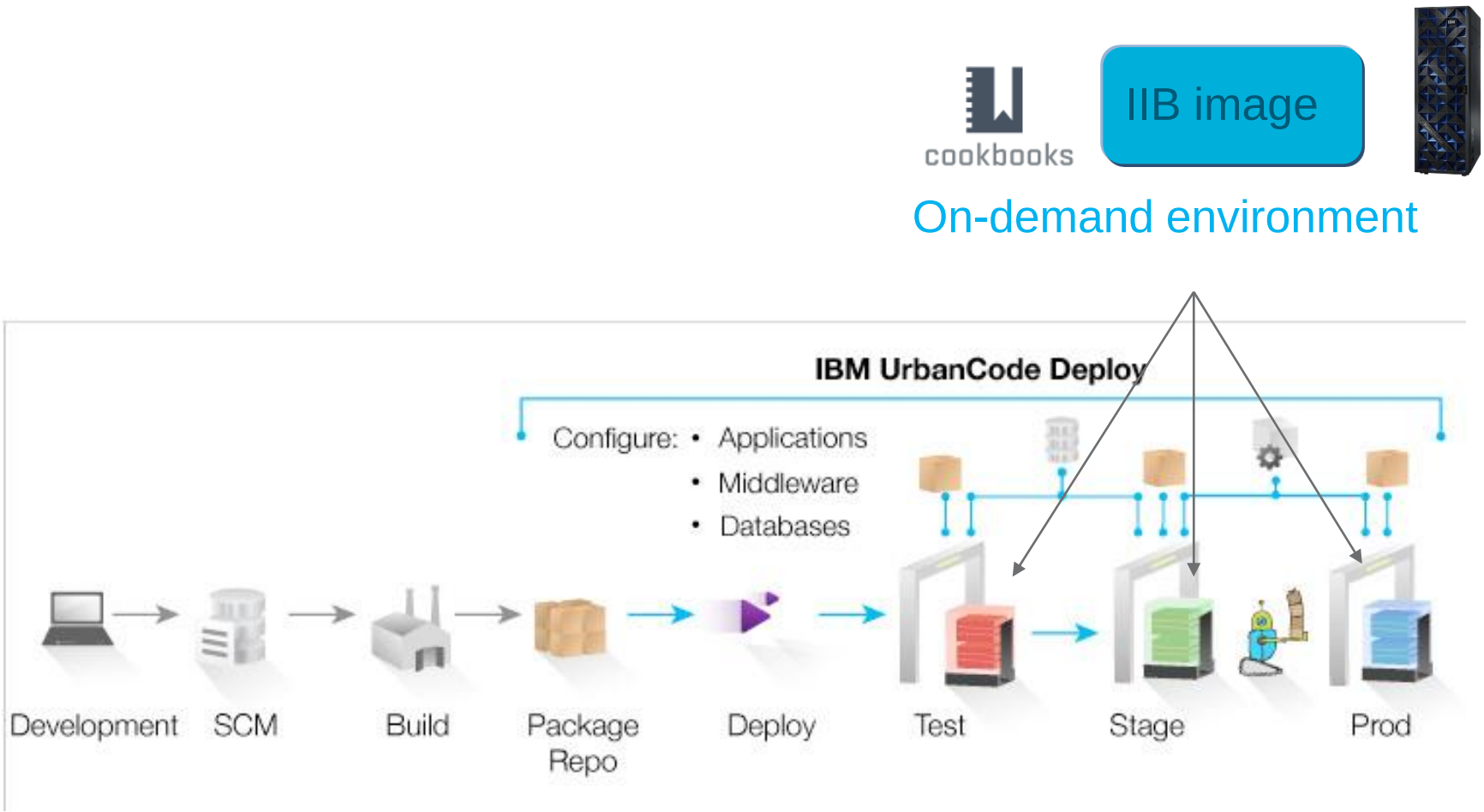


BAR file

config
deploy
modify

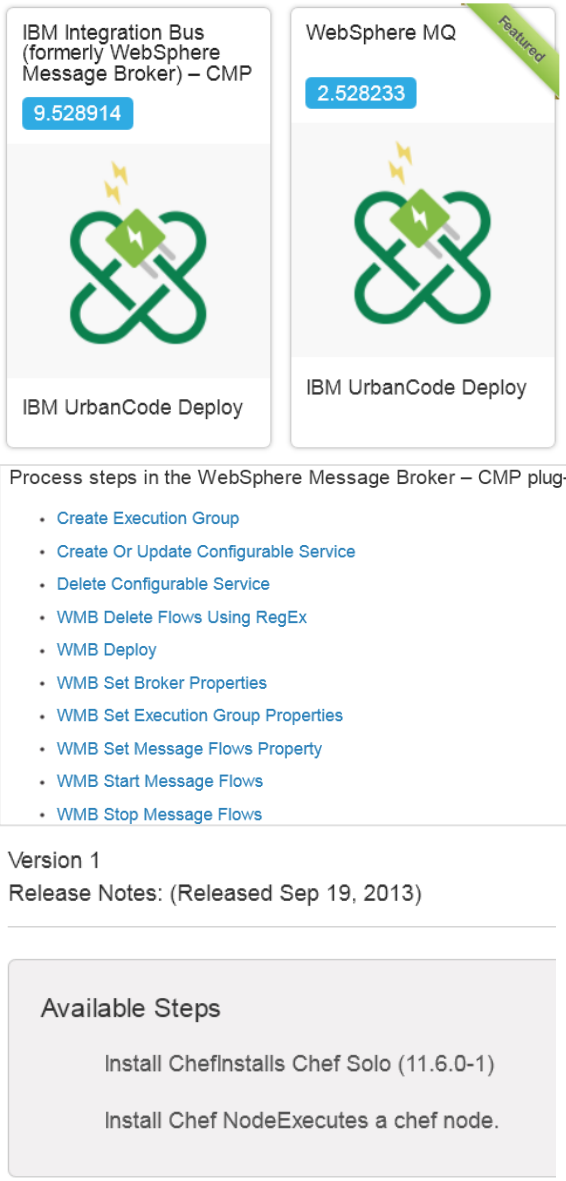
Toolkit

IBM UrbanCode Deploy – On-demand Environments



UrbanCode Deploy plugins

- Plugins provide custom process steps
  - Provide consistent cross-platform behaviour
  - E.g. Deploy BAR, create queue
- IIB plugin available fully supported from IBM DeveloperWorks download site
  - IIB plugin based on CMP API
  - Provides process steps to deploy BAR, configure broker, execution group etc.
  - Fully compatible with IIB v9, v10
- Chef plugin also fully supported
  - Uses Chef Solo
  - Can be used for on-demand machine deployment



https://developer.ibm.com/urbancode/plugins/ibm-urbancode-deploy/

UrbanCode Deploy and Chef

Artifacts
Total: 1.1 GB (3 files)

Product install image uploaded to UCD server

IIB Chef cookbook in a separate UCD component

Name	Size	Last Modified
Show Filters		
9.0.0-IIB-LINUXX64-DEVELOPER-RUNTIME.tar.gz	1.1 GB	02/05/
nodes	0.3 KB (1 files)	
iib_node.json	0.3 KB	02/05/
solo.rb	0.1 KB	01/05/

Node file configures Chef recipes

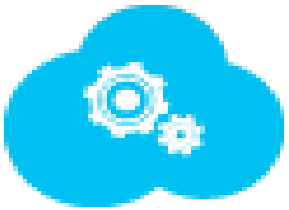
```
{
  "run_list": [ "recipe[ibm_integration_bus::runtime]" ],
  "ibm_integration_bus": {
    "package_site_url": "http://unused",
    "package_name": "9.0.0-IIB-LINUXX64-DEVELOPER-RUNTIME.tar.gz",
    "account_username": "iibuser"
  }
}
```

https://developer.ibm.com/urbancode/docs/5-reasons-use-ibm-urbancode-deploy-already-using-chef/

PaaS

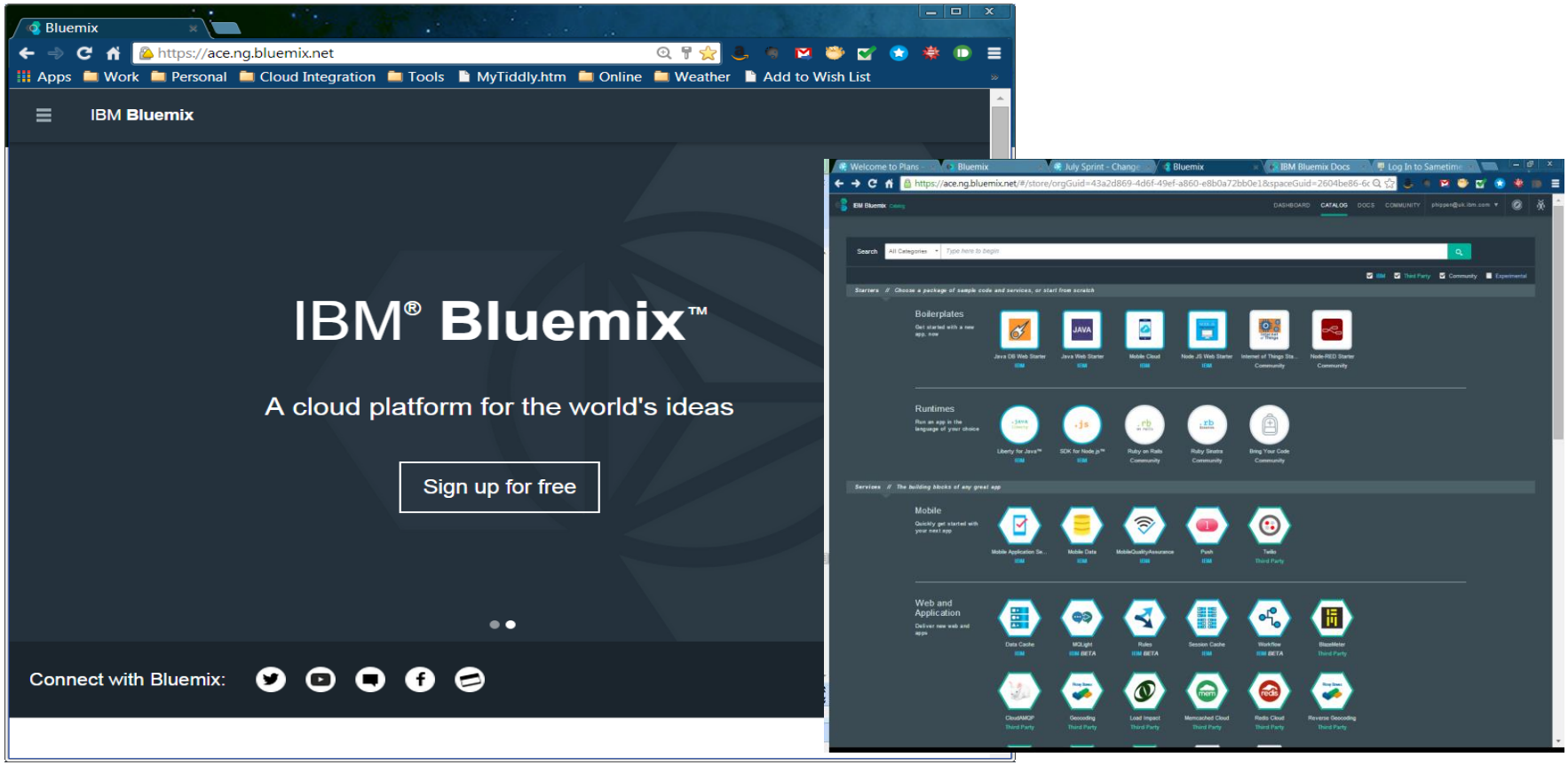
Platform as a Service

"Operating System"



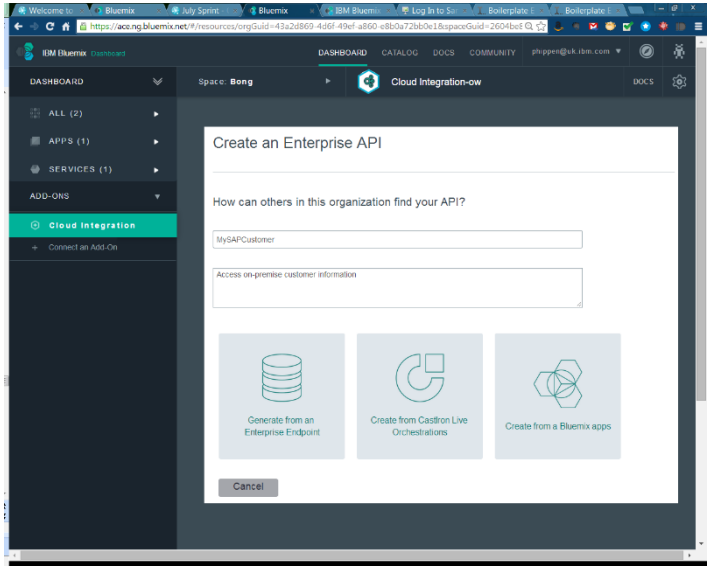
Bluemix

- Bluemix is IBM's Platform as a Service offering, enabling customers to run their own Java, JavaScript and Ruby applications
- Bluemix offers many services that can be exploited from within those applications



Cloud Integration and Bluemix

- Today, **Cloud Integration** is a Service within **Bluemix** and is focussed on enabling access from an application running on Bluemix to multiple different systems
- **Enterprise API** to easily access SAP, DB2 or Oracle data
- **Cast Iron Live** orchestrations with HTTP Receive activity
- **On premise** REST or SOAP APIs



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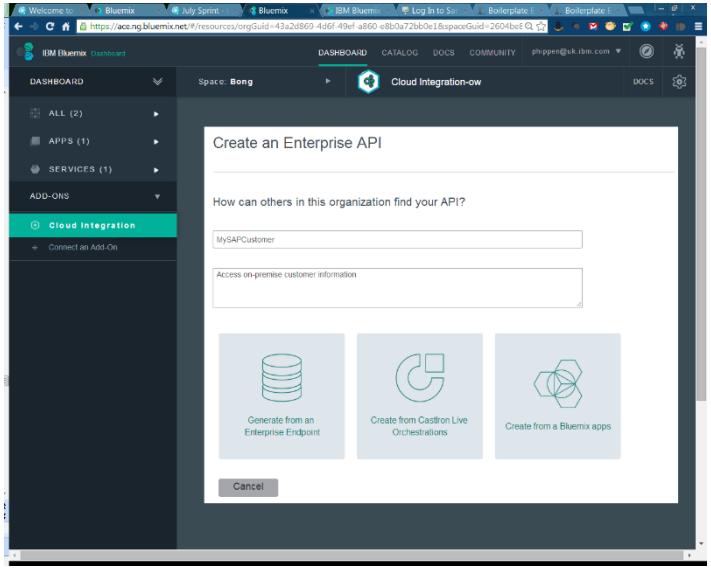
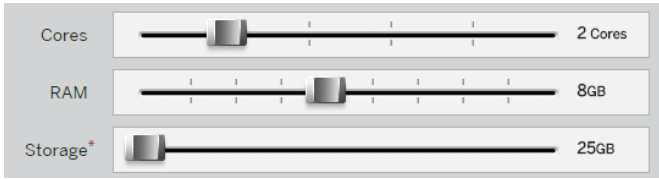
  - More on IIB provision of REST and SOAP later

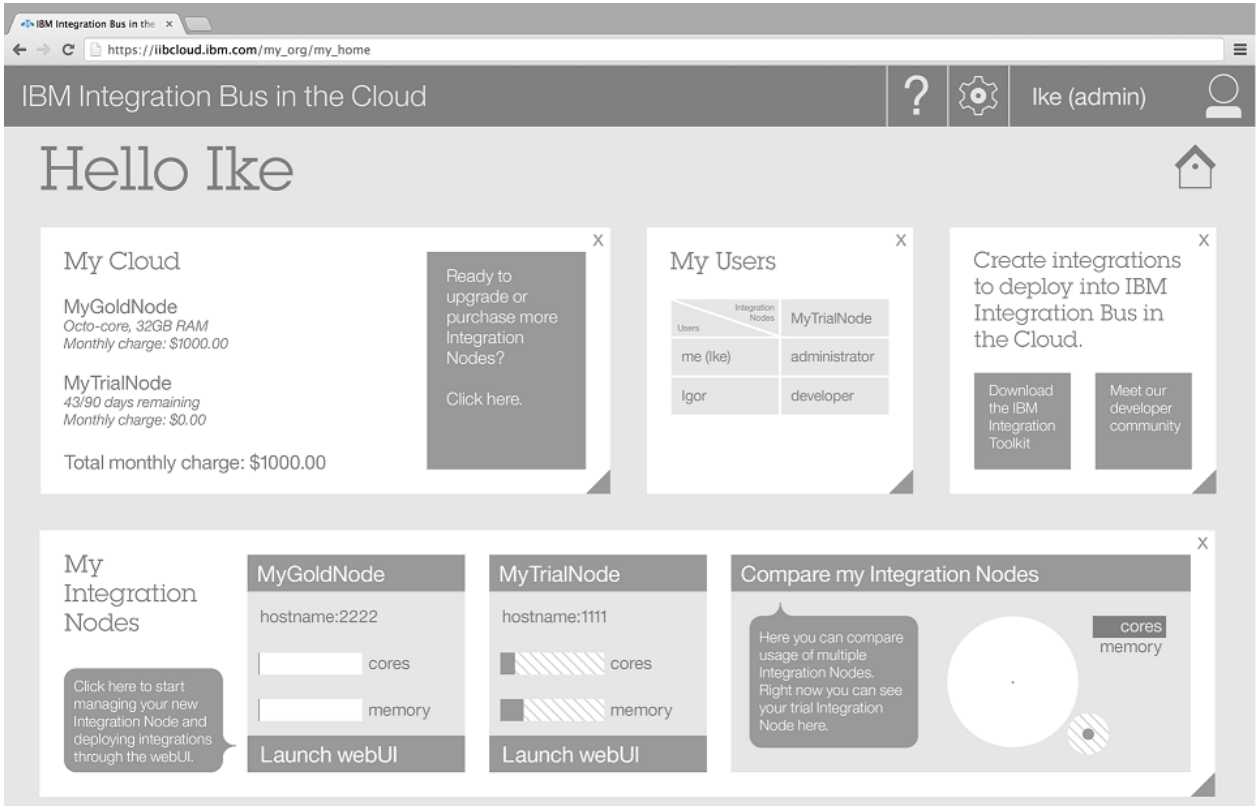


IBM Integration Bus Cloud

IBM intends to deliver an IBM provided and managed IBM Integration Bus environment in the Cloud. The IBM Integration Bus Cloud environment will be provided and administered by IBM and will help to eliminate typical inhibitors to starting IBM Integration Bus projects, such as capital expenditures, hardware availability and the skills for managing an Integration Bus environment. This will allow users to focus on developing solutions rather than installing, configuring and managing software. The offering will be compatible with the on-premise product. Within the constraints of a cloud environment, content created for the on-premise product will run in the cloud environment and vice versa.

SOFTLAYER an IBM Company





IBM Integration Bus Cloud Beta Program

Program Details

Client facing IBMers are invited to nominate customers and partners to take part in an early program for **IBM Integration Bus Cloud**

IBM Integration Bus Cloud extends the reach of IBM's successful integration product to cloud environments.

The primary objective of this beta program is to solicit client feedback in the design and early implementation stages of product development. Early feedback enables changes and adjustments to be made to the proposed designs, reflecting the consolidated feedback of program participants.

Enrollment Process

Participants will receive access to beta code systems, appropriate education, and support. In return, they will be expected to provide feedback, e.g. through a support forum, surveys and 1-1 calls. In addition, there will be the opportunity to directly influence the future direction of this offering through design review sessions.

All customer nominations will be considered and if successful will require acceptance of a legal agreement (presented on a program specific web site where the authenticated customer must “click to agree”).

BetaWorks Announcement

IBM Integration Bus Cloud Early Program

SaaS

Software as a Service

"Applications"

SaaS

Integration and SaaS

- Connecting to SaaS providers
  - Cast Iron has a rich palette of SaaS activities
  - IIB has strong support for Web2.0 formats and protocols
  - Connector Framework to enrich the connector capabilities with discovery and control
- Using integration to provide SaaS
  - IIB services with JavaScript API
  - Blue Mix apps exposed as APIs
  - SDK Generation for many languages
  - API Management

Integration and SaaS

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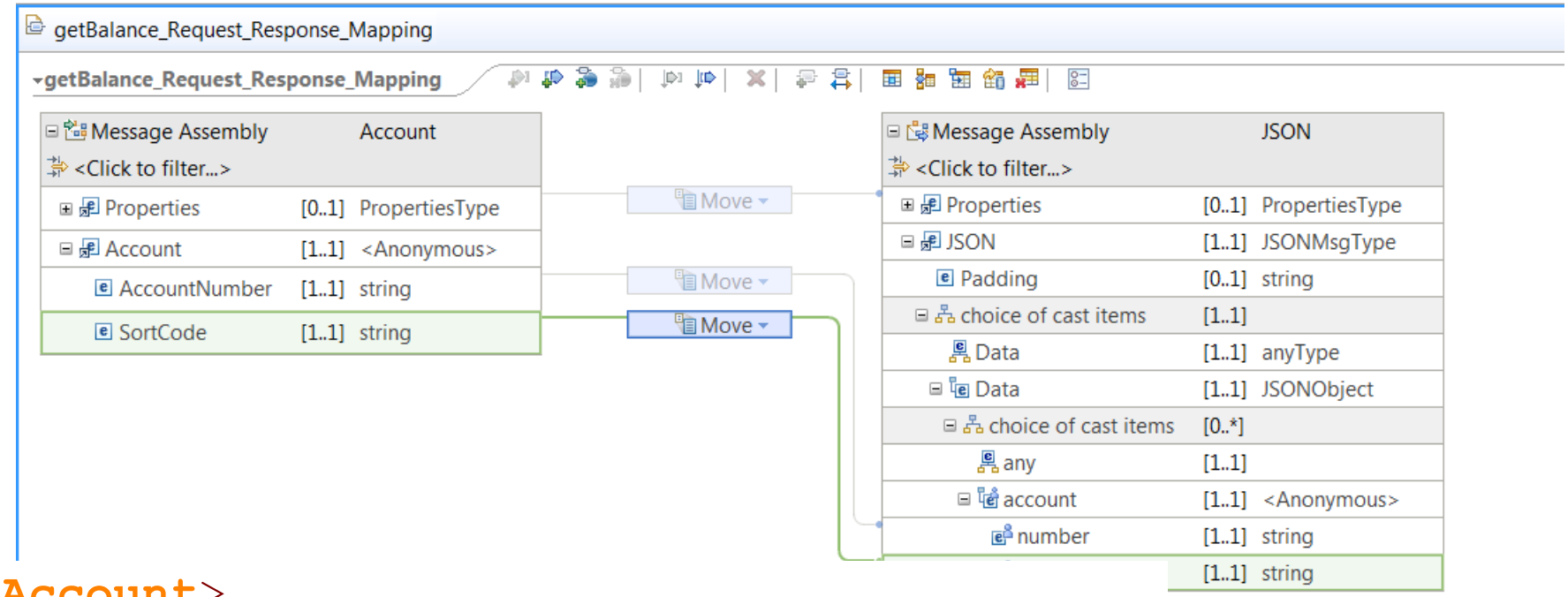
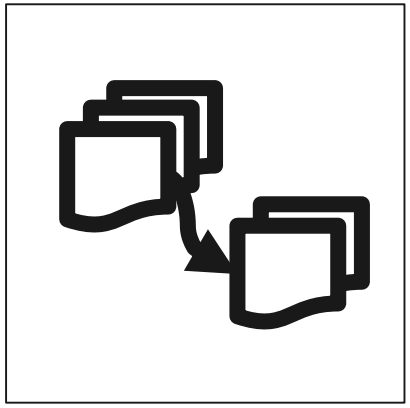
JSON Mapping



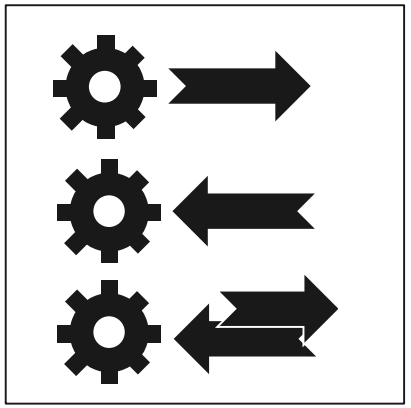

```
<Account>
   <AccountNumber>123456</AccountNumber>
   <SortCode>54321</SortCode>
</Account>
```

```
{account:
   {
      number:123456,
      branch:54321
   }
}
```



REST APIs

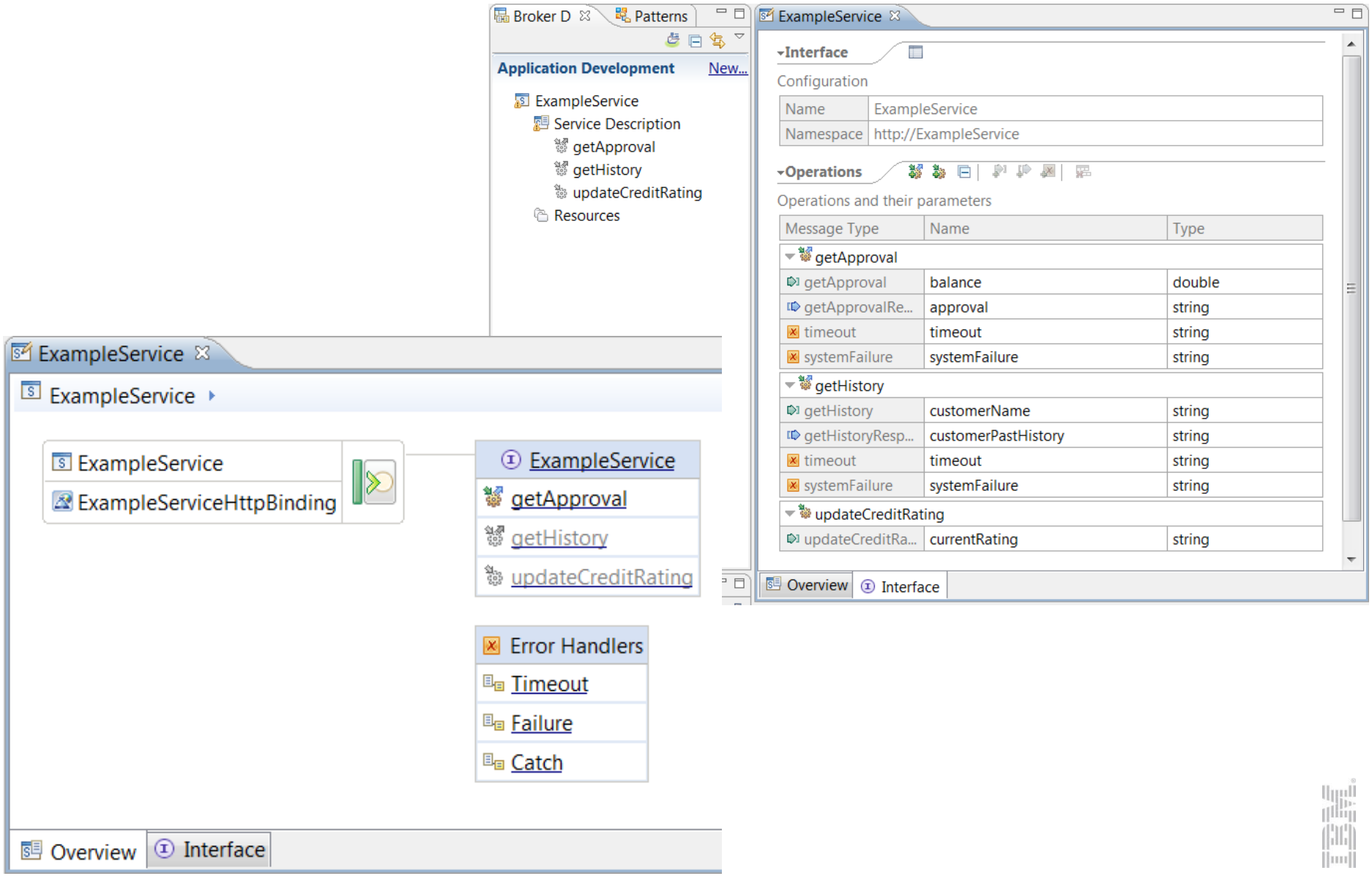
Resource oriented
JSON/HTTP
Swagger specification



Services

Function oriented
SOAP or JSON / HTTP
WSDL specification

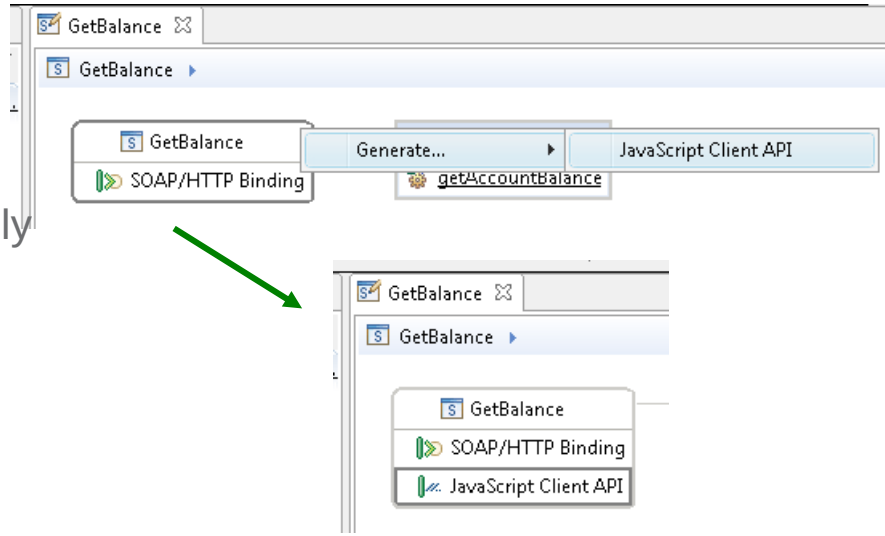
Integration services



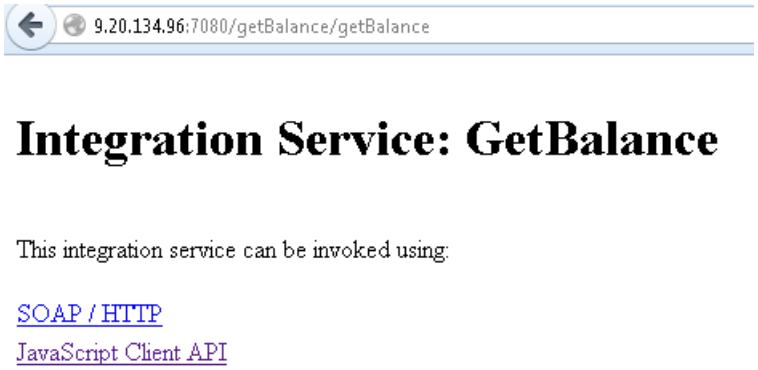
Integration Services JavaScript binding

- Web APIs are popular technology for simplified access to integration
  - Particular applicability in mobile, browsers, and Node.js program scenarios
  - New feature allows Integration Bus service to be invoked via Web API
  - Builds on existing IB mobile features and service definitions

- Start from new or existing service
  - Design the IB service, creating API is really simple
    - REST/JSON binding generated automatically
    - JavaScript client, documentation likewise



- Access JavaScript and documentation from URL
  - Point browser at IB node to retrieve assets!
  - Can program via HTTP if required
  - Browser js
  - Node.js



Integration Services JavaScript binding

- Web APIs are popular technology for simplified access to integration
  - Particular ap
  - New feature
  - Builds on exi
- Start from new c
  - Design the IE
    really simple
    - REST/JS
    - JavaScr
- Access JavaScri
  - Point browse
  - Can program
  - Browser js
  - Node.js

Invoke using JavaScript Client API

Instructions

1. Set up the JavaScript client environment
2. Install the npm dojo package using 'npm install dojo' (only if you are developing in a Node.js environment)
3. Download the GetBalance.js file
4. Write a JavaScript application which calls the integration service JavaScript methods

File

GetBalance.js - JavaScript method(s) for this integration service

Method: IBMIntegration.GetBalance.getAccountBalance()

Description

None.

Input

account : Account

Output

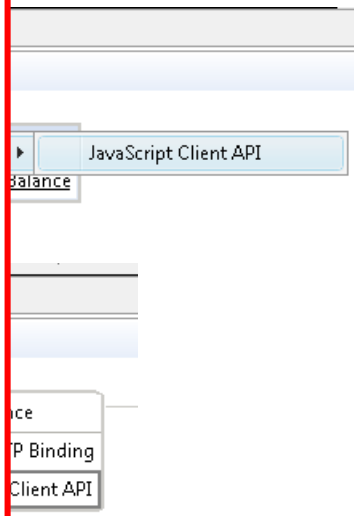
balance : Balance

Coding Example

```
/* Uncomment these lines if you are developing in a Node.js environment.

require("http");
require("./GetBalance");
```

SOAP / HTTP

JavaScript Client API



Integration Services JavaScript binding

Output

balance : double

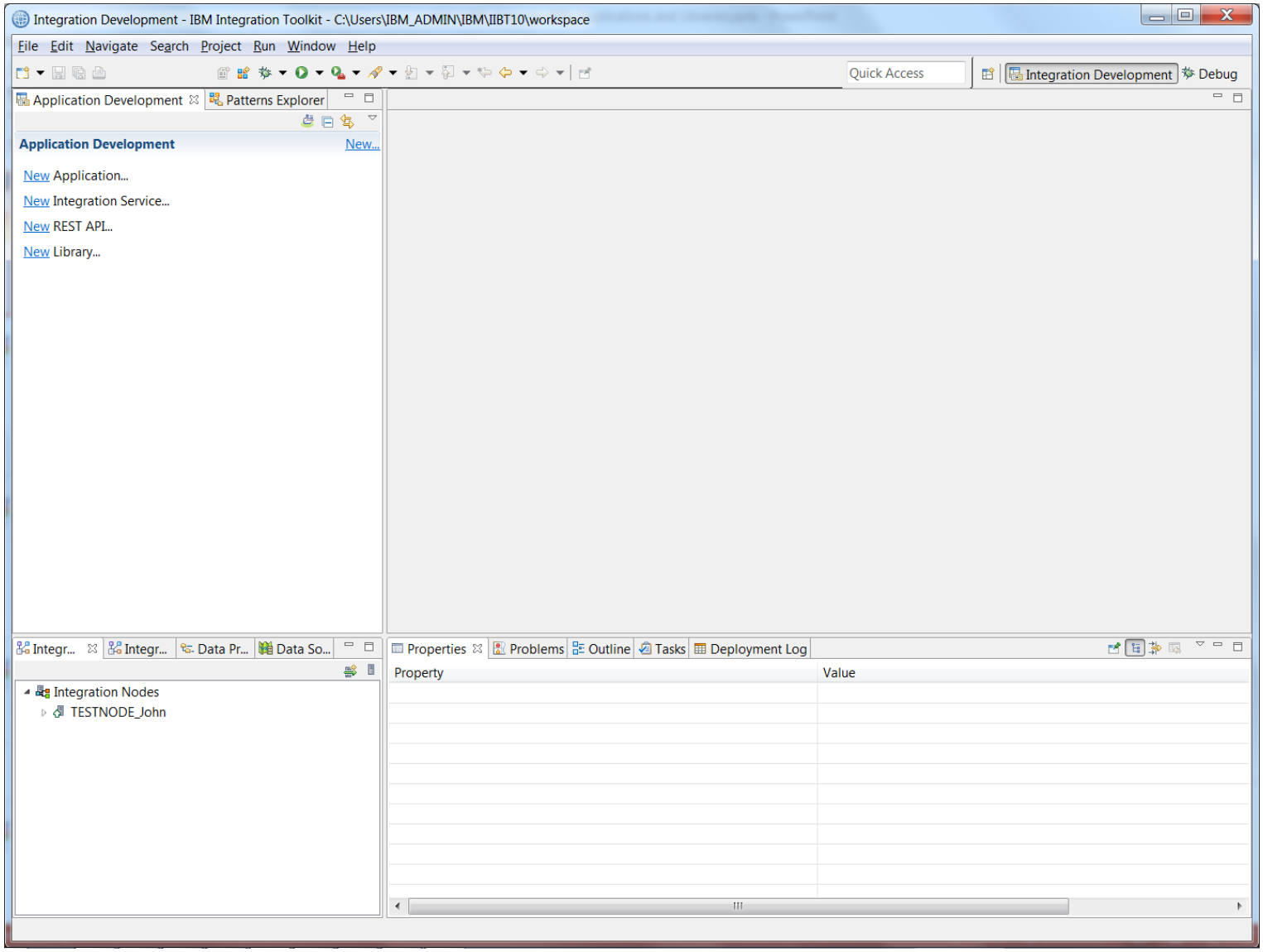
Coding Example

```
/* Uncomment these lines if you are developing in a Node.js environment.

require("http");
require("./ExampleService");

IBMIntegration.ExampleService.IBMContext.hostname = "9.183.93.32";
IBMIntegration.ExampleService.IBMContext.port     = 7800;

*/

/* Uncomment these lines and put them in the <head> element of your HTML if you are developing in a browser environment.

<script type="text/javascript" src="/ExampleService?resource=dojo.js"></script>
<script type="text/javascript" src="/ExampleService?resource=ExampleService.js"></script>

*/

/* This is an example of the output JSON variable.

var getBalanceResponseVar =
{

  "balance" : 1.0

};

*/

/*  This is an example of the unexpected error JSON variable.
    The 2nd last property contains the actual exception thrown in IIB.
    Search the infocenter for 'exception list structure' to view
    the different types of exceptions and their contents.

var unexpectedErrorVar =
{

  "errName" : "Exception",
```

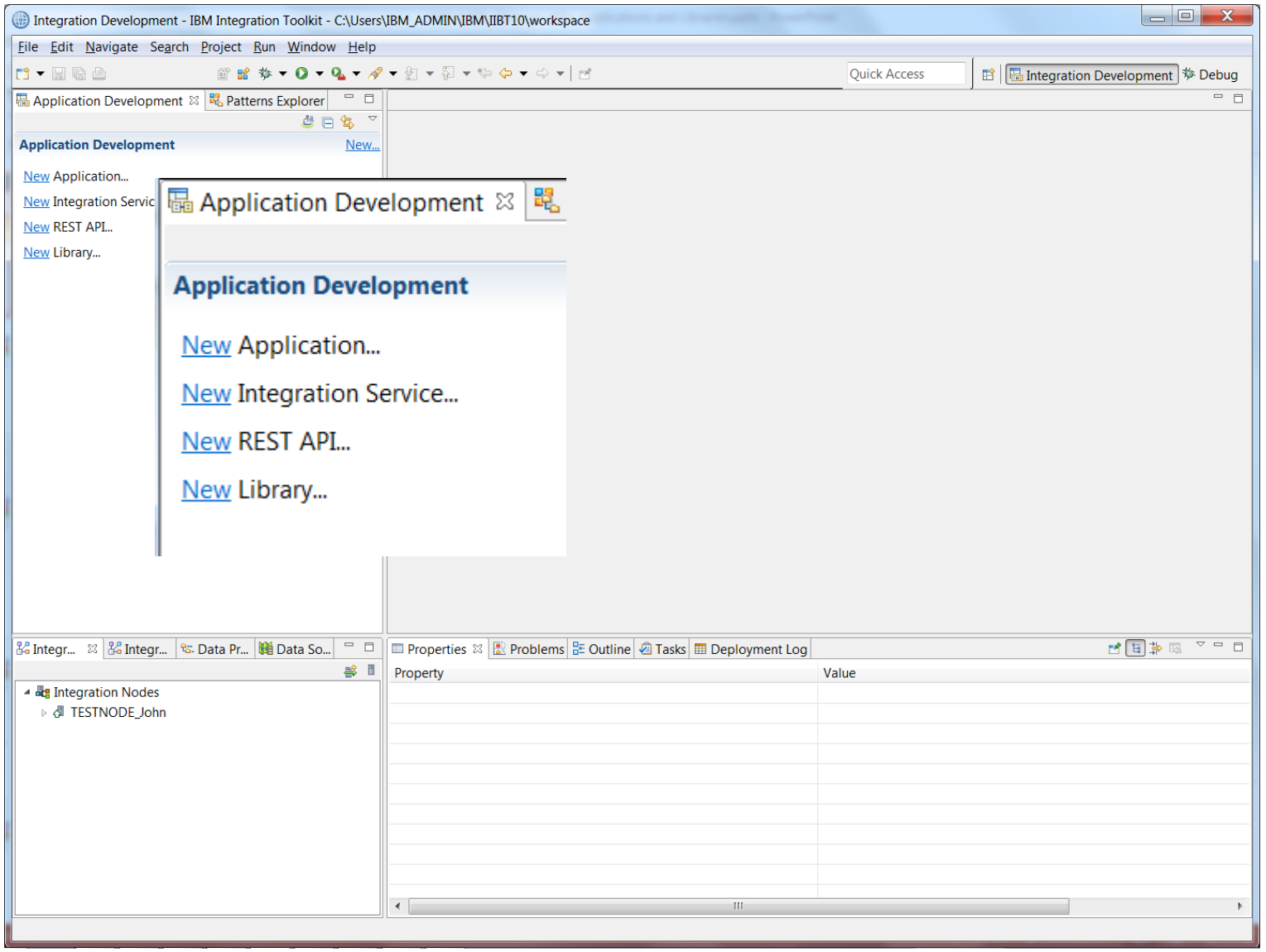
Integration Services JavaScript binding

```
/* This is an example of the input JSON variable. */

var getBalanceVar =
{

  "Account" :
  {

    "AccountNumber" : "AccountNumberValue" ,
    "SortCode" : "SortCodeValue"

  }

};


IBMIntegration.ExampleService.getBalance( getBalanceVar, function( err, getBalanceResponseVar ){

  if (err) {

    console.log(" Failure for IBMIntegration.ExampleService.getBalance() ");
    var errName = err.errName;

    if ( errName == "Exception") {
      console.log("Unexpected error occurred.");

      //To see the full details of the error, use JSON.stringify(err);

      //To retrieve only the exception, navigate to the 2nd last property within err
      var keys = Object.keys(err);
      console.log("Exception type : " + keys[keys.length-2]);
    }

  }
  else {
      console.log(" Success for IBMIntegration.ExampleService.getBalance() ");
  }

} );
```

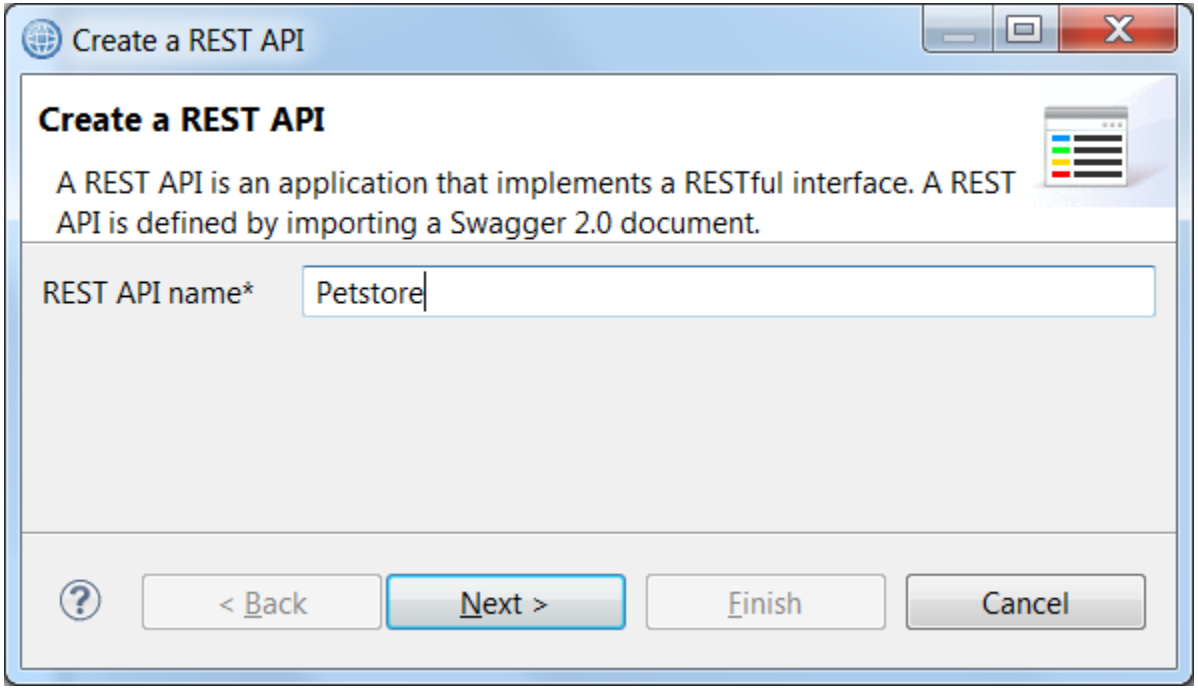
Creating a REST API



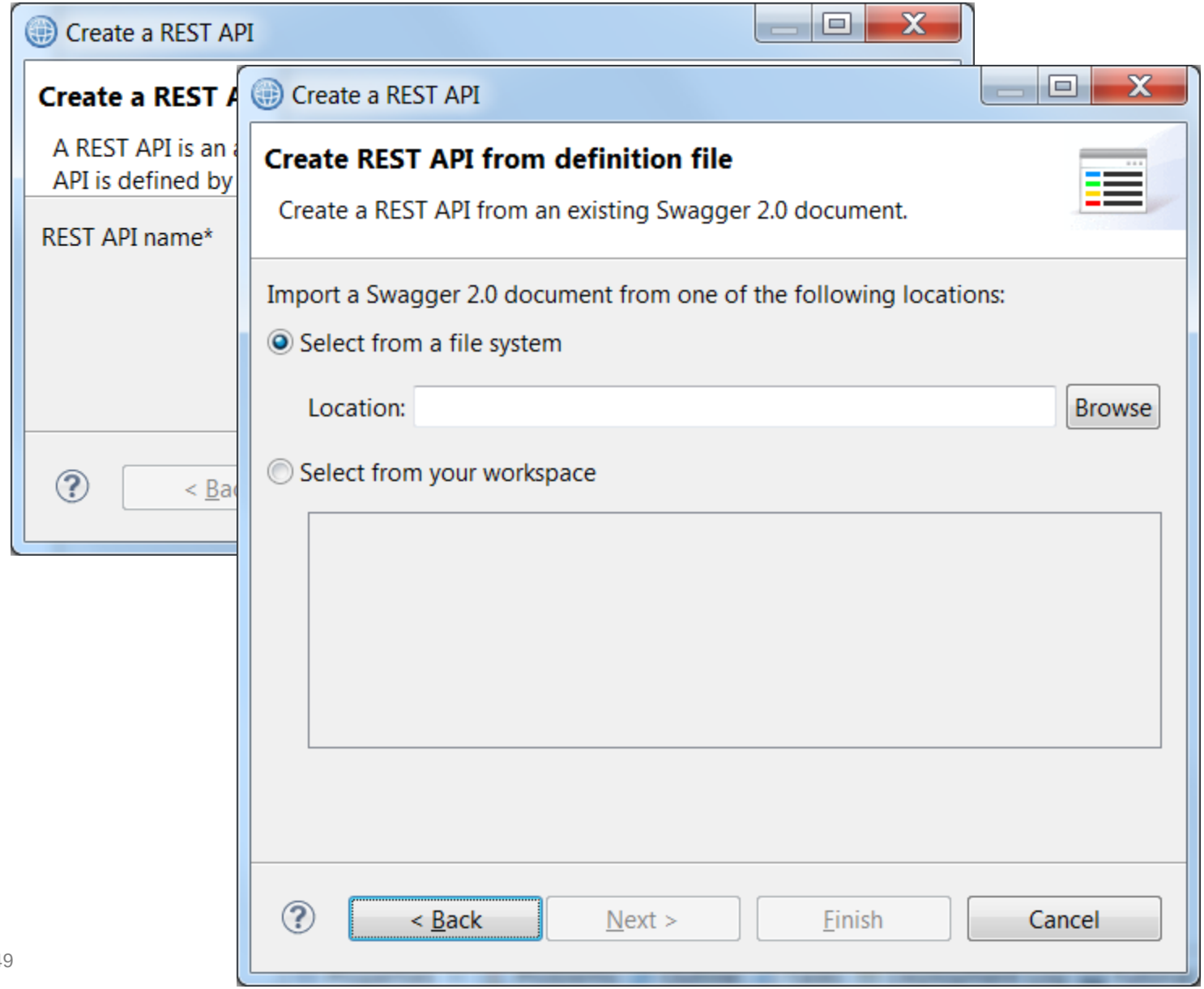
Creating a REST API



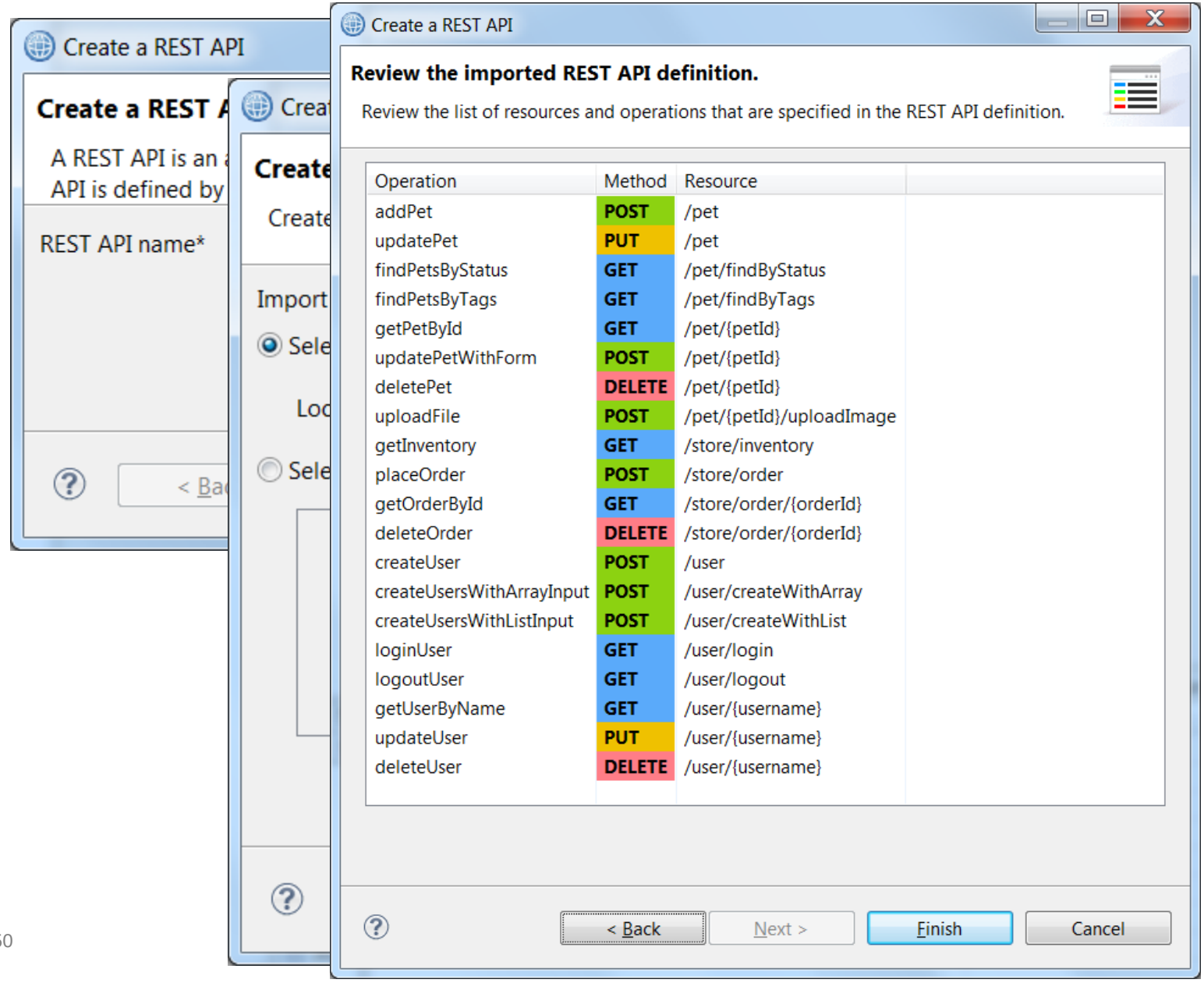
Creating a REST API

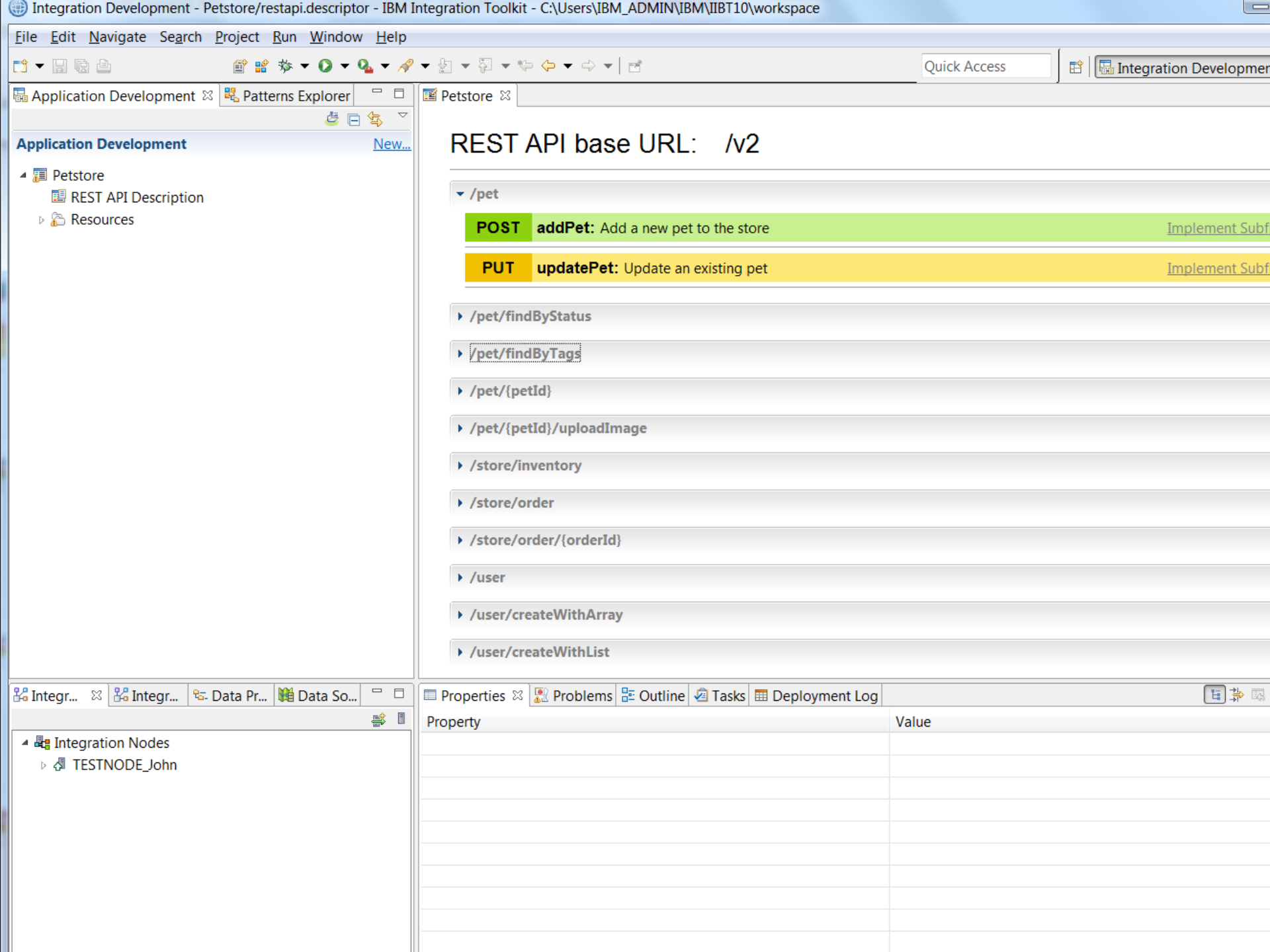


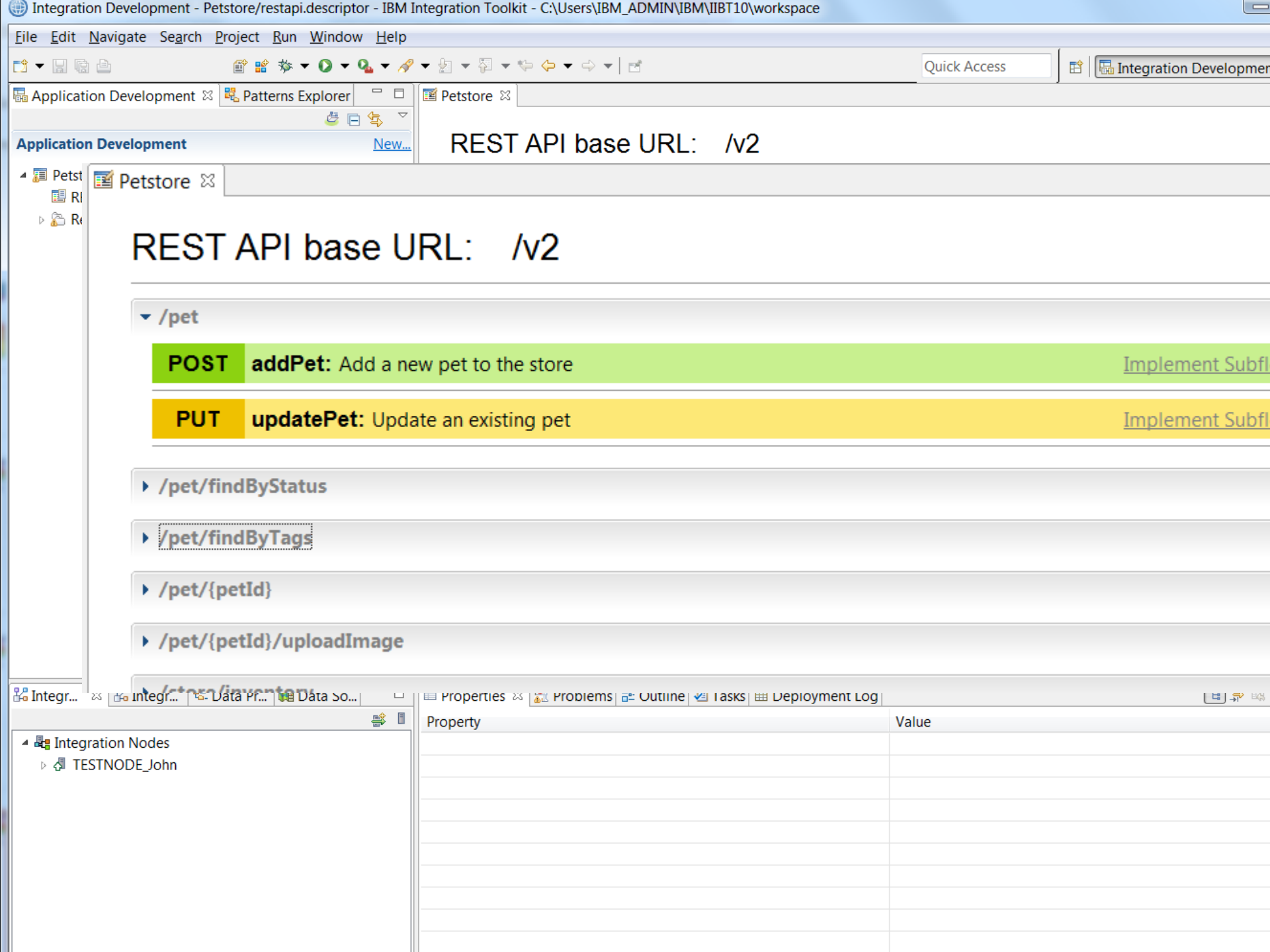
Creating a REST API



Creating a REST API




Integration Development - Petstore/restapi.descriptor - IBM Integration Toolkit - C:\Users\IBM_ADMIN\IBM\IIBT10\workspace
File Edit Navigate Search Project Run Window Help
Quick Access
Integration Developmer
Application Development
Patterns Explorer
Application Development
New...
Petstore
REST API Description
Resources
Petstore
REST API base URL: /v2
/pet
POST addPet: Add a new pet to the store
Implement Subf
PUT updatePet: Update an existing pet
Implement Subf
/pet/findByStatus
/pet/findByTags
/pet/{petId}
/pet/{petId}/uploadImage
/store/inventory
/store/order
/store/order/{orderId}
/user
/user/createWithArray
/user/createWithList
Integr...
Integr...
Data Pr...
Data So...
Integration Nodes
TESTNODE_John
Properties
Problems
Outline
Tasks
Deployment Log
Property
Value


Integration Development - Petstore/restapi.descriptor - IBM Integration Toolkit - C:\Users\IBM_ADMIN\IBM\IIBT10\workspace
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Quick Access
Integration Developmer
Application Development
Patterns Explorer
Petstore
REST API base URL: /v2
Application Development
New...
Petst
Petstore
REST API base URL: /v2
/pet
POST addPet: Add a new pet to the store
Implement Subfl
PUT updatePet: Update an existing pet
Implement Subfl
/pet/findByStatus
/pet/findByTags
/pet/{petId}
/pet/{petId}/uploadImage
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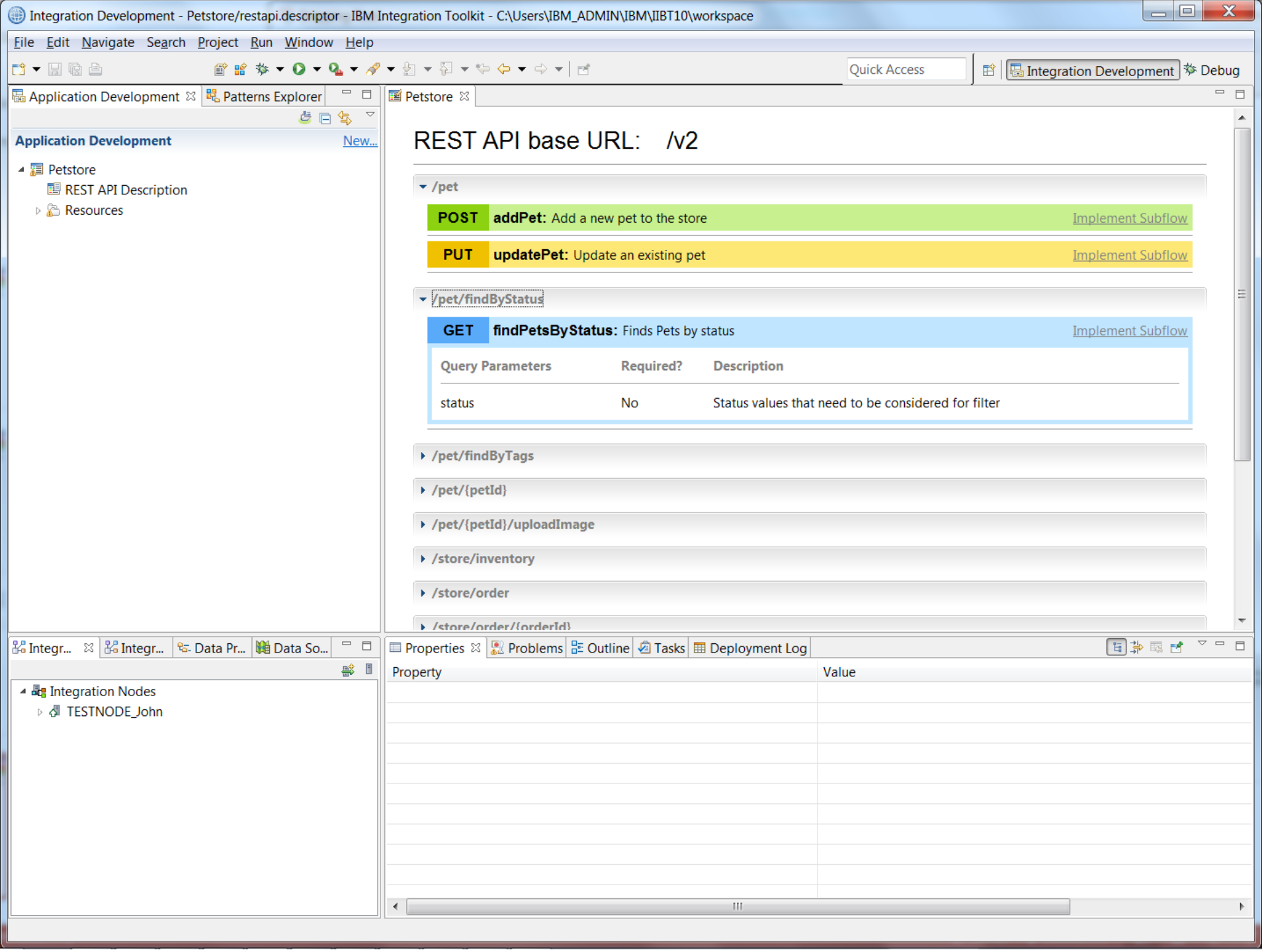
Integr...
Data Pr...
Data So...
Integration Nodes
TESTNODE_John
Properties
Problems
Outline
Tasks
Deployment Log
Property
Value


Integration Development - Petstore/restapi.descriptor - IBM Integration Toolkit - C:\Users\IBM_ADMIN\IBM\IIBT10\workspace
File Edit Navigate Search Project Run Window Help
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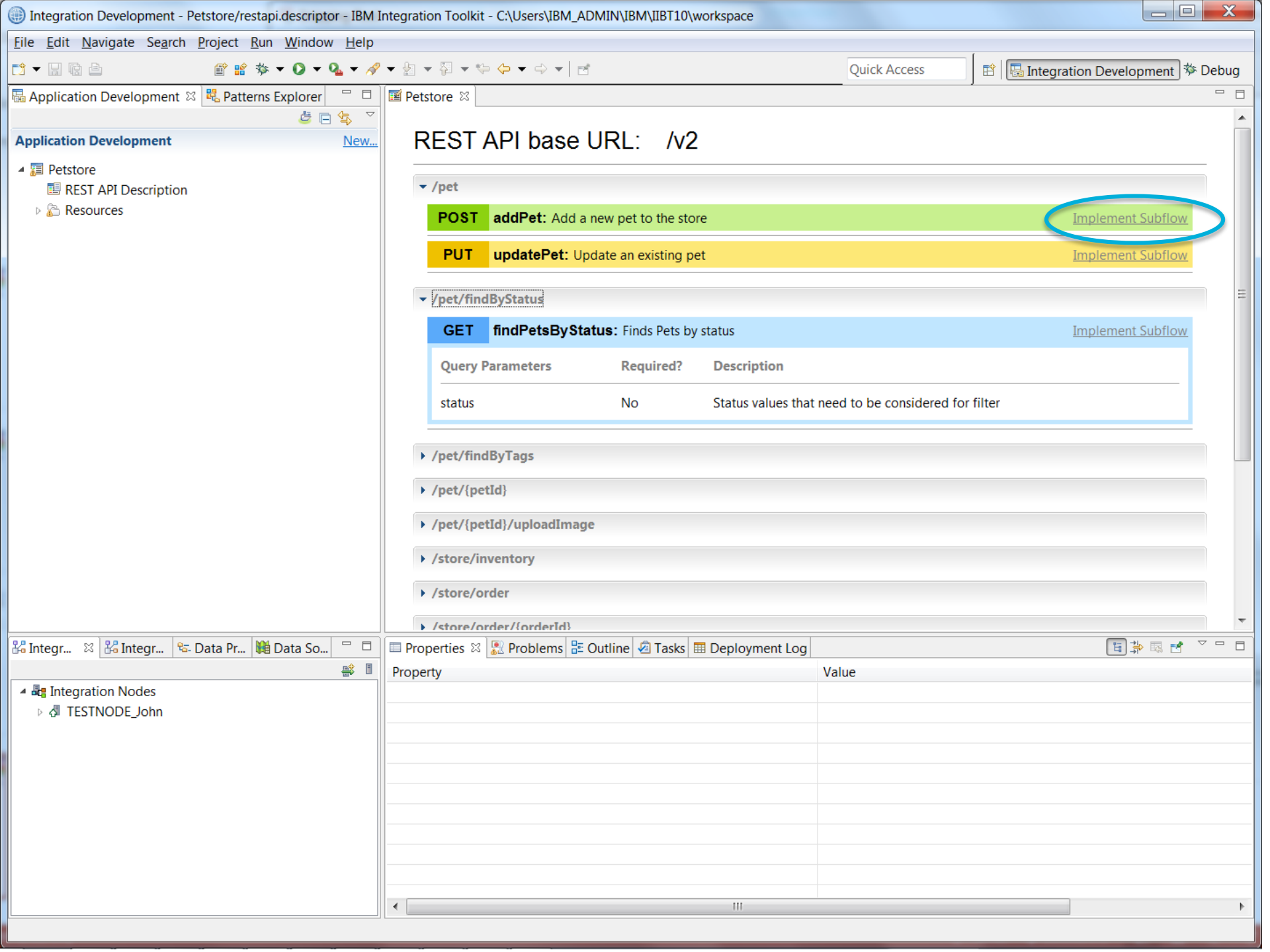
Application Development
New...
Petstore
REST API Description
Resources
Petstore
REST API base URL: /v2
/pet
POST addPet: Add a new pet to the store
Implement Subflow
PUT updatePet: Update an existing pet
Implement Subflow
/pet/findByStatus
GET findPetsByStatus: Finds Pets by status
Implement Subflow
Query Parameters
Required?
Description
status
No
Status values that need to be considered for filter
/pet/findByTags
/pet/{petId}
/pet/{petId}/uploadImage
/store/inventory
/store/order
/store/order/{orderId}
Integr...
Integr...
Data Pr...
Data So...
Integration Nodes
TESTNODE_John
Properties
Problems
Outline
Tasks
Deployment Log
Property
Value


Integration Development - Petstore/restapi.descriptor - IBM Integration Toolkit - C:\Users\IBM_ADMIN\IBM\IIBT10\workspace
File Edit Navigate Search Project Run Window Help
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Integration Development
Debug
Application Development
Patterns Explorer
Application Development
New...
Petstore
REST API Description
Resources
Petstore
REST API base URL: /v2
/pet
POST addPet: Add a new pet to the store
Implement Subflow
PUT updatePet: Update an existing pet
Implement Subflow
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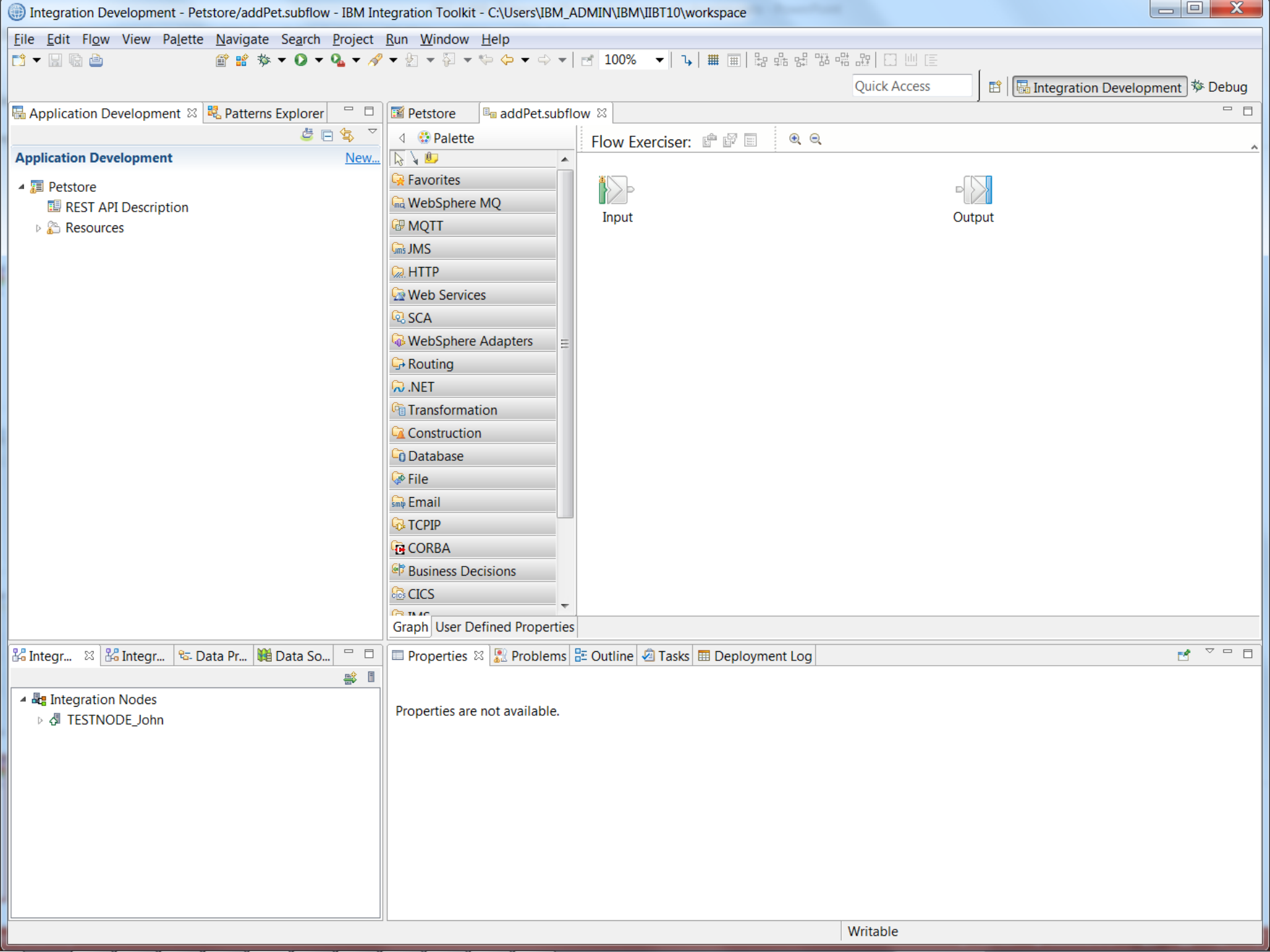
Query Parameters
Required?
Description
status
No
Status values that need to be considered for filter
/pet/findByTags
/pet/{petId}
/pet/{petId}/uploadImage
/store/inventory
/store/order
Integr...
Integr...
Data Pr...
Data So...
Integration Nodes
TESTNODE_John
Properties
Problems
Outline
Tasks
Deployment Log
Property
Value


Integration Development - Petstore/addPet.subflow - IBM Integration Toolkit - C:\Users\IBM_ADMIN\IBM\IIBT10\workspace
File Edit Flow View Palette Navigate Search Project Run Window Help
100%
Quick Access
Integration Development
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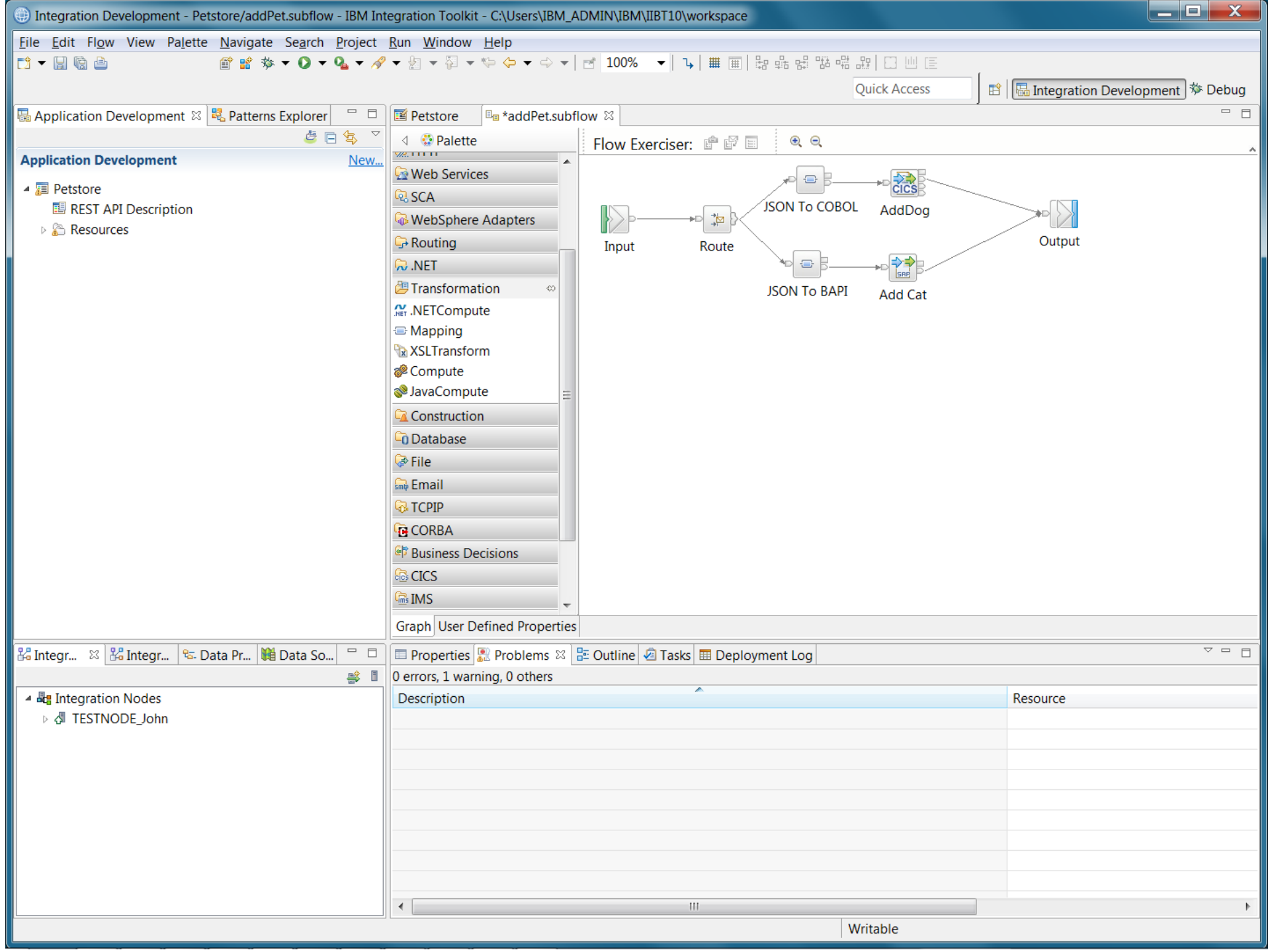
Application Development
Patterns Explorer
Application Development
New...
Petstore
REST API Description
Resources
Petstore
addPet.subflow
Palette
Favorites
WebSphere MQ
MQTT
JMS
HTTP
Web Services
SCA
WebSphere Adapters
Routing
.NET
Transformation
Construction
Database
File
Email
TCPIP
CORBA
Business Decisions
CICS
Flow Exerciser:
Input
Output
Graph
User Defined Properties
Integr...
Integr...
Data Pr...
Data So...
Integration Nodes
TESTNODE_John
Properties
Problems
Outline
Tasks
Deployment Log
Properties are not available.
Writable


Integration Development - Petstore/addPet.subflow - IBM Integration Toolkit - C:\Users\IBM_ADMIN\IBM\IIBT10\workspace
File Edit Flow View Palette Navigate Search Project Run Window Help
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Integration Development
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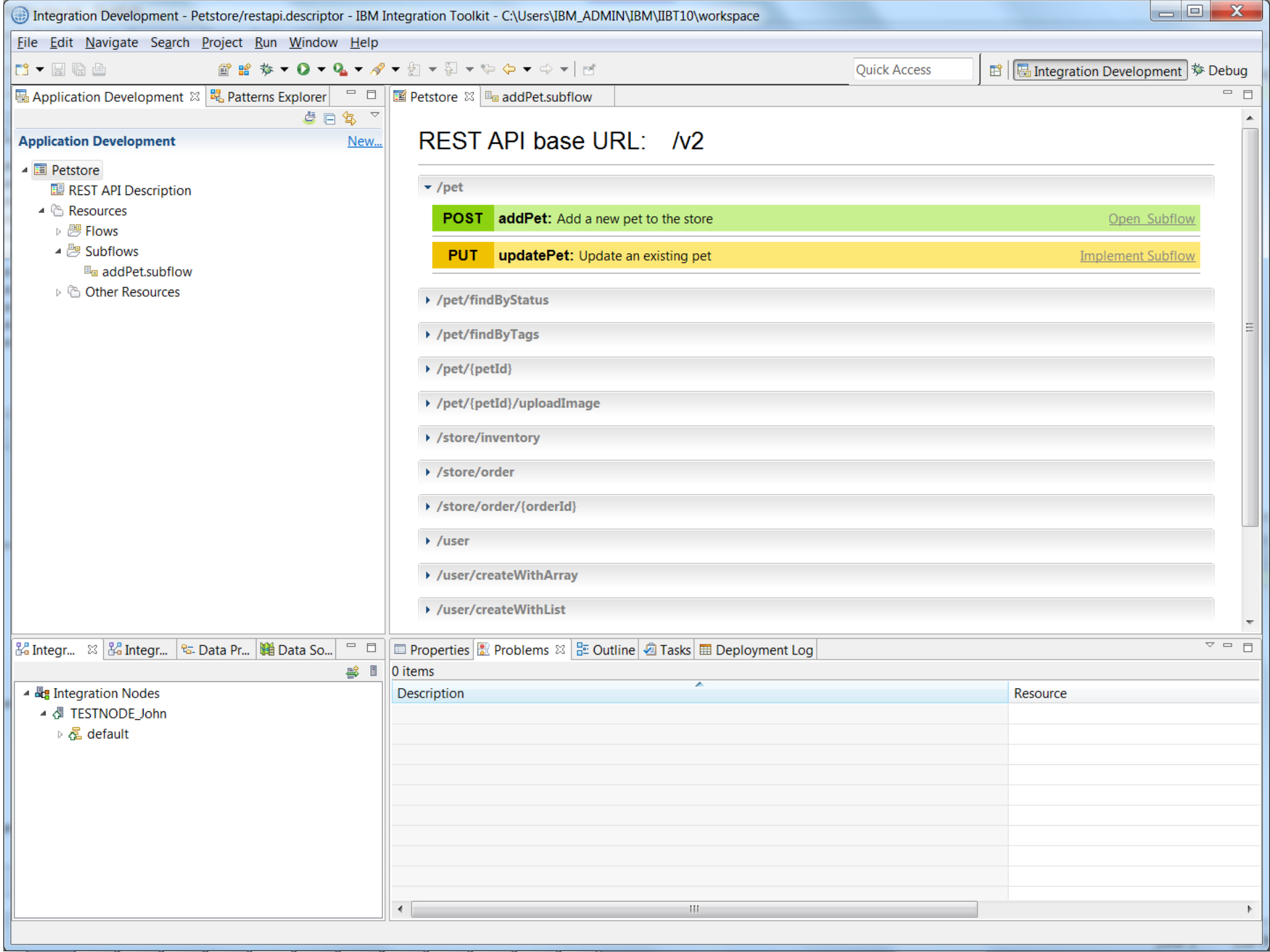
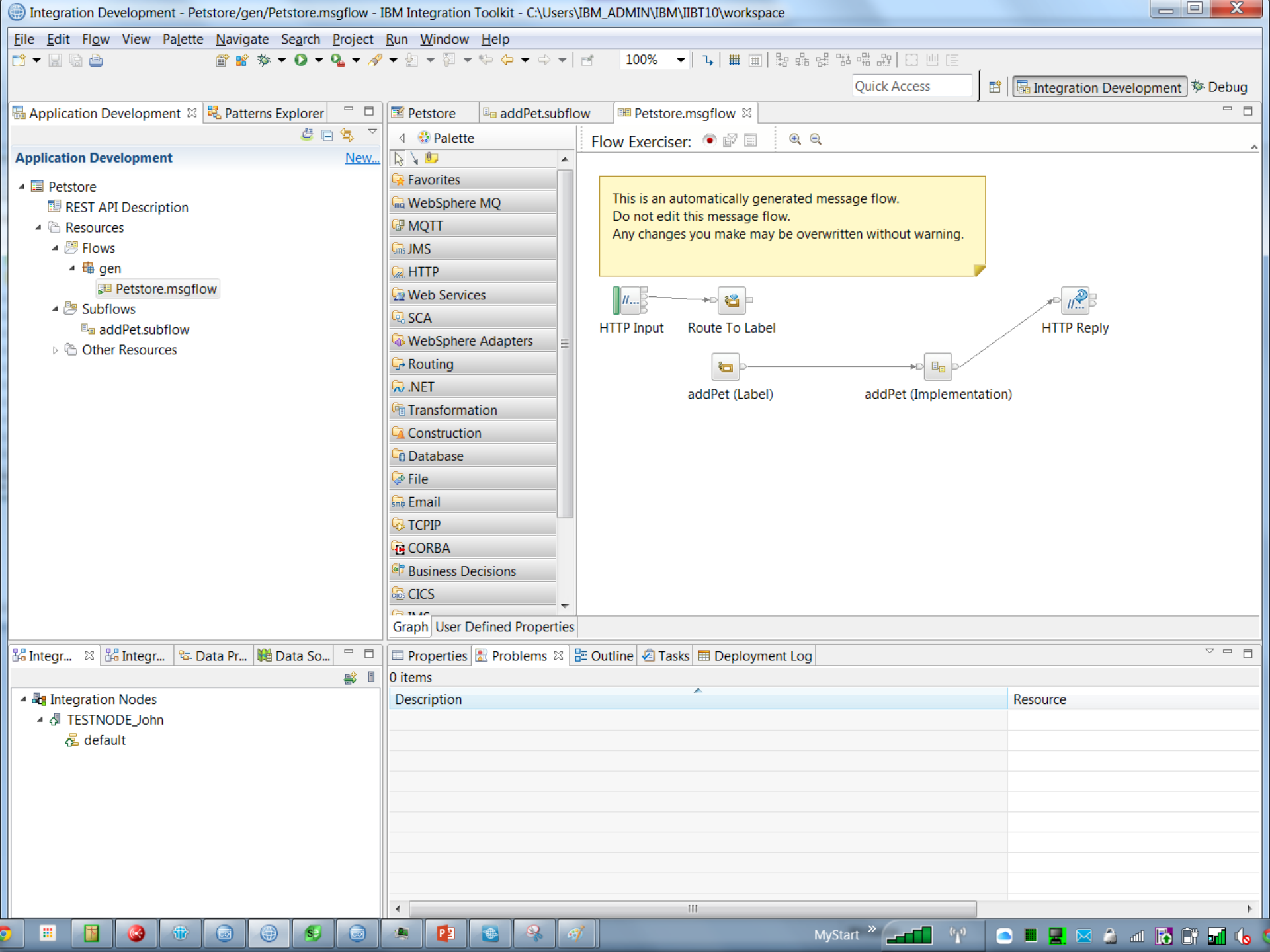
New...
Petstore
REST API Description
Resources
Petstore
*addPet.subflow
Palette
Web Services
SCA
WebSphere Adapters
Routing
.NET
Transformation
.NETCompute
Mapping
XSLTransform
Compute
JavaCompute
Construction
Database
File
Email
TCPIP
CORBA
Business Decisions
CICS
IMS
Flow Exerciser:
Input
Route
JSON To COBOL
AddDog
JSON To BAPI
Add Cat
Output
Graph
User Defined Properties
Integr...
Integr...
Data Pr...
Data So...
Integration Nodes
TESTNODE_John
Properties
Problems
Outline
Tasks
Deployment Log
0 errors, 1 warning, 0 others
Description
Resource
Writable


Integration Development - Petstore/restapi.descriptor - IBM Integration Toolkit - C:\Users\IBM_ADMIN\IBM\IIBT10\workspace
File Edit Navigate Search Project Run Window Help
Quick Access
Integration Development
Debug
Application Development
Patterns Explorer
Application Development
New...
Petstore
REST API Description
Resources
Flows
Subflows
addPet.subflow
Other Resources
Petstore
addPet.subflow
REST API base URL: /v2
/pet
POST addPet: Add a new pet to the store
Open Subflow
PUT updatePet: Update an existing pet
Implement Subflow
/pet/findByStatus
/pet/findByTags
/pet/{petId}
/pet/{petId}/uploadImage
/store/inventory
/store/order
/store/order/{orderId}
/user
/user/createWithArray
/user/createWithList
Integr...
Integr...
Data Pr...
Data So...
Integration Nodes
TESTNODE_John
default
Properties
Problems
Outline
Tasks
Deployment Log
0 items
Description
Resource


Integration Development - Petstore/gen/Petstore.msgflow - IBM Integration Toolkit - C:\Users\IBM_ADMIN\IBM\IIBT10\workspace
File Edit Flow View Palette Navigate Search Project Run Window Help
Quick Access
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Patterns Explorer
Application Development
New...
Petstore
REST API Description
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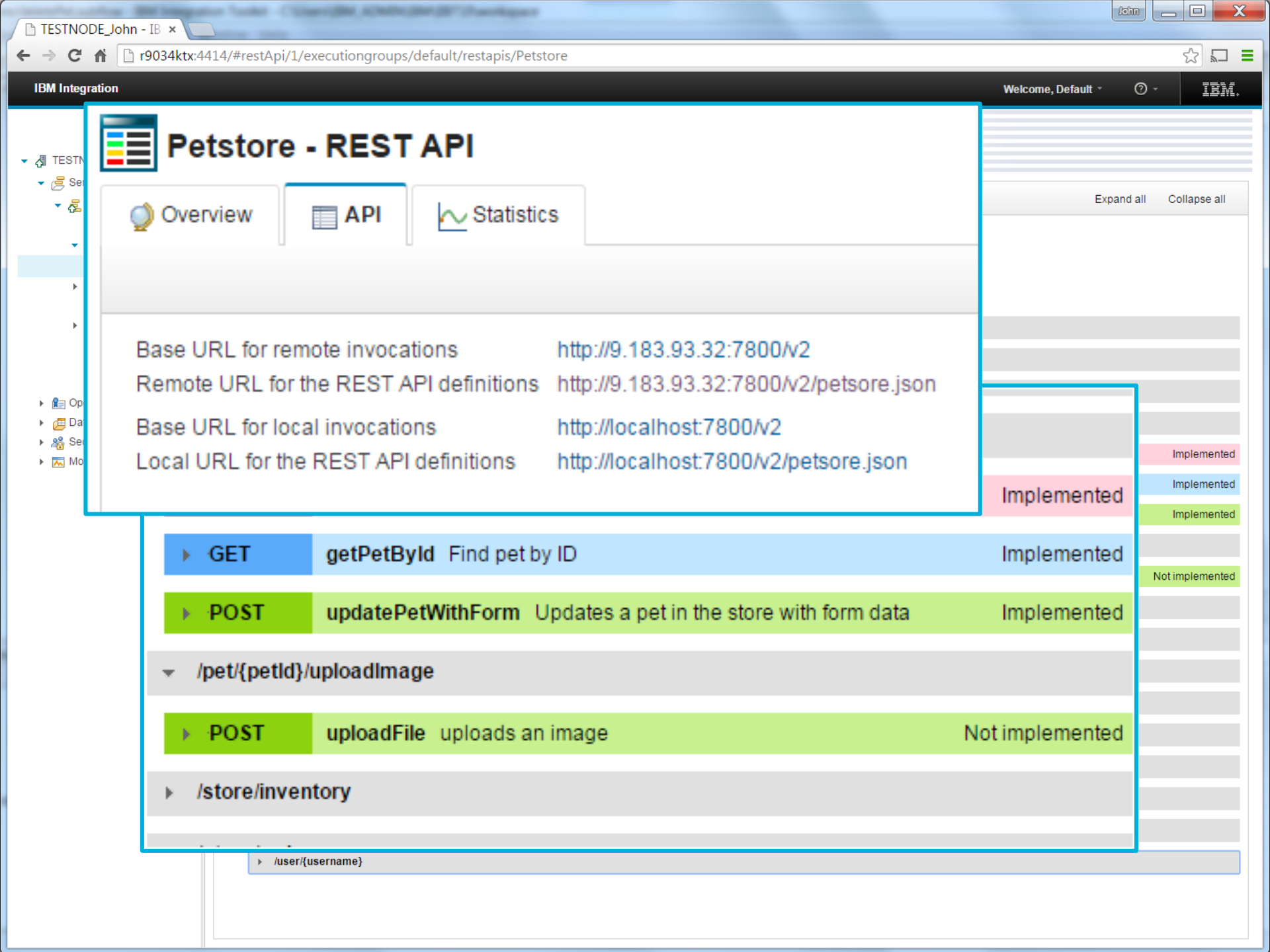
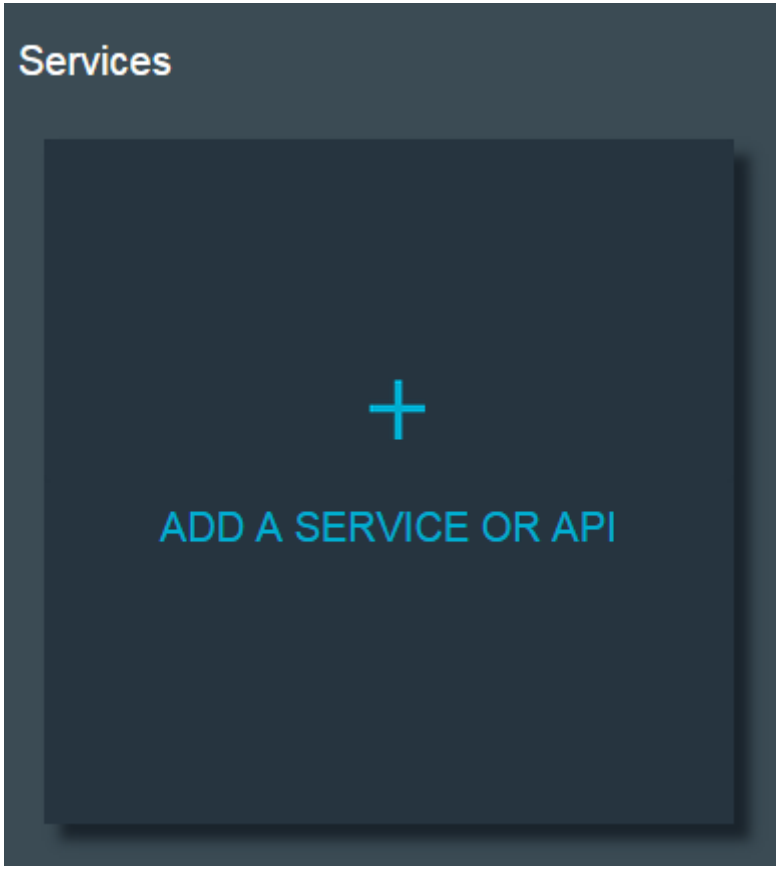
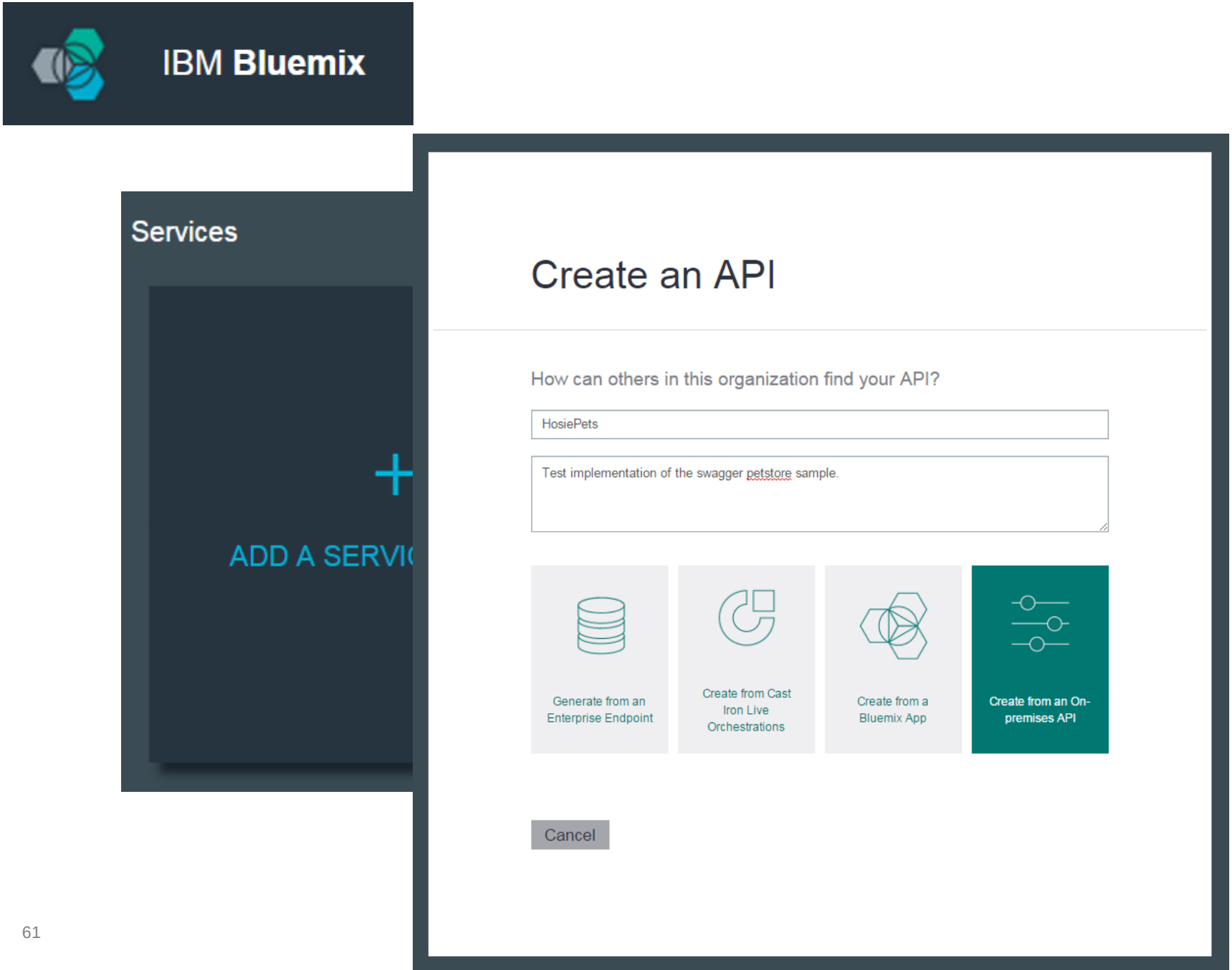
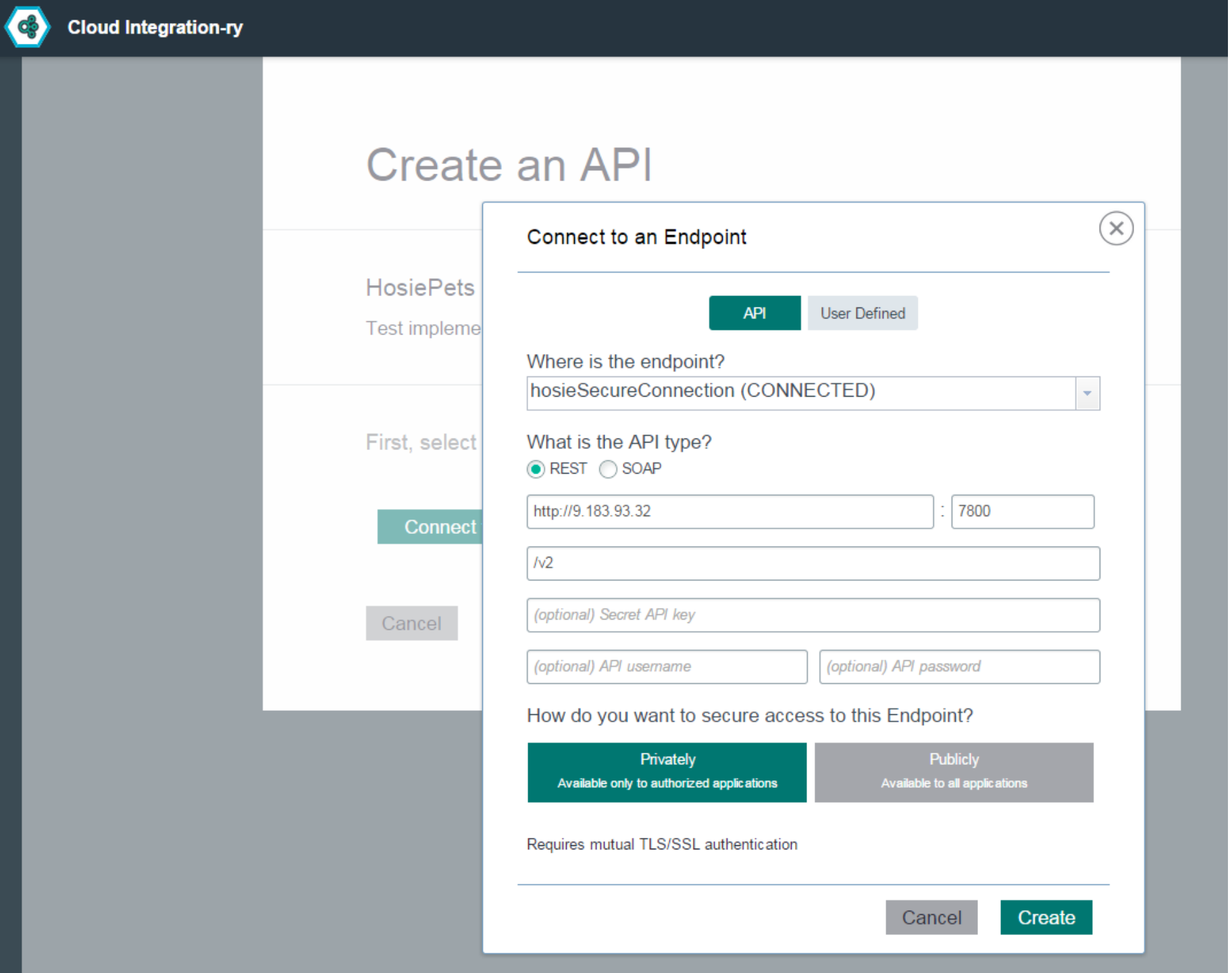
gen
Petstore.msgflow
Subflows
addPet.subflow
Other Resources
Petstore
addPet.subflow
Petstore.msgflow
Palette
Favorites
WebSphere MQ
MQTT
JMS
HTTP
Web Services
SCA
WebSphere Adapters
Routing
.NET
Transformation
Construction
Database
File
Email
TCPIP
CORBA
Business Decisions
CICS
Flow Exerciser:
This is an automatically generated message flow.
Do not edit this message flow.
Any changes you make may be overwritten without warning.
HTTP Input
Route To Label
HTTP Reply
addPet (Label)
addPet (Implementation)
Graph
User Defined Properties
Integr...
Integr...
Data Pr...
Data So...
Integration Nodes
TESTNODE_John
default
Properties
Problems
Outline
Tasks
Deployment Log
0 items
Description
Resource
MyStart

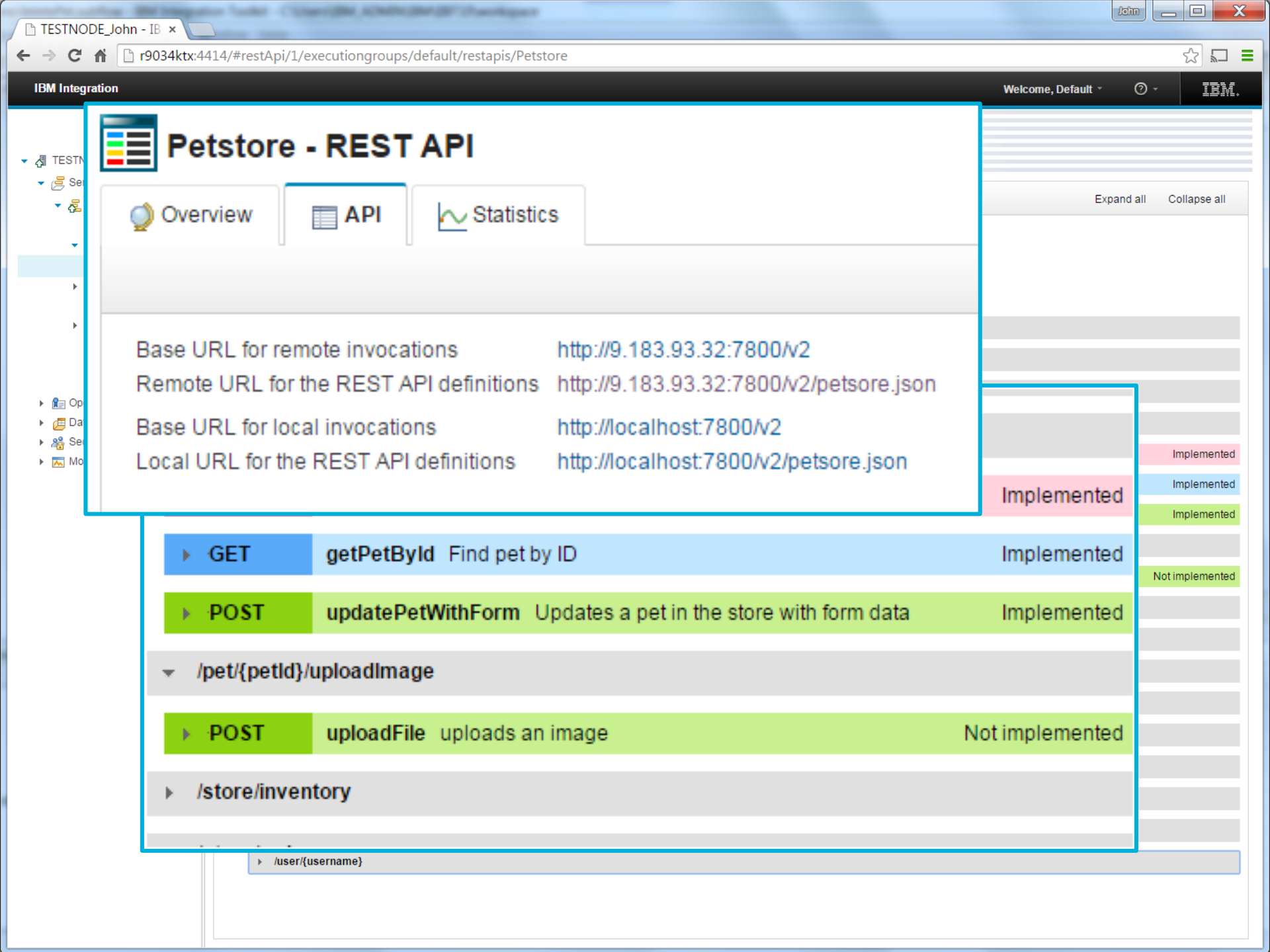

TESTNODE_John - IB
r9034ktx:4414/#restApi/1/executiongroups/default/restapis/Petstore
IBM Integration
Welcome, Default
IBM
Petstore - REST API
Overview
API
Statistics
Base URL for remote invocations
http://9.183.93.32:7800/v2
Remote URL for the REST API definitions
http://9.183.93.32:7800/v2/petsore.json
Base URL for local invocations
http://localhost:7800/v2
Local URL for the REST API definitions
http://localhost:7800/v2/petsore.json
Expand all
Collapse all
Implemented
GET
getPetById
Find pet by ID
Implemented
POST
updatePetWithForm
Updates a pet in the store with form data
Implemented
/pet/{petId}/uploadImage
POST
uploadFile
uploads an image
Not implemented
/store/inventory
/user/{username}


IBM Bluemix


Services
ADD A SERVICE OR API


IBM Bluemix
Services
ADD A SERVI
Create an API
How can others in this organization find your API?
HosiePets
Test implementation of the swagger petstore sample.
Generate from an Enterprise Endpoint
Create from Cast Iron Live Orchestrations
Create from a Bluemix App
Create from an On-premises API
Cancel


Cloud Integration-ry
Create an API
HosiePets
Test impleme
First, select
Connect
Cancel
Connect to an Endpoint
API
User Defined
Where is the endpoint?
hosieSecureConnection (CONNECTED)
What is the API type?
REST
SOAP
http://9.183.93.32
7800
/v2
(optional) Secret API key
(optional) API username
(optional) API password
How do you want to secure access to this Endpoint?
Privately
Available only to authorized applications
Publicly
Available to all applications
Requires mutual TLS/SSL authentication
Cancel
Create


TESTNODE_John - IB
r9034ktx:4414/#restApi/1/executiongroups/default/restapis/Petstore
IBM Integration
Welcome, Default
IBM
Petstore - REST API
Overview
API
Statistics
Base URL for remote invocations
http://9.183.93.32:7800/v2
Remote URL for the REST API definitions
http://9.183.93.32:7800/v2/petsore.json
Base URL for local invocations
http://localhost:7800/v2
Local URL for the REST API definitions
http://localhost:7800/v2/petsore.json
Expand all
Collapse all
Implemented
GET
getPetById
Find pet by ID
Implemented
POST
updatePetWithForm
Updates a pet in the store with form data
Implemented
/pet/{petId}/uploadImage
POST
uploadFile
uploads an image
Not implemented
/store/inventory
/user/{username}

Summary

IaaS

- Urban Code Deploy plug-ins
- CHEF cookbooks
- Pure Application System patterns
- BYOSL and Rental pricing

PaaS

- Bluemix
- IIB Cloud beta program

SaaS

- JSON Mapping
- Integration Services with Javascript API
- REST API with swagger definition

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