bidij

Behavior Driven Infrastructure support for Java

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1. Behavior Driven Infrastructure

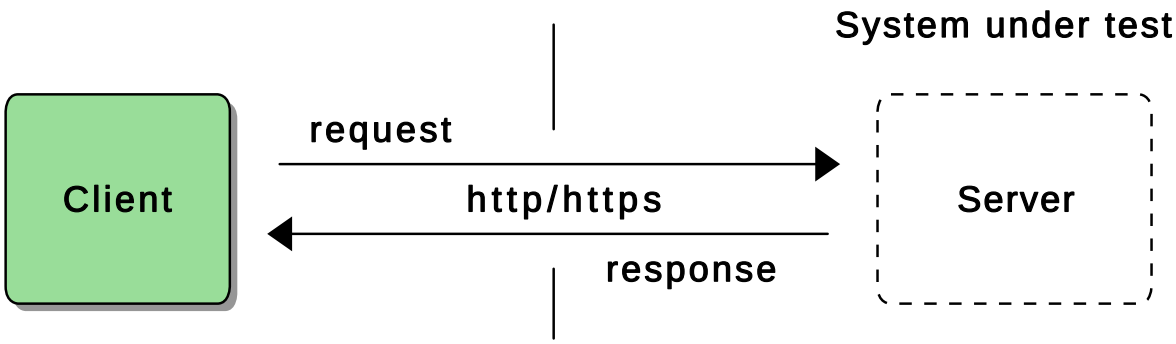
> *When you write code, you always use unit testing & integration testing to verify that the application is working as expected, but why don't we use that when we install a system?*
>
> *What are you using to verify that your system is correctly configured and behaves the way you want?*

1.1. References

- Behavior Driven Infrastructure - Martin Englund
- Behaviour Driven Infrastructure through Cucumber - Lindsay Holmwood
- Yes Mum, I'll Behave: Beginning Behaviour Driven Infrastructure - James Turnbull

1.2. Grammar

2. HTTP



In order to ease the testing of HTTP server

As an automation tester

I want some predefined steps to write and to check HTTP request and HTTP response.

2.1. Grammar

List of predefined and supported steps relatives to HTTP:

```
Given ^an host set to "([^"]*)"$
```

```
Given ^the request's header "([^"]*)" has been set to "([^"]*)"$
```

```
Given ^(?:a|the) "([^"]*)" header set to "([^"]*)"$
```

```
Given ^the following request's header:$
```

```
Given ^the request method has been set to (.*)$
```

```
Given ^the request has no cookie named (.*)$
```

```
Given ^the request cookie "([^"]*)" has been set to "([^"]*)"$
```

```
Given ^basic auth credentials set to "([^"]*)" and "([^"]*)"$
```

Defined in the HTTP/1.1 Standard, section 14.1, the Accept: header lists the MIME Types of the media that the agent is willing to process. It is comma-separated lists of MIME type, each combined with a quality factor, as parameters giving the relative degree of preference between the different MIME Types lists.

- Content negotiation - MDN
- rfc2616 section 12

```
Given ^a content format negotiation set to "([^"]*)"$
```

```
When ^a request is made to "([^"]+)"$
```

```
When ^a ([a-zA-Z]+) request is made to "([^"]+)"$
```

```
When ^a ([a-zA-Z]+) request is made to "([^"]+)" with the following parameters:$
```

```
When ^a ([a-zA-Z]+) request is made to "([^"]+)" with content type "([^"]+)" with:$
```

```
When ^a json ([a-zA-Z]+) request is made to "([^"]+)"  with:$
```

```
When ^I follow redirect$
```

```
Then ^the response status code should be (\d+)$
```

```
Then ^the response status code should be (\d+) \((.+)\)$
```

```
Then ^the response should have the cookie (.*)$
```

```
Then ^the response's cookie "([^"]*)" should be set to "([^"]*)"$
```

```
Then ^the response's body should (start with|end with|match|contain|be) "(.*)"$
```

```
Then ^the response's body should (match|contain|be):$
```

```
Then ^the response's body should not (match|contain|be) "([^"]*)"$
```

```
Then ^the json response's body should (contain|be):$
```

```
Then ^the response's header "([^"]*)" should be set to "([^"]*)"$
```

```
Then ^the response's header "([^"]*)" should not be set to "([^"]*)"$
```

```
Then ^the response should indicate a redirect$
```

Then `^the response should not indicate a redirect$`

2.2. Check the HTTP steps

Uri: bdi/glue/http/testdefs/01-get.feature

2.2.1. Simple GET using host

- Given an host set to "http://localhost:8080"
- When a GET request is made to "/users"
- Then the response status code should be 200

2.2.2. Simple GET using complete uri

- When a GET request is made to "http://localhost:8080/users"
- Then the response status code should be 200

2.2.3. Supported Verb: GET

Tags: @http

- When a GET request is made to "http://localhost:8080/users"
- Then the response status code should be 200

2.2.4. Supported Verb: PUT

Tags: @http

- When a PUT request is made to "http://localhost:8080/users"
- Then the response status code should be 405

2.2.5. Supported Verb: POST

Tags: @http

- When a POST request is made to "http://localhost:8080/users"
- Then the response status code should be 400

2.2.6. Supported Verb: DELETE

Tags: @http

- When a DELETE request is made to "http://localhost:8080/users"
- Then the response status code should be 405

2.2.7. Supported Verb: HEAD

Tags: @http

- When a HEAD request is made to "http://localhost:8080/users"
- Then the response status code should be 200

2.2.8. Supported Verb: OPTIONS

Tags: @http

- When a OPTIONS request is made to "http://localhost:8080/users"
- Then the response status code should be 200

2.2.9. Supported Verb: TRACE

Tags: @http

- When a TRACE request is made to "http://localhost:8080/users"
- Then the response status code should be 200

2.2.10. Supported Verb: PATCH

Tags: @http

- When a PATCH request is made to "http://localhost:8080/users"
- Then the response status code should be 501

2.3. HTTPS steps

Uri: bdi/glue/http/testdefs/02-https.feature

2.3.1. GET on app with https configuration set

- Given a sample server running on port 8080 and on secure port 8083
- Given an host set to "http://localhost:8080"
- When a GET request is made to "/users"
- Then the response status code should be 200

2.3.2. GET on https

Tags: @http_secure, @http_secure__allow_all_hostname

- Given a sample server running on port 8080 and on secure port 8083
- And an host set to "https://localhost:8083"
- When a GET request is made to "/users"
- Then the response status code should be 200

2.3.3. GET on https with basic auth no credential provided

Tags: @http_secure, @http_secure__allow_all_hostname

- Given a sample server running on port 8080 and on secure port 8083
- And an host set to "https://localhost:8083"
- When a GET request is made to "/auth/users"
- Then the response status code should be 401 (Unauthorized)

2.3.4. GET on https with basic auth using default credentials

Tags: @http_secure, @http_secure__allow_all_hostname

- Given a sample server running on port 8080 and on secure port 8083
- Given an host set to "https://localhost:8083"
- And default basic auth credentials set
- When a GET request is made to "/auth/users"
- Then the response status code should be 200 (OK)

2.3.5. GET on https with basic auth specifying credentials

Tags: @http_secure, @http_secure__allow_all_hostname

- Given a sample server running on port 8080 and on secure port 8083
- Given an host set to "https://localhost:8083"
- And basic auth credentials set to "carmen" and "mccallum"
- When a GET request is made to "/auth/users"
- Then the response status code should be 200 (OK)

2.3.6. GET on https with basic auth specifying credentials

Tags: @http_secure, @http_secure__allow_all_hostname

- Given a sample server running on port 8080 and on secure port 8083
- Given an host set to "https://localhost:8083"
- And basic auth credentials set to "carmen" and "mccallum"
- When a GET request is made to "/auth/users" with the following parameters:

parameter name	parameter value
offset	50
limit	10
filter	{ :name "/john (.*)/"}

- Then the response status code should be 200 (OK)

2.4. Headers and Content Negociation

Uri: bdi/glue/http/testdefs/03-content-negociation.feature

2.4.1. GET with json content negotiation

- Given a sample server running on port 8080
- Given an host set to "http://localhost:8080"
- And a content format negotiation set to "application/json"
- When a GET request is made to "/about"
- Then the response status code should be 200 (OK)
- And the json response's body should contain:

```
{ "version" : "1.2.0" }
```

2.4.2. GET with html content negocation

- Given a sample server running on port 8080
- Given an host set to "http://localhost:8080"
- And a content format negotiation set to "text/html"
- When a GET request is made to "/about"
- Then the response status code should be 200 (OK)
- And the response's body should start with "<html"

2.5. POST request

Uri: bdi/glue/http/testdefs/04-post.feature

2.5.1. A POST with json response

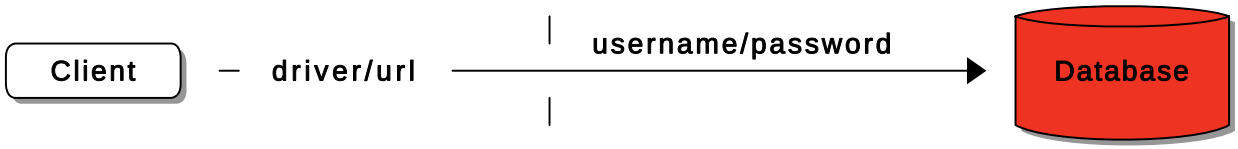
- Given a sample server running on port 8080
- And an host set to "http://localhost:8080"
- When a POST request is made to "/users" with content type "application/json" with:

```
{
  "firstname":"Carmen",
  "lastname":"Mccallum"
}
```

- Then the response status code should be 201
- And the json response's body should contain:

```
{
  "status":"ok"
}
```

3. Jdbc



In order to ease the testing of Database

As an automation tester

I want some predefined steps to access and query Database

3.1. Grammar

List of predefined and supported steps relatives to JDBC:

```
Given ^the "([^"]*)" jdbc configuration has been applied$
```

```
Given ^the following jdbc configurations:$
```

```
When ^a query is made on table "([^"]*)"$
```

```
Then ^the number of rows returned should be (greater than|greater than or equal to|equal to|lesser than|lesser than or equal to) (\d+)$
```

3.2. Check the JDBC steps

Uri: bdi/glue/jdbc/testdefs/01-jdbc.feature

3.2.1. Simple Access

- Given a sample database running and defining "default" jdbc configuration
- Given the "default" jdbc configuration has been applied
- When a query is made on table "user"
- Then the number of rows returned should be greater than 0

3.2.2. Jdbc Configuration

Tags: @wip

- Given the following jdbc configurations:

configuration name	driver	url	username	password
server_mode	org.h2.Driver	jdbc:h2:tcp://localhost/~/test	pif	pifp
in_memory	org.h2.Driver	jdbc:h2:mem:test	sa	sa
file	org.h2.Driver	jdbc:h2:${workingDir}/db_${idgen}	sa	sa

✓ And a sample database running using configuration "file"

✓ Given the "file" jdbc configuration has been applied

✓ When a query is made on table "user"

✓ Then the number of rows returned should be greater than 0

4. Process/Runtime

In order to ease the testing of filesystem and os environement

As an automation tester

I want some predefined steps to execute specified command is a separate process

Warning the triggered processes are launch in the same machine where the current scenario is running.

4.1. Grammar

List of predefined and supported steps relatives to Processes:

```
Given ^the current working directory has been set to "(.*?)"$
```

Executes the specified command and arguments in a separate process with the specified environment.

```
When ^I run `([^`]*)`$
```

```
When ^I wait for the process to terminate$
```

```
When ^I wait at most (\d+) seconds for the process to terminate$
```

```
Then ^(once finished, )?the last command output should (contain|be|equal to|satisfy):$
```

4.2. Check the Process steps

Uri: bdi/glue/proc/testdefs/01-proc.feature

4.2.1. Simple Process

Tags: @linux

```
Given a new temporary directory kept in variable "workingDir"
  And the current working directory has been set to "${workingDir}"
 When I run `touch filemode.file`
  And I run `ls -al`
 Then once finished, the last command output should satisfy:
      \Q-rw-r--r--\E (.+) filemode.file
```

5. SSH

In order to ease the testing of remote machine

As an automation tester

I want some predefined steps to connect and execute command on remote machine through SSH.

5.1. Grammar

List of predefined and supported steps relatives to SSH:

```
Given ^a ssh private key at "(.*?)" with no passphrase$
```

```
Given ^an interactive ssh session opened on "(.*?)" with the following credentials:$
```

```
When ^through ssh, I run `([^`]+)`$
```

```
Then ^within (\d+) (seconds?|minutes?), the ssh session output should (contain|satisfy) "(.*?)"$
```

5.2. ssh access

Uri: bdi/glue/ssh/testdefs/01-ssh.feature

5.2.1. Basic ssh

Tags: @Ignore

Given an interactive ssh session opened on "127.0.0.1:2222" with the following credentials:

username	password
vagrant	foobar

5.2.2. SSH authentication with private key

Given a default vm popped

Given a ssh private key at "~/.vagrant.d/insecure_private_key" with no passphrase

And an interactive ssh session opened on "127.0.0.1:2222" with the following credentials:

username
vagrant

When through ssh, I run `ls -al`

Then within 5 seconds, the ssh session output should contain ".vbox_version"

6. Overview

6.1. Consolidated tag views

Jdbc	1/1
Http	19/19

Sample Steps


Given a passed step


And a failed step


When a pending step


But an undefined step


Then a skipped step