

Web Services Assignment 3 Documentation

DESIGN OF DATA STRUCTURE

Two collections in the test database have been created -

1. Collection name: apiData (to store api data)
2. Collection name: mashupData (to store mashup data)

Collection: mashupData

It consists of 7392 documents and the documents consist of 18 fields. Given below are the fields:

Id: string

Title: string

Summary: string

Rating: double

Name: string

Label: string

Author: string

Description: string

Type: string

Downloads: int

UseCount: int

SampleUrl: string

DateModified: ISO date format

NumComments: int

CommentsUrl: string

Tags: Array of strings

APIs: Array of JSON objects → APIs: [{ApiName: "abc", ApiUrl: "xyz"}]

Update: ISO date format

The fields may not have any values. "(null)" has been inserted for such fields.

Screenshots of the data in Collection: mashupData

```
> db.mashupData.find({}).pretty()
{
  "_id" : ObjectId("57194a7b9ebe2bc589d8c19e"),
  "id" : "http://www.programmableweb.com/mashup/-22",
  "title" : "(null)",
  "summary" : "(null)",
  "rating" : 3.8,
  "name" : "(null)",
  "label" : "(null)",
  "author" : "Unknown",
  "description" : "(null)",
  "type" : "(null)",
  "downloads" : 0,
  "useCount" : 0,
  "sampleUrl" : "http://www.easypeasyphotos.net",
  "dateModified" : ISODate("2011-10-09T18:35:06Z"),
  "numComments" : 0,
  "commentsUrl" : "http://api.programmableweb.com/mashups/-22/comments",
  "tags" : [ ],
  "APIs" : [
    {
      "apiName" : "Flickr",
      "apiUrl" : "http://www.programmableweb.com/api/flickr"
    },
    {
      "apiName" : "Google Maps",
      "apiUrl" : "http://www.programmableweb.com/api/google-maps"
    }
  ],
  "updated" : ISODate("2011-10-09T18:35:06Z")
}
```

The above image shows a document structure in the mashupData collection

Another screenshot given below:

```
{
  "_id" : ObjectId("57194a7b9ebe2bc589d8c19f"),
  "id" : "http://www.programmableweb.com/mashup/compare-prices.info",
  "title" : "Compare-Prices.info",
  "summary" : "This site is a demo to show the functionality of the Shopzilla.com API. Supports the US and UK API versions.",
  "rating" : 4.2,
  "name" : "Compare-Prices.info",
  "label" : "Compare-Prices.info",
  "author" : "Unknown",
  "description" : "This site is a demo to show the functionality of the Shopzilla.com API. Supports the US and UK API versions.",
  "type" : "(null)",
  "downloads" : 0,
  "useCount" : 2170,
  "sampleUrl" : "http://www.compare-prices.info/",
  "dateModified" : ISODate("2009-02-10T05:35:01Z"),
  "numComments" : 2,
  "commentsUrl" : "http://api.programmableweb.com/mashups/compare-prices.info/comments",
  "tags" : [
    "affiliate",
    "eBay",
    "money",
    "Program",
    "shopping",
    "Shopzilla"
  ],
  "APIs" : [
    {
      "apiName" : "Shopzilla",
      "apiUrl" : "http://www.programmableweb.com/api/shopzilla"
    }
  ],
  "updated" : ISODate("2009-02-10T05:35:01Z")
}
{
  "_id" : ObjectId("57194a7b9ebe2bc589d8c1a0"),
  "id" : "http://www.programmableweb.com/mashup/mobile-emulator",
  "title" : "Mobile Emulator",
  "summary" : "A demo to show the functionality of the Shopzilla.com API. Supports the US and UK API versions.",
  "rating" : 4.2,
  "name" : "Mobile Emulator",
  "label" : "Mobile Emulator",
  "author" : "Unknown",
  "description" : "A demo to show the functionality of the Shopzilla.com API. Supports the US and UK API versions.",
  "type" : "(null)",
  "downloads" : 0,
  "useCount" : 2170,
  "sampleUrl" : "http://www.compare-prices.info/",
  "dateModified" : ISODate("2009-02-10T05:35:01Z"),
  "numComments" : 2,
  "commentsUrl" : "http://api.programmableweb.com/mashups/compare-prices.info/comments",
  "tags" : [
    "affiliate",
    "eBay",
    "money",
    "Program",
    "shopping",
    "Shopzilla"
  ],
  "APIs" : [
    {
      "apiName" : "Shopzilla",
      "apiUrl" : "http://www.programmableweb.com/api/shopzilla"
    }
  ],
  "updated" : ISODate("2009-02-10T05:35:01Z")
}
```

Collection: apiData

It consists of 11199 documents and the documents consist of 46 fields. Given below are the fields:

Id: string

Title: string

Summary: string

Rating: double

Name: string

Label: string

Author: string

Description: string

Type: string

Downloads: int

UseCount: int

SampleUrl: string

DownloadUrl: string

DateModified: ISO date format

RemoteFeed: string

NumComments: int

CommentsUrl: string

Tags: Array of strings

Category: string

Protocols: string

ServiceEndPoint: string

Version: string

WSDL: string

DataFormats: string

Groups: string

Examples: Array of strings

ClientInstall: string

Authentication: string

SSL: string

Readonly: string

VendorApiKits: string

CommunityApiKits: string

Blog: string

Forum: string

Support: string

AccountReq: string

Commercial: string

Provider: string

ManagedBy: string

NonCommercial: string

DataLicencing: string

Fees: string

Limits: string

Terms: string

Company: string

Update: ISO date format

Screenshots of the data in Collection: apiData

```
> db.apiData.find({}).pretty()
{
  "_id" : ObjectId("57194a719ebe2bc589d895df"),
  "id" : "http://www.programmableweb.com/api/the-global-proteome-machine",
  "title" : "The Global Proteome Machine",
  "summary" : "Proteome data for biomedical research",
  "rating" : 4.4,
  "name" : "The Global Proteome Machine",
  "label" : "The Global Proteome Machine",
  "author" : "(null)",
  "description" : "The Global Proteome Machine is an attempt to create knowledge from proteomics data and reuse it to solve biomedical research problems. The Global Proteome Machine Database was built to use GPM data to help validate peptide MS/MS spectra and protein coverage patterns. The Global Proteome Machine Database API provides RESTful access to commonly required information based on data from the GPM Database. Responses are JSON formatted.",
  "type" : "1",
  "downloads" : "(null)",
  "useCount" : "(null)",
  "sampleUrl" : "http://wiki.thegpm.org/wiki/GPMDB_REST",
  "downloadUrl" : "(null)",
  "dateModified" : "2012-12-17T09:51:40Z",
  "remoteFeed" : "(null)",
  "numComments" : "(null)",
  "commentsUrl" : "http://api.programmableweb.com/apis/the-global-proteome-machine/comments",
  "tags" : [
    "database",
    "science"
  ],
  "category" : "Science",
  "protocols" : "REST",
  "serviceEndpoint" : "http://gpmdb.thegpm.org/",
  "version" : "(null)",
  "wsdl" : "(null)",
  "dataFormats" : "JSON",
  "groups" : "(null)",
  "examples" : [ ],
  "clientInstall" : "(null)",
  "authentication" : "(null)",
```

```

    "authentication" : "(null)",
    "ssl" : "(null)",
    "readonly" : "(null)",
    "VendorApiKits" : "(null)",
    "CommunityApiKits" : "(null)",
    "blog" : "(null)",
    "forum" : "(null)",
    "support" : "(null)",
    "accountReq" : "No",
    "commercial" : "(null)",
    "provider" : "http://www.thegpm.org/",
    "managedBy" : "(null)",
    "nonCommercial" : "(null)",
    "dataLicensing" : "(null)",
    "fees" : "(null)",
    "limits" : "(null)",
    "terms" : "(null)",
    "company" : "(null)",
    "updated" : ISODate("2012-12-17T14:51:40Z")
}

```

The two images show a document structure in the apiData collection.

DESIGN OF QUERY SYSTEM

The UI of the application is as shown below:

http://localhost:8089/PA3/Application.jsp

SEARCH APIs/MASHUPS:

Select: Apis

Search by keywords or criteria

- ☒ Keywords
- ☐ Updated year
- ☐ Protocols
- ☐ Category
- ☐ Tags
- ☐ Used Apis
- ☐ Rating Equal To

Enter value:

The user can select whether he wants to search for apis or mashups.

Then he can select whether he wants to query based on some criteria or keywords.

The search vales are entered in the text box labelled by Enter value.

To retrieve apis, the apiData collection is queried and to retrieve mashups, the mashupData collection is queried.

To retrieve Apis

1. Based on Criteria: Protocols

```
BasicDBObject field = new BasicDBObject();
                    field.put("protocols", java.util.regex.Pattern.compile(values,
Pattern.CASE_INSENSITIVE));

                    DBCollection collection = db.getCollection("apiData");
                    DBCursor cursor = collection.find(field);

                    while (cursor.hasNext()) {

                        System.out.println(result.add((String) cursor.next().get("id")));
                    }
```

Result is an arraylist of strings that are api ids that are retrieved based on the input given by the user.



WEBSERVICES PROGRAMMING ASSIGNMENT 3

SEARCH APIs/MASHUPS:

Select: Apis ▼

Search by keywords or criteria

☐ Keywords

☐ Updated year

☒ Protocols

☐ Category

☐ Tags

☐ Used Apis

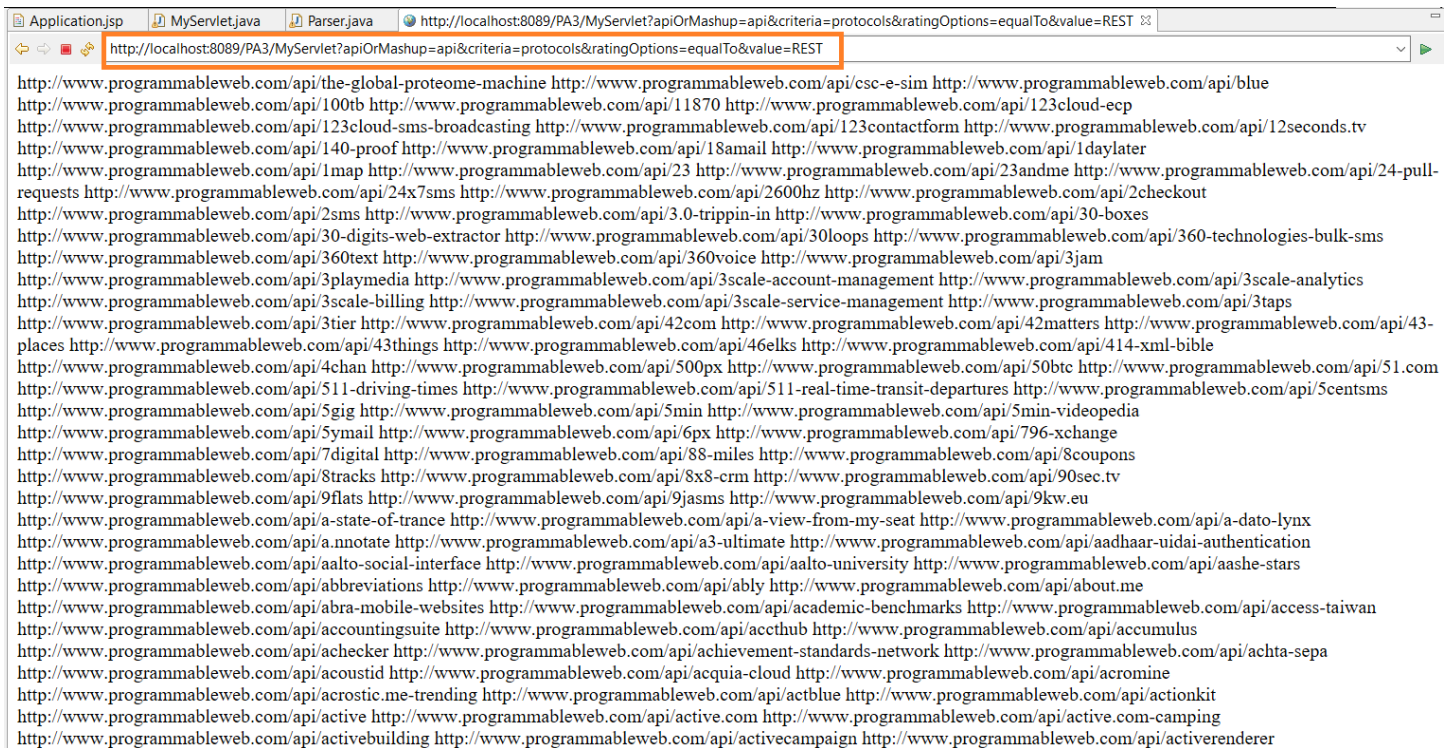
☐ Rating Equal To ▼

Enter value: REST ×

Submit

The user selects to retrieve apis. Selects criteria “protocols”. And enters the value of protocol as “REST”.

The output of the above query is given below. The screenshot displays a few of them.



http://www.programmableweb.com/api/the-global-proteome-machine http://www.programmableweb.com/api/csc-e-sim http://www.programmableweb.com/api/blue
 http://www.programmableweb.com/api/100tb http://www.programmableweb.com/api/11870 http://www.programmableweb.com/api/123cloud-ecp
 http://www.programmableweb.com/api/123cloud-sms-broadcasting http://www.programmableweb.com/api/123contactform http://www.programmableweb.com/api/12seconds.tv
 http://www.programmableweb.com/api/140-proof http://www.programmableweb.com/api/18amail http://www.programmableweb.com/api/1daylater
 http://www.programmableweb.com/api/1map http://www.programmableweb.com/api/23 http://www.programmableweb.com/api/23andme http://www.programmableweb.com/api/24-pull-requests
 http://www.programmableweb.com/api/24x7sms http://www.programmableweb.com/api/2600hz http://www.programmableweb.com/api/2checkout
 http://www.programmableweb.com/api/2sms http://www.programmableweb.com/api/3.0-trippin-in http://www.programmableweb.com/api/30-boxes
 http://www.programmableweb.com/api/30-digits-web-extractor http://www.programmableweb.com/api/30loops http://www.programmableweb.com/api/360-technologies-bulk-sms
 http://www.programmableweb.com/api/360text http://www.programmableweb.com/api/360voice http://www.programmableweb.com/api/3jam
 http://www.programmableweb.com/api/3playmedia http://www.programmableweb.com/api/3scale-account-management http://www.programmableweb.com/api/3scale-analytics
 http://www.programmableweb.com/api/3scale-billing http://www.programmableweb.com/api/3scale-service-management http://www.programmableweb.com/api/3taps
 http://www.programmableweb.com/api/3tier http://www.programmableweb.com/api/42com http://www.programmableweb.com/api/42matters http://www.programmableweb.com/api/43-places
 http://www.programmableweb.com/api/43things http://www.programmableweb.com/api/46elks http://www.programmableweb.com/api/414-xml-bible
 http://www.programmableweb.com/api/4chan http://www.programmableweb.com/api/500px http://www.programmableweb.com/api/50btc http://www.programmableweb.com/api/51.com
 http://www.programmableweb.com/api/511-driving-times http://www.programmableweb.com/api/511-real-time-transit-departures http://www.programmableweb.com/api/5centsms
 http://www.programmableweb.com/api/5gig http://www.programmableweb.com/api/5min http://www.programmableweb.com/api/5min-videopedia
 http://www.programmableweb.com/api/5ymail http://www.programmableweb.com/api/6px http://www.programmableweb.com/api/796-xchange
 http://www.programmableweb.com/api/7digital http://www.programmableweb.com/api/88-miles http://www.programmableweb.com/api/8coupons
 http://www.programmableweb.com/api/8tracks http://www.programmableweb.com/api/8x8-crm http://www.programmableweb.com/api/90sec.tv
 http://www.programmableweb.com/api/9flats http://www.programmableweb.com/api/9jasms http://www.programmableweb.com/api/9kw.eu
 http://www.programmableweb.com/api/a-state-of-trance http://www.programmableweb.com/api/a-view-from-my-seat http://www.programmableweb.com/api/a-dato-lynx
 http://www.programmableweb.com/api/a-nnotate http://www.programmableweb.com/api/a3-ultimate http://www.programmableweb.com/api/aadhaar-uidai-authentication
 http://www.programmableweb.com/api/aalto-social-interface http://www.programmableweb.com/api/aalto-university http://www.programmableweb.com/api/aashe-stars
 http://www.programmableweb.com/api/abbreviations http://www.programmableweb.com/api/ably http://www.programmableweb.com/api/about.me
 http://www.programmableweb.com/api/abra-mobile-websites http://www.programmableweb.com/api/academic-benchmarks http://www.programmableweb.com/api/access-taiwan
 http://www.programmableweb.com/api/accountingsuite http://www.programmableweb.com/api/accthub http://www.programmableweb.com/api/accumulus
 http://www.programmableweb.com/api/achecker http://www.programmableweb.com/api/achievement-standards-network http://www.programmableweb.com/api/achta-sepa
 http://www.programmableweb.com/api/acoustid http://www.programmableweb.com/api/acquia-cloud http://www.programmableweb.com/api/acromine
 http://www.programmableweb.com/api/acrostic.me-trending http://www.programmableweb.com/api/actblue http://www.programmableweb.com/api/actionkit
 http://www.programmableweb.com/api/active http://www.programmableweb.com/api/active.com http://www.programmableweb.com/api/active.com-camping
 http://www.programmableweb.com/api/activebuilding http://www.programmableweb.com/api/activecampaign http://www.programmableweb.com/api/activerenderer

2. Based on criteria : category

```
BasicDBObject field = new BasicDBObject();
    field.put("category", java.util.regex.Pattern.compile(values,
Pattern.CASE_INSENSITIVE));

    DBCollection collection = db.getCollection("apiData");
    DBCursor cursor = collection.find(field);

    while (cursor.hasNext()) {

        System.out.println(result.add((String) cursor.next().get("id")));

    }
```

Result is an arraylist of strings that are api ids that are retrieved based on the input given by the user.

← → ↻ 🏠 http://localhost:8089/PA3/Application.jsp

WEBSERVICES PROGRAMMING ASSIGNMENT 3

SEARCH APIs/MASHUPS:

Select:

Search by keywords or criteria

- ☐ Keywords
- ☐ Updated year
- ☐ Protocols
- ☒ Category
- ☐ Tags
- ☐ Used Apis
- ☐ Rating

Enter value:

The user selects to retrieve apis. Selects criteria “category”. And enters the value of protocol as “Science”.

The output of the above query is given below. The screenshot displays a few of them.

Application.jsp MyServlet.java Parser.java http://localhost:8089/PA3/MyServlet?apiOrMashup=api&criteria=category&ratingOptions=equalTo&value=Science

http://localhost:8089/PA3/MyServlet?apiOrMashup=api&criteria=category&ratingOptions=equalTo&value=Science

<http://www.programmableweb.com/api/the-global-proteome-machine> <http://www.programmableweb.com/api/23andme>
<http://www.programmableweb.com/api/aginfra> <http://www.programmableweb.com/api/ailun> <http://www.programmableweb.com/api/alaska-satellite-facility> <http://www.programmableweb.com/api/alter-reflective> <http://www.programmableweb.com/api/amee>
<http://www.programmableweb.com/api/annotqtl> <http://www.programmableweb.com/api/antweb> <http://www.programmableweb.com/api/archimedes-project-donatus> <http://www.programmableweb.com/api/arne-elofssons-embrace> <http://www.programmableweb.com/api/asterank>
<http://www.programmableweb.com/api/asterank-kepler-project> <http://www.programmableweb.com/api/asterank-minor-planet-center> <http://www.programmableweb.com/api/asterank-skymorph-neat> <http://www.programmableweb.com/api/astro-physics.com-ephemeris>
<http://www.programmableweb.com/api/astronomy> <http://www.programmableweb.com/api/australian-synchrotron> <http://www.programmableweb.com/api/bigworlddata-ndwi> <http://www.programmableweb.com/api/biobase>
<http://www.programmableweb.com/api/biobricks-public-agreement> <http://www.programmableweb.com/api/biocyc> <http://www.programmableweb.com/api/biodb-hyperlink-management-system> <http://www.programmableweb.com/api/biodigital-human>
<http://www.programmableweb.com/api/biodiversity-heritage-library> <http://www.programmableweb.com/api/biodom> <http://www.programmableweb.com/api/biofab-data-access> <http://www.programmableweb.com/api/biogrid> <http://www.programmableweb.com/api/biolit>
<http://www.programmableweb.com/api/biologicalnetworks> <http://www.programmableweb.com/api/biomart> <http://www.programmableweb.com/api/biomortar> <http://www.programmableweb.com/api/biosafety-clearing-house>
<http://www.programmableweb.com/api/biotea> <http://www.programmableweb.com/api/bodc-nerc-vocabulary-server> <http://www.programmableweb.com/api/cancer-bioinformatics-infrastructure-objects> <http://www.programmableweb.com/api/caspur>
<http://www.programmableweb.com/api/cbio-cancer-genomics-data-server-cgds> <http://www.programmableweb.com/api/cbrc-mafft> <http://www.programmableweb.com/api/cellbase> <http://www.programmableweb.com/api/center-for-biological-sequence-analysis>
<http://www.programmableweb.com/api/chebi> <http://www.programmableweb.com/api/chembl> <http://www.programmableweb.com/api/chemgps> <http://www.programmableweb.com/api/chemical-identifier-resolver> <http://www.programmableweb.com/api/chemspider>
<http://www.programmableweb.com/api/chemspider-inchi-resolver> <http://www.programmableweb.com/api/chroma> <http://www.programmableweb.com/api/cicc-gnova> <http://www.programmableweb.com/api/cipf-renato> <http://www.programmableweb.com/api/cloudbrok>
<http://www.programmableweb.com/api/co-ops> <http://www.programmableweb.com/api/co2-benchmark> <http://www.programmableweb.com/api/cocoa> <http://www.programmableweb.com/api/coils-predict-protein-coiled-coil-regions> <http://www.programmableweb.com/api/consensuspathdb>
<http://www.programmableweb.com/api/conservation-scorer> <http://www.programmableweb.com/api/coolclimate-calculator> <http://www.programmableweb.com/api/copasiws> <http://www.programmableweb.com/api/copub> <http://www.programmableweb.com/api/cornell-ebird>
<http://www.programmableweb.com/api/crop-ontology> <http://www.programmableweb.com/api/csanbii-biocomplexity-thesaurus>

3. Based on Rating

- Less than a value

```
BasicDBObject query = new BasicDBObject();
    query.put("rating", new BasicDBObject("$lt", rating));
    DBCollection collection = db.getCollection("apiData");
    DBCursor cursor = collection.find(query);

    while (cursor.hasNext()) {
        System.out.println(result.add((String)
cursor.next().get("id")));
    }
```



WEBSERVICES PROGRAMMING ASSIGNMENT 3

SEARCH APIs/MASHUPS:

Select:

Search by keywords or criteria

☐ Keywords

☐ Updated year

☐ Protocols

☐ Category

☐ Tags

☐ Used Apis

☒ Rating

Enter value:

The user selects to retrieve apis. Selects criteria "Rating" → Less than. And enters the value of 2.3.

The output of the above query is given below. The screenshot displays a few of them.



- **Equal To**

```
field.put("rating", rating);
DBCollection collection = db.getCollection("apiData");
DBCursor cursor = collection.find(field);

while (cursor.hasNext()) {
    System.out.println(result.add((String)
        cursor.next().get("id")));
}
```

WEBSERVICES PROGRAMMING ASSIGNMENT 3

SEARCH APIs/MASHUPS:

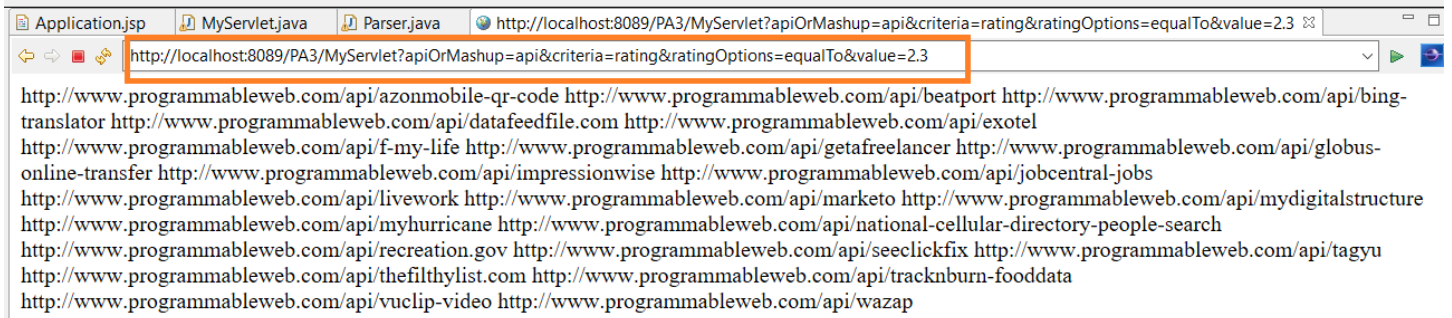
Select: Apis

Search by keywords or criteria

- ☐ Keywords
- ☐ Updated year
- ☐ Protocols
- ☐ Category
- ☐ Tags
- ☐ Used Apis
- ☒ Rating Equal To

Enter value:

This gives the following output.



Based on criteria : tags

SEARCH APIs/MASHUPS:

Select:

Search by keywords or criteria

- ☐ Keywords
- ☐ Updated year
- ☐ Protocols
- ☐ Category
- ☒ Tags
- ☐ Used Apis
- ☐ Rating

Enter value:

Application.jsp MyServlet.java Parser.java http://localhost:8089/PA3/MyServlet?apiOrMashup=api&criteria=tags&ratingOptions=equalTo&value=sms

http://localhost:8089/PA3/MyServlet?apiOrMashup=api&criteria=tags&ratingOptions=equalTo&value=sms

<http://www.programmableweb.com/api/blue> <http://www.programmableweb.com/api/123cloud-sms-broadcasting>
<http://www.programmableweb.com/api/2-waysms> <http://www.programmableweb.com/api/24x7sms> <http://www.programmableweb.com/api/2sms>
<http://www.programmableweb.com/api/360-technologies-bulk-sms> <http://www.programmableweb.com/api/360text>
<http://www.programmableweb.com/api/3jam> <http://www.programmableweb.com/api/411sync> <http://www.programmableweb.com/api/46elks>
<http://www.programmableweb.com/api/5centsms> <http://www.programmableweb.com/api/5star-sms> <http://www.programmableweb.com/api/9jasms>
<http://www.programmableweb.com/api/aalto-social-interface> <http://www.programmableweb.com/api/abctext.com>
<http://www.programmableweb.com/api/ablesms> <http://www.programmableweb.com/api/abttxt> <http://www.programmableweb.com/api/aerapay>
<http://www.programmableweb.com/api/africas-talking> <http://www.programmableweb.com/api/agendize-action>
<http://www.programmableweb.com/api/agendize-analytics> <http://www.programmableweb.com/api/agendize-developers>
<http://www.programmableweb.com/api/agendize-platform> <http://www.programmableweb.com/api/alertgrid>
<http://www.programmableweb.com/api/alertrocket> <http://www.programmableweb.com/api/amazon-sns> <http://www.programmableweb.com/api/anchor-sms-customer-management> <http://www.programmableweb.com/api/api4sms.net> <http://www.programmableweb.com/api/aql>
<http://www.programmableweb.com/api/aspsms> <http://www.programmableweb.com/api/att-call-management> <http://www.programmableweb.com/api/att-in-app-messaging> <http://www.programmableweb.com/api/att-mms> <http://www.programmableweb.com/api/att-sms>
<http://www.programmableweb.com/api/avetio-sms> <http://www.programmableweb.com/api/avidmobile> <http://www.programmableweb.com/api/bahrain-center-sms> <http://www.programmableweb.com/api/beepsend> <http://www.programmableweb.com/api/betwext-broadcast>
<http://www.programmableweb.com/api/betwext-remind> <http://www.programmableweb.com/api/bittarget> <http://www.programmableweb.com/api/bluevia-sms> <http://www.programmableweb.com/api/bongo-live> <http://www.programmableweb.com/api/bt-web21c> <http://www.programmableweb.com/api/bttexty>
<http://www.programmableweb.com/api/budgetsms.net> <http://www.programmableweb.com/api/bulksms>
<http://www.programmableweb.com/api/bulksmsvilla> <http://www.programmableweb.com/api/bulletin-connect>
<http://www.programmableweb.com/api/bulletin-messenger> <http://www.programmableweb.com/api/burst-sms>
<http://www.programmableweb.com/api/bytehand> <http://www.programmableweb.com/api/call-loop> <http://www.programmableweb.com/api/callme-click-to-call> <http://www.programmableweb.com/api/campuscash-mobile> <http://www.programmableweb.com/api/candoo-sms>
<http://www.programmableweb.com/api/cdyne-sms-notify> <http://www.programmableweb.com/api/cellcom-smsgate>

Based on Keywords: api

WEBSERVICES PROGRAMMING ASSIGNMENT 3

SEARCH APIs/MASHUPS:

Select:

Search by keywords or criteria

- ☒ Keywords
- ☐ Updated year
- ☐ Protocols
- ☐ Category
- ☐ Tags
- ☐ Used Apis
- ☐ Rating

Enter value:

Submit

Application.jsp MyServlet.java Parser.java http://localhost:8089/PA3/MyServlet?apiOrMashup=api&criteria=keywords&ratingOptions=equalTo&value=Global...

http://localhost:8089/PA3/MyServlet?apiOrMashup=api&criteria=keywords&ratingOptions=equalTo&value=Global%2C+Machine

<http://www.programmableweb.com/api/the-global-proteome-machine> <http://www.programmableweb.com/api/factual>
<http://www.programmableweb.com/api/pathway-commons> <http://www.programmableweb.com/api/sdl-beglobal>

To retrieve Mashups

Based on criteria

1. Year updated

http://localhost:8089/PA3/Application.jsp

WEBSERVICES PROGRAMMING ASSIGNMENT 3

SEARCH APIs/MASHUPS:

Select: Mashups

Search by keywords or criteria

- ☐ Keywords
- ☒ Updated year
- ☐ Protocols
- ☐ Category
- ☐ Tags
- ☐ Used Apis
- ☐ Rating Equal To

Enter value:

Application.jsp MyServlet.java Parser.java http://localhost:8089/PA3/MyServlet?apiOrMashup=mashup&criteria=year&ratingOptions=equalTo&value=2009

http://localhost:8089/PA3/MyServlet?apiOrMashup=mashup&criteria=year&ratingOptions=equalTo&value=2009

<http://www.programmableweb.com/mashup/compare-prices.info> <http://www.programmableweb.com/mashup/haiku>
<http://www.programmableweb.com/mashup/10-camera> <http://www.programmableweb.com/mashup/1000-songs>
<http://www.programmableweb.com/mashup/140blood-twitter-adventure> <http://www.programmableweb.com/mashup/1click2destiny>
<http://www.programmableweb.com/mashup/2009-formula-one-map> <http://www.programmableweb.com/mashup/250-wedding-tent-venues>
<http://www.programmableweb.com/mashup/3d-map-for-hong-kong> <http://www.programmableweb.com/mashup/4-in-1-search>
<http://www.programmableweb.com/mashup/5000-webcams> <http://www.programmableweb.com/mashup/a-walk-through-the-word>
<http://www.programmableweb.com/mashup/academic-site-navigaiton> <http://www.programmableweb.com/mashup/acres-preserves-map>
<http://www.programmableweb.com/mashup/adoodles> <http://www.programmableweb.com/mashup/adult-or-not>
<http://www.programmableweb.com/mashup/africa-bespoke> <http://www.programmableweb.com/mashup/africa-in-style-by-trek-holidays>
<http://www.programmableweb.com/mashup/africa-tourism-information-portal> <http://www.programmableweb.com/mashup/again-but-slower>
<http://www.programmableweb.com/mashup/age-directory> <http://www.programmableweb.com/mashup/ageanalyzer>
<http://www.programmableweb.com/mashup/agenzy.com> <http://www.programmableweb.com/mashup/aircn-flight-simulate-map>
<http://www.programmableweb.com/mashup/airplane-specifications-photos-and-videos> <http://www.programmableweb.com/mashup/airport-hotels>
<http://www.programmableweb.com/mashup/aj-feeds> <http://www.programmableweb.com/mashup/album-cover-art>
<http://www.programmableweb.com/mashup/alem.com> <http://www.programmableweb.com/mashup/all-in-one-dashboard-widget-for-salesforce.com>
<http://www.programmableweb.com/mashup/allautosites> <http://www.programmableweb.com/mashup/allofcraigs>
<http://www.programmableweb.com/mashup/allogarage> <http://www.programmableweb.com/mashup/alpharetta-home>
<http://www.programmableweb.com/mashup/alt-what-now> <http://www.programmableweb.com/mashup/amazanian>
<http://www.programmableweb.com/mashup/amazite-citation-history> <http://www.programmableweb.com/mashup/amplified-documents>
<http://www.programmableweb.com/mashup/antenna> <http://www.programmableweb.com/mashup/anyvite>
<http://www.programmableweb.com/mashup/appature-onkey> <http://www.programmableweb.com/mashup/apple-retail-store-map>
<http://www.programmableweb.com/mashup/arsights> <http://www.programmableweb.com/mashup/artist-cloud-igoogle-gadget>
<http://www.programmableweb.com/mashup/artist-explorer> <http://www.programmableweb.com/mashup/atunes>
<http://www.programmableweb.com/mashup/auction-reminder> <http://www.programmableweb.com/mashup/auctiva-ebay-gadget>
<http://www.programmableweb.com/mashup/austin-property-search> <http://www.programmableweb.com/mashup/austin-search-for-local-businesses>
<http://www.programmableweb.com/mashup/australian-postcode-finder> <http://www.programmableweb.com/mashup/avatar-photo>

2. Criteria: tags

http://localhost:8089/PA3/Application.jsp

WEBSERVICES PROGRAMMING ASSIGNMENT 3

SEARCH APIs/MASHUPS:

Select: Mashups ▾

Search by keywords or criteria

- ☐ Keywords
- ☐ Updated year
- ☐ Protocols
- ☐ Category
- ☒ Tags
- ☐ Used Apis
- ☐ Rating

Enter value:

Application.jsp MyServlet.java Parser.java http://localhost:8089/PA3/MyServlet?apiOrMashup=mashup&criteria=tags&ratingOptions=equalTo&value=eBay

http://localhost:8089/PA3/MyServlet?apiOrMashup=mashup&criteria=tags&ratingOptions=equalTo&value=eBay

<http://www.programmableweb.com/mashup/compare-prices.info> <http://www.programmableweb.com/mashup/auctions-closing-soon.com>
<http://www.programmableweb.com/mashup/auctionsound> <http://www.programmableweb.com/mashup/ebay-mapper>
<http://www.programmableweb.com/mashup/eccommsource-by-cloud-conversion> <http://www.programmableweb.com/mashup/lot-near-you>
<http://www.programmableweb.com/mashup/q-compare> <http://www.programmableweb.com/mashup/storeminator>
<http://www.programmableweb.com/mashup/storeslider-deutschland> <http://www.programmableweb.com/mashup/wipbox>
<http://www.programmableweb.com/mashup/zeeqa>

3. Keywords: mashups

WEBSERVICES PROGRAMMING ASSIGNMENT 3

SEARCH APIs/MASHUPS:

Select: Mashups ▾

Search by keywords or criteria

- ☒ Keywords
☐ Updated year
☐ Protocols
☐ Category
☐ Tags
☐ Used Apis
☐ Rating Equal To ▾

Enter value: Compare, Prices

Submit

<http://www.programmableweb.com/mashup/smartinsurance> <http://www.programmableweb.com/mashup/ticketobserver>
<http://www.programmableweb.com/mashup/compare-prices-discount-malin.com> <http://www.programmableweb.com/mashup/compare-hotel-prices>
<http://www.programmableweb.com/mashup/compare-zilla-shopping-service> <http://www.programmableweb.com/mashup/price-compare-by-phone>
<http://www.programmableweb.com/mashup/compare-hospitals> <http://www.programmableweb.com/mashup/the-hemp-cloud>
<http://www.programmableweb.com/mashup/bestparking-parking-finder> <http://www.programmableweb.com/mashup/shopbib-shop-and-compare-online>
<http://www.programmableweb.com/mashup/priceheat> <http://www.programmableweb.com/mashup/mattcompare.com>
<http://www.programmableweb.com/mashup/priceworx> <http://www.programmableweb.com/mashup/mobsaver>
<http://www.programmableweb.com/mashup/lcd-tv-price-comparison> <http://www.programmableweb.com/mashup/cheap-flights-to>
<http://www.programmableweb.com/mashup/electroniche.com> <http://www.programmableweb.com/mashup/ebaymap>
<http://www.programmableweb.com/mashup/xhotels.net> <http://www.programmableweb.com/mashup/directrooms>
<http://www.programmableweb.com/mashup/askshoppy.com> <http://www.programmableweb.com/mashup/books-price>
<http://www.programmableweb.com/mashup/shopping-complex-online> <http://www.programmableweb.com/mashup/costwalk>
<http://www.programmableweb.com/mashup/correlates.com> <http://www.programmableweb.com/mashup/mobile-pharma-search>
<http://www.programmableweb.com/mashup/routercomp> <http://www.programmableweb.com/mashup/sumavisos-clasificados>
<http://www.programmableweb.com/mashup/avi-geeks> <http://www.programmableweb.com/mashup/frucall>
<http://www.programmableweb.com/mashup/amazon-for-igoogle> <http://www.programmableweb.com/mashup/gifts-ideas-search>
<http://www.programmableweb.com/mashup/q-compare> <http://www.programmableweb.com/mashup/compare-sat-nav>
<http://www.programmableweb.com/mashup/compare-prices.info>

Based on criteria: APIs

WEBSERVICES PROGRAMMING ASSIGNMENT 3

SEARCH APIs/MASHUPS:

Select: Mashups ▾

Search by keywords or criteria

- ☐ Keywords
- ☐ Updated year
- ☐ Protocols
- ☐ Category
- ☐ Tags
- ☒ Used Apis
- ☐ Rating

Enter value:

Submit

http://localhost:8089/PA3/MyServlet?apiOrMashup=mashup&criteria=usedApis&ratingOptions=equalTo&value=Shopzilla

<http://www.programmableweb.com/mashup/compare-prices.info> <http://www.programmableweb.com/mashup/allinonemart>
<http://www.programmableweb.com/mashup/best-buys> <http://www.programmableweb.com/mashup/buyilar>
<http://www.programmableweb.com/mashup/cheapboots.net> <http://www.programmableweb.com/mashup/combyo>
<http://www.programmableweb.com/mashup/compare-prices-discount-malin.com> <http://www.programmableweb.com/mashup/dealsauce>
<http://www.programmableweb.com/mashup/edrool-bargain-finder> <http://www.programmableweb.com/mashup/electroniche.com>
<http://www.programmableweb.com/mashup/elocalfinder> <http://www.programmableweb.com/mashup/halter-top>
<http://www.programmableweb.com/mashup/hawkee-technology-network> <http://www.programmableweb.com/mashup/mattcompare.com>
<http://www.programmableweb.com/mashup/mpp3.info> <http://www.programmableweb.com/mashup/onesource-online-mall>
<http://www.programmableweb.com/mashup/popwatchers> <http://www.programmableweb.com/mashup/price-comparison-shopping-2>
<http://www.programmableweb.com/mashup/saveonatoz.com> <http://www.programmableweb.com/mashup/shophilialia>
<http://www.programmableweb.com/mashup/shopnics-visual-comparison> <http://www.programmableweb.com/mashup/shoppingbounce>
<http://www.programmableweb.com/mashup/taffly.com> <http://www.programmableweb.com/mashup/the-hemp-cloud>
<http://www.programmableweb.com/mashup/valuepia> <http://www.programmableweb.com/mashup/valuezilla-shopping-service>
<http://www.programmableweb.com/mashup/woya-shopping>