

Oracle-Jutils for Oracle 11g

**A ready to use set of PL/SQL packages to
make things easier in Oracle (11g only)**

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Oracle-Jutils for Oracle 11g: A ready to use set of PL/SQL packages to make things easier in Oracle (11g only)

by Mr. Adrien Sales

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Abstract

This is the documentation for the Open Source GPLv3 licensed oracle-jutils sourceforge project. By reading this documentation, you should be able to install this software (PL/SQL package, deploy java archives), and finally save a lot of time (insert BLOB/CLOB/XMLTYPE from file within a single line of code, get hashcodes on BLOBS, compress BLOBS, ...

The project is organized by packages.

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Chapter 1. Description

Purpose, features, ...

Full feature list

Here are summarized features list :

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Why and how

DBA Swiss knife

Often i have to make PL/SQL scripts to solve problems to help people like reloading/dumping a BLOB, getting a CRC32 straight from a BLOB, compress binary columns (zip, LZMA, 7z), send XMPP messages, compute complex checksums on BLOBS (or files), etc ... For each of them i did develop generic PL/SQL scripts based on standard Oracle PL/SQL packages, but it was long to develop and finally all i wanted were functions that would do the job within a single line of PL/SQL code, and this is the main driving idea. That's why i started to develop this set of packages.

I've developed this code on my spare time, any feedback will be greatly appreciated. I don't expect money, but any help is always welcome to improve the project, make a nice website, send Oracle books, donate a logo, write documentation, ask more features, or simply (and not the least) talk about oracle-jutils around you, or leave a comment on my Sourceforge guest book [<http://userapps.sourceforge.net/ageuestbook/adriens/sign.php>].

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Most of the time, i really do my best no to put Java code inside the database, but as i really was too lazy to develop pure PL/SQL packages and considering that Oracle 11g has really serously improved Java performances, and does now deal with the 1.5 Jdk, i've started to put some Java code in the database.

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Donations

Many thanks to :

- Guillermo Gron from Aqua Data Studio [<http://www.aquafold.com/>] for their "Educational & OSSD (Open Source Software Developer) Licensing" open source developer license. It really is a very kind gift and makes it possible to provide you some nice screenshots with charts.

Features

As told previously, tje project is organized by packages, all owned by OJUTIL user. For each package, you should be able to perform actions from a simple sqlplus* session within a single line of code.

Packages

For each package, have a look at the screenshots to make your own opinion (a lot of screenshots are based on sqlplus* sessions to sho you that everything can simply be done within a very few lines of sql code.

JDBMS_LOB

The JDBMS_LOB package

The API of this package talks by itself. Indeed a test file is provided in `test_JDBMS_LOB.sql` [./files/test_JDBMS_LOB.sql]

JDBMS_CHECKSUM

The JDBMS_CHECKSUM package

The API of this package talks by itself. Indeed a test file is provided in `test_JDBMS_CHECKSUM.sql` [./files/test_JDBMS_CHECKSUM.sql]

JDBMS_MIMETYPES

The JDBMS_MIMETYPES package

The API of this package talks by itself. Indeed a test file is provided in `test_JDBMS_MIMETYPES.sql` [./files/test_JDBMS_MIMETYPES.sql]

JDBMS_COMPRESS

The JDBMS_COMPRESS package

The API of this package talks by itself. Indeed a test file is provided in `test_JDBMS_COMPRESS.sql` [./files/test_JDBMS_COMPRESS.sql]

For LZMA functions, default command line parameters are provided if you want to deal in a simple way with compressing/uncompressing BLOBS that you can open with 7zip console. To use custom command lines, have a look at the switches :

<e|d>

e: encode

d: decode

Switches :

-a{N}: set compression mode - [0, 1], default: 1 (max)

-d{N}: set dictionary - [0,28], default: 23 (8MB)

-fb{N}: set number of fast bytes - [5, 273], default:

-lc{N}: set number of literal context bits - [0, 8], d

-lp{N}: set number of literal pos bits - [0, 4], defau

-pb{N}: set number of pos bits - [0, 4], default: 2

-mf{MF_ID}: set Match Finder: [bt2, bt4], default: bt4

-eos: write End Of Stream marker

For more details on how to use LZMA functions, have a look a `test_JDBMS_COMPRESS.sql` [./files/test_JDBMS_COMPRESS.sql] for a quick jumpstart.

JDBMS_XMPP

The JDBMS_XMPP package

The API of this package talks by itself. It is an enhanced version of my first XMPP package (see oracle-xmpp [http://sourceforge.net/projects/oracle-xmpp/]). It will have more functionalities and better behavior,

as well as better designed functions. No 1.4 JDK backport will be possible due to exclusive use of latest Smack API. `test_JDBMS_XMPP.sql` [[./files/test_JDBMS_XMPP.sql](#)]

JDBMS_JACKSUM

The JDBMS_XMPP package

This package wraps calls to the well known JackSum [<http://www.jonelo.de/java/jacksum/>] library. It is useful to compute a large variety of checksums. I have implemented direct checksum computations on files from sql, but also direct checksum computation on BLOBS.

You can then compute CRC, etc... generate edk url (files only). Have a look at `test_JDBMS_JACKSUM.sql` [[./files/test_JDBMS_JACKSUM.sql](#)] for more examples.

JDBMS_FILESYSTEM

The JDBMS_FILESYSTEM package

This package is useful to interact with the Database OS files.

You can list directory contents, etc... Have a look at `test_JDBMS_FILESYSTEM.sql` [[./files/test_JDBMS_FILESYSTEM.sql](#)] and to screenshots for more examples.

JDBMS_TWITTER

The JDBMS_TWITTER package

This package is useful to interact with Twitter.

For now, you can send messages and ping the Twitter server. Additional features will soon come. Have a look at `test_JDBMS_TWITTER.sql` [[./files/test_JDBMS_TWITTER.sql](#)] and to screenshots for more examples.

JDBMS_QRCODE

The JDBMS_QRCODE package

This package is useful to deal with QrCodes.

For now, the encoding is performed thanks to Google Charts. Additional features will soon come. Have a look at `test_JDBMS_QRCODE.sql` [[./files/test_JDBMS_QRCODE.sql](#)] and to screenshots for more examples.

Screenshots

Although things are run from command line or behind program code, things talk better with omages, so here is a little sample of screenshots :

JDBMS_LOB

The screenshot shows a Windows Explorer window with the address bar set to `H:\myopensource\oracle-jutils\doc\doc.7z\`. The file list contains:

Nom	Taille	Compressé	Modifié le	Attributs	CRC
oracle-jutils.xml	6 421		2009-03-06 2...	A	80B67EB2
oracle-jutils.xml.chm	19 466	38 823	2009-03-06 2...	A	FAC9D7EA
oracle-jutils.xml.pdf	25 858		2009-03-06 2...	A	5DAE2EE8
oracle-jutils.xml.ps	105 919		2009-03-06 2...	A	5C3EA214
oracle-jutils.xml.txt	11 733		2009-03-06 2...	A	A908C878

Below the Explorer window is a terminal window titled `C:\WINDOWS\system32\cmd.exe - sqlplus OJUTILS/OJUTILS`. It shows the following SQL query and its output:

```
SQL> select FILENAME, length(CONTENTS), CRC32 from T_BLOBS_TEST;

FILENAME                                     LENGTH(CONTENTS)  CRC32
-----
oracle-jutils.xml                           6421              80B67EB2
oracle-jutils.xml.chm                       19466             FAC9D7EA
oracle-jutils.xml.pdf                       25858             5DAE2EE8
oracle-jutils.xml.ps                       105919            5C3EA214
oracle-jutils.xml.txt                       11733             A908C878
```

Comparing CRC32 from the loaded BLOB and the filesystem version.

JDBMS_MIMETYPES

The terminal window shows the following SQL query and its output:

```
SQL> r
1 select FILENAME,
2      nvl(JDBMS_MIMETYPES.GET_MIMETYPE(CONTENTS), 'Not Found') as MIMETYPE
3* from T_BLOBS_TEST

FILENAME                                     MIMETYPE
-----
oracle-jutils.xml                           text/plain
oracle-jutils.xml.chm                       Not Found
oracle-jutils.xml.pdf                       application/pdf
oracle-jutils.xml.ps                       text/plain
oracle-jutils.xml.txt                       Not Found
```

Retrieving Mime Types straight from BLOBs.

The terminal window shows the following commands and output:

```
[bash]sales@L20323 /cygdrive/h/myopensource/oracle-jutils/doc
l> ls -l *.xml
-rw-rw-rw- 1 ???????? ???????? 11174 Mar 22 12:36 oracle-jutils.xml
[bash]sales@L20323 /cygdrive/h/myopensource/oracle-jutils/doc
l> cat oracle-jutils.xml | more
<?xml version="1.0" encoding="ISO-8859-1"?>
<book>
  <bookinfo>
    <title>Oracle-Jutils for Oracle 11g</title>
    <subtitle>A ready to use set of PL/SQL packages to make things e
asier in Oracle <11g only></subtitle>
    <authorgroup>
      <author>
        <firstname>Adrien</firstname>
        <surname>Sales</surname>
        <honorific>Mr</honorific>
```

Verifying the Mime Type by editing it.

```
SQL> desc T_BLOBS_TEST
Nom                                                    NUL
?   Type
-----
FILENAME
  NVARCHAR2(50)
CRC32
  VARCHAR2(8)
CONTENTS
  BLOB

SQL> select FILENAME,
2          nvl(JDBMS_MIMETYPES.GET_MIMETYPE(CONTENTS), 'Not Found') as MIMETYPE
3          from T_BLOBS_TEST;

FILENAME                                                    MIMETYPE
-----
oracle-jutils.xml                                           text/plain
oracle-jutils.xml.chm                                       Not Found
oracle-jutils.xml.pdf                                       application/pdf
oracle-jutils.xml.ps                                        text/plain
oracle-jutils.xml.txt                                       Not Found
```

Testing JDBMS_MIMETYPES and showing the test table.

```
SQL> select 'oracle-jutils.xml' as FILENAME,
2          JDBMS_MIMETYPES.GET_MIMETYPE('H:\myopensource\oracle-jutils\doc',
3          'oracle-jutils.xml') as MIMETYPE from dual;

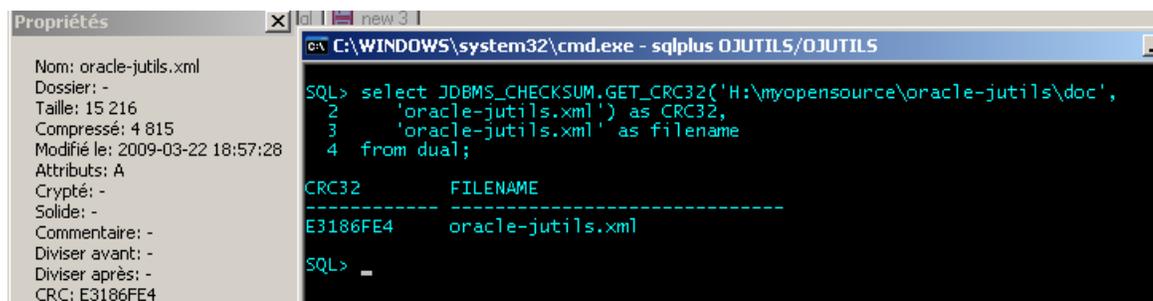
FILENAME                                                    MIMETYPE
-----
oracle-jutils.xml                                           text/plain

SQL> host dir H:\myopensource\oracle-jutils\doc\*.xml
Le volume dans le lecteur H s'appelle Data
Le numéro de série du volume est 4281-1FA9

Répertoire de H:\myopensource\oracle-jutils\doc
22/03/2009  15:33                12 991 oracle-jutils.xml
```

Testing JDBMS_MIMETYPES on a filesystem file from sqlplus*, and showing the file from operating system command.

JDBMS_CHECKSUM



The screenshot shows a Windows file explorer window with the following properties for 'oracle-jutils.xml':

- Nom: oracle-jutils.xml
- Dossier: -
- Taille: 15 216
- Compressé: 4 815
- Modifié le: 2009-03-22 18:57:28
- Attributs: A
- Crypté: -
- Solide: -
- Commentaire: -
- Diviser avant: -
- Diviser après: -
- CRC: E3186FE4

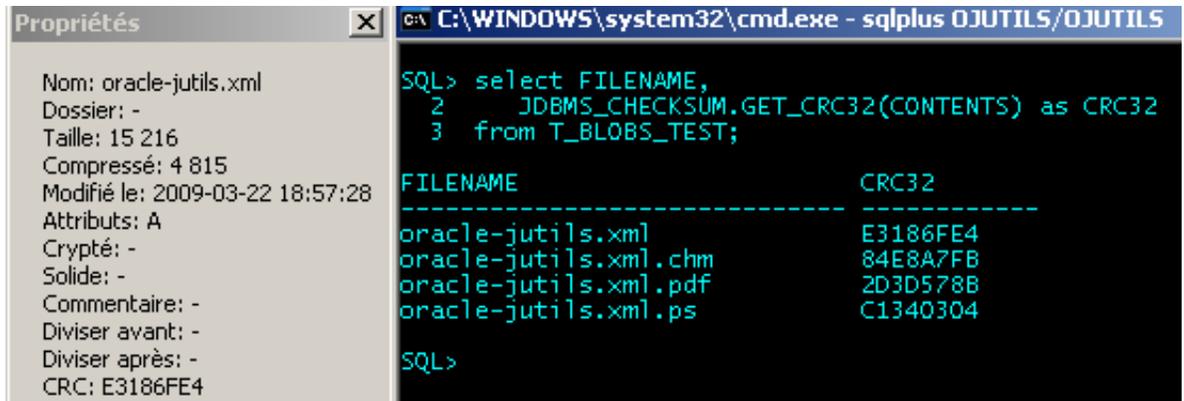
The terminal window shows the following SQL query and result:

```
SQL> select JDBMS_CHECKSUM.GET_CRC32('H:\myopensource\oracle-jutils\doc',
2          'oracle-jutils.xml') as CRC32,
3          'oracle-jutils.xml' as filename
4          from dual;

CRC32           FILENAME
-----
E3186FE4       oracle-jutils.xml

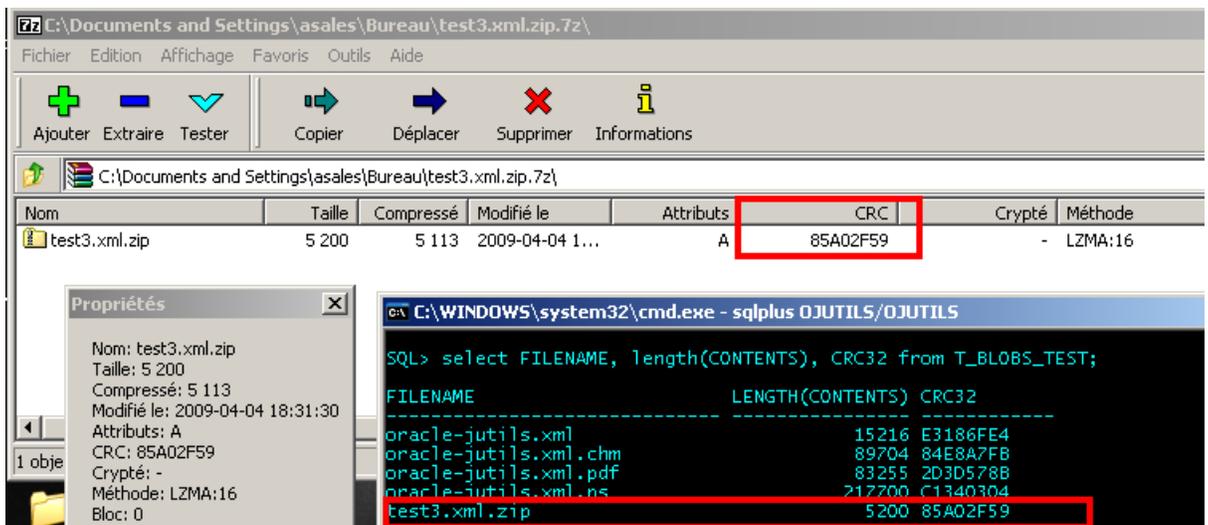
SQL>
```

Testing JDBMS_CHECKSUM : Getting a file's CRC32 from sqlplus.

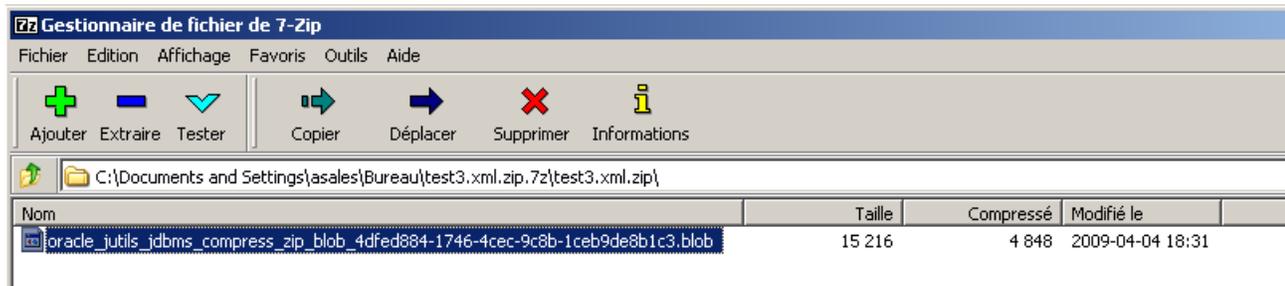


Testing JDBMS_CHECKSUM : Getting a BLOB's CRC32 from sqlplus.

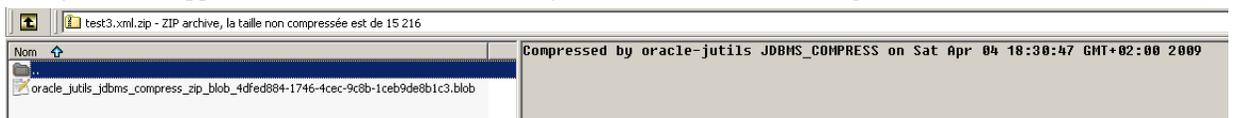
JDBMS_COMPRESS



Trying to open the zipped BLOB (1/6)



Verify that the zipped BLOB is still readable. (Entry Name and Comment auto-generated (2/6))



Reading auto-generated comments on zipped BLOB in WinRAR (3/6)

```
SQL> select filename,
2     length(CONTENTS) as length,
3     CRC32,
4     JDBMS_MIMETYPES.GET_MIMETYPE(CONTENTS) as MIMETYPE
5 from T_BLOBS_TEST
6 where filename like 'JDBMS_COMPRESS_test%'
7 order by CRC32;
```

FILENAME	LENGTH	CRC32	MIMETYPE
JDBMS_COMPRESS_test.xml	15216	E3186FE4	text/plain
JDBMS_COMPRESS_test.xml.zip	5200	2F868C48	application/zip

Unzip BLOB with JDBMS_COMPRESS into a BLOB and check CRC32, if Mime Type can be retrieved, and test to read the on the fly unzipped BLOB (4/6)

```
SQL> select FILENAME, UNZIP_CRC32
2 from T_UNZIP_BLOBS_TEST;
```

FILENAME	UNZIP_CRC32
oracle-jutils.xml.zip	E3186FE4
oracle-jutils.xml.chm.zip	84E8A7FB
oracle-jutils.xml.pdf.zip	2D3D578B
oracle-jutils.xml.ps.zip	C1340304

Check that we retrieve the initial BLOB thanks to CRC32

```
SQL> SELECT FILENAME AS FILENAME,
2     CONTENTS_LENGTH AS LENGTH,
3     ZIP_CONTENTS_LENGTH AS ZIP_LENGTH,
4     CRC32 AS CRC32,
5     ZIP_CRC32 AS ZIP_CRC32,
6     RATIO AS "RATIO %"
7 FROM T_ZIP_BLOBS_TEST
8 ORDER BY "RATIO %" DESC;
```

FILENAME	LENGTH	ZIP_LENGTH	CRC32	ZIP_CRC3	RATIO %
oracle-jutils.xml.ps	217700	63947	C1340304	A7FD8AA5	70
oracle-jutils.xml	15216	5076	E3186FE4	B96A756B	66
oracle-jutils.xml.pdf	83255	59515	2D3D578B	E723EC41	28
oracle-jutils.xml.chm	89704	82401	84E8A7FB	529F8785	8

Have a look at Compression Ratio

Test ZIP/UNZIP BLOBs on dedicated test tables with virtual columns that use JDBMS functions, and verify that we retrieve the right initial BLOB. (5/6)

23,72083473 seconds OJUTILS@DI

Enter SQL Statement:

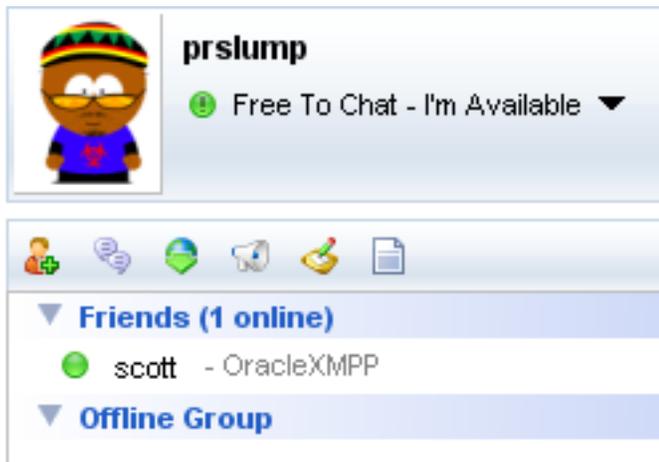
```
select *
from TABLE (ZipEntries (JDBMS_LOB.FILE_TO_BLOB ('H:\myopensource\oracle-jutils\doc',
|doc.zip')));
```

Results: Script Output Explain Autotrace DBMS Output OWA Output

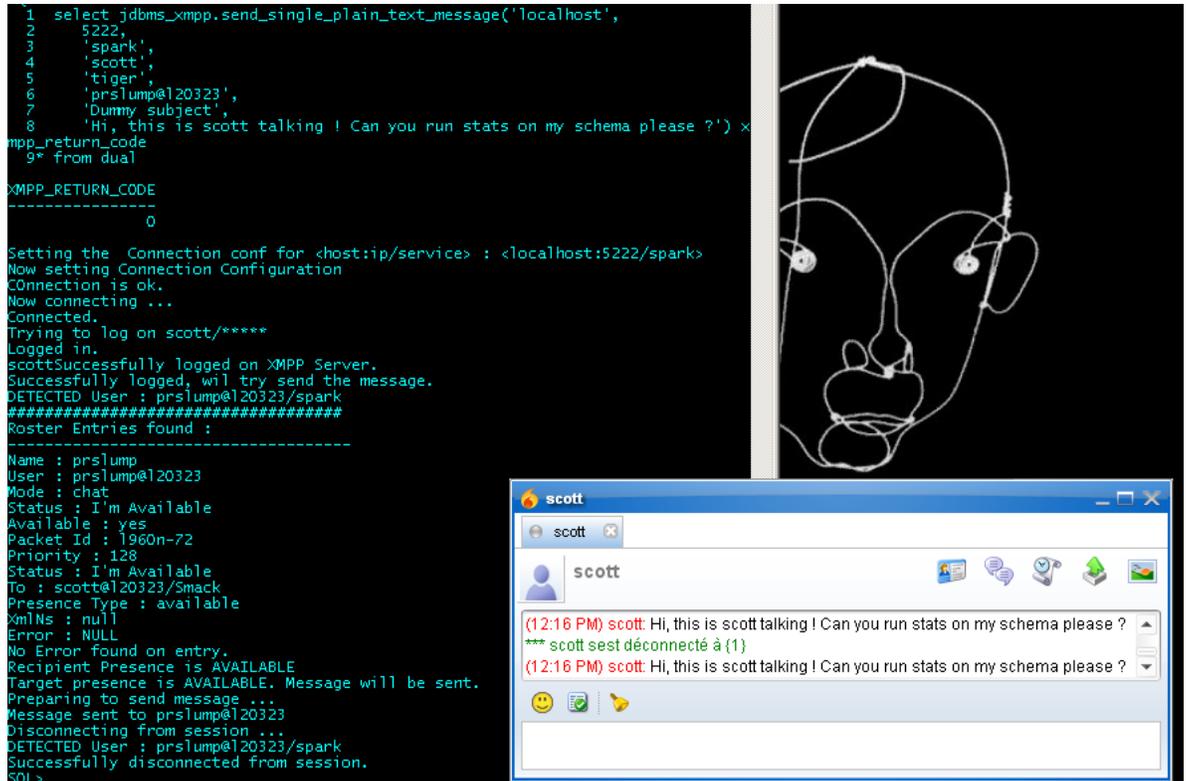
POSITION	NAME	IS_DIRECTORY	ENTRY_COMMENT	COMPRESSED_SIZE	CRC32	METHOD	TIME	HASHCODE
14	license.txt	0 (null)		783	12F679F7	8	1237661512000	-642177213
15	description.txt	0 (null)		331	C083050D	8	1236545690000	984732030
16	Create SiteMap.url	0 (null)		129	8C84E373	8	1236541734000	151889778
17	google7bc39ce697569b9c.html	0 (null)		0	0	0	1236541370000	-1510130696
18	oracle-jutils.xml.txt	0 (null)		2238	A908C878	8	1236453618000	1447901153
19	img/	1 (null)		0	0	0	1238940368000	3236044
20	img/JDBMS_CHECKSUM_1.png	0 (null)		14225	A08BDEA8	8	1238850012000	1364831533
21	img/JDBMS_CHECKSUM_2.png	0 (null)		13044	AB797099	8	1238850182000	1365755054
22	img/JDBMS_COMPRESS_1.png	0 (null)		29007	92CC779A	8	1238863294000	-1543493364
23	img/JDBMS_COMPRESS_2.png	0 (null)		12221	B311AEF8	8	1238863390000	-1542569843
24	img/JDBMS_COMPRESS_3.png	0 (null)		7796	51D2BD26	8	1238863820000	-1541646322
25	img/JDBMS_COMPRESS_4.png	0 (null)		7402	57F3EB18	8	1238867782000	-1540722801
26	img/JDBMS_COMPRESS_5.png	0 (null)		19132	FEBD2D21	8	1238930500000	-1539799280
27	img/JDBMS_LOB_1.png	0 (null)		25473	38C1F903	8	1236418928000	-98460049
28	img/JDBMS_MIMETYPES_1.png	0 (null)		6752	781D865E	8	1237724946000	1726691637

Test the ZipEntries function to get zip BLOB contents like a table. (6/6)

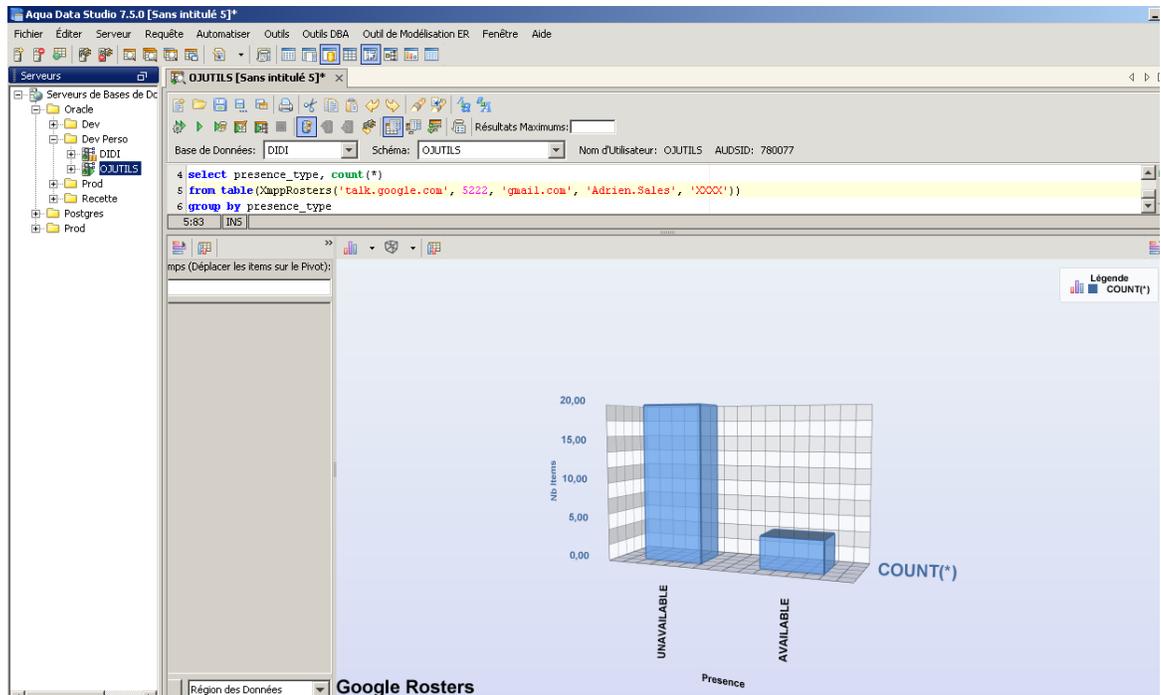
JDBMS_XMPP



Oracle getting live on XMPP



scott is alive and talks !



Making reports/statistics on your XMPP Buddies (Rosters) from standard and simple relational queries. (2/)

The screenshot shows the Aqua Data Studio 7.5.0 interface. The main window displays a SQL query in the 'OJUTILS [Sans intitulé 6]*' window. The query is as follows:

```

1 select substr(roster_name, 1, 2) as "Name",
2     substr(roster_user, 1, 2) as "User",
3     DECODE(presence_available, 0, 'Offline', 1, 'Online') as "Status",
4     presence_mode as "Mode",
5     presence_packet_id as "Packet Id",
6     presence_type as "Presence Type"
7 from table(XmppRosters('talk.google.com', 5222, 'gmail.com', 'Adrien.Sales', 'XXXX'))
8 order by substr(roster_name, 1, 2)
9
10

```

The results are displayed in a table with 24 rows (shown as 9 in the image) and 7 columns: Name, User, Status, Mode, Packet Id, and Presence Type.

	Name	User	Status	Mode	Packet Id	Presence Type
1	Au	di	Offline	PRESENCE_NULL	10XfE-499	UNAVAILABLE
2	Az	pi	Online	AWAY	(null)	AVAILABLE
3	Be	be	Offline	PRESENCE_NULL	10XfE-512	UNAVAILABLE
4	Es	st	Offline	PRESENCE_NULL	10XfE-500	UNAVAILABLE
5	Fa	fa	Online	PRESENCE_NULL	(null)	AVAILABLE
6	Fr	fr	Offline	PRESENCE_NULL	10XfE-514	UNAVAILABLE
7	Gr	gr	Offline	PRESENCE_NULL	10XfE-515	UNAVAILABLE
8	Gu	gu	Online	AWAY	(null)	AVAILABLE
9	Ju	jb	Offline	PRESENCE_NULL	10XfE-504	UNAVAILABLE

Getting your xmpp live address book from a select statement. (2/)

The screenshot shows a terminal window with a SQL query and two XMPP chat windows. The SQL query is as follows:

```

SQL> r
1 select JDBMS_XMPP.send_csv_batch_text ('localhost', --
service is hosted
2     5222, -- the XMPP service port
3     'spark', -- the XMPP service
4     'scott', -- the login of the account you will use t
5     'tiger', -- the password of the account that sends
6     'didi@120323;prslump@120323',
7     'dummy subject', -- the subject
8     'hello !',
9
10    1,
11    0,
12    0,
13    NULL,
14    NULL,
15    0,
16    NULL,
17    1,
18    1,
19    0,
20    0,
21    1,
22    NULL,
23    NULL,
24    NULL,
25    0,
26    0) as NB_UNTOUCHED_RECEIPTS
27* from dual

```

The terminal output shows the result of the query:

```

NB_UNTOUCHED_RECEIPTS
-----
0

```

The two XMPP chat windows show the results of the query. The top window shows a message from 'scott' at 18:58:00: 'hello !'. The bottom window shows three messages from 'scott' at 6:52 PM, 6:53 PM, and 6:58 PM, all saying 'hello !'. Red arrows point from the text 'Didi (on Pidgin) and prslump (on Spark) client sessions logged on locally running OpenFire' to the chat windows.

Send a message to a list of available recipients thanks to a NVARCHAR2 csv list of recipients

The image shows a SQL command window on the left and the Spark instant messenger interface on the right. The SQL window displays a query to send a batch of messages to a list of recipients. The output shows a return code of 1. A red arrow points from the SQL output '1' to the login form in the Spark window, with a red text box stating 'One recipient is not available, hence return code equals 1'.

```

SQL> r
1 select JDBC_XMPP.send_csv_batch_text ('localhost', --
service is hosted
2 5222, -- the XMPP service port
3 'spark', -- the XMPP service
4 'scott', -- the login of the account you will use t
5 'tiger', -- the password of the account that sends
6 'didi@120323;prslump@120323',
7 'dummy subject', -- the Subject
8 'hello !',
9 1,
10 0,
11 0,
12 0,
13 NULL,
14 NULL,
15 0,
16 NULL,
17 1,
18 1,
19 0,
20 0,
21 1,
22 NULL,
23 NULL,
24 NULL,
25 0,
26 0) as NB_UNTOUCHED_RECEIPTS
27* from dual

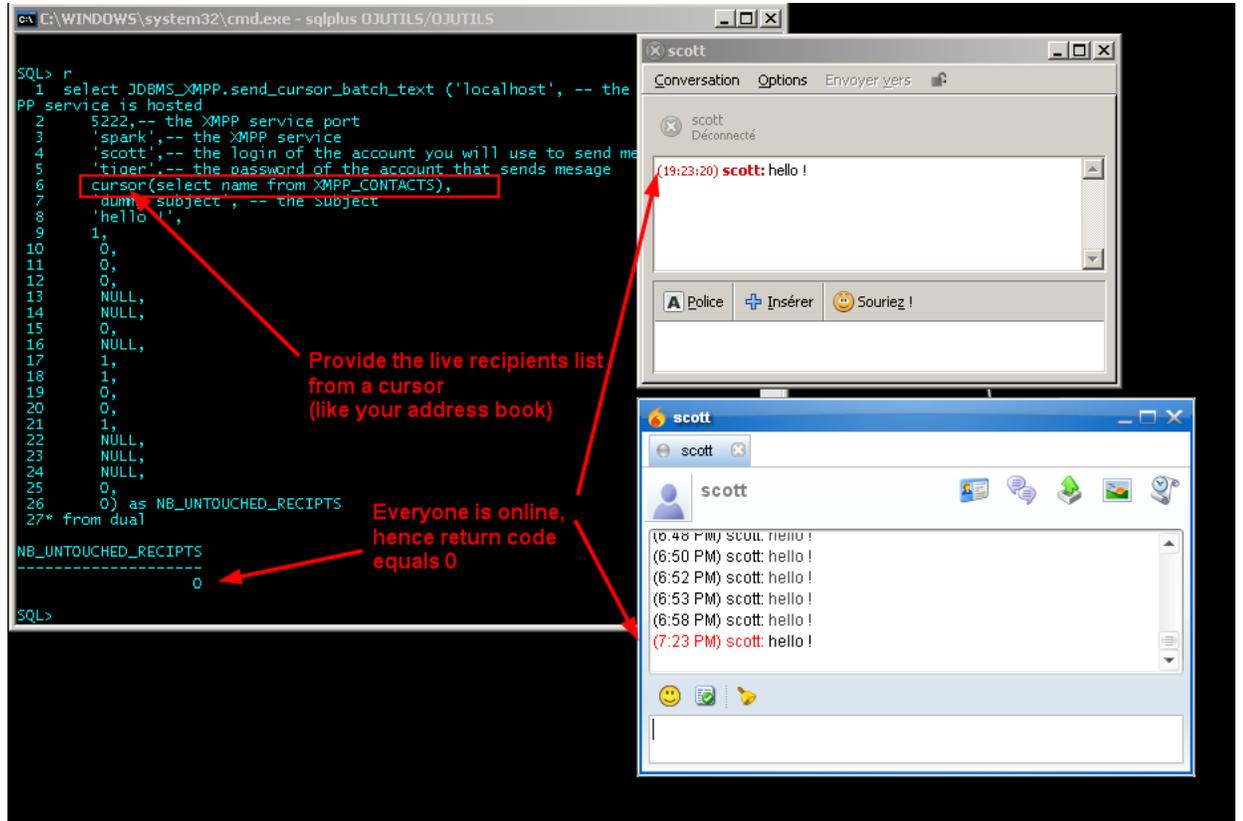
NB_UNTOUCHED_RECEIPTS
-----
1

SQL>
    
```

One recipient is not available, hence return code equals 1

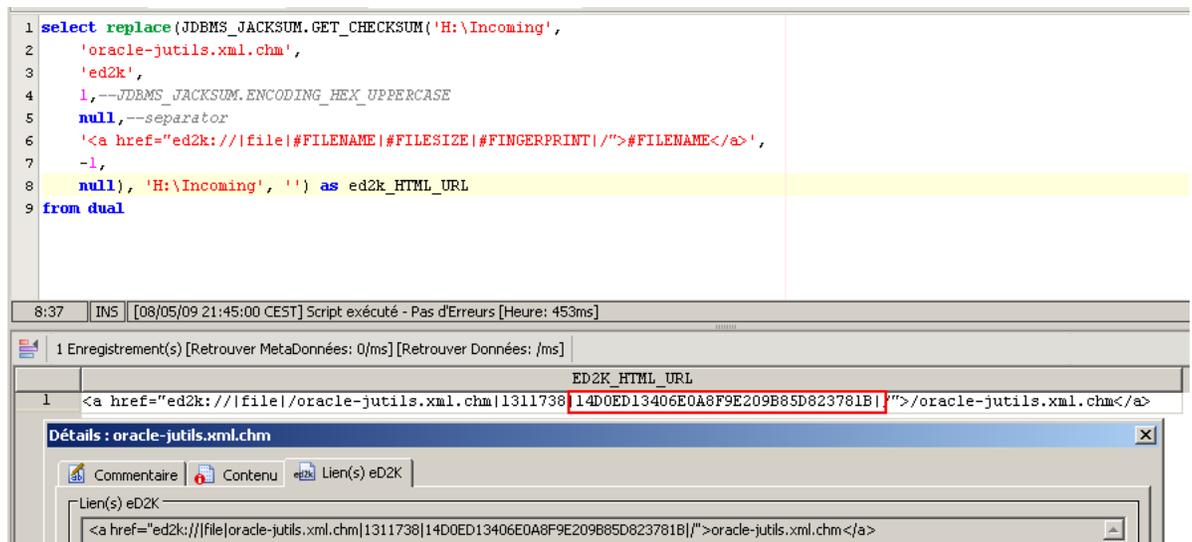
The Spark window shows a conversation with 'scott' and a login form. The login form includes fields for 'Nom d'utilisateur' (prslump), 'Mot de Passe' (masked), and 'Serveur' (localhost). There are also checkboxes for 'Enregistrer le Mot de Passe' and 'Login Automatique'.

Send a message to a list of recipients (while one of them is offline) thanks to a NVARCHAR2 csv list of recipients



Send a message to a list of recipients. Notice that in this case, recipient list is provided thanks to a simple select to make integration easier.

JDBMS_JACKSUM



Generate the ed2k html url of a file from sql

```

1 select JDBMS_JACKSUM.GET_CHECKSUM(JDBMS_LOB.FILE_TO_BLOB('H:\myopensource\oracle-jutils\doc', 'oracle-jutils.xml.chm'),
2 'crc32',
3 8,--JDBMS_JACKSUM.ENCODING_HEX_UPPERCASE
4 null,--separator
5 'filesize = #FILESIZE crc32 = #CHECKSUM',-- put a standard output fomrat
6 -1,
7 null)
8 from dual

```

8:10 INS [08/05/09 21:54:17 CEST] Script exécuté - Pas d'Erreurs [Heure: 781ms]

1 Enregistrement(s) [Retrouver MetaDonnées: 0/ms] [Retrouver Données: /ms]

JDBMS_JACKSUM.GET_CHECKSUM(JDBMS_LOB.FILE_TO_BLOB('H:\MYOPENSOURCE\ORACLE-JUTILS\DOC', 'ORACLE-JUTILS.XML.CHM'), 'CRC32', 8, filesize = 1312776 | crc32 = 5F6B17F2

Propriétés

Nom: oracle-jutils.xml.chm
Dossier: -
Taille: 1 312 776
Compressé: 1 305 131
Modifié le: 2009-05-08 21:17:48
Attributs: A
Crypté: -
CRC: 5F6B17F2
Méthode: Deflate
OS hôte: FAT

Type: 7-Zip.Zip
Taille: 1 312 776
Compressé: 1 305 131
Dossiers: 0
Fichiers: 1
CRC: 5F6B17F2

H:\myopensource\oracle-jutils\doc\oracle-jutils.xml.chm.zip

Fichier Edition Affichage Favoris Outils Aide

Ajouter Extraire Tester Copier Déplacer Supprimer Informations

Nom	Taille	Compressé	Modifié le
oracle-jutils.xml.chm	1 312 776	1 305 131	2009-05-08 21:17

1 objet(s) sélectionné(s) | 1 312 776 | 1 312 776 | 2009-05-08 21:17

Generate the crc32 of a BLOB from sql and format output

```

1 select * from VW_JACKSUM_ALGOS

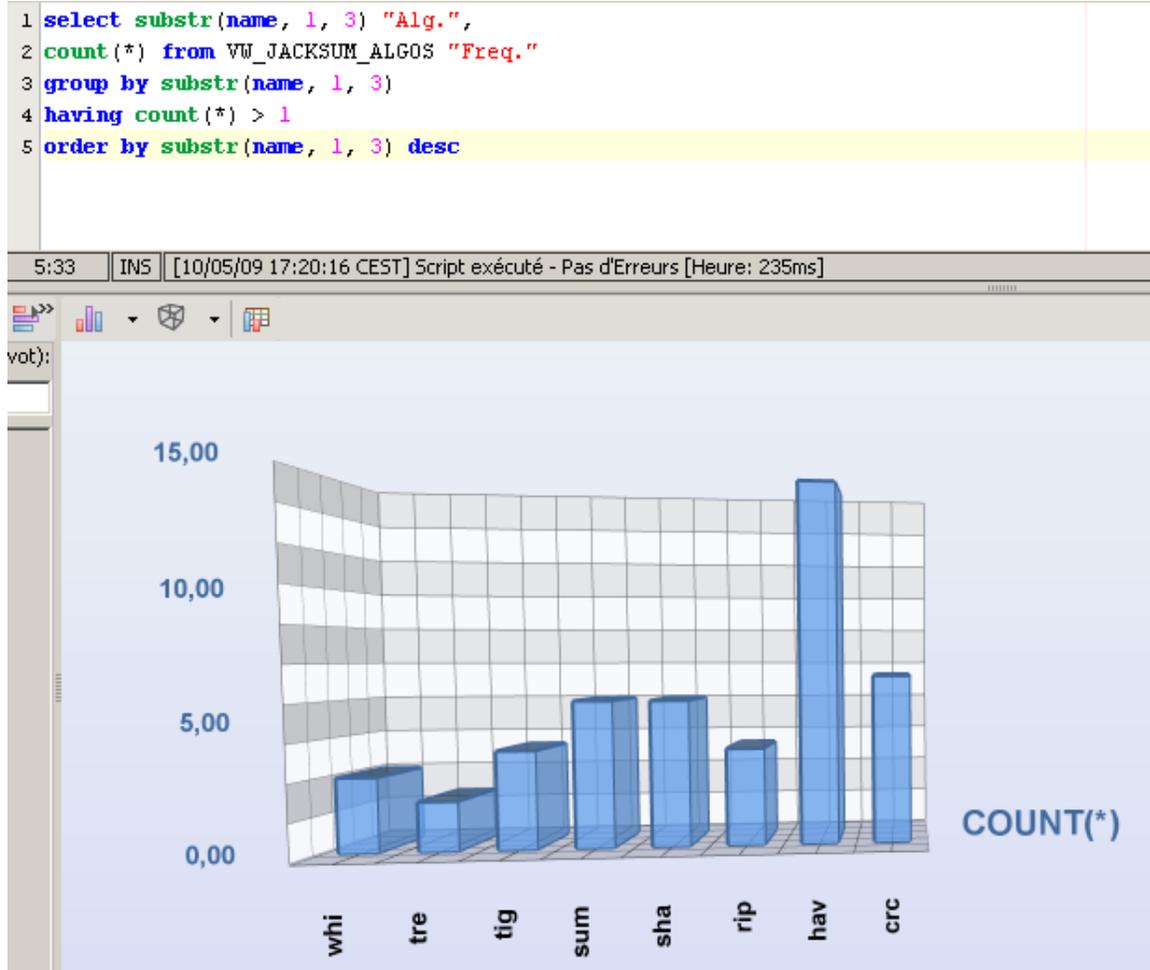
```

1:31 INS [10/05/09 17:11:32 CEST] Script exécuté - Pas d'Erreurs [Heure: 2s]

58 Enregistrement(s) [Retrouver MetaDonnées: 16/ms] [Retrouver Données: /ms] Somme: 0,00

	ID	DESCRIPTION	ENCODING	GROUPID	NAME	SEPARATOR	VALUE
1	0	Adler 32	(null)	0	adler32		1
2	1	cksum (Unix)	(null)	0	cksum		4294967295
3	2	CRC-16 (LHA/ARC)	(null)	0	crcl6		0
4	3	CRC-24 (Open PGP)	(null)	0	crc24		11994318
5	4	CRC-32 (FCS-32)	(null)	0	crc32		0
6	5	CRC-32 (BZIP2)	(null)	0	crc32_bzip2		0
7	6	CRC-32 (MPEG-2)	(null)	0	crc32_mpeg2		4294967295
8	7	CRC-64 (ISO 3309)	HEX	0	crc64		0
9	8	CRC-8 (FLAC)	(null)	0	crc8		0
10	9	ed2k	HEX	0	ed2k		0
11	10	Elf	(null)	0	elf		0
12	11	FCS-16	(null)	0	fcs16		0
13	12	GOST (R 34.11-94)	HEX	0	gost		0
14	13	HAS-160	HEX	0	has160		0
15	14	HAVAL 128 (3 rounds)	HEX	0	haval_128_3		0
16	15	HAVAL 128 (4 rounds)	HEX	0	haval_128_4		0
17	16	HAVAL 128 (5 rounds)	HEX	0	haval_128_5		0
18	17	HAVAL 160 (3 rounds)	HEX	0	haval_160_3		0

Getting all supported Jacksum checksum algorithms.



Reporting on implemented checksums (checksum variants)

JDBMS_FILESYSTEM

```

1 select file_parent "Parent",
2     file_absolute_path "Abs. Path",
3     file_name "Name",
4     last_modified_date "Last Modified",
5     length_mo "Mo"
6 from table(LIST_FILES(iDirectory => 'H:\Incoming', -- The dir
7     iMatchStringRegExp => '*.zip',-- All zip files
8     iJackSumAlgorithm => NULL,
9     iJackSumEncoding => NULL,
10    iJackSumSeparator => NULL,
11    iJackSumFormat => NULL,
12    iJackSumGroupingIndex => -1,
13    iJackSumGroupingSymbol => NULL,
14    igetMimeType => 0
15    ))
16 order by "Last Modified"
17

```

Parent	Abs. Path	Name	Last Modified	Mo
H:\Incoming	H:\Incoming\p4121946_220_GENERIC.zip	p4121946_220_GENERIC.zip	18/01/2005 13:58:21	0,0243396759033203
H:\Incoming	H:\Incoming\p4527873_10105_LINUX.zip	p4527873_10105_LINUX.zip	10/05/2006 15:38:42	0,00813007354736328
H:\Incoming	H:\Incoming\p5616323_92080_LINUX.zip	p5616323_92080_LINUX.zip	05/12/2007 14:42:58	0,0699787139892578
H:\Incoming	H:\Incoming\oracle-jutils_30052009.zip	oracle-jutils_30052009.zip	31/05/2009 10:24:20	7,91365814208984
H:\Incoming	H:\Incoming\p8548777_416_LINUX.zip	p8548777_416_LINUX.zip	09/06/2009 08:46:09	28,2275466918945
H:\Incoming	H:\Incoming\p6880880_101000_LINUX.zip	p6880880_101000_LINUX.zip	19/06/2009 21:38:04	25,1222457885742
H:\Incoming	H:\Incoming\titi.zip	titi.zip	13/07/2009 23:40:35	0

```

select file_name "File", last_modified_date "Last Modified", round(length_mo,2) "Mo",
     jacksum_formatted_hash "crc32", mime_type "Mime Type", mime_extension "Mime Ext."
from table(LIST_FILES(iDirectory => 'H:\myopensource\oracle-jutils\doc', -- The dir
     iMatchStringRegExp => NULL,-- All files
     iJackSumAlgorithm => 'crc32',
     iJackSumEncoding => 8,
     iJackSumSeparator => NULL,
     iJackSumFormat => '#CHECKSUM',
     iJackSumGroupingIndex => -1,
     iJackSumGroupingSymbol => NULL,
     igetMimeType => 1
     ))
where mime_extension is not null
order by "Mime Ext." desc

```

File	Last Modified	Mo	crc32	Mime Type	Mime Ext.
oracle-jutils.xml.pdf	05/07/2009 11:30:21	0,67	44CFE2F9	application/pdf	pdf
toc.hhc	05/07/2009 11:31:03	0,01	33183568	text/html	html
bk01s04.html	10/05/2009 18:07:21	0,92	F21688	text/html	html
bk01s05.html	10/05/2009 18:07:21	0,04	AE1B3D	text/html	html
bk01s06.html	10/05/2009 18:07:21	0,01	3C4B88EE	text/html	html
bk01s07.html	10/05/2009 18:07:21	0,00	CD0C448B	text/html	html
bk01s08.html	10/05/2009 18:07:21	0,01	C4052C77	text/html	html
bk01s09.html	10/05/2009 18:07:21	0,99	D96A00	text/html	html
bk01s10.html	10/05/2009 18:07:21	0,75	170785	text/html	html
bk01s11.html	10/05/2009 18:07:21	0,4E	B8F243	text/html	html
bk01s12.html	10/05/2009 18:07:21	0,96	F5D00	text/html	html
bk01s13.html	10/05/2009 18:07:21	0,8A	ECB959	text/html	html
ch01.html	05/07/2009 11:31:02	0,31	BDC5DE	text/html	html
ch01s02.html	05/07/2009 11:31:00	0,04	01B0CB38	text/html	html
ch01s03.html	05/07/2009 11:31:00	0,E4	A4FC31	text/html	html
ch01s04.html	05/07/2009 11:31:00	0,C6	8665DF	text/html	html

Description

```
1 select file_name "Original File Name",
2     JDBMS_FILESYSTEM.get_file_name(FILE_NAME) "File Name",
3     JDBMS_FILESYSTEM.get_file_path(FILE_NAME) "File Path"
4 from dba_data_files
5
```

5:1 | INS | [14/07/09 16:43:17 CEST] Script exécuté - Pas d'Erreurs [Heure: 312ms]

12 Enregistrement(s) [Retrouver MetaDonnées: 16/ms] [Retrouver Données: /ms]

	Original File Name	File Name	File Path
1	H:\APP\ASALES\ORADATA\DIDI\USERS01.DBF	USERS01.DBF	H:\APP\ASALES\ORADATA\DIDI
2	H:\APP\ASALES\ORADATA\DIDI\UNDOTS01.DBF	UNDOTS01.DBF	H:\APP\ASALES\ORADATA\DIDI
3	H:\APP\ASALES\ORADATA\DIDI\SYSAUX01.DBF	SYSAUX01.DBF	H:\APP\ASALES\ORADATA\DIDI
4	H:\APP\ASALES\ORADATA\DIDI\SYSTEM01.DBF	SYSTEM01.DBF	H:\APP\ASALES\ORADATA\DIDI
5	H:\APP\ASALES\ORADATA\DIDI\EXAMPLE01.DBF	EXAMPLE01.DBF	H:\APP\ASALES\ORADATA\DIDI
6	H:\APP\ASALES\ORADATA\DIDI\TS_XMPP.DBF	TS_XMPP.DBF	H:\APP\ASALES\ORADATA\DIDI
7	H:\APP\ASALES\ORADATA\DIDI\TS_OJUTILS.DBF	TS_OJUTILS.DBF	H:\APP\ASALES\ORADATA\DIDI
8	H:\TMP\TS_ORIGINAL.DBF	TS_ORIGINAL.DBF	H:\TMP
9	H:\TMP\TS_ZIPPED_9.DBF	TS_ZIPPED_9.DBF	H:\TMP
10	H:\TMP\TS_LZMA.DBF	TS_LZMA.DBF	H:\TMP
11	H:\TMP\TS_COMPRESS.DBF	TS_COMPRESS.DBF	H:\TMP
12	H:\TMP\TS_COMPRESS_HIGH.DBF	TS_COMPRESS_HIGH.DBF	H:\TMP

JDBMS_TWITTER

The image shows a Twitter profile for 'rastadidi' with a bio that reads: "oracle-jutils is now able to Twitt with JDBMS_TWITTER. Interaction between Oracle and Twitter is now easy. Give it a try." To the right, a terminal window displays the following SQL command and its output:

```
C:\Windows\system32\cmd.exe - sqlplus OJUTILS/OJUTILS
SQL> select JDBMS_TWITTER.SET_STATUS (
2 ILOGIN => 'rastadidi',
3 IPASSWORD => '
4 ISTATUS_TEXT => 'Oracle-jutils is now able to Twitt with JDBMS_TWITTER. Int
raction between Oracle and Twitter is now easy. Give it a try.')
5 from dual;
JDBMS_TWITTER.SET_STATUS(ILOGIN=>'RASTADIDI',IPASSWORD=>'EY7I2-7I',ISTATUS_TEXT=
Twitter Root url is null, will use standard twitter url.
Trying to connect ...
rastadidi Successfully connected.
SQL>
```

JDBMS_TWITTER : Post a message on a Twitter account from sqlplus.

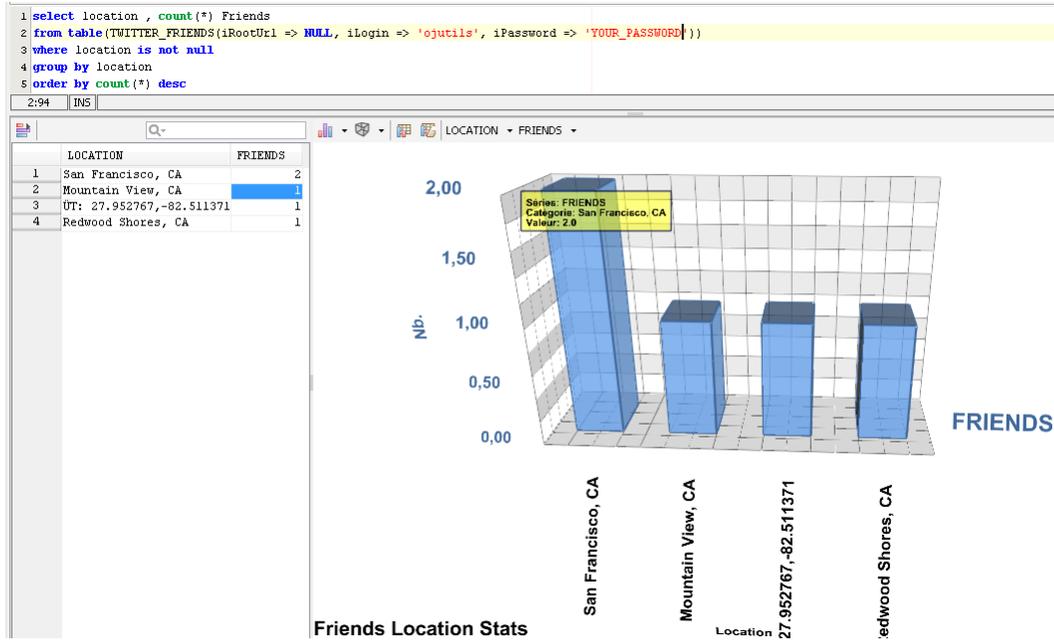
```
1 select * from table(TWITTER_STATUS(NULL, 'rastadidi', 'YOUR_PASSWORD', 'dcmom'))
2 union all
3 select * from table(TWITTER_STATUS(NULL, 'rastadidi', 'YOUR_PASSWORD', 'Guggenheim'))
```

Able to retrieve Status from a simple sql statement, as well as mentioned accounts, date time,

The image shows a screenshot of a Twitter profile for 'dcMOMO'. A tweet is visible with the text: "Great social media event by PTW w/ @geoffliving @rohitbhargava @AdamL #SMO2009 Audio is UP! Video coming. http://go.DanielOdio.com/SMO2009". A browser window in the foreground shows the same tweet. A red arrow points from the text above to the tweet content.

JDBMS_TWITTER : Query a given user status as a table.

Description



JDBMS_TWITTER : Make statistics on your friends (here their location).

```
1 select website, name, description, location, friends_count, followers_count
2 from table(TWITTER_FRIENDS(iRootUrl => NULL, iLogin => 'ojutils', iPassword => 'YOUR_PASSWORD'))
3 where name = 'sourceforge'
```

WEBSITE	NAME	DESCRIPTION	LOCATION	FRIENDS_COUNT	FOLLOWERS_COUNT
1 http://sourceforge.net/community	sourceforge	SourceForge.net is the biggest and best place to download and develop	Mountain View, CA	2480	9664

JDBMS_TWITTER : Perform queries on your friends in a convenient way.

Description

Base de Données: DIDDI Schéma: OJUTILS Nom d'utilisateur: SYS AUDSID: 4294967295

```
1 select T.CREATED_AT "Created at", T.TEXT "Text", T.MENTIONS "Mentions", T.USER_NAME "Name",
2 T.USER_SCREEN_NAME "Scr. Name", T.USER_WEBSITE "Website"
3 from table(TWITTER_FAVORITES(iRootUrl => NULL, iLogin => 'YOUR_LOGIN', iPassword => 'YOUR_PASSWORD', iUserName => 'ninjatunehq')) T
```

Created at	Text	Mentions	Name	Scr. Name	Website
18/06/2009 16:06:39	RT @ninjatunehq: Stream Anti-Pop Consortium's 'Capricorn One' at Pitchfork: http://tinyurl.com/kv6wdq Great news!!!!	@ninjatunehq	ian rubin	docfishop	(null)
18/06/2009 15:55:01	Riddim's different! I like... RT @ninjatunehq 's l@ninjatunehq	@ninjatunehq	Ciaran O' Fathaigh	dreadkey	http://www.myspace.com/dreadkey
18/06/2009 15:51:03	RT @ninjatunehq: Stream Anti-Pop Consortium's 'Capricorn One' at Pitchfork: http://tinyurl.com/kv6wdq -	@ninjatunehq	Edmond Zeringue	saltfeend	http://ezmediaweb.dyndns.tv/saltfeend/mix

3 enregistrement(s) [Récupérer Données: Oms]

avoris de ninjatunehq - Mozilla Firefox

http://twitter.com/ninjatunehq/favorites

Favorites de ninjatunehq

created in 1990 by the duo known as Coldcut.

858 7,677 614
Abonnements Abonnés Liste

Tweets 739

Favorites

Listes
@ninjatunehq/ninjas
Tout afficher

Abonnements

JDBMS_TWITTER : Parse your (or any other Twitter account) favorite s.

```
1 select Created_at "Date", text "Inbox Message",
2 recipient_screen_name "Recipient", sender_screen_name "Sender"
3 from table(TWITTER_DIRECT_MESSAGES(iRootUrl => NULL, iLogin => 'ojutils', iPassword => 'THE_PASSWORD', iSentFlag => 0))
```

Date	Inbox Message	Recipient	Sender
25/03/2010 17:20:14	Hello from @rastadidi, Keep The Spear Burnin'	ojutils	rastadidi

Messages - Mozilla Firefox

http://twitter.com/#inbox

Direct messages sent only to you

Inbox Sent

rastadidi Hello from @rastadidi, Keep The Spear Burnin' 37 minutes ago

Home @ojutils Direct Messages 1 Favorites Retweets

JDBMS_TWITTER : Query the direct messages you have in your inbox.

```
1 select Created_at "Date", text "Sent Messages",
2 recipient_screen_name "Recipient", sender_screen_name "Sender"
3 from table(TWITTER_DIRECT_MESSAGES(iRootUrl => NULL, iLogin => 'ojutils', iPassword => 'THE_PASSWORD', iSentFlag => 1))
```

Date	Sent Messages	Recipient	Sender
25/03/2010 17:42:14	I try to !	rastadidi	ojutils

Direct Messages - Mozilla Firefox

http://twitter.com/#sent

Direct messages you've sent

Inbox Sent

rastadidi I try to ! 22 minutes ago

Home @ojutils Direct Messages 1 Favorites Retweets

JDBMS_TWITTER : Query the direct messages you have sent.

```

1 select created_at "Creat. Date", followers_count "Nb. Followers", id "Id", name "Name",
2   screen_name "Scr. Name", status_text "Current Status"
3 from table(TWITTER_FOLLOWERS(iRootUrl => NULL, iLogin => 'ojutills', iPassword => 'THE_PASSWORD', iUserName => 'rastadidi'))

```

	Creat. Date	Nb. Followers	Id	Name	Scr. Name	Current Status
1	15/03/2010 15:52:59		1	123268652 oracle-jutills	oraclejutills	(null)
2	21/03/2010 21:58:31		4	125141531 oraclejutills	ojutills	"I struggle to keep myself amused"

JDBMS_TWITTER : Get your own followers.

```

1 select created_at "Creat. Date", followers_count "Nb. Followers", id "Id", name "Name", screen_name "Scr. Name", status_text "Current Status"
2 from table(TWITTER_FOLLOWERS(iRootUrl => NULL, iLogin => 'ojutills', iPassword => 'THE_PASSWORD', iUserName => NULL))

```

	Creat. Date	Nb. Followers	Id	Name	Scr. Name	Current Status
1	05/03/2010 13:57:35		2	120093259 Adrien SALES	rastadidi	New function to get status
2	20/03/2010 20:21:35		61	124842229 James	insuranceinfo7	http://health-insurance.suite101.com/article.cfm/he
3	14/11/2009 16:40:03		46	89959368 current	katiecurryxi	Few more spots left for the #iPad tester, http://b
4	05/05/2009 01:51:31		200	37811989 mary mercedes	tiburondelrey	Idiot hit guard rail on road, textong while drivin

JDBMS_TWITTER : Get the followers of a given Twitter account.

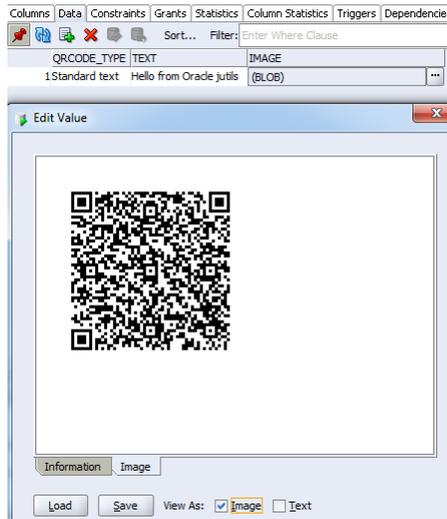


JDBCMS_TWITTER : Send a Message from sqlplus*.

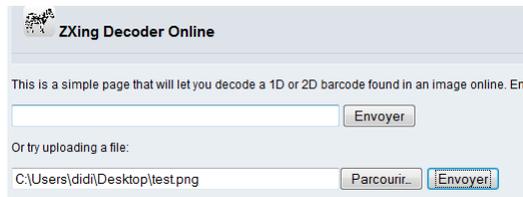
JDBCMS_QRCODE

```
SQL> insert into QR_CODE_TEST (qrcode_type, text, image)
2 values ('Standard text',
3 'Hello from Oracle jutlis',
4 JDBCMS_QRCODE.get_Google_QrCode_Png_Image (iSIZEEX=> 230,
5 iSIZEY => 230,
6 iCONTENT => 'Set of PL/SQL packages to perform Oracle 11g tasks within a very few nu
number of lines :
7 can dump/load LOBs, compute CRC, get Mime Type from a BLOB, send XMPP messages
8 list directory contents as a table, interact with Twitter,...',
9 iENCODING => 'UTF-8', 'L',
10 iCORRECTION_LEVEL => 'L',
11 iMARGIN => 4));
1 ligne cr00e.
SQL> commit;
Validation effectu0e.
```

JDBCMS_QRCODE : Encode a simple Text into a QrCode from sqlplus and insert it into a test table.



JDBCMS_QRCODE : Have a look at the QrCode in the table (here from SQL Developer), and dump it to local disk.



JDBCMS_QRCODE : Decode the QrCode from ZXing [<http://zxing.org/w/decode.jspx>] online decoder.

Set of PL/SQL packages to perform Oracle 11g tasks within a very few number of lines :
 can dump/load LOBs, compute CRC, get Mime Type from a BLOB, send XMPP messages,
 list directory contents as a table, interact with Twitter,...

JDBMS_QRCODE : Get the text back from ZXing [http://zxing.org/w/decode.jspx] online decoder.

```

SQL> desc QR_CODE_TEST
Name
-----
QR_CODE_TYPE      VARCHAR2(20)
TEXT              NVARCHAR2(2000)
IMAGE             BLOB

SQL> set serveroutput on
SQL> declare
2  QR_BLOB BLOB;
3  DECODED NVARCHAR2(2000);
4  begin
5  select image into QR_BLOB from QR_CODE_TEST where rownum = 1;
6  DECODED := JDBMS_QRCODE.decode_qrcode(QR_BLOB);
7  dbms_output.put_line(decode);
8  end;
9
Set of PL/SQL packages to perform Oracle 11g tasks within a very few number of
lines :
can dump/load LOBs, compute CRC, get Mime Type from a BLOB, send XMPP
messages,
list directory contents as a table, interact with Twitter,...
ProcEDURE PL/SQL termine avec succds.
SQL>
  
```

Columns Data Constraints Grants Statistics Column Statistics Triggers Dependencies De

QR_CODE_TYPE	TEXT	IMAGE
1 Standard text	Hello from Oracle jutils	(BLOB)

Information Image

Load Save View As: Image Text

JDBMS_QRCODE.decode_qrcode : Get the text back straight from the BLOB that contains the QrCode.

TODO

Things i have to do as soon as possible, when i have time :

1. JDBMS_COMPRESS package : compress/uncompress a given BLOB into an another BLOB with bzip2, gzip
2. Create the JDBMS_MAIL package : will be based on Java Mail (javax.mail)
3. Enhance PL/SQL package documentation and comments

Changelog

First Release : 21032009

First release.

22032009

Added the JDBMS_MIMETYPES package.

05042009

- Completed JDBMS_CHECKSUM package with more CRC32 functions
- Started to implement the JDBMS_COMPRESS package with the ZIP(BLOB) and UNZIP(BLOB) functions, with some test cases. Single Entry ZIP BLOB only are supported for now.

13042009

- Added the PIPELINED FUNCTION ZipEntries(iBLOB IN BLOB) that takes in input the BLOB of a zipped stream/file and returns as output the table that describes the description (all entries, CRC, ...) of the BLOB.

Warning

To be able to use completely ZipEntries function, 11.1.0.6 will have to be patched to at least 11.1.0.7. Once done, everything will be completely fine (i did test it by myself).

I provide you Metalink details :

```
This problem is encountered when trying to access an NVL
TABLE function in PL/SQL.
```

```
ORA-12714: invalid national character set specified
due to error bug fixed in 11.1.0.7 (Server Patch Set)
```

```
Subject: Bug 6029647 - ORA-12714 accessing typed column
TABLE() function
```

```
Range of versions believed to be affected Versions < 11.1.0.7
Fixed:
```

```
11.1.0.7 (Server Patch Set) Patch no 6890831 => Success
11.2 (Future Release)
```

18042009

- Completed JDBMS_COMPRESS package with the UNZIP_BLOB_ZIPENTRY_TO_BLOB. Now, if you have a zip archive in a BLOB, you are able to extract a given Entry in the BLOB straight in a BLOB. Test case has been provided in the test_JDBMS_COMPRESS.sql file. The test is very easy to perform.

03052009

- Created JDBMS_XMPP package : migrate oracle-xmpp functionalities, java code totally rewritten to give more functionalities and correct some unexpected Java behavior while running inside Oracle (SASL Authentication) as well as Presence detection. Still a lot of work to perform !
- Created new version of send_single_plain_text_message function, this function version will be overloaded with full Connection Configuration Settings and proper/safe return code.
- Totally rewritten the PIPELINED function (XmppRosters) that provides Roster through a real relational table. This time i did implement the Oracle's native SQLData interface. Furthermore i do now provide much more details about Rosters than in previous (OracleXMPP) version.

- Added some easy to use functions in JDBMS_XMPP to ping servers, test connection, ...
- Still to do : first of all messages batch sending methods.

08052009

- Correction in install script : i did forget to include the JDBMS_XMPP install script
- Created first version of JDBMS_JACKSUM, that wrapps JackSum library. Now it is possible to compute a very wide range of checksums on files from sql, but of course also on BLOBs (from sql too). As detailed on JackSum website [<http://www.jonelo.de/java/jacksum/>], through JDBMS_JACKSUM, JDBMS inherits a huge amount of checksums :

"Jacksum supports 58 popular standard algorithms (Adler32, BSD sum, Bzip2's CRC-32, POSIX cksum, CRC-8, CRC-16, CRC-24, CRC-32 (FCS-32), CRC-64, ELF-32, eMule/eDonkey, FCS-16, GOST R 34.11-94, HAS-160, HAVAL (3/4/5 passes, 128/160/192/224/256 bits), MD2, MD4, MD5, MPEG-2's CRC-32, RIPEMD-128, RIPEMD-160, RIPEMD-256, RIPEMD-320, SHA-0, SHA-1, SHA-224, SHA-256, SHA-384, SHA-512, Tiger-128, Tiger-160, Tiger, Tiger2, Tiger Tree Hash, Tiger2 Tree Hash, Unix System V sum, sum8, sum16, sum24, sum32, Whirlpool-0, Whirlpool-1, Whirlpool and xor8). "

"Jacksum supports the "Rocksoft (tm) Model CRC Algorithm", it can calculate customized CRC algorithms (all from 8 bit to 64 bit) and it supports the combination of multiple algorithms. Due to those features, millions of different new algorithms are possible. "

Since today, you are for example able to generate edk links from a dumped BLOB and provide the edk url on APEX [http://www.oracle.com/technology/products/database/application_express/index.html] to create a P2P sharing model of database contents, and many other cool stuff, within a very few number of lines (a single line of code is required to generate the edk url, have a look at test_JDBMS_JACKSUM to see how.

16052009

- Now using 1.75.0 Docbook xsl to compile documentation
- JDBMS_JACKSUM : Added the function to compute checksums on NVARCHARs and refactored java code for Jacksum functions
- JDBMS_XMPP : Upgraded package with batch send procedures. For now, from a single XMPP session, you can send a same message to a list of recipients. The recipient list can be provided as a comma-separated NVARCHAR2 value or from a cursor in case you would like to send messages to a set of people that you have in a personal table. Have a look at JDBMS_XMPP screenshots for more details. Having a look at test_JDBMS_XMPP.sql [[./files/test_JDBMS_XMPP.sql](#)] will also show you how to perform these batch send operations.
- Modified a little screenshots size to make them more readable in pdf and ps versions, and hence printable.

22052009

- Correction in install_oracle-jutils.sql : the path to cacerts was not correct dur to bad copy paste.
- Finally added LZMA/7zip compression (and uncompression) functions. From now, it is possible to compress BLOB into the well known 7z format and hence save a lot of space with a very efficient

algorithm. I'll try to find time to make a benchmark between zip compression (Level 9), Oracle 11g secured file storage COMPRESS (and COMPRESS HIGH) and LZMA algorithm (dictionary size fixed to 22).

I have used the 7zip LZMA SDK v4.65 [<http://www.7-zip.org/sdk.html>]

For people who do master the LZMA algorithm, you have the handle to set your own compression parameters, the one used in the LzmaAlone class. I did inherit from LzmaAlone class so things are clean, and so you can get documentation straight from there, in all cases, if you want to deal with custom command line switches, have a look at the JDBMS_COMPRESS package source code or at the JDBMS_COMPRESS section in this documentation.

30052009

Note

You only have to reload the oracle-jutils.jar file for this upgrade and of course re-compile the PL/SQL packages.

- JDBMS_CHECKSUM : Added CRC32 computation on multiple input BLOBs (up to 10). So you are now able to compute CRC32 in single shot on multiple BLOBs (the CRC32 is sequentially updated with BLOB's bytes, null BLOBs are skipped during computation). I have implemented this feature because of a specific need in my job. I'll try to implement the same overload in JDBMS_JACKSUM package, it may be useful and more homogeneous.
- Updated test_JDBMS_COMPRESS with the grant to be able to test the LZMA compression function
- Updated JDBMS_JACKSUM with overloaded functions to make standard checksum computations simpler : now you can just provide the algorithm. The overload is available for BLOBs, filesystem file and text. The TEST_JDBMS_JACKSUM has been updated with code samples.
- Updated JDBMS_JACKSUM with checksum computation on up to 10 BLOBs in a single time (like in JDBMS_CHECKSUM in this same release). Overload for light version also provided (you can only provide the algorithm for shorter PL/SQL calls). You can compare the JDBMS_CHECKSUM and JDBMS_JACKSUM for crc32 algorithm, although the JDBMS_JACKSUM is much more complete but a bit slower (around 2 times slower as we do not use the same method to compute the CRC).
- Completed the jmimemagic magic.xml file with chm mimetype. Hence, since now, JDBMS_JACKSUM will be able to detect chm files (from file or BLOB). Just reload the library to have this new mime type enabled, therefore just :

```
loadjava -u OJUTILS/OJUTILS -resolve lib/jmimemagic.jar
loadjava -u OJUTILS/OJUTILS -resolve dist/oracle
```

.. and of course re-compile related PL/SQL packages (JDBMS_CHECKSUM, JDBMS_JACKSUM). On this specific topic, help is welcome to enhance the magic.xml file with new mime types, such a donation would be greatly appreciated.

05072009

- For each new release, since now, will add the method to patch oracle-jutils within a minimal number of steps (script is as generic as possible so you should be able to patch easily on linux, windows and other 'nix OS).

- JDBMS_COMPRESS : Added function that zips up to 10 BLOBS into a new BLOB. Have a look at test_JDBMS_COMPRESS.sql for more details.
- Completed the magic file with application/msoutlook mime type. Now Outlook messages will be recognized
- Changed JDBMS_CHECKSUM.get_CRC32(BLOB) behaviour : now JDBMS_CHECKSUM.get_CRC32(EMPTY_BLOB()) (same on a NULL types BLOB parameter) returns NULL instead of throwing an Exception (behaviour asked by developer as it finally makes more sense to get a null CRC than making a try/catch in client code).

To patch upgrade, just do :

```
cd $OJUTILS_HOME
loadjava -u OJUTILS/OJUTILS -resolve lib/jmimemagic-0.1.0.
loadjava -u OJUTILS/OJUTILS -resolve dist/oracle-jutils.ja
cd doc
cd files
sqlplus OJUTILS/OJUTILS
spool patch_05072009.log
@install_JDBMS_COMPRESS.sql
@install_JDBMS_CHECKSUM.sql
spool off
exit
```

13072009

Mainly, in this release, i've added the LIST_FILES (to list directory contents in a relational way) pipelined table function. So from now, we are able to list directory like :

```
select *
from
table(LIST_FILES(iDirectory => 'H:\Incoming', ...
```

And get in return the list of files with their properties (Last Modified Date, privileges, hash, mime types, ... and all the properties i could grap from Java) in a relational way. Have a look at the JDBMS_FILESYSTEM screenshots as the output is really cool : you can now make crossed reports between your os files and relational content thanks to a simple join.

I've also started to implement JDBMS_FILESYSTEM package to interact with the filesystem from Oracle.

- Added LIST_FILES to list files in a directory in a relational way
- Added JDBMS_FILESYSTEM.get_file_name(file_absolute_path in NVARCHAR2) to extract the file name from the absolute path. Notice that it uses local OS file separator but does not require any directory read privilege.
- Added JDBMS_FILESYSTEM.get_file_path(file_absolute_path in NVARCHAR2) to extract the file name from the absolute path. Notice that it uses local OS file separator but does not require any directory read privilege.

To patch upgrade, just do :

```
cd $OJUTILS_HOME
loadjava -u OJUTILS/OJUTILS -resolve lib/jmimemagic-0.1.0.
loadjava -u OJUTILS/OJUTILS -resolve dist/oracle-jutils.ja
cd doc
cd files
sqlplus OJUTILS/OJUTILS
spool patch_LATEST.log
@install_JDBMS_FILESYSTEM.sql
spool off
exit
```

15032010

- Added JDBMS_TWITTER package. For now, only one feature is available on this package, but pretty soon, other features will come. I've base this package on a customized version of JTwitter [<http://www.winterwell.com/software/jtwitter.php>] (the Java library for the Twitter API). For now, you can post Messages and ping the Twitter server. Have a look at test_JDBMS_TWITTER.sql for examples but the package is pretty straight forward as you will see.
- Changed JDBMS_JACKSUM.GET_CHECKSUM (BLOB, ...) on single BLOB hash computing : will now return NULL if input BLOB is NULL.

```
select JDBMS_JACKSUM.GET_CHECKSUM(nvl(NULL, empty_blob),
'crc32',
8, --JDBMS_JACKSUM.ENCODING_HEX_UPPERCASE
null, --separator
'#CHECKSUM', -- put a standard output format
-1,
null) as CRC32
from dual;
```

was throwing the exception. Now, it returns a NULL checksum.

- Modified the loadjava command : they do now are verbose
- Corrected install.sql : i have added the install_JDBMS_FILESYSTEM.sql as i did forgot to add it in the complete install.

20032010

In this release i did especially focus on pipelined functions around Twitter functionalities. I had to denormalize some outputs to make the functions easy to use in real situations. I think to add later other simple functions, but i'm pretty convinced that this release make a real step in Twitter features inside Oracle. If one function is missing or that you would like to be added, please do not hesitate to contact me, i'll be glad to add it. And in all cases, any feedback is always welcome. Have fun Twitter from Oracle.

- Added pipelined function (TWITTER_STATUS) to get the status of a given user by its name. As output, you get User Creation Date, the ID, mentionned twitters, the Text itself, and hte userid. Therefore, just run :

```
select * from table(TWITTER_STATUS(NULL, 'YOUR_L
```

- Added the pipelined function TWITTER_FRIENDS that enables you to query on you friends properties, and their status to make things as convenient as possible. Have a look at the screenshots for more details but things start to look nice, for example to make statistics on twitter locations, timezones, ...
- Upgraded the JTwitter library with 1.4.4 version, see official JTwitter changelog [<http://www.winterwell.com/software/jtwitter/changelist.txt>]. Many thanks to Daniel Winterwell for his reactive support on Bug corrections.
- Added the TWITTER_FAVORITES pipelined function to get favorites as a table. Returns your favorites or anyone else favorites if username is provided (not null). Have a look at Screenshots.
- Now, the TWITTER_FRIENDS function does provide a TIMESTAMP as the type of T_TWITTER_FRIEND.CREATION_DATE can now be a Timestamp due to JTwitter 1.4.4 feature request (on User.createdAt is now a Date).
- Added the pipelined TWITTER_DIRECT_MESSAGES function that enable you to perform queries on your Inbox and sent (direct) messages.
- Added the TWITTER_FOLLOWERS pipelined function to get the followers of a given Twitter account, or of your own twitter account. As for each newly added function, screenshots and test statements are provided.
- Added the TWITTER_REPLIES pipelined function that returns the 20 most recent replies/mentions (status updates).

28032010

- Bug Correction on TWITTER_REPLIES (dumb null variable Bug)
- Added the TWITTER_TIMELINE pipelined function. With this function you can get your Friends Timeline or your own Home Timelines. Just set iFriendsFlag to 1 to Friends Timeline, and to 0 for your own Timeline.
- Added the TwitterUtil class to make some tasks easier to perform (for now for Mentions management).

04042010

This is a little release around Twitter (send Message) and Compression (added gzip format) :

- Added the SEND_MESSAGE function that sends a message and return the Message ID as output.
- Added the USER_EXISTS function to test if a Twitter User exists (use Screen Name)
- Added the GZIP(BLOB) and GUNZIP_BLOB functions in JDBMS_COMPRESS package

To upgrade from previous version, just run

```
-- As OJUTILS
cd $OJUTILS_HOME/doc/files
sqlplus OJUTILS/OJUTILS @install_JDBMS_COMPRESS.sql
sqlplus OJUTILS/OJUTILS @install_JDBMS_TWITTER.sql
```

```
cd $OJUTILS_HOME
loadjava -v -u OJUTILS/OJUTILS -resolve dist/oracle-jutils
```

Then you are ready to gzip BLOBs and send Twitter messages.

2010808

- Added the JDBMS_COMPRESS.TAR_DIRECTORY_RECURSIVE->BLOB function to recursively tar all files (except already existing tar files) from a directory (and subdirectories) and get the tar output as a BLOB, useful to directly take a snapshot of files in a BLOB.
- Added JDBMS_COMPRESS.TAR_DIRECTORY that tar all files of the directory, an overloaded version is also provided to apply a regular expression of the files you want to tar.
- Added buffer size argument to JDBMS_COMPRESS.GZIP_BLOB function so you can choose the buffer size while compressing /uncompressing gzip blobs.
- Changed release naming convention, now is YYYYMMDD.
- Upgraded Log4J library with latest log4j-1.2.16 [<http://logging.apache.org/log4j/1.2/download.html>] version. Library is provided with oracle-jutils distribution.
- Added JDBMS_QRCODE package to deal with QrCodes in a convenient way, that is, encoding and decoding QrCodes. Encoding is for now using Google Charts as I could not find a suitable open source library, so, for now, you can :
 1. JDBMS_QRCODE.get_google_qrchart_url and other overload versions : get the suitable Google Chart url that will be used to encode the QrCode
 2. JDBMS_QRCODE.get_Google_QrCode_Png_Image -> BLOB : to get the PNG image straight in a BLOB. All parameters can be specified according to Google Chart documentation (Encoding, chart size, Correction Level, Margin). So, it's very easy to use and as customizable than Google online generator. Have a look at screenshots to see how easy it is to use, or at test script in test_JDBMS_QRCODE.sqlSoon, I will add offline QrCode decoding, taking a BLOB of the png QrCode, returning the Text, and also deal with standard urls to encode contents (url, sms, phone number, email, mms,...), based on Standard specifications.

To patch from previous version :

```
cd $OJUTILS_HOME
loadjava -v -u OJUTILS/OJUTILS -resolve lib/log4j-1.2.16.jar
loadjava -v -u OJUTILS/OJUTILS -resolve dist/oracle-jutils.jar
cd doc/files
sqlplus OJUTILS/OJUTILS @install_JDBMS_COMPRESS.sql
```

20100814

This release is focused on JDBMS_QRCODE package, and first of all the feature that allows to decode QrCode from the image, without any call to google (no internet connexion required). zxing project [<http://code.google.com/p/zxing/wiki/BarcodeContents>] is used to decode QrCodes.

- JDBMS_QRCODE : added decode_qrcode(BLOB)->NVARCHAR2 function, used to decode a QRCode image on the fly : just call the function to decode it, that's it.
- Added functions based on standard tags to encode informations in standard urls (phone number, email address, sms, mms, ...), and then launch proper application when the QRCode is loaded on the device that implements these urls. Provided functions are GENERATE_TEXT_FOR_EMAIL, GENERATE_TEXT_FOR_MAIL_ADDRESS, GENERATE_TEXT_FOR_MEDCARD, GENERATE_TEXT_FOR_MMS, GENERATE_TEXT_FOR_URL, GENERATE_TEXT_FOR_PHONE_NUMBER, GENERATE_TEXT_FOR_SMS. I have used zxing wiki [<http://code.google.com/p/zxing/wiki/BarcodeContents>] to deal with urls
- Offline QrCode encoding added with JDBMS_QRCODE.get_ZXing_QrCode_Png_Image function and other overloads. Now, QRcode encoding is possible without having to connect to Google Charts. Futhermore, encoding is much faster : 0.2 seconds on my laptop, ... and of course much more confidential as your data are not sent over the network.

To patch from previous release, just :

```
-- As OJUTILS
cd $OJUTILS_HOME/doc/files
sqlplus OJUTILS/OJUTILS @install_JDBMS_QRCODE.sql

cd $OJUTILS_HOME
loadjava -v -u OJUTILS/OJUTILS -resolve dist/oracle-jutils
```

Chapter 2. Tutorial

Document versions

Included other document formats :

- Pdf [./oracle-jutils.xml.pdf]
- Postscript [./oracle-jutils.xml.ps]
- Chm (cannot be opened from the Chm version) [./oracle-jutils.xml.chm]

Install

The install steps is divided in many steps, please respect the order if you are not familiar with these manipulations. If you are already experimented and think the install process can be improved, contact me.

Warning

Please note that this library can only be used on Oracle 11g with the suitable JDK.

To install, just look at the following script [./files/install_oracle-jutils.sql] and follow instructions. All jars are in /oracle-jutils/dist/ and oracle-jutils/lib/ directories.

First, go in the oracle-jutils/doc/files directory and run the install_oracle-jutils.sql [./files/install_oracle-jutils.sql] script, it will create the OJUTILS schema with is dedicated tablespace, role, etc... and load all the required jars into the database. Once this done, you will be able to install all the other packages, respect the install order if you don't want to deal with dependencies.

Compile it yourself

All libraries are already provided indeed, some of you like to compile project by themselves, therefore, i'll provide you the steps to build it by yourslef.

To compile the project, just open it with Netbeans and build it, all required libraries are provided in the /lib directory, but all are not required to compile the Project : some are needed by Oracle, so follow the instructions in the install guide if you want to resolve all classes in the oracle-jutils package.

Warning

Take good care to compile the project with the same JDK as the Oracle one : take a look at \$ORACLE_HOME/jdk.

To compile, just add the following libraries (\$OJUTILS_HOME/lib) :

- classes12.jar (\$ORACLE_HOME/jdbc/lib)
- xdb_g.jar
- commons-logging-1.1.1.jar [http://commons.apache.org/logging]
- jmimemagic-0.1.0.jar [http://jmimemagic.sourceforge.net/index.html]
- CartridgeServices.jar (from Oracle 11g Home in RDBMS/jlib)

- ODCI.jar (from Oracle 11g Home in RDBMS/jlib)
- smack.jar
- smackx.jar
- jacksum.jar
- signpost-core-1.2.jar
- commons-codec-1.4.jar

All the other libraries from the `$OJUTILS_HOME/lib` directory need to be loaded into OJUTILS schema (have a look at the install script, everything is provided and dependances are taken in account).

Test packages

For each package, i provide a file called `test_PACKAGE_NAME.sql`. To test the package, just play around with the included scripts. For any question/problem, or if you think that more examples would welcome, feel free to contact me and i'll add some or yours.

Chapter 3. Ideas

A set of ideas on how to use provided packages to make original, simples and innovative things inside and around Oracle. The ideas are orhanized by packages (ie. by topic).

With the following sections, you will also find ready-to use pieces of code, or simply make funny thins with Oracle.

JDBMS_XMPP

- Use XMPP Gateways to send a wide range of messages from Oracle (for example to a Text To Speech engine, SIP, or a Voice Mail server so Oracle can send vocal messages). In a light APEX application this could do a great Job.

JDBMS_JACKSUM

- Use APEX to generate website that could generate datapumps from the Web, generate the edk url and finally share the datapump through enterprise P2P network. Hence, file could be easily shared, without having to open directory rights to clients as only the local Oracle's edk server would run. Finally, you can share contents in a decentralized way, with very few efforts (depends on you needs).
- Monitor spfile (or password file) md5 checkum and throw an alert from Oracle (for example thanks to JDBMS_XMPP), from SQL to alert DBA that file has changed for example.

Chapter 4. Softwares

To produce this project, i did rely on other softwares, all open sources ones (except Oracle of course). To thank them, i wanted to mention them :

- Notepad++ [<http://notepad-plus.sourceforge.net/>] : i'm a big fan, very nice and useful project
- Netbeans [<http://www.netbeans.org/>]
- Docbook/Xalan [<http://www.docbook.org/>] (to produce documentation from docbook)
- Greenshot [<http://greenshot.sourceforge.net/>] (to make nice Screenshots)
- 7Zip [<http://www.7-zip.org/>] (to test Compressions and native OS CRC32 checks), and also for LZMA SDK [<http://www.7-zip.org/sdk.html>]
- Aqua Data Studio [<http://www.aquafold.com/>] (to present nice looking outputs)

I've also used the following libraries and dependencies :

- Java Mime Magic Library (jmimemagic-0.1.0.jar) [<http://jmimemagic.sourceforge.net/>]
- Apache Commons logging [<http://commons.apache.org/logging>]
- jmxtools.jar
- log4j-1.2.15.jar [<http://logging.apache.org/log4j/1.2/index.html>]
- logkit.jar [<http://avalon.apache.org>]
- avalon-logkit-2.1.jar [<http://avalon.apache.org>]
- avalon-framework.jar [<http://avalon.apache.org>]
- javax.servlet.jar [<http://java.sun.com>]
- commons-logging-1.1.1.jar [<http://commons.apache.org/logging>]
- jakarta-oro-2.0.8.jar [<http://jakarta.apache.org/oro/>]
- JackSum [<http://www.jonelo.de/java/jacksum/>]
- OAuth Google Implementation (oauth-signpost) [<http://code.google.com/p/oauth-signpost/>]
- JSon Implementation [<http://json.org/java/json.zip>]
- JTwitter - the Java library for the Twitter API : Open Implementation of Twitter client by Winterwell [<http://www.winterwell.com/software/jtwitter.php>]
- zxing - Multi-format 1D/2D barcode image processing library with clients for Android, Java [<http://code.google.com/p/zxing/>]. I did use it to decode QRcodes, and, in feature releases, to deal with 1D barcodes.