Robert Jackson, Ian Bender, David Vogel
CS 362 Final Project part b
3/14/16

[Bug report 1]

Bug: DomainValidator - line 134

Project: Commons Validator
Issue Type: Bug
Summary: Incorrect conditional in Domain Validator
Priority: Major
Components: Routines
Affects Version/s: 1.4.0
Fix Version/s: 1.4.0
Description:

- Incorrect conditional on line 134 of DomainValidator.java

```
public boolean isValid(String domain) {
  String[] groups = domainRegex.match(domain);
  if (groups != null && groups.length > 0) {
      return isValidTld(groups[0]);
  } else if(allowLocal) {
[line 134] if (!hostnameRegex.isValid(domain)) {
//should be if (hostnameRegex.isValid(domain)) {
          return true;
      }
  }
  return false;
}
```

- Conditional should read:
  - `if (hostnameRegex.isValid(domain))`
- How it was found
  - This was discovered because coverage never followed this line even when a “localhost” and allowlocal was used. Upon code inspection, the logic appeared be faulty due to it returning true when the validation test failed using the “localhost” as a domain name
- Methodology:
  - Our main test for known random good urs was first compared with java’s own library for url validation. We generated random urls using both ip addresses, the term localhost, and various additional pieces sometimes a query sometimes a path.
-

Original Estimate: .5d
Flags: Important
Labels: None

Robert Jackson, Ian Bender, David Vogel
CS 362 Final Project part b
3/14/16

[Bug report 2]

Bug: URL Validator - line 445

Project: Commons Validator
Issue Type: Bug
Summary: Error in return value of isValidQuery(String query)
Priority: Major
Components: Routines
Affects Version/s: 1.4.0
Fix Version/s: 1.4.0
Description:

- Incorrect return value on line 445 of URLValidator.java

```
protected boolean isValidQuery(String query) {
  if (query == null) {
      return true;
  }

 [line 445]return !QUERY_PATTERN.matcher(query).matches();
  //return QUERY_PATTERN.matcher(query).matches();
}
```

- Statement should be:

```
      return QUERY_PATTERN.matcher(query).matches();
```

- A valid query according to the Java library was not considered valid by the Apache Commons URL Validator. We compared the result of the UrlValidator to java's own library, and every query that java found to be valid, the UrlValidator returned invalid.

Original Estimate: .5d
Flags: Important
Labels: None

Robert Jackson, Ian Bender, David Vogel
CS 362 Final Project part b
3/14/16

[Bug report 3]

Bug: DomainValidator.java - line 358

Project: Commons Validator
Issue Type: Bug
Summary: TLDs after "it" fail
Priority: Major
Components: Routines
Affects Version/s: 1.4.0
Fix Version/s: 1.4.0
Description:

- Incomplete listing of Top Level Domains for COUNTRY_CODE_TLDS on line 358 of URLValidator.java
- List of TLDs is cut off after Italy. Any URL with a TLD starting with “j” or above will come back as invalid. (Ex. “jp”, “uk”, etc).
- How it was found:
    - Our test used a TLD list from the IANA list of all valid TLD’s located here http://www.iana.org/domains/root/db. Because the list was alphabetized it was easy to see that failures always started after “.it”. It was logical then to look and see what were the variables set in the UrlValidator, against which an isValid statement is evaluated.
- Testing Methodology:
    - The method was to read in a list of all the valid TLD’s according to IANA, test these using java’s own library of URL validation, and then check each one using only the subpart of isValid that was responsible for checking a valid TLD.

Original Estimate: .5d
Flags: Important
Labels: None

Robert Jackson, Ian Bender, David Vogel
CS 362 Final Project part b
3/14/16

[Bug report 4]

Bug: DomainValidator.java - line 204

Project: Commons Validator
Issue Type: Bug
Summary: TLDs failing although valid according to IANA
Priority: Major
Components: Routines
Affects Version/s: 1.4.0
Fix Version/s: 1.4.0
Description:

- TLDs pass even when they are not valid TLD's

```
public boolean isValidLocalTld(String iTld) {

  return !LOCAL_TLD_LIST.contains(chompLeadingDot(iTld.toLowerCase()));
}
```

- IsValid function returns NOT when the list LOCAL_TLD_LIST contains a TLD
- How it was found:
    - Our test used a TLD list from the IANA list of all valid TLD's located here http://www.iana.org/domains/root/db. We still had failures beyond ".it" as mentioned in bug 3. Running the debugger with a failed case showed that the line 204 was returning the opposite of what would be expected. This meant that our test case passed every single. TLD even though they are not listed in the set of TLD's inside Dominion.java

- Testing Methodology:
    - The method was to read in a list of all the valid TLD's according to IANA, test these using java's own library of URL validation, and then check each one using only the subpart of isValid that was responsible for checking a valid TLD.

Original Estimate: .5d
Flags: Important
Labels: None

Robert Jackson, Ian Bender, David Vogel
CS 362 Final Project part b
3/14/16

Team Overview

Our team collaborated via Slack and email for asynchronous communication and in real-time through GoToMeeting. Project documents were shared on Google Drive and code was centrally located in a GitHub repository.

Project requirements were divided fairly equally amongst all members; Rob and Ian primarily focused on coding the unit tests while Dave took the lead on writing the bug report. The team met prior to beginning work to develop an action plan and a timeline for providing status updates and final delivery.