SSDB

Table of Contents

Introduction

SSDB (System Software Database) is an ANSI SQL-to-NoSQL service over HBase, delivered as web portal, RESTful API and a JDBC driver. SSDB targets at 100% ANSI SQL compatibility, multi-tenancy, transaction, hybrid architecture and better performance.

SSDB provides a web portal, RESTful APIs and a JDBC driver to access data. To use service of SSDB, please register on the UniCloud portal. (http://www.unicloud.org.tw)

Web Portal

The address of SSDB portal is http://ssdb.unicloud.org.tw/

There are four page links on the left hand side after login, they are:

The SSDB portal is shown below.

Please click “Login” on the upper right side and then click “SSID LOGIN” to login with your UniCloud account.

After login, the MAIN MENU shows complete list.

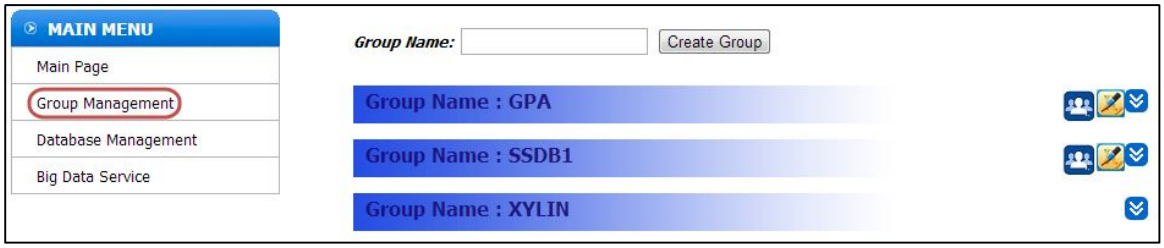
This manual introduces the four pages one by one.

Main Page

Main Page shows general information regarding SSDB and newest member list, e.g. the user "ssbds_demo".

Group Management

Group Management shows the related group of users. There are three groups related to the user in following figure.



Group Management also allows users to:

1.Create group

2. Modify the member list of a group

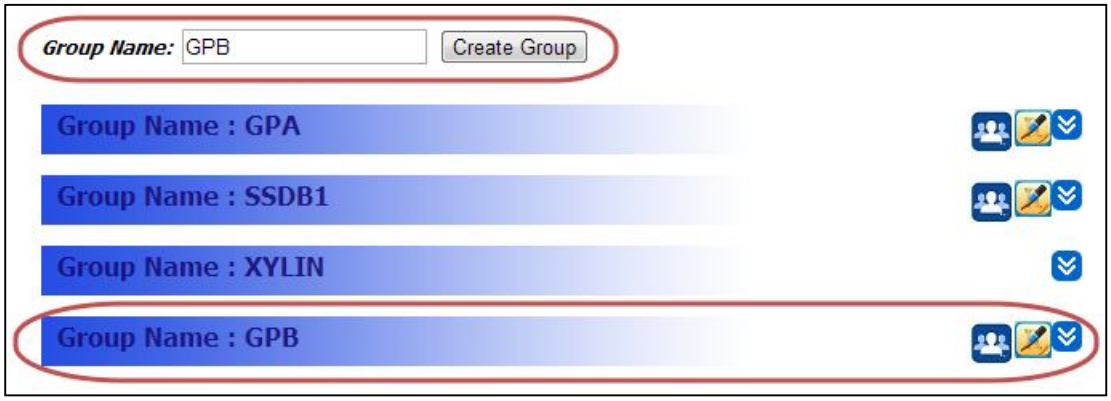
3. Modify the authority of group members to access a table

4.Expand the group block to show members This

manual introduces the functions one by one.

Create group

To create a group, please input the group name and click “Create Group” button.



On the right hand side of each group, there are three icons for different functions.

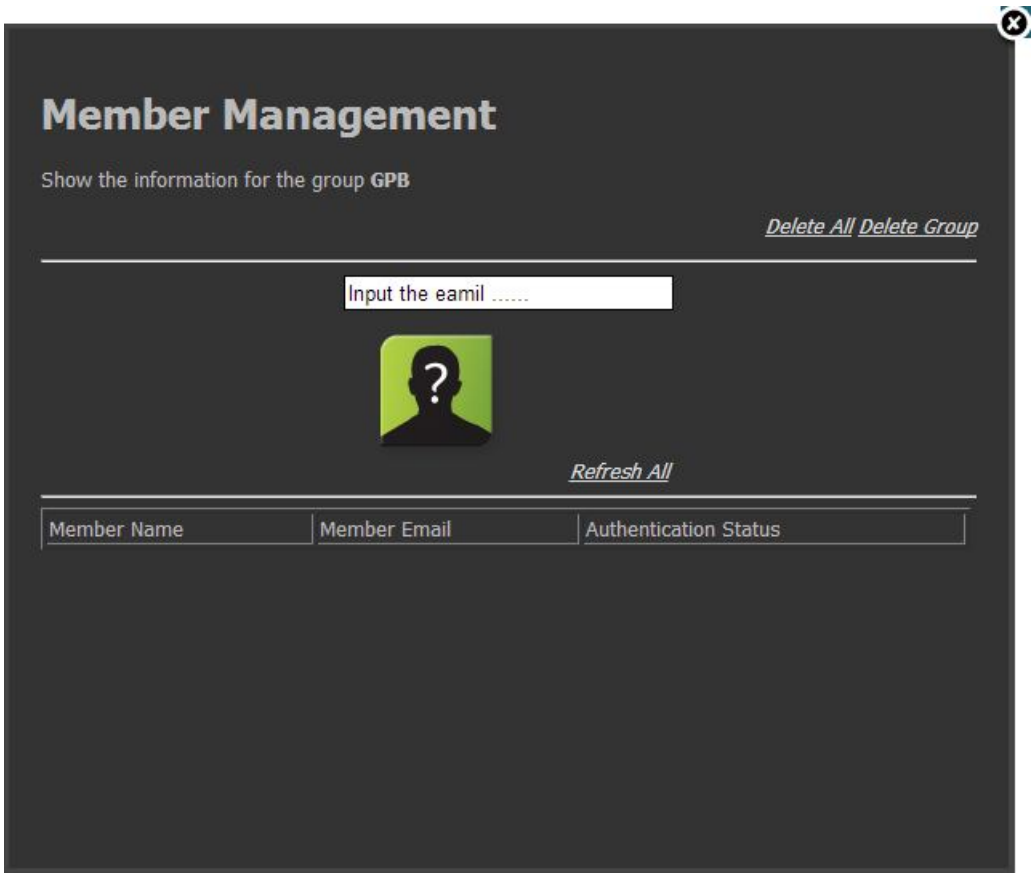
: The icon is for modifying group member list.

: The icon is for modifying authority of group members to tables.

: The icon is for expanding the group block to show the member list.

Modify Group Member List

While clicking the icon of group “GPB”, the window of “Member Management” pops up.

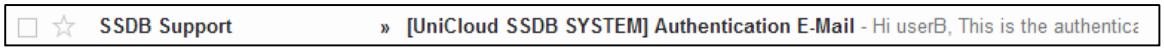


In this window, you can invite user with his/her email, e.g. shcchen@sslab.cs.nthu.edu.tw

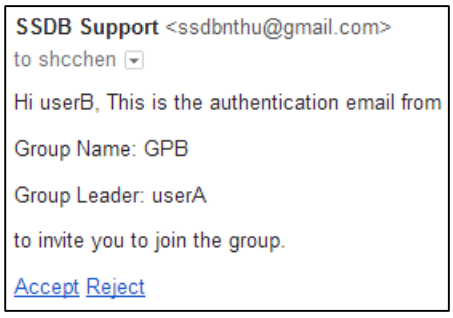
Press Enter key.

After click *Add* and *Refresh All*, the window will be refreshed and shows the status.

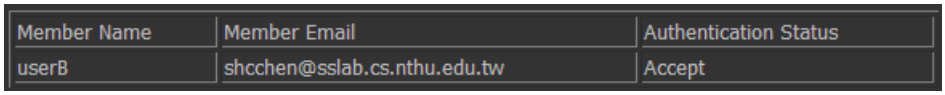
This inviting mechanism will send an invitation letter to the email address (shcchen@sslab.cs.nthu.edu.tw).



It requires the user to click the accept link in the email for joining the group "GPB".

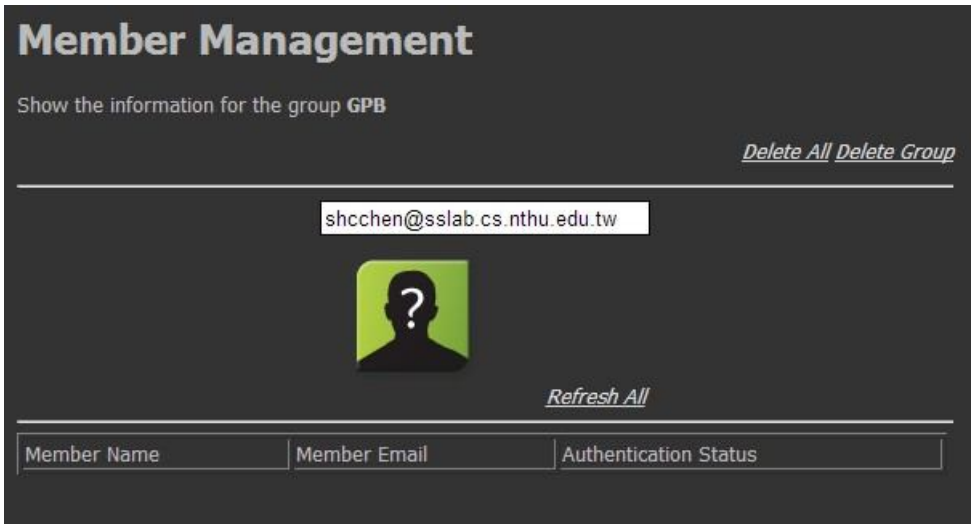


After clicking Accept, the status will be updated.

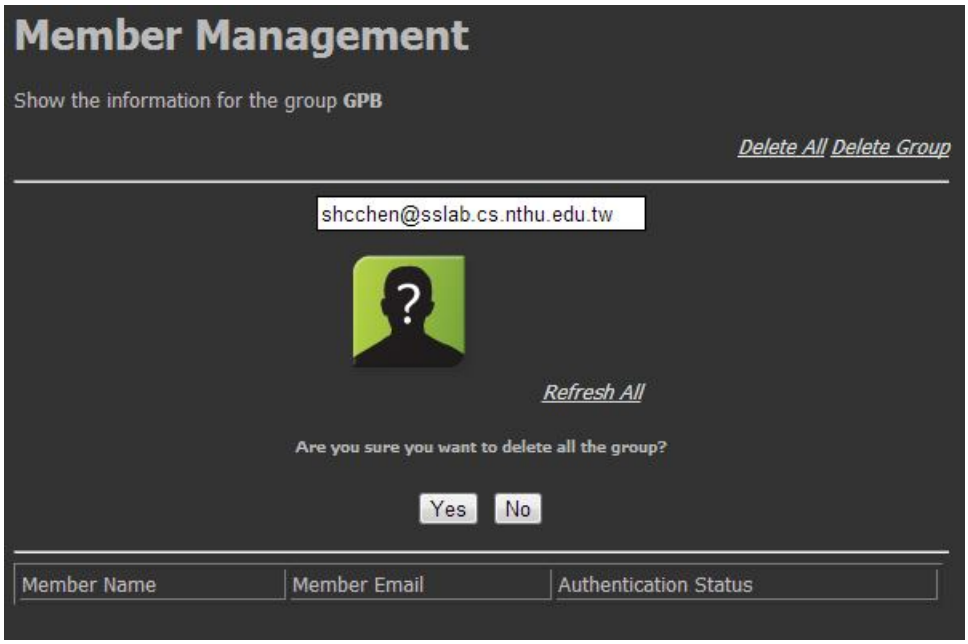


The *Delete All* link is provided to delete all members of GPB.

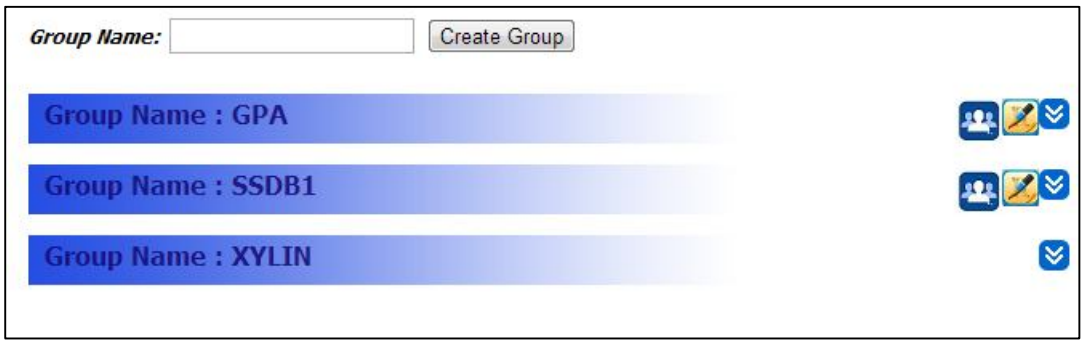
After clicking the "Yes" button on the upper right side, all members of the group "GPB" will be removed.



To remove the group “GPB”, you can click the *Delete Group* link on the upper right side.



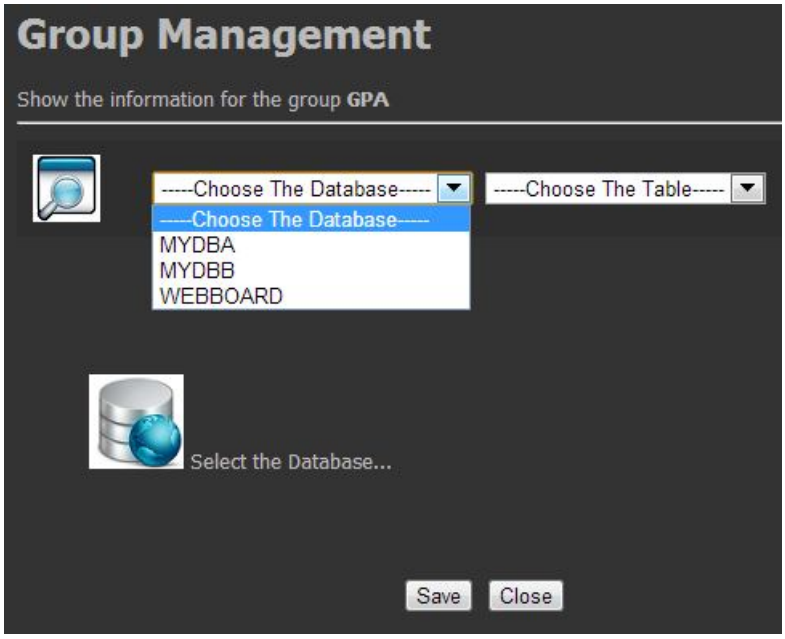
After clicking “Yes”, you will find the group “GPB” is removed.



Modify the Authority of Group Members to Tables

While clicking the icon of group “GPA”, the window of “Group Management” pops up.

Users can select his/her database.



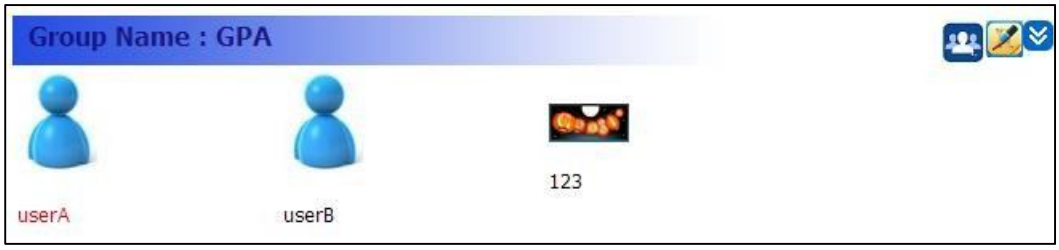
After the database is chosen, users can select a table.

Then users can click checkboxes to modify the authority of the group members to access the table.

Expand the Group Block to Show the Member List

While clicking of each group, the members of this group are shown.

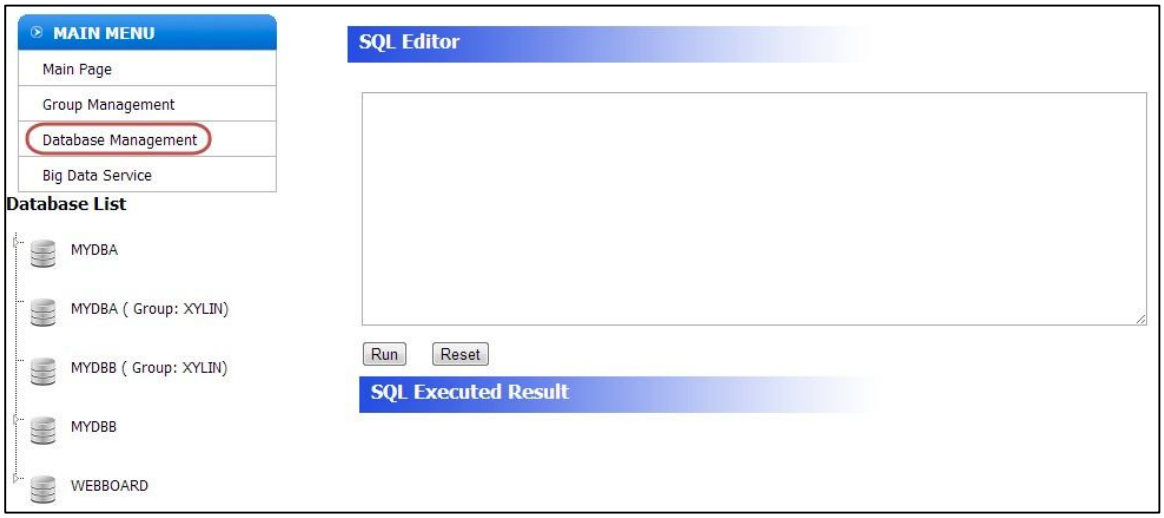
In following figure, the left most member, userA, is the group owner of the group “GPA”.



Database Management

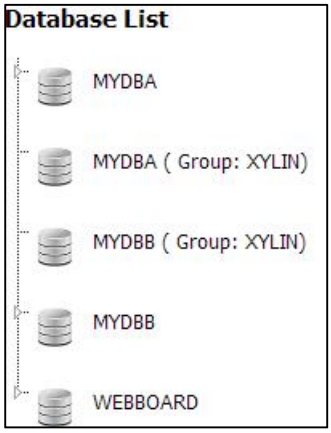
In the database management page, there are three parts to show information and submit SQL query:

1. Database List
2. SQL Editor
3. SQL Executed Result

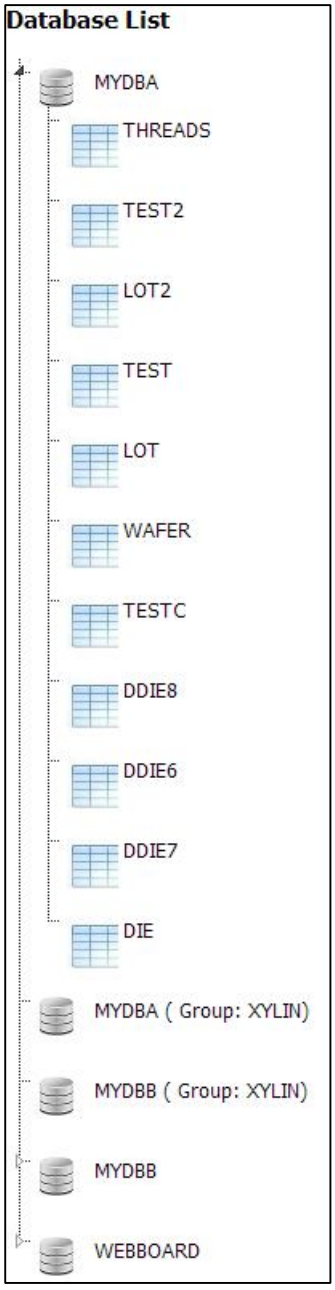


Database List

On the lower left side is the database list.

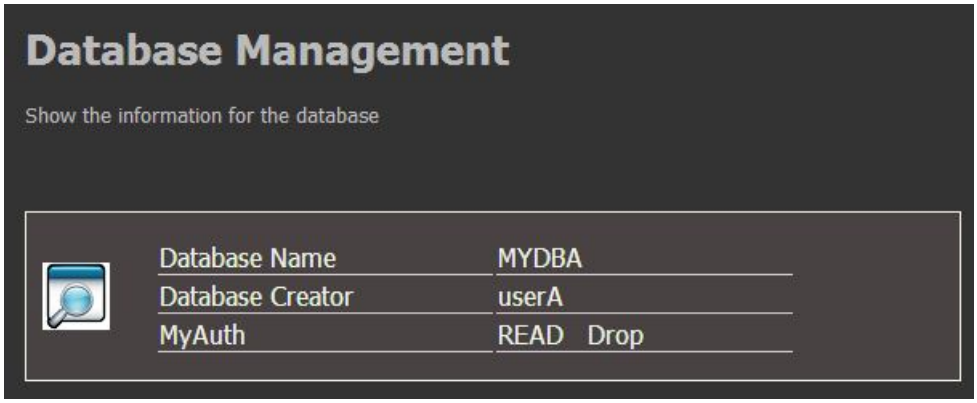


Users can click the icon “ ” beside the database to expand tables of the database.



If users click any database icon like 

, a window will pop up with related information.

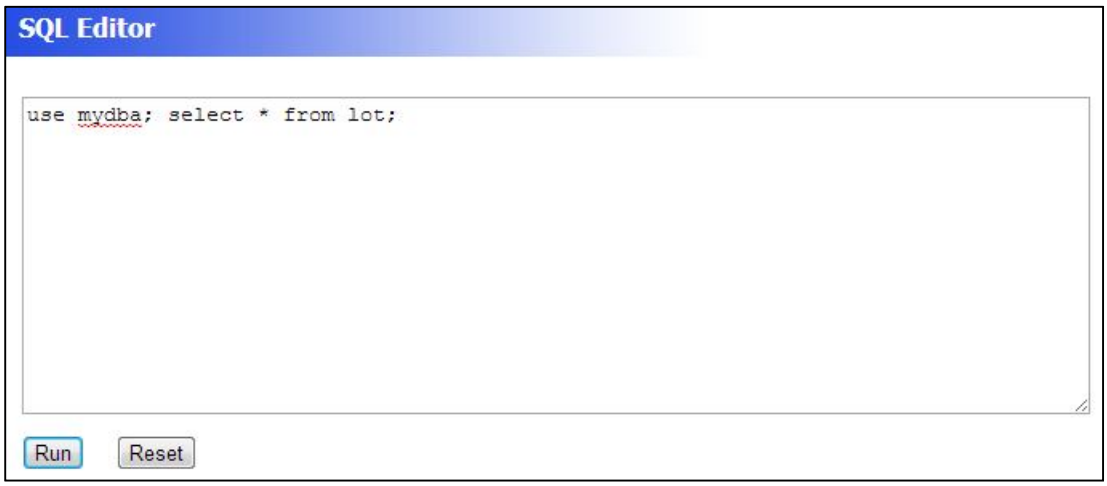


SQL Editor

Users can use “SQL Editor” to submit ANSI SQL query to access data in the back-end.

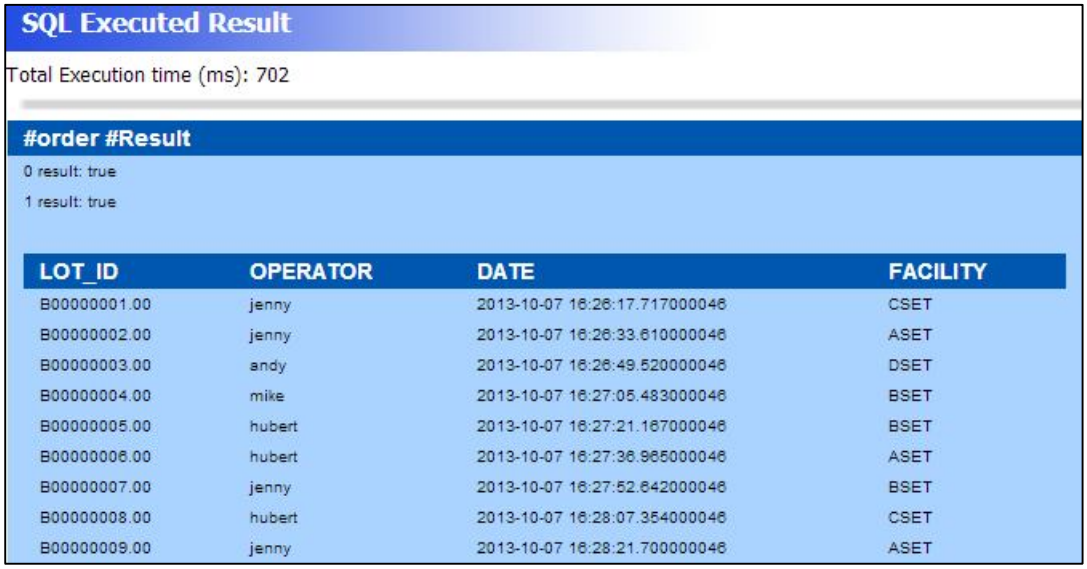
Following example submits the queries:

use mydba; select * from lot;



SQL Executed Result

The SQL Executed Result shows the result of queries submitted in SQL Editor.



SQL Executed Result

Total Execution time (ms): 702

#order #Result

0 result: true

1 result: true

LOT_ID	OPERATOR	DATE	FACILITY
B00000001.00	jenny	2013-10-07 16:26:17.717000046	CSET
B00000002.00	jenny	2013-10-07 16:26:33.610000046	ASET
B00000003.00	andy	2013-10-07 16:26:49.520000046	DSET
B00000004.00	mike	2013-10-07 16:27:05.483000046	BSET
B00000005.00	hubert	2013-10-07 16:27:21.167000046	BSET
B00000006.00	hubert	2013-10-07 16:27:36.965000046	ASET
B00000007.00	jenny	2013-10-07 16:27:52.642000046	BSET
B00000008.00	hubert	2013-10-07 16:28:07.354000046	CSET
B00000009.00	jenny	2013-10-07 16:28:21.700000046	ASET

In the results, there are three parts:

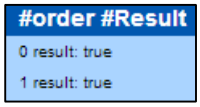
1. The total execution time.
2. Status of each query
3. Results of the query.

The total execution time shows the time of running the queries submitted in SQL Editor.

SQL Executed Result

Total Execution time (ms): 702

In this example, there are two queries. The first query is “user mydba;” and the second query is “select * from lot;”. The status shows “0 result: true” for the first query and “1 result: true” for the second query. If the query is executed successfully, the result is true, otherwise it is false.



#order #Result

0 result: true

1 result: true

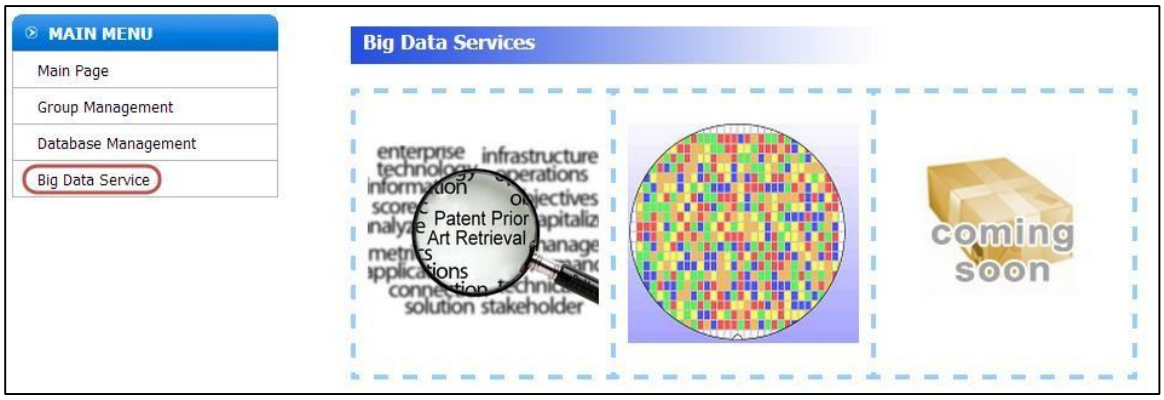
This example shows the result of querying the table “LOT”.

LOT_ID	OPERATOR	DATE	FACILITY
B00000001.00	jenny	2013-10-07 16:26:17.717000046	CSET
B00000002.00	jenny	2013-10-07 16:26:33.610000046	ASET
B00000003.00	andy	2013-10-07 16:26:49.520000046	DSET
B00000004.00	mike	2013-10-07 16:27:05.483000046	BSET
B00000005.00	hubert	2013-10-07 16:27:21.167000046	BSET
B00000006.00	hubert	2013-10-07 16:27:36.965000046	ASET
B00000007.00	jenny	2013-10-07 16:27:52.642000046	BSET
B00000008.00	hubert	2013-10-07 16:28:07.354000046	CSET

Big Data Service

To demonstrate the Hadoop, HBase and SSDB systems, there are two big data services on the portal:

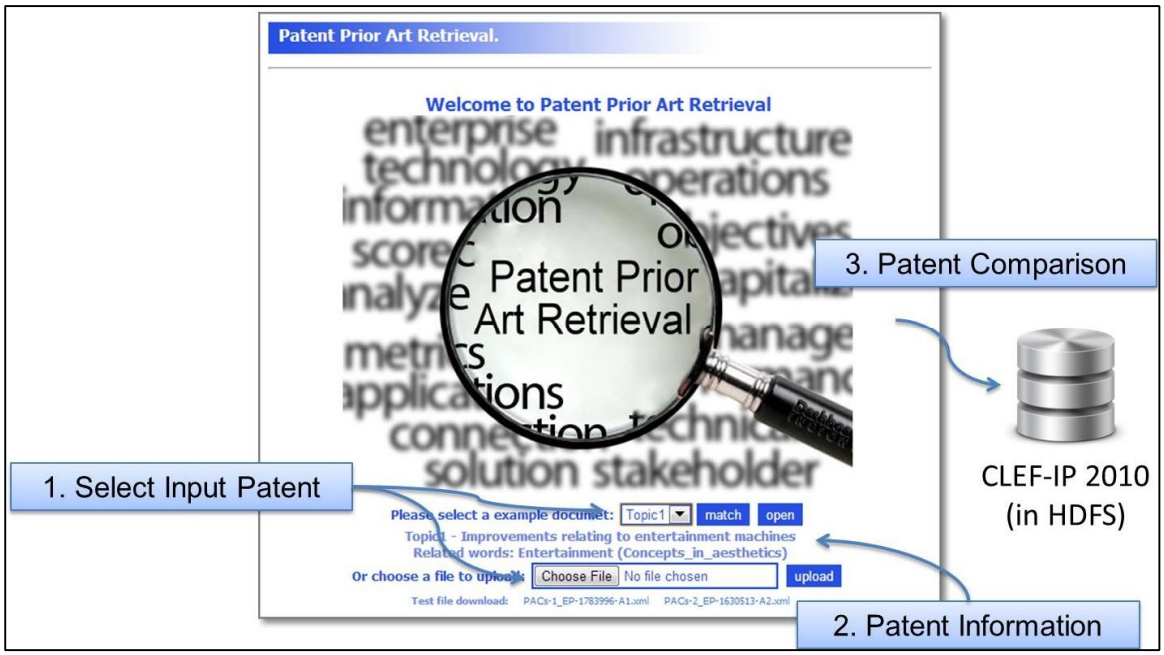
1. Patent Prior Art Retrieval
2. Wafer Map
3. Graph Computing with Weibo Social Network Data (as a Java application)



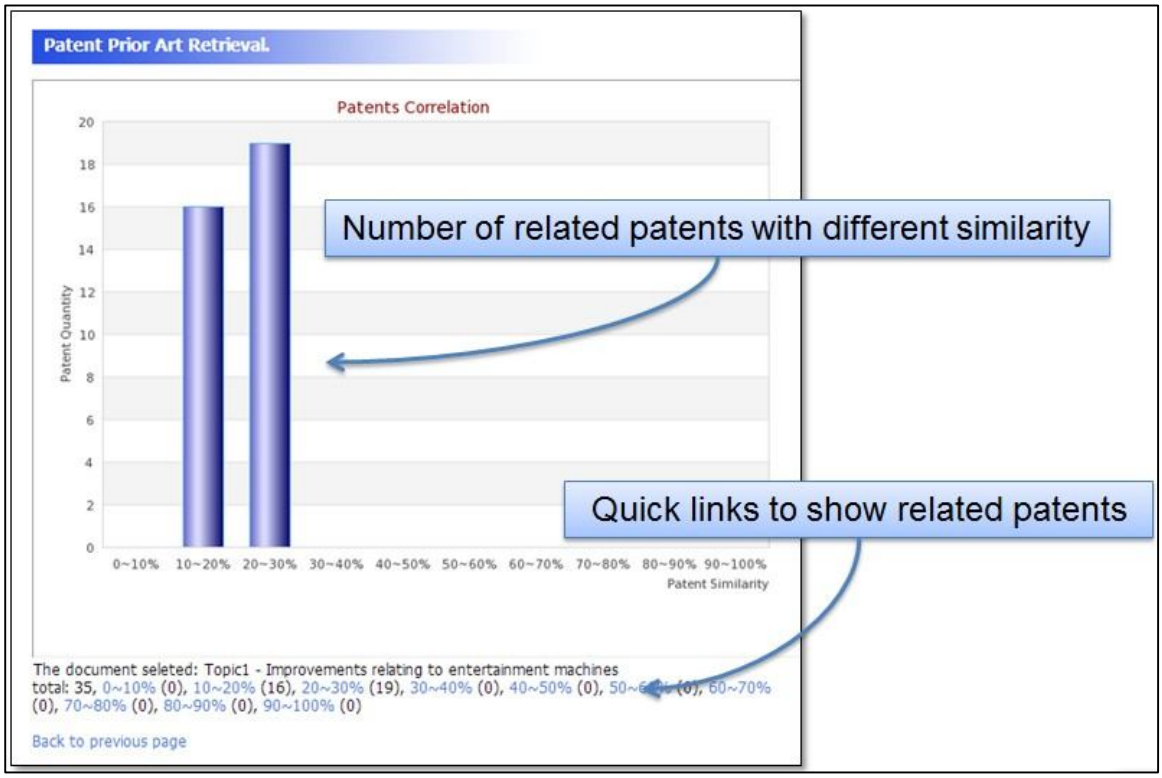
Patent Prior Art Retrieval

Patent Prior Art Retrieval application provides users to find out the similarity of other patents to avoid wasting time to write a patent that is already applied. In our system, there are nearly 400,000 patents of CLEF-IP 2010. While clicking the figure of “Patent Prior Art Retrieval application”, the page to upload/select patent is shown.

Users can upload your patent by the upload function or select a test patent by the dropdown list function. The information of the uploaded or selected patent will be shown and this patent will be compared with patents in the system.



After comparing, a graph is used to show the number of related patents with different similarity.



By click the plots or links with similarity below, the list of related patents will be shown. After clicking the plot with similarity 10~20%, the related patents will be listed.

EP-0300333-A1
Related words:
Plastic (Plastics, Dielectrics)
Wheel (Wheels)

EP-0300343-A2
Related words not found!
Invention title: Active filter unit.

EP-0300349-A1
Related words:
Chain (Mechanical_power_control, Chains)

EP-0300353-A2
Related words:
Manufacturing (Industry)

EP-0300356-A1
Related words not found!
Invention title: 5-Aryl-11-substituted-5H,

EP-0300362-A1
Related words:
Alloy (Metallurgy, Alloys)
Corrosion (Glass_chemistry)
Wear (Materials_degradation, Tribology)

By click the link of EP-0300333-A1, the content of this patent will be shown.

Related words: Plastic (Plastics, Dielectrics) Wheel (Wheels)

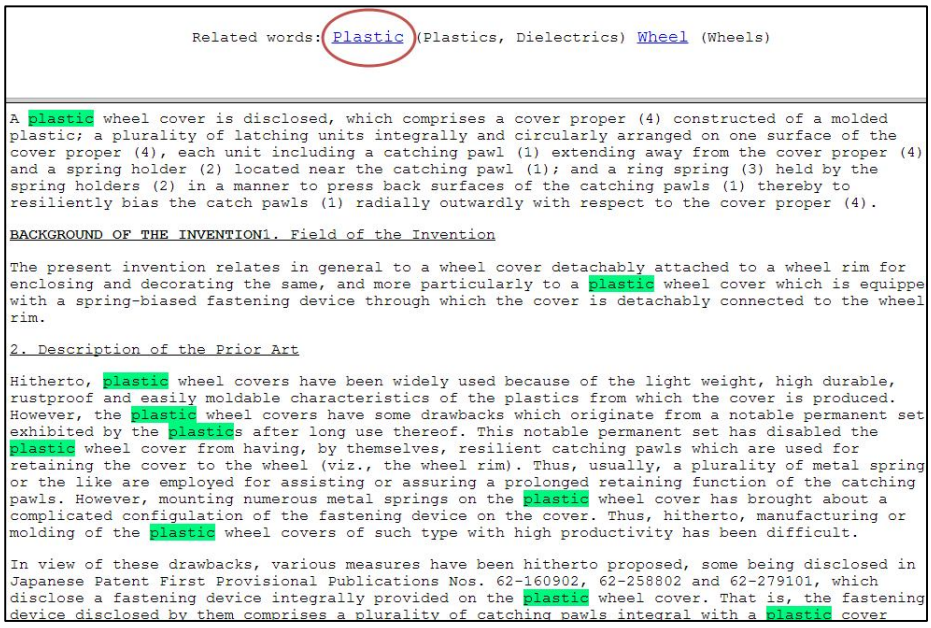
Plastic wheel cover with fastening device.

EP0300333A119890125EP88111150A19880712JP12099087U19870807JP14976987U19870930JP17455387A198707131992
7/00 20060101C I20051008RMEP B60B 7/08 20060101A I20051008RMEP B60B 7/12 20060101A I20051008RMEP
B60B 7/08B60B 7/12Kunststoffradzierblende mit Befestigungsvorrichtung.Plastic wheel cover with
fastening device.Enjoliveur en matière synthétique avec dispositif de
fixation.EP0247330A2EP0255929A2GB2126175AUS4352525AKANTO SEIKI CO
JP
KANTO SEIKI CO., LTD.Kanto Seiki Co., Ltd.
2-1910, Nisshin-choOmiya City Saitama PrefectureJP
IIDA ISSAOIIDA, ISSAOIIDA, ISSAO
c/o Kanto Seiki Co., Ltd. No. 2-1910, Nisshin-choOmiya City Saitama PrefectureJP
Grünecker, Kinkeldey, Stockmair & Schwanhäusser Anwaltssozietät
Maximilianstrasse 5880538 MünchenDE
DEFRGB

A plastic wheel cover is disclosed, which comprises a cover proper (4) constructed of a molded plastic; a plurality of latching units integrally and circularly arranged on one surface of the cover proper (4), each unit including a catching pawl (1) extending away from the cover proper (4) and a spring holder (2) located near the catching pawl (1); and a ring spring (3) held by the spring holders (2) in a manner to press back surfaces of the catching pawls (1) thereby to resiliently bias the catch pawls (1) radially outwardly with respect to the cover proper (4).

BACKGROUND OF THE INVENTION1. Field of the Invention

By click the related word “Plastic”, all “Plastic” in the content will be highlighted for better readability.



Related words: Plastic (Plastics, Dielectrics) Wheel (Wheels)

A plastic wheel cover is disclosed, which comprises a cover proper (4) constructed of a molded plastic; a plurality of latching units integrally and circularly arranged on one surface of the cover proper (4), each unit including a catching pawl (1) extending away from the cover proper (4) and a spring holder (2) located near the catching pawl (1); and a ring spring (3) held by the spring holders (2) in a manner to press back surfaces of the catching pawls (1) thereby to resiliently bias the catch pawls (1) radially outwardly with respect to the cover proper (4).

BACKGROUND OF THE INVENTION1. Field of the Invention

The present invention relates in general to a wheel cover detachably attached to a wheel rim for enclosing and decorating the same, and more particularly to a plastic wheel cover which is equippe with a spring-biased fastening device through which the cover is detachably connected to the wheel rim.

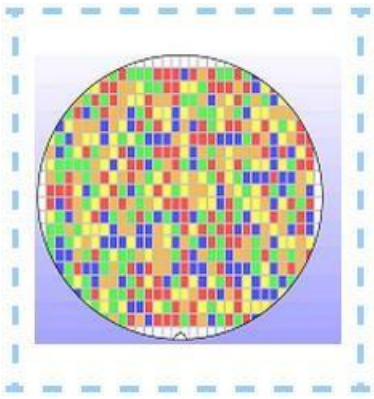
2. Description of the Prior Art

Hitherto, plastic wheel covers have been widely used because of the light weight, high durable, rustproof and easily moldable characteristics of the plastics from which the cover is produced. However, the plastic wheel covers have some drawbacks which originate from a notable permanent set exhibited by the plastics after long use thereof. This notable permanent set has disabled the plastic wheel cover from having, by themselves, resilient catching pawls which are used for retaining the cover to the wheel (viz., the wheel rim). Thus, usually, a plurality of metal spring or the like are employed for assisting or assuring a prolonged retaining function of the catching pawls. However, mounting numerous metal springs on the plastic wheel cover has brought about a complicated configulation of the fastening device on the cover. Thus, hitherto, manufacturing or molding of the plastic wheel covers of such type with high productivity has been difficult.

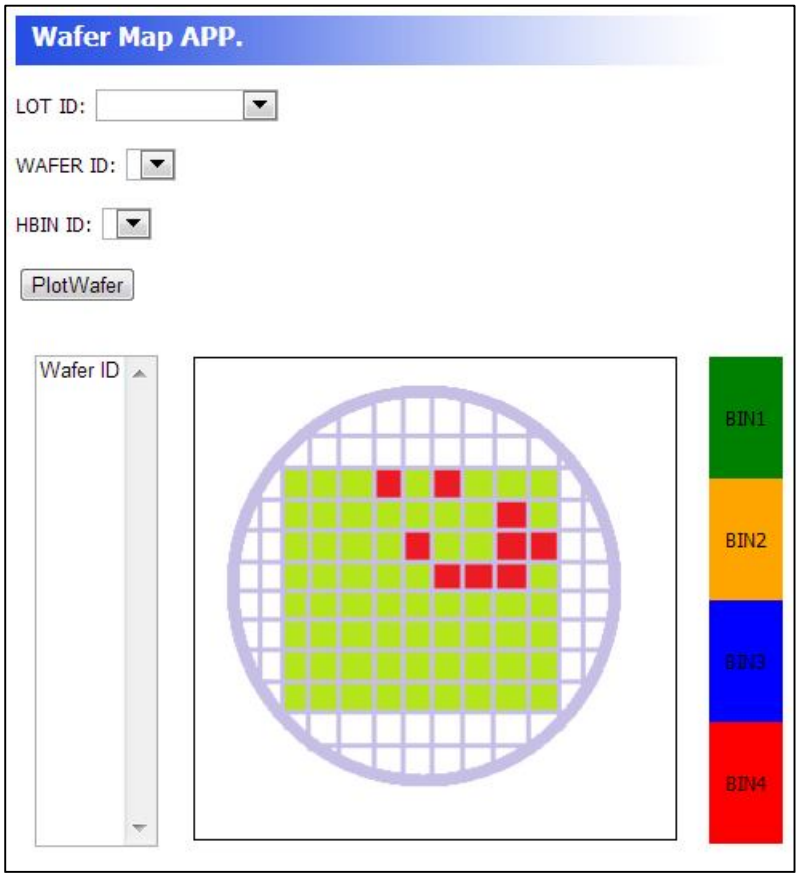
In view of these drawbacks, various measures have been hitherto proposed, some being disclosed in Japanese Patent First Provisional Publications Nos. 62-160902, 62-258802 and 62-279101, which disclose a fastening device integrally provided on the plastic wheel cover. That is, the fastening device disclosed by them comprises a plurality of catching pawls integral with a plastic cover

Wafer Map

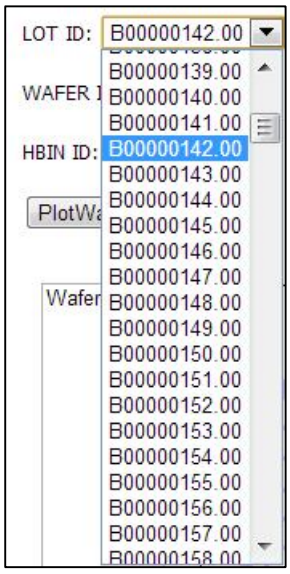
The wafer map application uses SSDB service to query data in HBase. The source data is 1 TB text files and is imported into the HBase in the back-end. Users can click the figure of “Wafer Map application” to use the service.



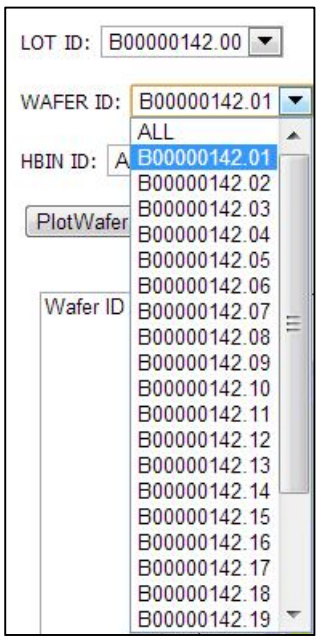
After clicking the figure of “Wafer Map application”, a page with some dropdown lists is show for selecting IDs.



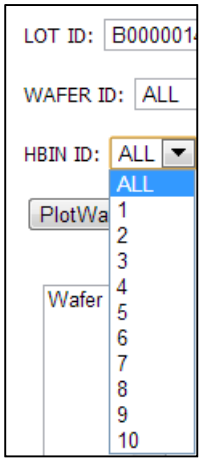
The LOT ID dropdown list lets users select lot id. “B00000142.00” can be selected for testing.



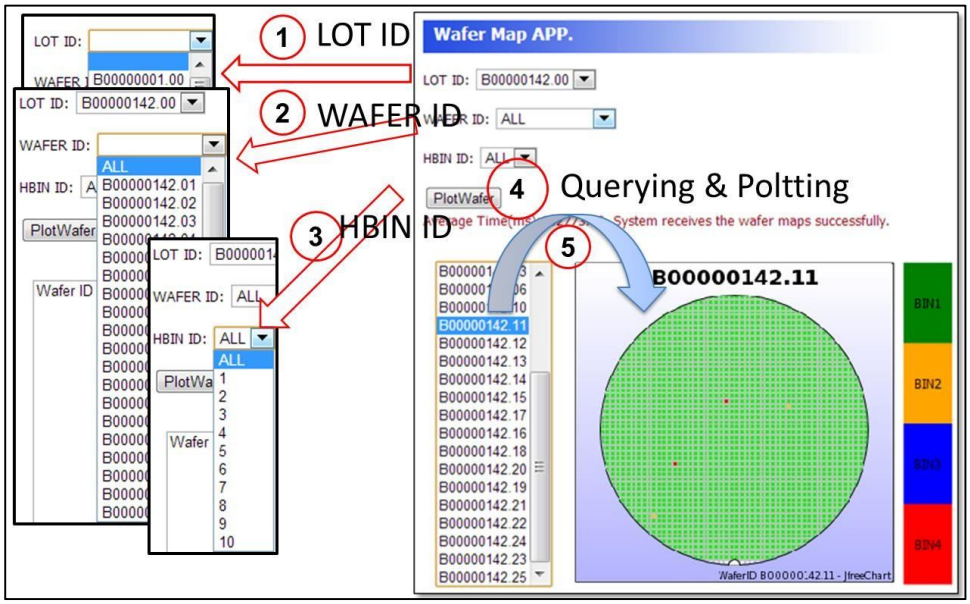
The WAFER ID dropdown list lets users select wafer id. Users can select a wafer id such as “B00000142.01” to see the wafer with id “B00000142.01” or select “ALL” to see 25 wafers of a lot at once.



HBIN ID dropdown list lets users select hbin id to see specific issue represented by different hbin id. Select “ALL” to see all issues of each wafer.

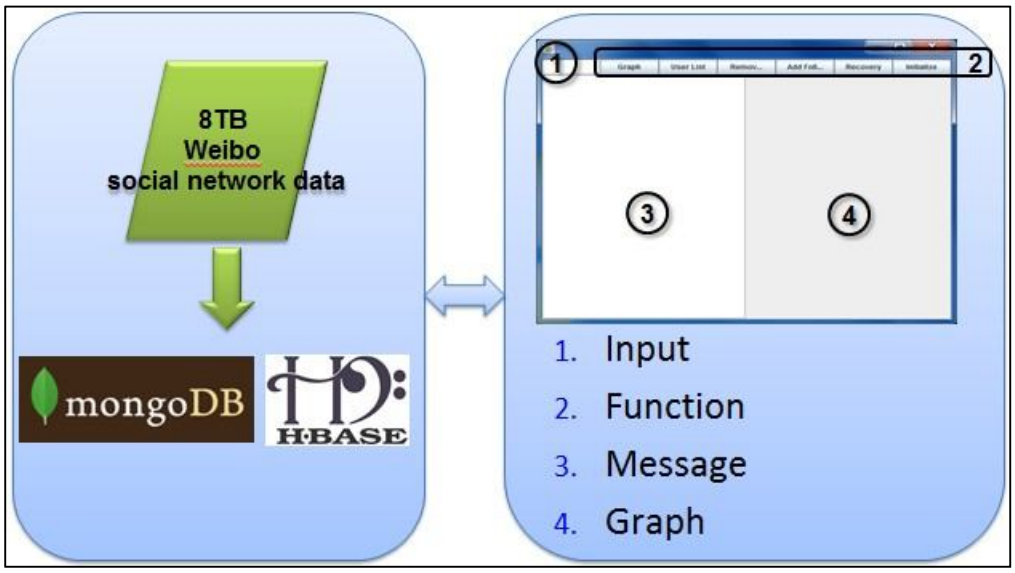


After clicking the button “PlotWafer”, the list on the left hand side shows the complete wafer. Chooses any wafer ID on the list, a related wafer map will be shown on the right hand side.



Graph Computing with Weibo Social Network Data

The java application of graph computing accesses 8 TB data Weibo social network data in mongoDB and initializes relations of users to HBase. This application helps illustrate relations between users and even recover the relations to a given timestamp.



The graph computing application provides following functions:

1. Initialize User Data
2. User List: Show User ID List
3. Graph: Show Relation of an User ID
4. Add Follower: Add a Relation for an User ID
5. Remove Follower: Remove a Relation for an User ID
6. Set Server IP: Set Server IP If It is Changed
7. Clear Console: Clear Message Area
8. **Recovery: Recover the relation according given a timestamp**

This manual gives examples by using above functions.

Initialize User Data

Input: 10

Functions: Initialize

Messages:

<1>,<1658688240,1197161814,...

<4>,<1649189521,1684502353,2453023147,>

<5>,<1649189521,1684502353,>

<6>,<1649189521,1684502353,>

<7>,<1649189521,1684502353,>

<13>,<1883881851,2372993600,...

<16>,<1513391691,1734063080,...

<17>,<1864959360,1908182482,...

<18>,<1604179804,2130066737,...

<1001>,<1675054524,>

Graph: (no graph)

Show User List

Input: (no input)

Functions: User List

Messages: 1,4,5,6,7,13,16,17,18,1001

Graph: (no graph)

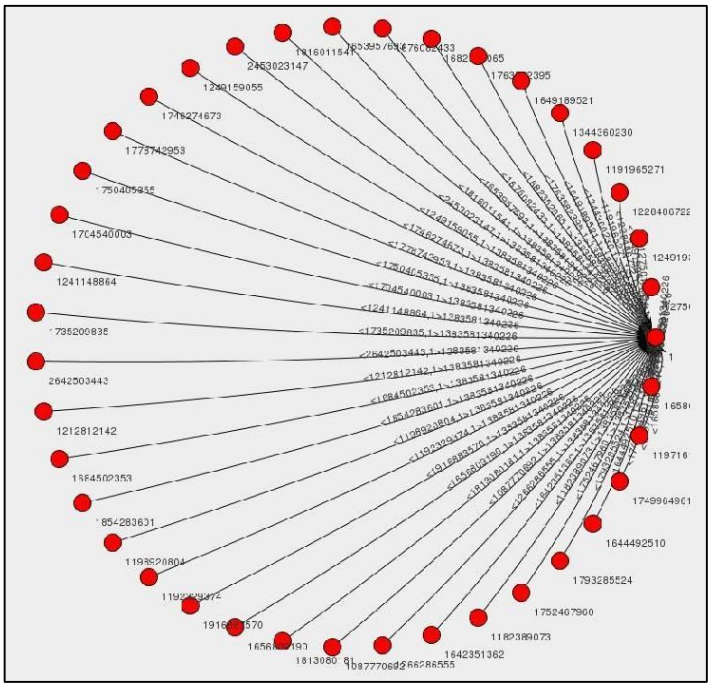
Show Relation of User ID 1

Input: 1

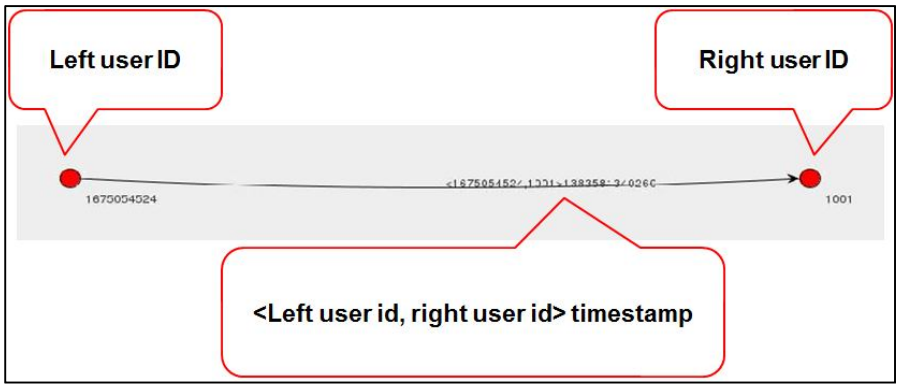
Functions: Graph

Messages: (no message)

Graph:



In above figure, each relation is represented by two vertexes and one edge. Vertexes represent user ids while edge represents the relation between users. There is a timestamp above the edge. It is import to users who want to perform a recovery according to a timestamp.



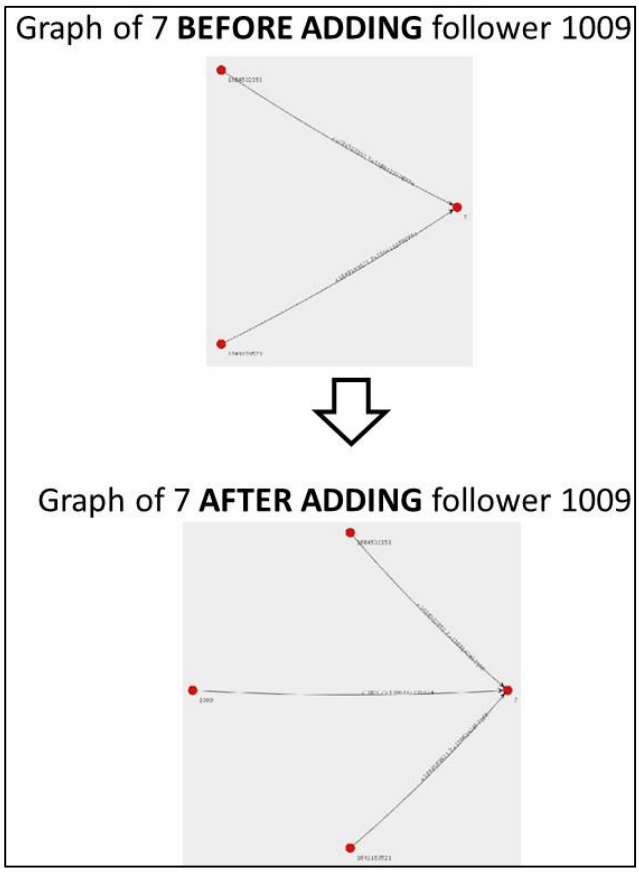
Add the Follower 1009 to 7

Input: 7 1009

Functions: 

Messages: (no message)

Graph:



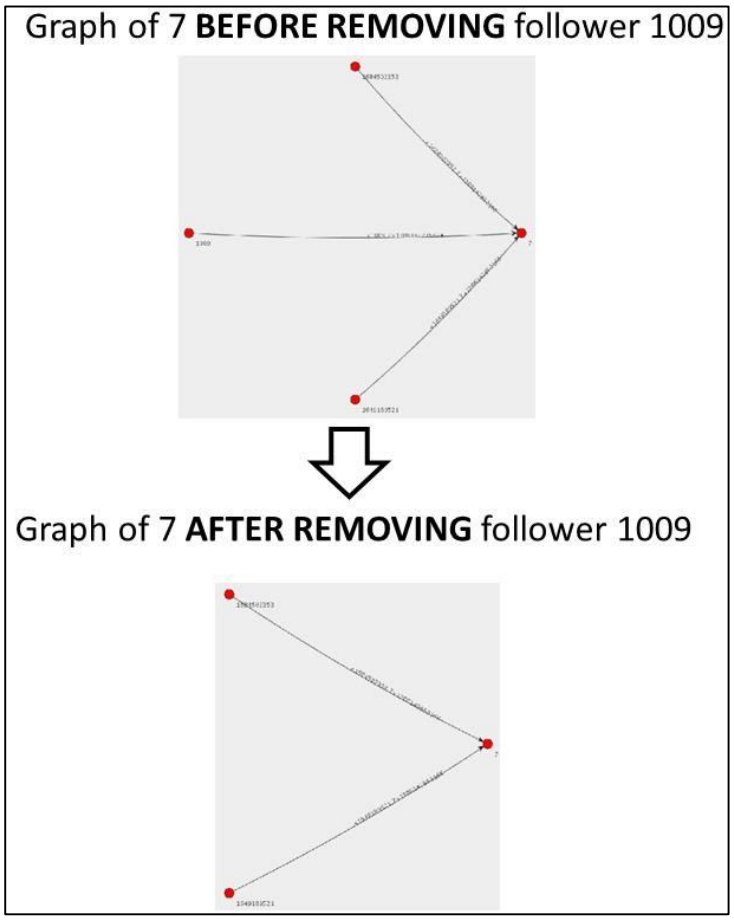
Remove the Follower 1009 of 7

Input: 7 1009

Functions: Remove Follower

Messages: (no message)

Graph:



Recovery

Input: 1386142735999

Functions: Recovery

Messages:

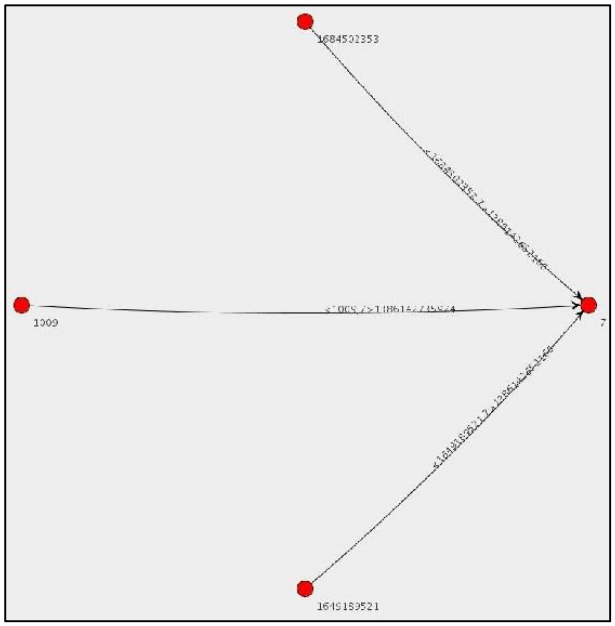
Preparing data via a MapReduce job...

Preparing data via a MapReduce job...over

Completing the data load...

Completing the data load...over

Graph:



RESTful APIs

SSDB service provides RESTful APIs. Information is listed as follows.

The request method is POST.

The URL is https://ssdb.unicloud.org.tw:8441/ssdb_rest/ssql

The key and value pair:

Key	Value (Example)	Description
sql	use mydba; select * from lot;	The SQL commands
user	abc@mail.com	Email registered on UniCloud
passwd	11111	User's password
queryFormat	1	The supported value which returns string format result
rsType	1003	The supported value of resultSet type is TYPE_FORWARD_ONLY
rsConn	1007	The supported value of resultSet concurrency is CONCUR_READ_ONLY
reFetch	1000	The supported value of resutSet fetchDirection is ResultSet.FETCH_FORWARD
rsHoldability	2	The supported value of resultSet holdability is CLOSE_CURSORS_AT_COMMIT

Standard Return Format

SSDB RESTful API returns a string with separators. The separators are used to separate the results of queries. The combination is as follows:

[*System Message Code*][*System Return Data*][*System Query Separator*]... [*System Query Separator*] [*System Message Code*][*System Return Data*]

→System Message Code

- TrueHashCode: W1kr
- FalseHashCode:Ti1d

→System Return Data

- The row count for SQL Data Manipulation Language (DML) statements
- 0 for SQL statements that return nothing
- System Error Message
- The query data:
  - [COLUMN_NAME][TabHashCode][NewLineHashCode] [COLUMN_DATA][TabHashCode][NewLineHashCode]
    - TabHashCode: e3Qr
    - NewLineHashCode: bi19

→System Query Separator

- -NTHUSSDB-

Example

Assume we submit following queries:

use mydba; delete….; select ….;

It returns the following string:

W1kr-NTHUSSDB-W1kr1-NTHUSSDB-W1krIDe3QrNAMEe3QrPASSWDe3Qrbi191234e3Qrabcde3Qrabcde3Qrbi19

Note:

Our certificate is not provided for downloading and not support by Java 7. It is suggested to use RESTful APIs while developing web programs.

SSDB JDBC Driver

SSDB service provides JDBC driver for users. Before using JDBC driver, make sure the Java environment is ready.

Java JDK

Please visit Oracle website, download the Java SE Development Kit (JDK) and install it.

Java Platform (JDK) 7u45

Use a Windows console or a Linux terminal and type "java –version" to check if the Java environment is ready.

Eclipse

If users need to develop webpage related programs, you can choose "Eclipse IDE for Java EE Developers". Otherwise, "Eclipse IDE for Java Developers" is fine for development.

SSDB JDBC driver

Please use the following link to download the SSDB JDBC driver.

https://www.unicloud.org.tw/static/ssdb/driver/ssdb-connector-java.zip

Unzip the file and users will find the "ssdb-connector-java.jar" which is the SSDB JDBC driver.

Import

The following are steps for importing SSDB JDBC driver in an Eclipse project:

1. Start Eclipse and click “File -> New -> Project(or Java Project)”. Click “Java Project”, enter your Project Name and then click “Finish”
2. Right click on the Project. Click “New -> Package”, enter your Package Name and click “Finish”.
3. Right click on the Package. Click “New -> Class”, enter your Class Name and click “Finish”.
4. Right click on the Project. Click “Build Path -> Add External Archives…” and then import “ssdb-connector-java.jar”.

Usage

The way to use SSDB JDBC driver is the same while using a MySQL JDBC driver. Users have to register driver “com.ssdb.jdbc.Driver” and prepare necessary information such as:

url: “jdbc:ssdb://ssdb.unicloud.org.tw:8441/DatabaseName”;

user: The account registered on UniCloud

password: User’s password

An example:

```
   try{
        Class.forName (“com.ssdb.jdbc.Driver”);
        Connect con = DriverManager.getConnection (url, user, password);
   }catch(…){
       ….
}
```

In this way, users can connect to SSDB service and access data via SSDB JDBC driver just like using MySQL JDBC driver.