

Université IBM i 2017

17 et 18 mai – IBM Client Center de Bois-Colombes

S23 – La puissance des services IBM i et DB2

Jeudi 18 mai – 11h00-12h30

Philippe Bourgeois – IBM France



Les services IBM i et DB2 – Définition

- Ce sont des vues, procédures et fonctions **SQL** fournies en standard permettant d'accéder à des fonctions IBM i **système**
- Objectif : utiliser le langage SQL pour accéder à des fonctions système IBM i
- Une alternative aux commandes CL et aux APIs
- On parle également de **SQL as a Service**
- Pour qui ?
 - Les administrateurs système
 - Les administrateurs de la sécurité
 - Les administrateurs de la base de données
 - Mais également les développeurs

Les services IBM i et DB2 – Pourquoi SQL ?

- SQL est un standard
- Il est facile de trouver des compétences
- SQL est un langage très puissant :
 - Clauses WHERE avec IN, LIKE, NOT, expressions régulières...
 - Tri, groupage, union, jointure, CTE...
 - Liste des "n" premiers
 - etc.
- SQL peut être utilisé en dehors d'un programme
- SQL peut être facilement utilisé à partir de Java, PHP, .Net, etc.

Les services IBM i et DB2 – A savoir

- Les services sont documentés sur le site "IBM i Technology Updates"
- Des exemples sont fournis dans le produit "IBM i Access Client Solutions" (ACS)
 - Fonctionnalité "Run SQL scripts"
- Le service SERVICES_INFO donne la liste de tous les services
- Des rapports et graphiques DB2 Web Query sont fournis en standard pour habiller en mode Web le résultat SQL
- Les services IBM i et DB2 permettent uniquement de récupérer des informations système
 - Pas de mise à jour, pas de suppression

Les services IBM i et DB2 – Prérequis SQL

- Connaissance du langage SQL
 - Instruction SELECT avec ses différentes clauses
 - Unions, jointures, CTE, noms qualifiés en 3 parties...

- Connaissance des différents environnements permettant de coder du SQL
 - RUNSQL, RUNSQLSTM, Run SQL scripts, CRTSQLxxx, STRSQL, ODBC, JDBC, DRDA...

- Si besoin, formez-vous !
 - IBM Lab Services peut vous proposer des prestations de transfert de connaissances à la carte pour une mise à niveau SQL
 - Contact : Philippe Bourgeois (pbourgeois@fr.ibm.com)

Les services IBM i et DB2 – Documentation

■ Sur le site **IBM i Technology Updates**

IBM i Technology Updates

 19 | Updated yesterday at 4:54 PM by amra1 | Tags: db2, enhancements, firmware, hardware, i, ibm, operating, system, technology, updates

Page Actions ▾

IBM i operating system (OS) levels and related software products are frequently enhanced via PTFs. Prior to the existence of this wiki, IBM did not provide a single point for clients to learn about all IBM i enhancements.

	Enhancement Landing Pages
IBM i 7.3	TR2 -TR1 - Base Enhancements
IBM i 7.2	TR6 - TR5 - TR4 - TR3 - TR2 - TR1 - Base Enhancements
IBM i 7.1	TR11 - TR10 - TR9 - TR8

The following links take you to landing pages for various products and subjects. Each subject area contains extended details about existing and new support.

IBM i Technology Updates - by IBM i product or subject matter
Backup Recovery and Media Services (BRMS)
Collaboration and Social for i (Lotus)
DB2 for i (Database)

Les services IBM i et DB2 – Documentation

- Sur le site **IBM i Technology Updates**

DB2 for i updates by category
DB2 for i Functional Enhancements
DB2 for i Security Enhancements
DB2 for i Performance Enhancements
DB2 for i Database Management Enhancements
DB2 for i Availability/Recovery Enhancements
OmniFind for IBM i
SQL Services

IBM i Service	Type of Service
PTF Services	
QSYS2.GROUP_PTF_INFO	View
QSYS2.PTF_INFO	View
SYSTOOLS.GROUP_PTF_CURRENCY	View
SYSTOOLS.GROUP_PTF_DETAILS	View
Security Services	
QSYS2.AUTHORITY_COLLECTION	View
QSYS2.AUTHORIZATION_LIST_INFO	View
QSYS2.AUTHORIZATION_LIST_USER_INFO	View
QSYS2.DRDA_AUTHENTICATION_ENTRY_INFO	View
QSYS2.FUNCTION_INFO	View
QSYS2.FUNCTION_USAGE	View
QSYS2.GROUP_PROFILE_ENTRIES	View
QSYS2.OBJECT_PRIVILEGES	View
QSYS2.SQL_CHECK_AUTHORITY()	UDF
QSYS2.USER_INFO	View

Les services IBM i et DB2 – Prérequis système

- Sont indiqués sur le site **IBM i Technology Updates**

IBM i Service	Type of Service	IBM i 7.3	IBM i 7.2	IBM i 7.1
PTF Services				
QSYS2.GROUP_PTF_INFO	View	Base	Base	SF99701 Level 6
QSYS2.PTF_INFO	View	Enhanced in Base	Base	SF99701 Level 23
SYSTOOLS.GROUP_PTF_CURRENCY	View	Base Enhanced: SF99703 Level 3	SF99702 Level 3 Enhanced: SF99702 Level 14	SF99701 Level 32 Enhanced: SF99701 Level 41
SYSTOOLS.GROUP_PTF_DETAILS	View	Base Enhanced: SF99703 Level 3	SF99702 Level 9 Enhanced: SF99702 Level 14	SF99701 Level 38
Security Services				
QSYS2.AUTHORITY_COLLECTION	View	Base	-	-
QSYS2.AUTHORIZATION_LIST_INFO	View	SF99703 Level 4	SF99702 Level 16	-
QSYS2.AUTHORIZATION_LIST_USER_INFO	View	SF99703 Level 4	SF99702 Level 16	-

Les services IBM i et DB2 – Catégories

- Les services IBM i
 - PTFs
 - Sécurité
 - Messages
 - Bibliothèques
 - Gestion des travaux
 - Communication
 - Stockage
 - Produits
 - Spoules
 - Centre de santé
 - Journaux
 - Java
 - Applications
- Les services DB2
 - Centre de santé
 - Applications
 - Procédures
 - Utilitaires
 - Performance
 - Cache de plan

Liste des services IBM i

IBM® i Services

Security Services

QSYS2.AUTHORITY_COLLECTION – VIEW
 QSYS2.AUTHORIZATION_LIST_INFO – VIEW
 QSYS2.AUTHORIZATION_LIST_USER_INFO – VIEW
 QSYS2.DRDA_AUTHENTICATION_ENTRY_INFO – VIEW
 QSYS2.FUNCTION_INFO – VIEW
 QSYS2.FUNCTION_USAGE – VIEW
 QSYS2.GROUP_PROFILE_ENTRIES – VIEW
 QSYS2.OBJECT_PRIVILEGES – VIEW
 QSYS2.SQL_CHECK_AUTHORITY – UDF
 QSYS2.USER_INFO – VIEW
 SYSPROC.SET_COLUMN_ATTRIBUTE – PROCEDURE

Communication Services

QSYS2.NETSTAT_INFO – VIEW
 QSYS2.NETSTAT_INTERFACE_INFO – VIEW
 QSYS2.NETSTAT_JOB_INFO – VIEW
 QSYS2.NETSTAT_ROUTE_INFO – VIEW
 QSYS2.SERVER_SBS_ROUTING – VIEW
 QSYS2.SET_SERVER_SBS_ROUTING – PROCEDURE
 QSYS2.TCPIP_INFO – VIEW
 SYSIBMADM.ENV_SYS_INFO – VIEW

Product Services

QSYS2.LICENSE_INFO – VIEW
 SYSTOOLS.LICENSE_EXPIRATION_CHECK – PROCEDURE

Application Services

QSYS2.ENVIRONMENT_VARIABLE_INFO – VIEW
 QSYS2.QCMDXC – PROCEDURE
 QSYS2.SERVICES_INFO – TABLE
 QSYS2.SET_PASE_SHELL_INFO – PROCEDURE

Storage Services

QSYS2.MEDIA_LIBRARY_INFO – VIEW
 QSYS2.SYSDISKSTAT – VIEW
 QSYS2.SYSTMPSTG – VIEW
 QSYS2.USER_STORAGE – VIEW

Journal Services

QSYS2.DISPLAY_JOURNAL – UDTF
 QSYS2.JOURNAL_INFO – VIEW

Java Services

QSYS2.JVM_INFO – VIEW
 QSYS2.SET_JVM – PROCEDURE

Pool Services

QSYS2.OUTPUT_QUEUE_ENTRIES – VIEW
 QSYS2.OUTPUT_QUEUE_ENTRIES – UDTF
 QSYS2.OUTPUT_QUEUE_INFO – VIEW

Librarian Services

QSYS2.LIBRARY_LIST_INFO – VIEW
 QSYS2.OBJECT_STATISTICS – UDTF

System Health Services

QSYS2.SYSLIMITS – VIEW
 QSYS2.SYSLIMTBL – TABLE

Message Handling Services


QSYS2.HISTORY_LOG_INFO – UDTF
 QSYS2.JOBLOG_INFO – UDTF
 QSYS2.MESSAGE_QUEUE_INFO – VIEW
 QSYS2.REPLY_LIST_INFO – VIEW

PTF Services

QSYS2.GROUP_PTF_INFO – VIEW
 QSYS2.PTF_INFO – VIEW
 SYSTOOLS.GROUP_PTF_CURRENCY – VIEW
 SYSTOOLS.GROUP_PTF_DETAILS – VIEW

Work Management Services

QSYS2.ACTIVE_JOB_INFO – UDTF
 QSYS2.GET_JOB_INFO – UDTF
 QSYS2.JOB_INFO – UDTF
 QSYS2.MEMORY_POOL – UDTF
 QSYS2.MEMORY_POOL_INFO – VIEW
 QSYS2.OBJECT_LOCK_INFO – VIEW
 QSYS2.RECORD_LOCK_INFO – VIEW
 QSYS2.SCHEDULED_JOB_INFO – VIEW
 QSYS2.SYSTEM_STATUS – UDTF
 QSYS2.SYSTEM_STATUS_INFO – VIEW
 QSYS2.SYSTEM_VALUE_INFO – VIEW

 IBM i Services



<http://ibm.biz/DB2foriServices>
<http://www.ibm.com/developerworks/ibmi/techupdates/db2/landscape>

Liste des services DB2

IBM® DB2® for i Services

Health Center Procedures

QSYS2.HEALTH_ACTIVITY
 QSYS2.HEALTH_DATABASE_OVERVIEW
 QSYS2.HEALTH_DESIGN_LIMITS
 QSYS2.HEALTH_ENVIRONMENTAL_LIMITS
 QSYS2.HEALTH_SIZE_LIMITS
 QSYS2.RESET_ENVIRONMENTAL_LIMITS

Utility Procedures

QSYS2.CANCEL_SQL
 QSYS2.DUMP_SQL_CURSORS
 QSYS2.EXTRACT_STATEMENTS
 QSYS2.FIND_AND_CANCEL_QSQSRVR_SQL
 QSYS2.FIND_QSQSRVR_JOBS
 QSYS2.GENERATE_SQL
 QSYS2.RESTART_IDENTITY
 SYSTOOLS.CHECK_SYSCST
 SYSTOOLS.CHECK_SYSRoutine

Application Services


QSYS2.DELIMIT_NAME – UDF
 QSYS2.OVERRIDE_TABLE – PROCEDURE
 QSYS2.PARSE_STATEMENT – UDTF
 SYSPROC.WLM_SET_CLIENT_INFO – PROCEDURE

Performance Services

QSYS2.CONDENSEDINDEXADVICE – VIEW
 QSYS2.DATABASE_MONITOR_INFO – VIEW
 QSYS2.OVERRIDE_QAQQINI – PROCEDURE
 QSYS2.RESET_TABLE_INDEX_STATISTICS – PROCEDURE
 QSYS2.SYSIXADV – TABLE
 SYSTOOLS.ACT_ON_INDEX_ADVICE – PROCEDURE
 SYSTOOLS.HARVEST_INDEX_ADVICE – PROCEDURE
 SYSTOOLS.REMOVE_INDEXES – PROCEDURE

Plan Cache Procedures

QSYS2.CHANGE_PLAN_CACHE_SIZE
 QSYS2.CLEAR_PLAN_CACHE
 QSYS2.DUMP_PLAN_CACHE
 QSYS2.DUMP_PLAN_CACHE_PROPERTIES
 QSYS2.DUMP_PLAN_CACHE_TOPN
 QSYS2.DUMP_SNAP_SHOT_PROPERTIES
 QSYS2.END_ALL_PLAN_CACHE_EVENT_MONITORS
 QSYS2.END_PLAN_CACHE_EVENT_MONITOR
 QSYS2.IMPORT_PC_EVENT_MONITOR
 QSYS2.IMPORT_PC_SNAPSHOT
 QSYS2.REMOVE_PC_EVENT_MONITOR
 QSYS2.REMOVE_PC_SNAPSHOT
 QSYS2.REMOVE_PERFORMANCE_MONITOR
 QSYS2.START_PLAN_CACHE_EVENT_MONITOR

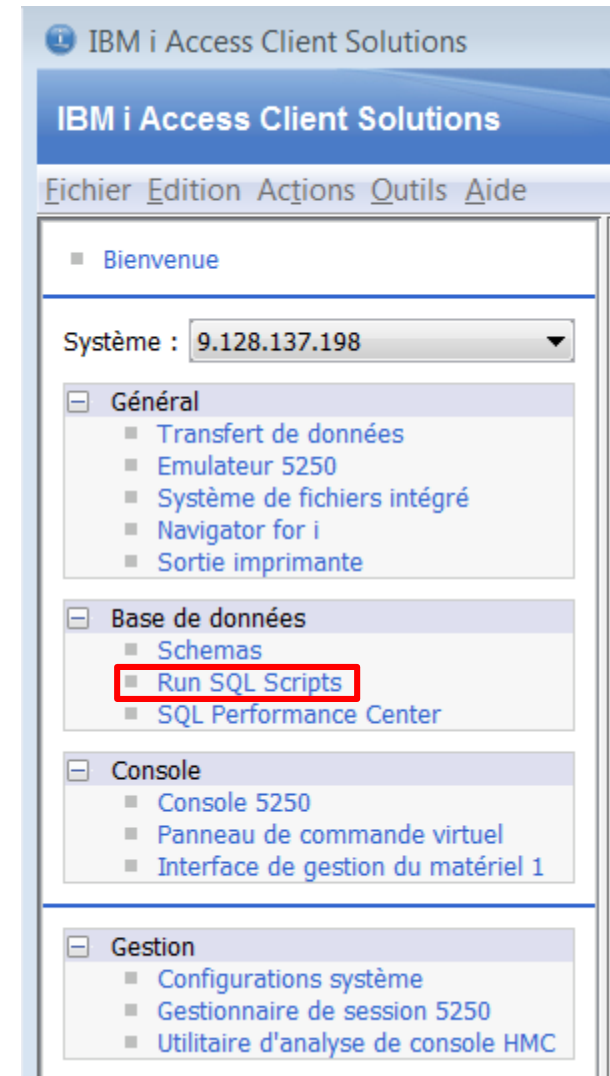
 DB2 for i Services

 <http://www.ibm.com/developerworks/ibmi/techupdates/db2/landscape>

Comment commencer ?

■ Utilisation d'ACS (IBM i Access Client Solutions)

- Successeur d'IBM i Access for Windows (Client Access)
- Utilise les licences de XW1 (IBM i Access Family)
 - Les mêmes que Client Access
- Téléchargeable depuis le site IBM
 - www.ibm.com/systems/power/software/i/access/solutions.html
- 100% Java
- Ne nécessite pas d'installation



ACS – Run SQL scripts – Service SERVICES_INFO

■ `SELECT * FROM QSYS2.SERVICES_INFO;`

Untitled* - Run SQL Scripts - 9.128.137.198(Ibmi73)

Fichier Edition Affichage Run Visual Explain Options Connection

```

1
2 SELECT * FROM QSYS2.SERVICES_INFO;
3

```

SERVICE_CATEGORY	SERVICE_SCHEMA _NAME	SERVICE_NAME	SQL_OBJECT_TYPE	EARLIEST_POSSI BLE_RELEASE	INITIAL_DB2 GROUP_LEVEL	LATEST_DB2 GROUP_LEVEL	EXAMPLE
PTF	QSYS2	PTF_INFO	VIEW	V6R1M0	-	-	--- Description: Will an IPL impac
PTF	QSYS2	GROUP_PTF_INFO	VIEW	V6R1M0	-	-	--- Description: What is the most
PTF	SYSTOOLS	GROUP_PTF_CURRENCY	VIEW	V7R1M0	-	-	3--- Description: Determine wheth
PTF	SYSTOOLS	GROUP_PTF_DETAILS	VIEW	V7R1M0	-	-	--- Description: Review all unappl
SECURITY	QSYS2	USER_INFO	VIEW	V6R1M0	-	-	--- Description: Which users are a
SECURITY	QSYS2	FUNCTION_INFO	VIEW	V6R1M0	-	-	--- Description: Which function us
SECURITY	QSYS2	FUNCTION_USAGE	VIEW	V6R1M0	-	-	--- Description: Which Database f
SECURITY	QSYS2	GROUP_PROFILE_ENTRIES	VIEW	V6R1M0	-	-	--- Description: Review *ALLOBJ
SECURITY	QSYS2	SQL_CHECK_AUTHORITY	SCALAR FUNCTION	V6R1M0	-	-	--- Description: Does this user ha
SECURITY	QSYS2	SET_COLUMN_ATTRIBUTE	PROCEDURE	V6R1M0	-	-	--- Description: Secure salary col
SECURITY	QSYS2	DRDA_AUTHENTICATION_ENTRY_INFO	VIEW	V7R1M0	-	-	--- Description: Retrieve the DRD
SECURITY	QSYS2	AUTHORITY_COLLECTION	VIEW	V7R3M0	-	-	--- Description: Review authority
WORK MANAGEMENT	QSYS2	SYSTEM_VALUE_INFO	VIEW	V6R1M0	-	-	--- Description: Compare System
WORK MANAGEMENT	QSYS2	GET_JOB_INFO	TABLE FUNCTION	V6R1M0	-	-	3--- Description: Find the jobs with
WORK MANAGEMENT	QSYS2	ACTIVE_JOB_INFO	TABLE FUNCTION	V7R1M0	-	-	--- Description: Find the top 10 cc
WORK MANAGEMENT	OSYS2	SCHEDULED_JOB_INFO	VIEW	V7R1M0	-	-	--- Description: Review the job sc

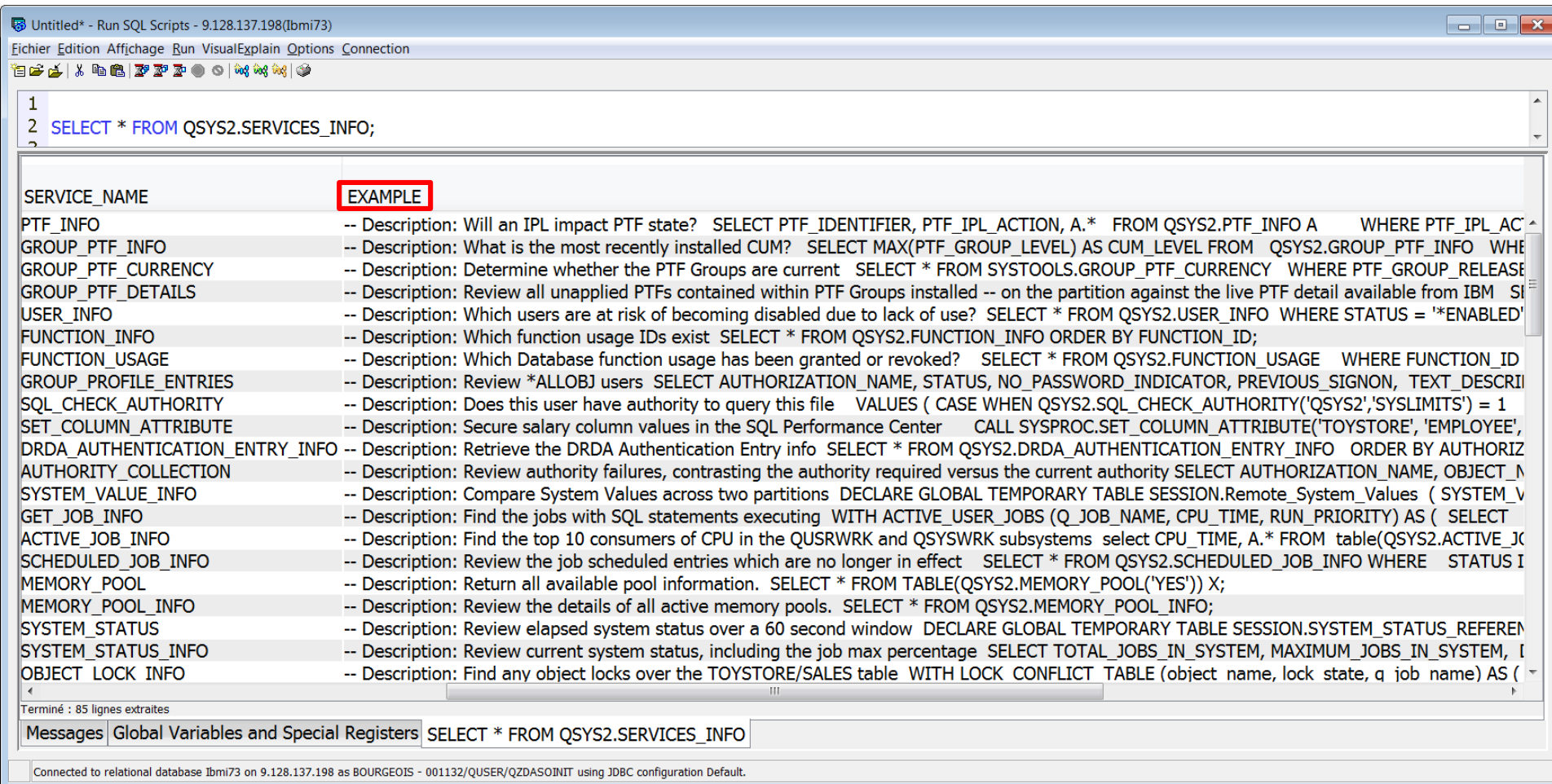
Terminé : 85 lignes extraites

Messages Global Variables and Special Registers SELECT * FROM QSYS2.SERVICES_INFO

Connected to relational database Ibmi73 on 9.128.137.198 as BOURGEOIS - 001132/QUSER/QZDASOINIT using JDBC configuration Default.

ACS – Run SQL scripts – Service SERVICES_INFO

■ `SELECT * FROM QSYS2.SERVICES_INFO;`



1
2 `SELECT * FROM QSYS2.SERVICES_INFO;`

SERVICE_NAME	EXAMPLE
PTF_INFO	-- Description: Will an IPL impact PTF state? <code>SELECT PTF_IDENTIFIER, PTF_IPL_ACTION, A.* FROM QSYS2.PTF_INFO A WHERE PTF_IPL_AC</code>
GROUP_PTF_INFO	-- Description: What is the most recently installed CUM? <code>SELECT MAX(PTF_GROUP_LEVEL) AS CUM_LEVEL FROM QSYS2.GROUP_PTF_INFO WHE</code>
GROUP_PTF_CURRENCY	-- Description: Determine whether the PTF Groups are current <code>SELECT * FROM SYSTOOLS.GROUP_PTF_CURRENCY WHERE PTF_GROUP_RELEASE</code>
GROUP_PTF_DETAILS	-- Description: Review all unapplied PTFs contained within PTF Groups installed -- on the partition against the live PTF detail available from IBM <code>SI</code>
USER_INFO	-- Description: Which users are at risk of becoming disabled due to lack of use? <code>SELECT * FROM QSYS2.USER_INFO WHERE STATUS = '*ENABLED'</code>
FUNCTION_INFO	-- Description: Which function usage IDs exist <code>SELECT * FROM QSYS2.FUNCTION_INFO ORDER BY FUNCTION_ID;</code>
FUNCTION_USAGE	-- Description: Which Database function usage has been granted or revoked? <code>SELECT * FROM QSYS2.FUNCTION_USAGE WHERE FUNCTION_ID</code>
GROUP_PROFILE_ENTRIES	-- Description: Review *ALLOBJ users <code>SELECT AUTHORIZATION_NAME, STATUS, NO_PASSWORD_INDICATOR, PREVIOUS_SIGNON, TEXT_DESCRIP</code>
SQL_CHECK_AUTHORITY	-- Description: Does this user have authority to query this file <code>VALUES (CASE WHEN QSYS2.SQL_CHECK_AUTHORITY('QSYS2','SYSLIMITS') = 1</code>
SET_COLUMN_ATTRIBUTE	-- Description: Secure salary column values in the SQL Performance Center <code>CALL SYSPROC.SET_COLUMN_ATTRIBUTE('TOYSTORE', 'EMPLOYEE',</code>
DRDA_AUTHENTICATION_ENTRY_INFO	-- Description: Retrieve the DRDA Authentication Entry info <code>SELECT * FROM QSYS2.DRDA_AUTHENTICATION_ENTRY_INFO ORDER BY AUTHORIZ</code>
AUTHORITY_COLLECTION	-- Description: Review authority failures, contrasting the authority required versus the current authority <code>SELECT AUTHORIZATION_NAME, OBJECT_N</code>
SYSTEM_VALUE_INFO	-- Description: Compare System Values across two partitions <code>DECLARE GLOBAL TEMPORARY TABLE SESSION.Remote_System_Values (SYSTEM_V</code>
GET_JOB_INFO	-- Description: Find the jobs with SQL statements executing <code>WITH ACTIVE_USER_JOBS (Q_JOB_NAME, CPU_TIME, RUN_PRIORITY) AS (SELECT</code>
ACTIVE_JOB_INFO	-- Description: Find the top 10 consumers of CPU in the QUSRWRK and QSYSWRK subsystems <code>select CPU_TIME, A.* FROM table(QSYS2.ACTIVE_JC</code>
SCHEDULED_JOB_INFO	-- Description: Review the job scheduled entries which are no longer in effect <code>SELECT * FROM QSYS2.SCHEDULED_JOB_INFO WHERE STATUS I</code>
MEMORY_POOL	-- Description: Return all available pool information. <code>SELECT * FROM TABLE(QSYS2.MEMORY_POOL('YES')) X;</code>
MEMORY_POOL_INFO	-- Description: Review the details of all active memory pools. <code>SELECT * FROM QSYS2.MEMORY_POOL_INFO;</code>
SYSTEM_STATUS	-- Description: Review elapsed system status over a 60 second window <code>DECLARE GLOBAL TEMPORARY TABLE SESSION.SYSTEM_STATUS_REFEREN</code>
SYSTEM_STATUS_INFO	-- Description: Review current system status, including the job max percentage <code>SELECT TOTAL_JOBS_IN_SYSTEM, MAXIMUM_JOBS_IN_SYSTEM, I</code>
OBJECT_LOCK_INFO	-- Description: Find any object locks over the TOYSTORE/SALES table <code>WITH LOCK_CONFLICT_TABLE (object name, lock state, q job name) AS (</code>

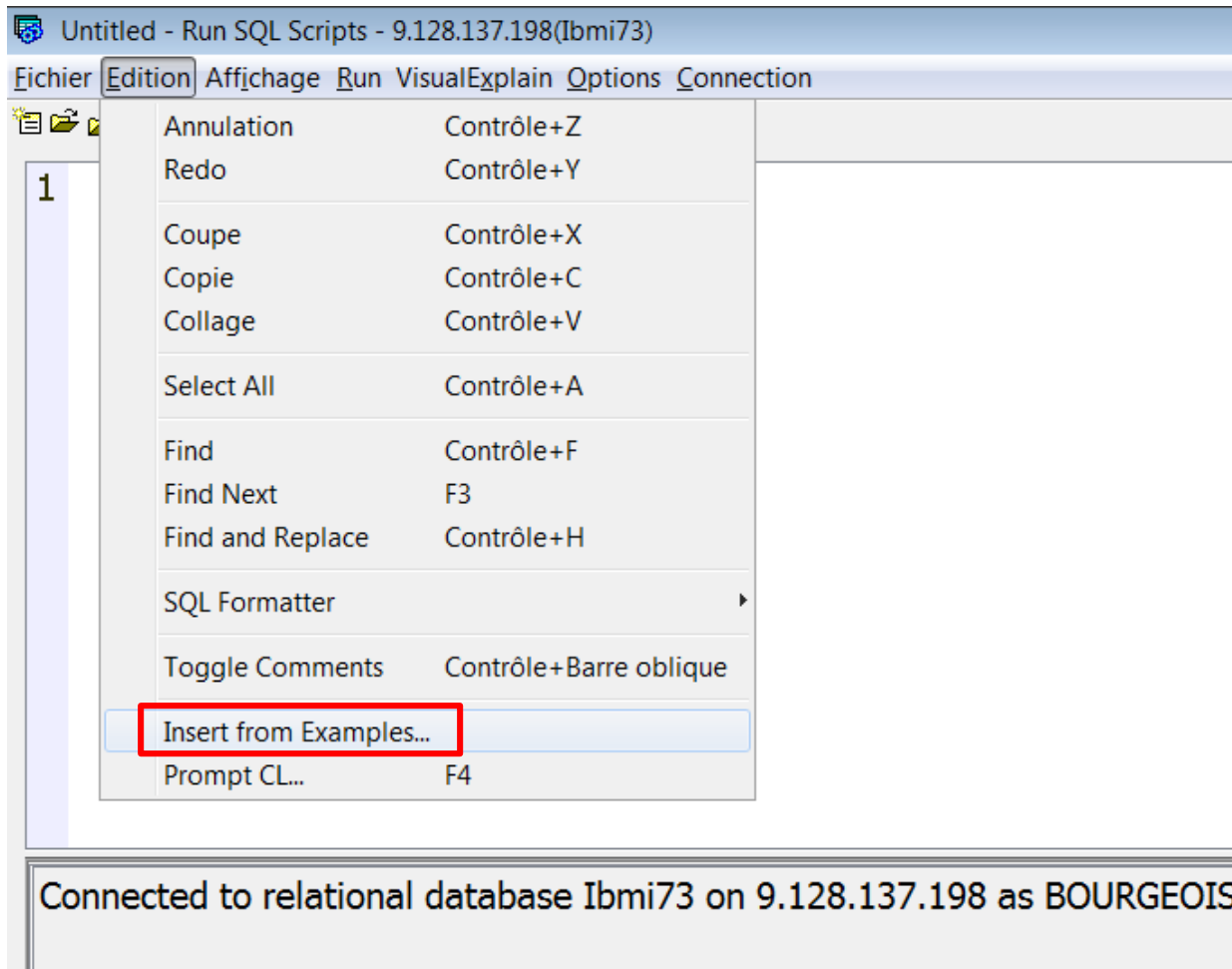
Terminé : 85 lignes extraites

Messages Global Variables and Special Registers `SELECT * FROM QSYS2.SERVICES_INFO`

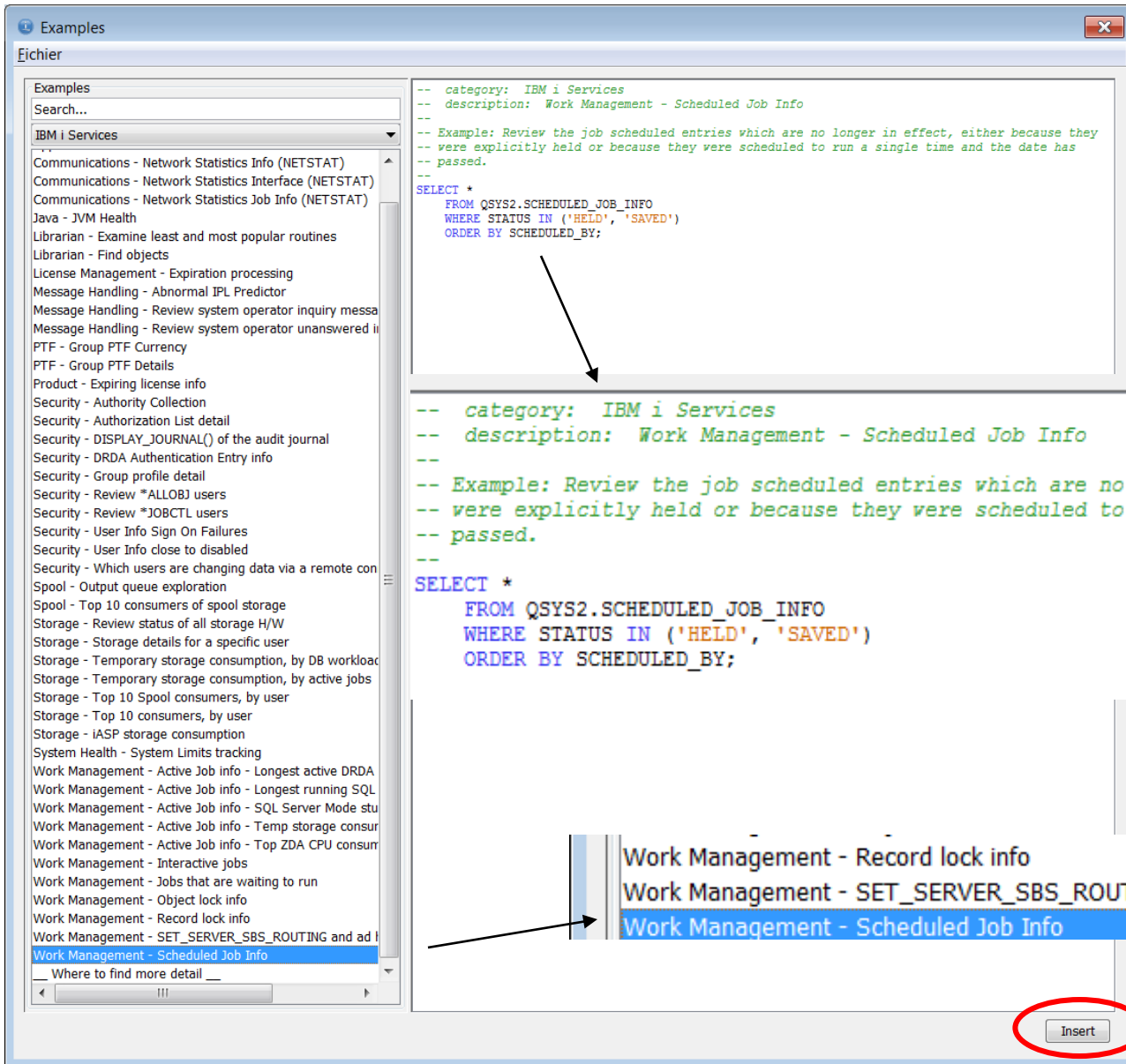
Connected to relational database lbmi73 on 9.128.137.198 as BOURGEOIS - 001132/QUSER/QZDASOINIT using JDBC configuration Default.

Comment commencer ?

- ACS – Fonction **Run SQL scripts**
 - Puis **Edition** et **Insert from Examples...**



ACS – Run SQL scripts – Insert from Examples



The screenshot shows a window titled "Examples" with a file explorer on the left and a text editor on the right. The file explorer lists various system examples, with "Work Management - Scheduled Job Info" selected. The text editor displays the SQL script for this example, which includes a SELECT statement to query the QSYS2.SCHEDULED_JOB_INFO table. An arrow points from the selected file in the list to the SQL script. The "Insert" button at the bottom right is circled in red.

```

-- category: IBM i Services
-- description: Work Management - Scheduled Job Info
--
-- Example: Review the job scheduled entries which are no longer in effect, either because they
-- were explicitly held or because they were scheduled to run a single time and the date has
-- passed.
SELECT *
FROM QSYS2.SCHEDULED_JOB_INFO
WHERE STATUS IN ('HELD', 'SAVED')
ORDER BY SCHEDULED_BY;
    
```


ACS – Run SQL scripts – Insert from Examples

Untitled* - Run SQL Scripts - 9.128.137.198(Ibmi73)

Fichier Edition Affichage Run Visual Explain Options Connection

```

1  -- category: IBM i Services
2  -- description: Work Management - Scheduled Job Info
3  --
4  -- Example: Review the job scheduled entries which are no longer in effect, either because they
5  -- were explicitly held or because they were scheduled to run a single time and the date has
6  -- passed.
7  --
8  SELECT *
9  FROM QSYS2.SCHEDULED_JOB_INFO
10 WHERE STATUS IN ('HELD', 'SAVED')
11 ORDER BY SCHEDULED_BY;
12

```

SCHEDULED_JOB_ENTRY_NUMBER	SCHEDULED_JOB_NAME	SCHEDULED_DATE_VALUE	SCHEDULED_DATE	SCHEDULED_TIME	SCHEDULED_DAYS	FREQUENCY	F
1	FACT_MENSU	*MONTHEND	-	22.00.00	-	*MONTHLY	-




Terminé : 1 lignes extraites

Messages Global Variables and Special Registers Work Management - Scheduled Job Info

Connected to relational database Ibmi73 on 9.128.137.198 as BOURGEOIS - 001132/QUSER/QZDASOINIT using JDBC configuration Default.

Services IBM i

Services relatifs aux PTFs

IBM i Service	Type of Service	IBM i 7.3	IBM i 7.2	IBM i 7.1
PTF Services				
QSYS2.GROUP_PTF_INFO	View	Base	Base	SF99701 Level 6
QSYS2.PTF_INFO 	View	Enhanced in Base	Base	SF99701 Level 23
SYSTOOLS.GROUP_PTF_CURRENCY 	View	Base Enhanced: SF99703 Level 3	SF99702 Level 3 Enhanced: SF99702 Level 14	SF99701 Level 32 Enhanced: SF99701 Level 41
SYSTOOLS.GROUP_PTF_DETAILS 	View	Base Enhanced: SF99703 Level 3	SF99702 Level 9 Enhanced: SF99702 Level 14	SF99701 Level 38

Liste des PTFs

Service PTF_INFO

```
18 SELECT *
19 FROM QSYS2.PTF_INFO
20 WHERE PTF_IDENTIFIER = 'SI63050';
21
```

Rechercher une PTF sans connaître le nom du produit

PTF_PRODUCT_ID	PTF_PRODUCT_OPTION	PTF_PRODUCT_RELEASE_LEVEL	PTF_IDENTIFIER	PTF_RELEASE_LEVEL	PTF_PRODUCT_DESCRIPTION	PTF_LOADED_STATUS	PTF_LOAD_DATE
5770WDS	*BASE	V7R3M0	SI63050	V7R3M0	IBM Rational Development Studio...	APPLIED	5101

```
22 SELECT *
23 FROM QSYS2.PTF_INFO
24 WHERE PTF_ACTION_REQUIRED <> 'NONE';
25
```

Rechercher les PTFs qui nécessitent une action

PTF_PRODUCT_ID	PTF_PRODUCT_OPTION	PTF_PRODUCT_RELEASE_LEVEL	PTF_IDENTIFIER	PTF_ACTION_REQUIRED	PTF_PRODUCT_DESCRIPTION
5770SS1	*BASE	V7R3M0	SI58487	IPL	IBM i
5770SS1	*BASE	V7R3M0	SI58489	IPL	IBM i
5770SS1	*BASE	V7R3M0	SI58550	IPL	IBM i
5770SS1	*BASE	V7R3M0	SI59211	IPL	IBM i
5770SS1	*BASE	V7R3M0	SI59290	IPL	IBM i

Liste des groupes de PTFs et des PTFs associées

Service GROUP_PTF_CURRENCY

Groupes de PTFs et différence par rapport au dernier niveau IBM

```
30 SELECT *
31 FROM SYSTOOLS.GROUP_PTF_CURRENCY;
32
```

PTF_GROUP_CURRENCY	PTF_GROUP_ID	PTF_GROUP_TITLE	PTF_GROUP_LEVEL_INSTALLED	PTF_GROUP_LEVEL_AVAILABLE	PTF_GROUP_LAST_UPDATE
INSTALLED LEVEL IS CURRENT	SF99225	SF99225 730 IBM Open Source Solutions for i	3		3 01/19/2017
INSTALLED LEVEL IS CURRENT	SF99333	SF99333 730 DB2 Web Query for i V2.2.0	3		3 04/24/2017
INSTALLED LEVEL IS CURRENT	SF99703	SF99703 730 DB2 for IBM i	4		4 03/29/2017
INSTALLED LEVEL IS CURRENT	SF99722	SF99722 730 IBM HTTP Server for i	7		7 04/24/2017
INSTALLED LEVEL IS CURRENT	SF99723	SF99723 730 Performance Tools	3		3 03/29/2017
INSTALLED LEVEL IS CURRENT	SF99725	SF99725 730 Java	4		4 04/26/2017
INSTALLED LEVEL IS CURRENT	SF99727	SF99727 730 Technology Refresh	2		2 03/16/2017
UPDATE AVAILABLE	SF99728	SF99728 730 Group Security	13		14 05/02/2017
UPDATE AVAILABLE	SF99729	SF99729 730 Group Hiper	28		29 05/02/2017
INSTALLED LEVEL IS CURRENT	SF99730	Current Cumulative PTF Media Documentation	17061		17061 03/17/2017
INSTALLED LEVEL IS CURRENT	SF99876	SF99876 730 High Availability for IBM i	3		3 11/15/2016

Service GROUP_PTF_DETAILS

Les PTFs manquantes d'un groupe de PTFs

```
34 SELECT *
35 FROM TABLE(SYSTOOLS.GROUP_PTF_DETAILS('SF99225')) a
36 WHERE PTF_STATUS = 'PTF MISSING';
37
```

PTF_STATUS	LICPGM	PTF_IDENTIFIER	APAR_NAME	PTF_DATE	CUMPKG	PTF_CUMPKG
PTF MISSING	5733OPS	SI61900	SE65410	12/28/16	1000	NONE
PTF MISSING	5733OPS	SI63122	SE66146	12/28/16	1000	NONE
PTF MISSING	5733OPS	SI63570	SE66439	01/19/17	1000	NONE

Services relatifs à la sécurité

IBM i Service	Type of Service	IBM i 7.3	IBM i 7.2	IBM i 7.1
Security Services				
QSYS2.AUTHORITY_COLLECTION	View	Base	-	-
QSYS2.AUTHORIZATION_LIST_INFO	← View	SF99703 Level 4	SF99702 Level 16	-
QSYS2.AUTHORIZATION_LIST_USER_INFO	← View	SF99703 Level 4	SF99702 Level 16	-
QSYS2.DRDA_AUTHENTICATION_ENTRY_INFO	View	Base	SF99702 Level 5	SF99701 Level 34
QSYS2.FUNCTION_INFO	View	Base	Base	SF99701 Level 26
QSYS2.FUNCTION_USAGE	View	Base	Base	SF99701 Level 26
QSYS2.GROUP_PROFILE_ENTRIES	← View	Base	Base	SF99701 Level 23
QSYS2.OBJECT_PRIVILEGES	View	SF99703 Level 4	SF99702 Level 16	-
QSYS2.SQL_CHECK_AUTHORITY()	UDF	Base	Base	SF99701 Level 21
QSYS2.USER_INFO	← View	Enhanced in Base Enhanced: SF99703 Level 4	Base Enhanced: SF99702 Level 16	Introduced: SF99701 Level 26 Enhanced: SF99701 Level 29 Enhanced: SF99701 Level 42
SYSPROC.SET_COLUMN_ATTRIBUTE()	Procedure	Base	Base	Base

Profils utilisateur

- Service **USER_INFO**

```
67 SELECT AUTHORIZATION_NAME, STATUS, SIGN_ON_ATTEMPTS_NOT_VALID
68 FROM QSYS2.USER_INFO WHERE SIGN_ON_ATTEMPTS_NOT_VALID <> 0;
69
```

AUTHORIZATION_NAME	STATUS	SIGN_ON_ATTEMPTS_NOT_VALID
DBEPGMR03	*ENABLED	2
IBMESNAULT	*ENABLED	1
QWEBQRYADM	*ENABLED	1
TLK	*DISABLED	4

Profils utilisateur avec des tentatives de signon non valides

```
70 -- Profils utilisateur qui n'ont pas été utilisés depuis 90 jours
71 SELECT AUTHORIZATION_NAME, STATUS, LAST_USED_TIMESTAMP
72 FROM QSYS2.USER_INFO
73 WHERE LAST_USED_TIMESTAMP < CURRENT_TIMESTAMP - 90 DAYS
74 AND AUTHORIZATION_NAME <> 'QSECOFR'
75 AND STATUS <> '*DISABLED'
76 AND AUTHORIZATION_NAME NOT LIKE 'Q%'
77
```

AUTHORIZATION_NAME	STATUS	LAST_USED_TIMESTAMP
TESTRDI	*ENABLED	2017-01-27 00:00:00.000000
BTS00	*ENABLED	2017-01-07 00:00:00.000000
TITI	*ENABLED	2016-11-22 00:00:00.000000
ZENDADMIN	*ENABLED	2016-11-18 00:00:00.000000
YGERARD	*ENABLED	2016-11-04 00:00:00.000000
IBM ASSUR1	*ENABLED	2016-09-29 00:00:00.000000

Profils utilisateur qui n'ont pas été utilisés depuis 90 jours

Profils utilisateur

▪ Service USER_INFO

```
CREATE OR REPLACE PROCEDURE PB.DISABLE_UNUSED_PROFILES(IN p_number_of_days INTEGER)
BEGIN
  DECLARE v_user          VARCHAR(10);
  DECLARE v_eof          INTEGER DEFAULT 0;
  DECLARE v_query_text VARCHAR(1000) DEFAULT
    'SELECT AUTHORIZATION_NAME FROM QSYS2.USER_INFO
     WHERE LAST_USED_TIMESTAMP < CURRENT_TIMESTAMP - ? DAYS
     AND STATUS <> '*DISABLED' AND AUTHORIZATION_NAME NOT LIKE "Q%";
  DECLARE DORMANT_USERS CURSOR FOR user_query;
  DECLARE CONTINUE HANDLER FOR SQLSTATE'02000' SET v_eof = 1;

  PREPARE user_query FROM user_query_text;
  OPEN DORMANT_USERS USING p_number_of_days;

  L1 : LOOP
    FETCH DORMANT_USERS INTO v_user;
    IF (v_eof = 1) THEN LEAVE L1;
    END IF;
    EXECUTE IMMEDIATE 'CALL QSYS2.QCMDEXC("CHGUSRPRF USRPRF(' CONCAT v_user CONCAT ') STATUS(*DISABLED))';
  END LOOP;
  CLOSE DORMANT_USERS;
END;
```

Procédure qui désactive les profils utilisateur qui n'ont pas été utilisés depuis xx jours

A lancer par exemple tous les mois

Profils de groupe

- Service **GROUP_PROFILE_ENTRIES**

```
80 SELECT *
81 FROM QSYS2.GROUP_PROFILE_ENTRIES;
82
```

GROUP_PROFILE_NAME	USER_PROFILE_NAME	USER_TEXT
QPGMR	PGMR2	Tests sécurité profil *PGMR + profil grp QPGMR
QWQADMIN	BOURGEOIS	Philippe Bourgeois
QWQADMIN	DESPINS	Jean Despins
QWQADMIN	DUDUYER	thomas duduyer
QWQADMIN	GRIERE	Christian Grière
QWQADMIN	YGERARD	Yves GERARD point-Service

Profils de groupe et utilisateurs rattachés

Profils et profils de groupe

Services USER_INFO et GROUP_PROFILE_ENTRIES

```
84 SELECT AUTHORIZATION_NAME, STATUS, NO_PASSWORD_INDICATOR, PREVIOUS_SIGNON, TEXT_DESCRIPTION
85 FROM QSYS2.USER_INFO
86 WHERE SPECIAL_AUTHORITIES LIKE '%*ALLOBJ%' OR AUTHORIZATION_NAME IN (SELECT USER_PROFILE_NAME
87 FROM QSYS2.GROUP_PROFILE_ENTRIES
88 WHERE GROUP_PROFILE_NAME IN (SELECT
89 AUTHORIZATION_NAME
90 FROM QSYS2.USER_INFO
91 WHERE SPECIAL_AUTHORITIES LIKE '%*ALLOBJ%'))
92 ORDER BY AUTHORIZATION_NAME;
93
```

AUTHORIZATION_NAME	STATUS	NO_PASSWORD_INDICATOR	PREVIOUS_SIGNON	TEXT_DESCRIPTION
FLANAGAN	*ENABLED	NO	2013-03-05 14:59:17.000000	DB dev Rochester
GAYTON	*ENABLED	NO	2017-04-04 15:51:30.000000	Frédéric Gayton
GRIERE	*ENABLED	NO	2013-08-28 15:51:46.000000	Christian Grière
GUIBERT	*ENABLED	NO	2017-04-10 09:07:45.000000	Bertrand Guibert

Utilisateurs qui ont les droits *ALLOBJ, soit directement, soit via un profil de groupe

Listes d'autorisation

- Service **AUTHORIZATION_LIST_INFO**

Les objets protégés par une liste d'autorisation

```
61 SELECT *
62 FROM QSYS2.AUTHORIZATION_LIST_INFO where AUTHORIZATION_LIST = 'DCLSINAUTL';
63
```

AUTHORIZATION_LIST	SYSTEM_OBJECT_SCHEMA	SYSTEM_OBJECT_NAME	SYSTEM_OBJECT_TYPE	OBJECT_ATTRIBUTE	OBJECT_SCHEMA
DCLSINAUTL	AS425F	EMP_DETAIL	*PGM	RPGLE	AS425F



- Service **AUTHORIZATION_LIST_USER_INFO**

Les utilisateurs d'une liste d'autorisation

```
65 SELECT *
66 FROM QSYS2.AUTHORIZATION_LIST_USER_INFO
67 WHERE AUTHORIZATION_LIST = 'DCLSINAUTL';
68
```

AUTHORIZATION_LIST	AUTHORIZATION_NAME	OBJECT_AUTHORITY	AUTHORIZATION_LIST_MANAGEMENT	OWNER	OBJECT_OPERATIONAL	OBJECT_MANAGEMENT
DCLSINAUTL	*PUBLIC	*EXCLUDE	NO	BOURGEOIS	NO	NO
DCLSINAUTL	BOURGEOIS	*ALL	YES	BOURGEOIS	YES	YES
DCLSINAUTL	IBMASSUR1	*USE	NO	BOURGEOIS	YES	NO

Services relatifs aux messages

IBM i Service	Type of Service	IBM i 7.3	IBM i 7.2	IBM i 7.1
Message Handling Services				
QSYS2.HISTORY_LOG_INFO()	UDTF	SF99703 Level 3	SF99702 Level 14	-
QSYS2.JOBLOG_INFO 	UDTF	Enhanced in Base	SF99702 Level 3	SF99701 Level 32
QSYS2.MESSAGE_QUEUE_INFO 	View	SF99703 Level 4	SF99702 Level 16	-
QSYS2.REPLY_LIST_INFO	View	Base	SF99702 Level 3	SF99701 Level 32

Messages d'une MSQG

- Service MESSAGE_QUEUE_INFO

Les messages de QSYSOPR

```
137 SELECT MESSAGE_TEXT
138 FROM QSYS2.MESSAGE_QUEUE_INFO
139 WHERE MESSAGE_QUEUE_NAME = 'QSYSOPR';
```

MESSAGE_TEXT

IPL exécuté à partir de la zone machine ££MACH£B.

Système de fichier Slash (/) monté.

Système de fichier /QOpenSys monté.

Système de fichier /QDLS monté.

Système de fichier /QSYS.LIB monté.

Système de fichier /QOPT monté.

Système de fichier /QFileSvr.400 monté.

Système de fichier /QNTC monté.

Système de fichier /dev/QASP01 monté.

PTF appliquées ou enlevées au cours de l'IPL.

Les récepteurs QSQJRN0076 et *N ont été détachés du journal.

Messages d'une MSQG

■ Service MESSAGE_QUEUE_INFO

Les messages de QSYSOPR de type interrogation qui n'ont pas eu de réponse

```
150 WITH REPLIED_MSGS(KEY)
151 AS (SELECT a.message_key
152 FROM qsys2.message_queue_info a INNER
153 JOIN qsys2.message_queue_info b ON a.message_key = b.associated_message_key
154 WHERE A.MESSAGE_QUEUE_NAME = 'QSYSOPR' AND A.MESSAGE_QUEUE_LIBRARY = 'QSYS' AND
155 B.MESSAGE_QUEUE_NAME = 'QSYSOPR' AND B.MESSAGE_QUEUE_LIBRARY = 'QSYS'
156 ORDER BY b.message_timestamp DESC)
157 SELECT a.message_text
158 AS "INQUIRY", A.FROM_USER, A.MESSAGE_TIMESTAMP FROM qsys2.message_queue_info a
159 LEFT EXCEPTION JOIN REPLIED_MSGS b ON
160 a.message_key = b.key WHERE MESSAGE_QUEUE_NAME = 'QSYSOPR' AND MESSAGE_QUEUE_LIBRARY =
161 'QSYS' AND message_type = 'INQUIRY' ORDER BY message_timestamp DESC;
```

INQUIRY	FROM_USER	MESSAGE_TIMESTAMP
3 PTFs DB2 installées le 4 mai. IPL possible le 4 à 19h00 ?	BOURGEOIS	2017-05-04 18:33:03.407914

Historique de travail



- Service **JOB_LOG_INFO**

La dernière commande CL exécutée par un travail donné

```
166 SELECT MESSAGE_TEXT, MESSAGE_TIMESTAMP
167 FROM TABLE(QSYS2.JOBLOG_INFO('211302/BOURGEOIS/QPADEV0008')) A
168 WHERE A.MESSAGE_TYPE = 'REQUEST'
169 ORDER BY ORDINAL_POSITION DESC
170 FETCH FIRST 1 ROW ONLY;
171
```

MESSAGE_TEXT	MESSAGE_TIMESTAMP
CHGSYSVAL SYSVAL(QPWDRULES) VALUE(*PWDSYSVAL)	2017-05-04 18:54:41.267109

Services relatifs aux bibliothèques

IBM i Service	Type of Service	IBM i 7.3	IBM i 7.2	IBM i 7.1
Librarian Services				
QSYS2.LIBRARY_LIST_INFO 	View	Base	SF99702 Level 3	SF99701 Level 32
QSYS2.OBJECT_STATISTICS() 	UDTF	Enhanced in Base Enhanced: SF99703 Level 3	Introduced: Base Enhanced: SF99702 Level 5 Enhanced: SF99702 Level 9 Enhanced: SF99702 Level 14	Introduced: SF99701 Level 3 Enhanced: SF99701 Level 34 Enhanced: SF99701 Level 38 Enhanced: SF99701 Level 41

Liste de bibliothèques

- Service `LIBRARY_LIST_INFO`;

```
137 SELECT *  
138 FROM QSYS2.LIBRARY_LIST_INFO;
```

ORDINAL_POSITION	SCHEMA_NAME	SYSTEM_SCHEMA_NAME	TYPE	IASP_NUMBER	TEXT_DESCRIPTION
1	QSYS	QSYS	SYSTEM	0	Bibliothèque système
2	QSYS2	QSYS2	SYSTEM	0	Bibliothèque système pour CPI
3	QHLPSYS	QHLPSYS	SYSTEM	0	-
4	QUSRSYS	QUSRSYS	SYSTEM	0	System Library for Users
5	QIWS	QIWS	PRODUCT	0	-
6	POTDB2	POTDB2	CURRENT	0	Bib de référence POT DB2 IT...
7	QGPL	QGPL	USER	0	General Purpose Library
8	QTEMP	QTEMP	USER	0	-

Liste d'objets

Service OBJECT_STATISTICS;

```
143 SELECT *
144 FROM TABLE(QSYS2.OBJECT_STATISTICS('AS425F', '*ALL')) AS t;
```

Tous les objets de la bib AS425F

OBJNAME	OBJTYPE	OBJOWNER	OBJDEFINER	OBJCREATED	OBJSIZE	OBJTEXT
AUTORENS	*PGM	BOURGEOIS	BOURGEOIS	2017-05-04 19:07:18.000000	131072	Pour alimenter champs auto-renseignés
BLOBRPG1	*PGM	BOURGEOIS	BOURGEOIS	2014-10-06 10:03:15.000000	135168	Exemple 1 chapitre 14
BLOBRPG2	*PGM	BOURGEOIS	BOURGEOIS	2014-10-06 10:25:30.000000	262144	Exemple 3 chapitre 14
BLOBRPG3	*PGM	BOURGEOIS	BOURGEOIS	2014-10-06 10:45:22.000000	139264	Exemple 4 chapitre 1
BLOBRPG4	*PGM	BOURGEOIS	BOURGEOIS	2014-10-06 12:36:50.000000	143360	Exemple 5 chapitre 1
BLOBRPG5	*PGM	BOURGEOIS	BOURGEOIS	2014-10-06 12:48:29.000000	126976	Exemple 6 chapitre 1
EMP_DETAIL	*PGM	BOURGEOIS	BOURGEOIS	2017-02-28 11:56:02.000000	118784	Détail employé

56 attributs récupérables

Les journaux et récepteurs de journaux de la bib AS425F

```
146 SELECT *
147 FROM TABLE(QSYS2.OBJECT_STATISTICS('AS425F', '*JRN *JRNRCV', '*ALLSIMPLE')) AS t;
```

OBJNAME	OBJTYPE	OBJOWNER	OBJDEFINER	OBJCREATED	OBJSIZE	OBJTEXT	OBJLO
JRN1	*JRN	-	-	-	--	-	-
QSQJRN	*JRN	-	-	-	--	-	-
QSQJRN1125	*JRNRCV	-	-	-	--	-	-
RCV1078	*JRNRCV	-	-	-	--	-	-

Liste d'objets

■ Service OBJECT_STATISTICS;

```
149 SELECT SUM(OBJSIZE)
150 FROM TABLE(QSYS2.OBJECT_STATISTICS('AS425F', '*FILE')) AS t
151 WHERE OBJATTRIBUTE = 'LF';
152
```

La taille de tous les index de la bib AS425F

00001
3837952

La valeur d'audit des tables SQL de la bib AS425F

```
153 SELECT OBJNAME, OBJTYPE, SQL_OBJECT_TYPE, OBJOWNER, OBJECT_AUDIT
154 FROM TABLE(QSYS2.OBJECT_STATISTICS('AS425F', '*FILE')) AS t
155 WHERE SQL_OBJECT_TYPE = 'TABLE';
156
```

OBJNAME	OBJTYPE	SQL_OBJECT_TYPE	OBJOWNER	OBJECT_AUDIT
MKTGSALES	*FILE	TABLE	BOURGEOIS	*NONE
MQTSALSRV	*FILE	TABLE	BOURGEOIS	*NONE
PERFS	*FILE	TABLE	QDFTOWN	*NONE
QZG0000174	*FILE	TABLE	BOURGEOIS	*NONE
SALARIES	*FILE	TABLE	BOURGEOIS	*CHANGE
SERVICES	*FILE	TABLE	QDFTOWN	*NONE

Liste d'objets

Service OBJECT_STATISTICS;

Les informations de journalisation

```

160 SELECT OBJNAME, OBJTYPE, JOURNAL_LIBRARY, JOURNAL_NAME, JOURNAL_IMAGES, OMIT_JOURNAL_ENTRY
161 FROM TABLE(QSYS2.OBJECT_STATISTICS('AS425F', '*FILE')) AS t
162 WHERE JOURNALED = 'YES';
163
    
```

OBJNAME	OBJTYPE	JOURNAL_LIBRARY	JOURNAL_NAME	JOURNAL_IMAGES	OMIT_JOURNAL_ENTRY
EMPLOYES	*FILE	AS425F	JRN1	*AFTER	*NONE
IDX_UP_NOM	*FILE	AS425F	JRN1	*AFTER	*NONE
MKTGSALES	*FILE	AS425F	QSQJRN	*BOTH	*OPNCLO
SERV	*FILE	AS425F	JRN1	*AFTER	*NONE

Les informations de modification et d'utilisation

```

165 SELECT objname, objtype, change_timestamp, last_used_timestamp, days_used_count
166 FROM TABLE(QSYS2.OBJECT_STATISTICS('AS425F', '*ALL')) as t
167 ORDER BY change_timestamp DESC;
168
    
```

OBJNAME	OBJTYPE	CHANGE_TIMESTAMP	LAST_USED_TIMESTAMP	DAYS_USED_COUNT
EMP_DETAIL	*PGM	2017-02-28 11:56:02.000000	2017-03-01 00:00:00.000000	2
QRPGLESRC	*FILE	2017-02-28 11:43:09.000000	2017-02-28 00:00:00.000000	21
SOURCES	*FILE	2016-11-18 09:28:57.000000	2017-05-04 00:00:00.000000	20
TABEMPL4	*FILE	2016-08-25 15:12:22.000000	2016-12-16 00:00:00.000000	3



Services relatifs aux travaux

IBM i Service	Type of Service	IBM i 7.3	IBM i 7.2	IBM i 7.1
Work Management Services				
QSYS2.ACTIVE_JOB_INFO() ←	UDTF	Base	SF99702 Level 5 Enhanced: SF99702 Level 9	SF99701 Level 34 Enhanced: SF99701 Level 38
QSYS2.GET_JOB_INFO() ←	UDTF	Base Enhanced: SF99703 Level 3	Introduced: Base Enhanced: SF99702 Level 5 Enhanced: SF99702 Level 9 Enhanced: SF99702 Level 14	Introduced: SF99701 Level 23 Enhanced: SF99701 Level 29 Enhanced: SF99701 Level 34 Enhanced: SF99701 Level 38
QSYS2.JOB_INFO() ←	UDTF	SF99703 Level 3	SF99702 Level 14	-
QSYS2.MEMORY_POOL()	UDTF	Base	SF99702 Level 9	SF99701 Level 38
QSYS2.MEMORY_POOL_INFO	View	Base	SF99702 Level 9	SF99701 Level 38
QSYS2.OBJECT_LOCK_INFO	View	Base	SF99702 Level 9	SF99701 Level 38
QSYS2.RECORD_LOCK_INFO ←	View	Base	SF99702 Level 9	SF99701 Level 38
QSYS2.SCHEDULED_JOB_INFO	View	Base	SF99702 Level 5	SF99701 Level 34
QSYS2.SYSTEM_STATUS()	UDTF	Base	SF99702 Level 9	SF99701 Level 38
QSYS2.SYSTEM_STATUS_INFO	View	Base	SF99702 Level 9	SF99701 Level 38
QSYS2.SYSTEM_VALUE_INFO ←	View	Base	Base	SF99701 Level 26

Valeurs système

- Service **SYSTEM_VALUE_INFO**

```
23 SELECT *
24 FROM QSYS2.SYSTEM_VALUE_INFO
25 WHERE SYSTEM_VALUE_NAME LIKE '%PWD%';
26
```

SYSTEM_VALUE_NAME	CURRENT_NUMERIC_VALUE	CURRENT_CHARACTER_VALUE
QPWDRQDDIF	-0	
QPWDLMTAJC	-0	
QPWDLMTREP	-0	
QPWDPOSDIF	-0	
QPWDRQDDGT	-0	
QPWDMINLEN	6-	
QPWDMAXLEN	8-	
QPWDLMTCHR	-*NONE	
QPWDVLDPGM	-*NONE	
QPWDEXPITV	-*NOMAX	
QPWDLVL	0-	
QPWDRULES	-*PWDSYSVAL	...
QPWDCHGBLK	-*NONE	
QPWDEXPWRN	7-	

Les valeurs système dont le nom contient PWD

Travaux actifs

- Service ACTIVE_JOB_INFO

Liste des travaux actifs

```
221 SELECT *
222 FROM TABLE(QSYS2.ACTIVE_JOB_INFO()) AS T;
223
```

ORDINAL_POSITION	JOB_NAME	INTERNAL_JOB_ID	SUBSYSTEM	SI
1	214823/QSYS/QBATCH	0051000100046B009F1ED23A53302001	QBATCH	Q
2	214824/QSYS/QCMN	00510001000477009F1ED23A5D01D001	QCMN	Q
3	214855/QUSER/QACSOTP	00510001000647009F1ED23AC10EF001	QCMN	Q
4	214867/QUSER/QLZPSERV	00510001000677009F1ED23AF3DE9001	QCMN	Q
5	214844/QUSER/QNMARTINGD	005100010005DB009F1ED23A4E8D8001	QCMN	Q

```
224 SELECT COUNT(*)
225 FROM TABLE(QSYS2.ACTIVE_JOB_INFO()) AS T;
226
```

Nombre de travaux actifs

00001	316
-------	-----

Travaux actifs

- Services **ACTIVE_JOB_INFO** et **USER_INFO**

```
227 SELECT COUNT(*)
228 FROM TABLE(QSYS2.ACTIVE_JOB_INFO()) AS T1
229 JOIN QSYS2.USER_INFO AS T2 USING(AUTHORIZATION_NAME)
230 WHERE SPECIAL_AUTHORITIES LIKE '%ALLOBJ%';
231
```

00001

189

Combien de travaux tournent
avec un profil *ALLOBJ

```
232 SELECT COUNT(*)
233 FROM TABLE(QSYS2.ACTIVE_JOB_INFO()) AS T1
234 JOIN QSYS2.USER_INFO AS T2 USING(AUTHORIZATION_NAME)
235 WHERE SPECIAL_AUTHORITIES LIKE '%ALLOBJ%' AND NO_PASSWORD_INDICATOR = 'NO';
236
```

00001

80

Combien de travaux tournent
avec un profil *ALLOBJ et un
mot de passe

Travaux actifs

■ Service **ACTIVE_JOB_INFO**

- C'est une UDTF (User Defined Table Function) qui peut prendre 4 paramètres :
 - **RESET_STATISTIC** (NO / YES)
 - Pour réinitialiser les mesures de temps écoulés
 - **SUBSYSTEM_LIST_FILTER**
 - Pour filtrer sur un ou plusieurs sous-systèmes
 - **JOB_NAME_FILTER**
 - Pour filtrer sur un ou plusieurs travaux
 - **CURRENT_USER_LIST_FILTER**
 - Pour filtrer sur un ou plusieurs profils

Les travaux actifs sous
QPGMR

```
237 SELECT *
238 FROM TABLE(QSYS2.ACTIVE_JOB_INFO('NO', NULL, NULL, 'QPGMR')) AS T;
239
```

ORDINAL_POSITION	JOB_NAME	SUBSYSTEM	AUTHORIZATION_NAME	JOB_TYPE
1	214821/QPGMR/QSYSSCD	QCTL	QPGMR	BCH
2	214841/QPGMR/QSERVER	QSERVER	QPGMR	ASJ
3	215024/QPGMR/QZLSSERVER	QSERVER	QPGMR	BCH

Travaux actifs

- Service **ACTIVE_JOB_INFO**

```

241 SELECT JOB_NAME, AUTHORIZATION_NAME,
242         ELAPSED_CPU_PERCENTAGE,
243         ELAPSED_TOTAL_DISK_IO_COUNT,
244         ELAPSED_PAGE_FAULT_COUNT, T.*
245 FROM TABLE(QSYS2.ACTIVE_JOB_INFO(JOB_NAME_FILTER => 'QZDASOINIT',
246                                   SUBSYSTEM_LIST_FILTER => 'QUSRWRK')) AS T
247 ORDER BY ELAPSED_CPU_PERCENTAGE DESC LIMIT 10;
248

```

JOB_NAME	AUTHORIZATION_NAME	ELAPSED_CPU_PERCENTAGE	ELAPSED_TOTAL_DISK_IO_COUNT	ELAPSED_PAGE_FAULT_COUNT
566453/QUSER/QZDASOINIT	SCOTTF	94.9	206426	3718
554692/QUSER/QZDASOINIT	KADLER	0.0	0	0
564478/QUSER/QZDASOINIT	SCOTTF	0.0	950	893
564479/QUSER/QZDASOINIT	SCOTTF	0.0	0	0
566454/QUSER/QZDASOINIT	SCOTTF	0.0	59	21
566494/QUSER/QZDASOINIT	SCOTTF	0.0	574	183
566495/QUSER/QZDASOINIT	SCOTTF	0.0	1545	1047
566694/QUSER/OZDASOINIT	OUSER	0.0	0	0

Les 10 travaux QZDASOINIT qui consomment le plus de CPU

Liste de travaux

■ Service JOB_INFO

- C'est une UDTF qui peut prendre 5 paramètres :
 - JOB_STATUS_FILTER
 - JOB_TYPE_FILTER
 - JOB_SUBSYSTEM_FILTER
 - JOB_USER_FILTER
 - JOB_SUBMITTER_FILTER

```
261 SELECT *
262 FROM TABLE(QSYS2.JOB_INFO(JOB_STATUS_FILTER => '*JOBQ')) AS T;
263
```

Les travaux en JOBQ

JOB_NAME	JOB_STATUS	JOB_TYPE	JOB_SUBSYSTEM	JOB_INFORMATION
226657/BOURGEOIS/QDFTJOB	JOBQ	BCH	QBATCH	YES

Les travaux de QHTTPSVR

```
262 SELECT *
263 FROM TABLE(QSYS2.JOB_INFO(JOB_SUBSYSTEM_FILTER => 'QHTTPSVR',
264 JOB_USER_FILTER => '*ALL')) AS T
265 ORDER BY JOB_ENTERED_SYSTEM_TIME;
266
```

JOB_NAME	JOB_INFORMATION	JOB_STATUS	JOB_TYPE
214928/QTMHHTTP/ADMIN	YES	ACTIVE	BCH
214931/QTMHHTTP/PHLADMIN	YES	ACTIVE	BCH

Travaux actifs

- Services `ACTIVE_JOB_INFO` et `GET_JOB_INFO`

```
248 WITH ACTIVE_USER_JOBS(JOB_NAME, CPU_TIME, RUN_PRIORITY)
249 AS (SELECT JOB_NAME, CPU_TIME, RUN_PRIORITY
250 FROM TABLE(ACTIVE_JOB_INFO()) AS T1
251 WHERE JOB_TYPE <> 'SYS')
252 SELECT JOB_NAME, CPU_TIME, RUN_PRIORITY, V_SQL_STATEMENT_TEXT, ABS(CURRENT_TIMESTAMP -
253 V_SQL_STMT_START_TIMESTAMP) AS SQL_STMT_DURATION FROM ACTIVE_USER_JOBS,
254 TABLE(QSYS2.GET_JOB_INFO(JOB_NAME)) AS T2
255 WHERE V_SQL_STMT_STATUS = 'ACTIVE' ORDER BY SQL_STMT_DURATION DESC;
256
```

Q_JOB_NAME	CPU_TIME	RUN_PRIORITY	V_SQL_STATEMENT_TEXT	SQL_STMT_DURATION
562630/QUSER/QRWTSRVR	7802	20	DECLARE C2 CURSOR FOR S2	53.102170
568166/SCOTT/OPADEV000T	8847	20	INSERT into toystore.sales_2 ...	27.158785
566454/QUSER/QZDASOINIT	763	20	WITH ACTIVE_USER_JOBS (Q_JOB_NAME, CPU...	0.000078

Les travaux actifs avec les requêtes SQL les plus longues

Verrouillage d'objets




- Service OBJECT_LOCK_INFO

Les objets verrouillés de la bibliothèque AS425F

```
282 SELECT *
283 FROM QSYS2.OBJECT_LOCK_INFO
284 WHERE OBJECT_SCHEMA = 'AS425F';
285
```

OBJECT_SCHEMA	OBJECT_NAME	OBJECT_TYPE	LOCK_STATE	MEMBER_LOCK_TYPE
AS425F	EMPLOYES	*FILE	*SHRRD	-
AS425F	EMPLOYES	*FILE	*SHRRD	MEMBER
AS425F	EMPLOYES	*FILE	*SHRRD	DATA
AS425F	IDX_EMP2	*FILE	*SHRRD	-
AS425F	IDX_EMP2	*FILE	*SHRRD	MEMBER
AS425F	TABEMPL	*FILE	*SHRRD	-
AS425F	TABEMPL	*FILE	*SHRRD	MEMBER
AS425F	TABEMPL	*FILE	*SHRRD	DATA

Services relatifs aux communications

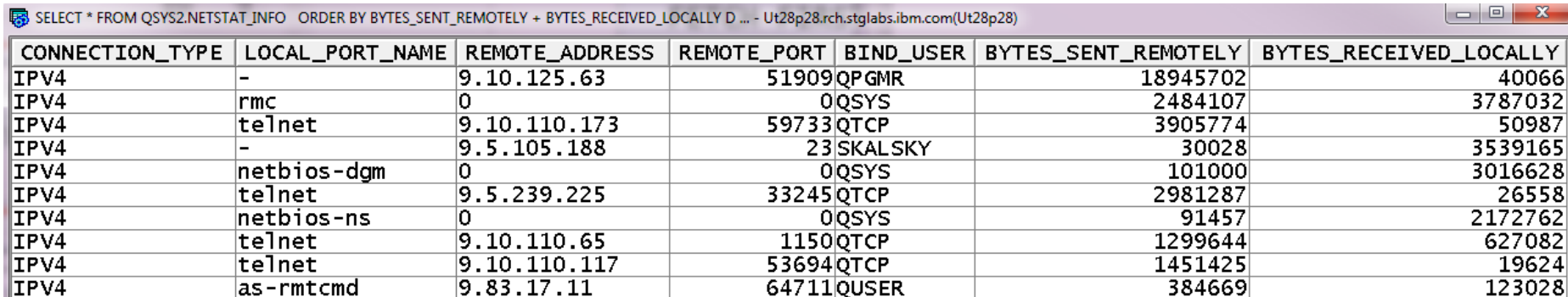
IBM i Service	Type of Service	IBM i 7.3	IBM i 7.2	IBM i 7.1
Communication Services				
QSYS2.NETSTAT_INFO 	View	Base	SF99702 Level 9 Enhanced: SF99702 Level 11	SF99701 Level 38 Enhanced: SF99701 Level 40
QSYS2.NETSTAT_INTERFACE_INFO	View	Base	SF99702 Level 9 Enhanced: SF99702 Level 11	SF99701 Level 38 Enhanced: SF99701 Level 40
QSYS2.NETSTAT_JOB_INFO	View	Base	SF99702 Level 9 Enhanced: SF99702 Level 11	SF99701 Level 38 Enhanced: SF99701 Level 40
QSYS2.NETSTAT_ROUTE_INFO	View	Base	SF99702 Level 9 Enhanced: SF99702 Level 11	SF99701 Level 38 Enhanced: SF99701 Level 40
QSYS2.SERVER_SBS_ROUTING 	View	Base	SF99702 Level 5 Enhanced: SF99702 Level 9 Enhanced: SF99702 Level 11	SF99701 Level 34 Enhanced: SF99701 Level 38 Enhanced: SF99701 Level 40
QSYS2.SET_SERVER_SBS_ROUTING() 	Procedure	Base	SF99702 Level 5 Enhanced: SF99702 Level 9 Enhanced: SF99702 Level 11	SF99701 Level 34 Enhanced: SF99701 Level 38 Enhanced: SF99701 Level 40
QSYS2.TCPIP_INFO	View	Base	Base	SF99701 Level 6
SYSIBMADM.ENV_SYS_INFO	View	Base	Base Enhanced: SF99702 Level 9	SF99701 Level 23 Enhanced: SF99701 Level 38

Etat du réseau TCP/IP

■ Service NETSTAT_INFO

Les 10 connexions qui transfèrent le plus de données

```
302 SELECT *
303 FROM QSYS2.NETSTAT_INFO
304 ORDER BY BYTES_SENT_REMOTELY + BYTES_RECEIVED_LOCALLY DESC LIMIT 10;
305
```



CONNECTION_TYPE	LOCAL_PORT_NAME	REMOTE_ADDRESS	REMOTE_PORT	BIND_USER	BYTES_SENT_REMOTELY	BYTES_RECEIVED_LOCALLY
IPV4	-	9.10.125.63	51909	QPGMR	18945702	40066
IPV4	rnc	0	0	QSYS	2484107	3787032
IPV4	telnet	9.10.110.173	59733	QTCP	3905774	50987
IPV4	-	9.5.105.188	23	SKALSKY	30028	3539165
IPV4	netbios-dgm	0	0	QSYS	101000	3016628
IPV4	telnet	9.5.239.225	33245	QTCP	2981287	26558
IPV4	netbios-ns	0	0	QSYS	91457	2172762
IPV4	telnet	9.10.110.65	1150	QTCP	1299644	627082
IPV4	telnet	9.10.110.117	53694	QTCP	1451425	19624
IPV4	as-rmtcmd	9.83.17.11	64711	QUSER	384669	123028

Reroutage d'un job serveur dans un sous-système dédié

■ Service SET_SERVER_SBS_ROUTING

- Cette procédure permet de rerouter des utilisateurs de jobs serveurs vers un sous-système particulier (sous-système dédié)
- Elle prend 4 paramètres :
 - Le nom de l'utilisateur (nom d'un profil ou d'un profil de groupe)
 - Le job serveur concerné

Nom du serveur	Description	SBS par défaut
QZSCSRVS	Serveur central	QUSRWRK
QZDASOINIT	Serveur DB (ODBC, JDBC...)	QUSRWRK
QZAHSSRV	Serveur DTAQ	QUSRWRK
QRWTSRVR	DDM/DRDA	QUSRWRK
QPWFSEVS	Serveur de fichiers	QSERVER
QNPSERVS	Serveur d'imprimantes	QUSRWRK
QZRCRVS	Serveur de commandes à distance	QUSRWRK
*ALL	Tous les serveurs	QUSRWRK ou QSERVER

- Le nom du sous-système dédié
- ALLOW ROLLOVER : que se passe-t-il si le sous-système dédié ne peut pas être utilisé ?
 - YES : le job va dans QUSQRWRK ou QSERVER
 - NO : erreur

Reroutage d'un job serveur dans un sous-système dédié

- Service **SET_SERVER_SBS_ROUTING**

Pour rerouter les jobs

```
306 CALL QSYS2.SET_SERVER_SBS_ROUTING(  
307   AUTHORIZATION_NAME => 'BOURGEOIS', SERVER_NAME => 'QZDASOINIT',  
308   SUBSYSTEM_NAME => 'MONSBS', ALLOW_ROLLOVER => 'YES');  
309  
310 CALL QSYS2.SET_SERVER_SBS_ROUTING('BOURGEOIS', 'QZDASOINIT', 'MONSBS');
```

```
311  
312 CALL QSYS2.SET_SERVER_SBS_ROUTING('BOURGEOIS', 'QZDASOINIT', NULL);
```

Pour revenir à l'état initial

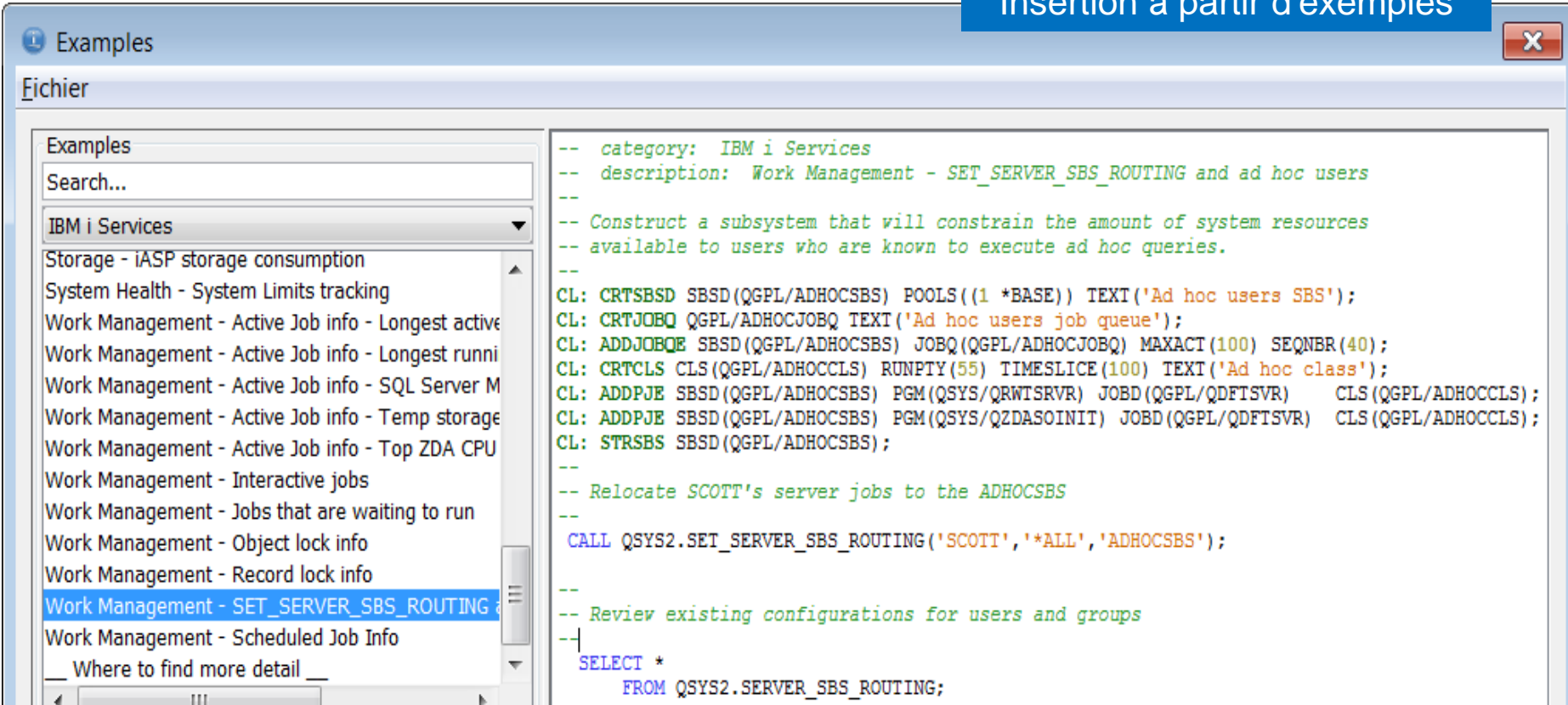
- La vue **SERVER_SBS_ROUTING** permet de savoir dans quel sous-système les jobs ont été reroutés

```
SELECT * FROM QSYS2.SERVER_SBS_ROUTING;
```

Reroutage d'un job serveur dans un sous-système dédié

- Service **SET_SERVER_SBS_ROUTING**
 - Pour créer un sous-système dédié :

Insertion à partir d'exemples



The screenshot shows a window titled "Examples" with a search bar and a list of examples. The example "Work Management - SET_SERVER_SBS_ROUTING" is selected. The main area displays the following code:

```
-- category: IBM i Services
-- description: Work Management - SET_SERVER_SBS_ROUTING and ad hoc users
--
-- Construct a subsystem that will constrain the amount of system resources
-- available to users who are known to execute ad hoc queries.
--
CL: CRTSBS SBSD(QGPL/ADHOCBSBS) POOLS((1 *BASE)) TEXT('Ad hoc users SBS');
CL: CRTJOBQ QGPL/ADHOCJOBQ TEXT('Ad hoc users job queue');
CL: ADDJOBQE SBSD(QGPL/ADHOCBSBS) JOBQ(QGPL/ADHOCJOBQ) MAXACT(100) SEQNBR(40);
CL: CRTCLS CLS(QGPL/ADHOCCLS) RUNPTY(55) TIMESLICE(100) TEXT('Ad hoc class');
CL: ADDPJE SBSD(QGPL/ADHOCBSBS) PGM(QSYS/QRWTSRVR) JOBQ(QGPL/QDFTSVR) CLS(QGPL/ADHOCCLS);
CL: ADDPJE SBSD(QGPL/ADHOCBSBS) PGM(QSYS/QZDASOINIT) JOBQ(QGPL/QDFTSVR) CLS(QGPL/ADHOCCLS);
CL: STRSBS SBSD(QGPL/ADHOCBSBS);
--
-- Relocate SCOTT's server jobs to the ADHOCBSBS
--
CALL QSYS2.SET_SERVER_SBS_ROUTING('SCOTT','*ALL','ADHOCBSBS');
--
-- Review existing configurations for users and groups
--
SELECT *
FROM QSYS2.SERVER_SBS_ROUTING;
```

Services relatifs au produits

IBM i Service	Type of Service	IBM i 7.3	IBM i 7.2	IBM i 7.1
Product Services				
QSYS2.LICENSE_INFO	← View	Base Enhanced: SF99703 Level 4	SF99702 Level 9 Enhanced: SF99702 Level 16	SF99701 Level 38
SYSTOOLS.LICENSE_EXPIRATION_CHECK()	← Procedure	SF99703 Level 4	SF99702 Level 16	-

Produits sous licence

- Service LICENSE_INFO

Les produits sous licence installés

```
260 SELECT *|
261 FROM QSYS2.LICENSE_INFO WHERE INSTALLED = 'YES' ORDER BY PRODUCT_ID;
262
```

PRODUCT_ID	LICENSE_TERM	RELEASE_LEVEL	FEATURE_ID	INSTALLED	PROCESSOR_GROUP	PRODUCT_TEXT
5722IP1	V5R3M0	V5R3M0	5050	YES	P05	IBM Infoprint Server for iSeries
5733WQX	V2R2M0	V2R2M0	5050	YES	P05	IBM DB2 Web Query for i
5733WQX	V2R2M0	V2R2M0	5101	YES	P05	Web Query Express Edition



Envoi d'un message dans QSYSOPR pour tous les produits arrivés à expiration

```
CALL SYSTOOLS.LICENSE_EXPIRATION_CHECK();
```

```
CALL SYSTOOLS.LICENSE_EXPIRATION_CHECK(10);
```

Envoi d'un message dans QSYSOPR pour tous les produits qui arrivent à expiration dans 10 jours

Services relatifs au spoules

IBM i Service	Type of Service	IBM i 7.3	IBM i 7.2	IBM i 7.1
Spool Services				
QSYS2.OUTPUT_QUEUE_ENTRIES 	View	Base	SF99702 Level 9	SF99701 Level 38
QSYS2.OUTPUT_QUEUE_ENTRIES()	UDTF	Base	SF99702 Level 9	SF99701 Level 38
QSYS2.OUTPUT_QUEUE_INFO 	View	Base	Introduced: SF99702 Level 11	Introduced: SF99701 Level 40

OUTQ et spoules


- Services **OUTPUT_QUEUE_INFO** et **OUTPUT_QUEUE_ENTRIES**

Les 5 OUTQ qui contiennent le plus de spoules, les spoules étant classés par nombre de pages

```
286 WITH outqs_manyfiles(libname, queuename)
287 AS (SELECT OUTPUT_QUEUE_LIBRARY_NAME, OUTPUT_QUEUE_NAME
288 FROM QSYS2.OUTPUT_QUEUE_INFO
289 ORDER BY NUMBER_OF_FILES DESC
290 FETCH FIRST 5 ROWS ONLY)
291 SELECT libname, queuename, create_timestamp, spooled_file_name, user_name, total_pages, SIZE
292 FROM outqs_manyfiles INNER
293 JOIN QSYS2.OUTPUT_QUEUE_ENTRIES ON queuename = OUTPUT_QUEUE_NAME AND libname =
294 OUTPUT_QUEUE_LIBRARY_NAME
295 ORDER BY TOTAL_PAGES DESC;
296
```

LIBNAME	QUEUENAME	CREATE_TIMESTAMP	SPOOLED_FILE_NAME	USER_NAME	TOTAL_PAGES	SIZE
QUSRSYS	QEZJOBLOG	2017-05-07 12:35:52.522000	QPJOBLOG	QSYS	40	264
QUSRSYS	QEZJOBLOG	2017-05-08 04:05:15.963000	QPJOBLOG	QSYS	15	120
QUSRSYS	QEZJOBLOG	2017-05-07 12:36:57.264000	QPJOBLOG	QTCP	12	96
QUSRSYS	HP4000	2017-05-04 17:07:16.301000	AUTORENS	BOURGEOIS	10	56
QUSRSYS	HP4000	2017-02-28 10:56:01.978000	EMP_DETAIL	BOURGEOIS	8	48

Services relatifs au journaux

IBM i Service	Type of Service	IBM i 7.3	IBM i 7.2	IBM i 7.1
Journal Services				
QSYS2.DISPLAY_JOURNAL() 	UDTF	Base Enhanced: SF99703 Level 3	Base Enhanced: SF99702 Level 11 Enhanced: SF99702 Level 14	Introduced: Base Enhanced: SF99701 Level 26
QSYS2.JOURNAL_INFO	View	Base	SF99702 Level 3	SF99701 Level 32

Postes d'un journal

- Service **DISPLAY_JOURNAL**

Qui a supprimé des lignes dans la table EMPLOYES ces 7 derniers jours ?

```
309 SELECT ENTRY_DATA, ENTRY_TIMESTAMP, JOURNAL_ENTRY_TYPE, COUNT_OR_RRN AS ROW_DELETED,
310 "CURRENT_USER", RTRIM(JOB_NUMBER) CONCAT '/' CONCAT RTRIM(JOB_USER) CONCAT '/' CONCAT
311 RTRIM(JOB_NAME) AS Qualified_Job_Name
312 FROM TABLE(QSYS2.DISPLAY_JOURNAL('PBSD', 'QSQJRN',
313 STARTING_TIMESTAMP => CURRENT_TIMESTAMP - 7 DAYS,
314 JOURNAL_ENTRY_TYPES => 'DL',
315 OBJECT_LIBRARY => 'PBSD',
316 OBJECT_NAME => 'EMPLOYES',
317 OBJECT_OBJTYPE => '*FILE',
318 OBJECT_MEMBER => 'EMPLOYES')) AS T
319 ORDER BY ENTRY_TIMESTAMP DESC;
320
```

ENTRY_DATA	ENTRY_TIMESTAMP	JOURNAL_ENTRY_TYPE	ROW_DELETED	CURRENT_USER	QUALIFIED_JOB_NAME
005AC8C5D3C...	2017-05-14 17:43:...	DL	25	BOURGEOIS	226922/QUSER/QZDASOINIT
0078D1C5C1D...	2017-05-14 17:43:...	DL	3	BOURGEOIS	226922/QUSER/QZDASOINIT



Services DB2 (rapide introduction)

Instructions SQL des programmes

- Service **SYSPROGRAMSTMTSTAT**

Les instructions SQL des programmes de la bibliothèque AS425F

```
455 SELECT PROGRAM_NAME, STATEMENT_NUMBER, STATEMENT_TEXT
456 FROM QSYS2.SYSPROGRAMSTMTSTAT
457 WHERE PROGRAM_SCHEMA = 'AS425F';
458
```

PROGRAM_NAME	STATEMENT_NUMBER	STATEMENT_TEXT
AUTORENS	1	INSERT INTO AS425F . TABEMPL3 (NOM , SEXE , NUMSRV ,
AUTORENS	2	COMMIT
BLOBRPG1	1	UPDATE TABEMP2 SET CV = : H WHERE MAT = 70
BLOBRPG2	1	SELECT CV INTO : H FROM TABEMP2 WHERE MAT = 70
BLOBRPG2	2	VALUES POSSTR (: H , 'odif ') INTO : H
BLOBRPG2	3	VALUES LENGTH (RTRIM (: H)) INTO : H

"Objets" SQL utilisés par une instruction SQL

- Service PARSE_STATEMENT

Les "objets" SQL utilisés par une requête SQL (tables, vues, index... colonnes, curseurs...)

```

459 SELECT * FROM
460 TABLE(QSYS2.PARSE_STATEMENT('SELECT nom, srv, nomsrv
461 FROM employes INNER JOIN services USING(srv)')) AS T;
462
    
```

NAME_TYPE	NAME	SCHEMA	RDB	COLUMN_NAME	USAGE_TYPE	NAME_START_POSITION	SQL_STATEMENT_TYPE
COLUMN	-	-	-	NOM	QUERY	8	QUERY
COLUMN	-	-	-	SRV	QUERY	13	QUERY
COLUMN	-	-	-	NOMSRV	QUERY	18	QUERY
TABLE	EMPLOYES	-	-	-	QUERY	30	QUERY
TABLE	SERVICES	-	-	-	QUERY	50	QUERY

"Objets" SQL utilisés par une instruction SQL

- Services **SYSPROGRAMSTMTSTAT** et **PARSE_STATEMENT**

Les "objets" SQL manipulés par les programmes de la bibliothèque AS425F

```

463 SELECT PROGRAM_NAME, T.*
464 FROM QSYS2.SYSPROGRAMSTMTSTAT, TABLE(QSYS2.PARSE_STATEMENT(STATEMENT_TEXT)) AS T
465 WHERE PROGRAM_SCHEMA = 'AS425F';
466
467
468

```

PROGRAM_NAME	NAME_TYPE	NAME	SCHEMA	RDB	COLUMN_NAME	USAGE_TYPE	NAME_START_POSITION	SQL_STATEMENT_TYPE
AUTORENS	TABLE	TABEMPL3	AS425F	-	-	TARGET TA...	13	INSERT
AUTORENS	COLUMN	TABEMPL3	AS425F	-	NOM	TARGET TA...	33	INSERT
AUTORENS	COLUMN	TABEMPL3	AS425F	-	SEXE	TARGET TA...	39	INSERT
AUTORENS	COLUMN	TABEMPL3	AS425F	-	NUMSRV	TARGET TA...	46	INSERT
AUTORENS	COLUMN	TABEMPL3	AS425F	-	SALAIRE	TARGET TA...	55	INSERT
AUTORENS	COLUMN	TABEMPL3	AS425F	-	DATENAI	TARGET TA...	65	INSERT
BLOBRPG1	TABLE	TABEMP2	-	-	-	TARGET TA...	8	UPDATE
BLOBRPG1	COLUMN	TABEMP2	-	-	CV	TARGET TA...	20	UPDATE
BLOBRPG1	COLUMN	-	-	-	MAT	QUERY	35	UPDATE

Les autres services DB2

Université IBM i

10 et 11 mai 2016 – IBM Client Center de Bois-Colombes

S12 - Automating DBE/DBA tasks with DB2 for i Services

Mardi 10 mai – 16h00-17h30

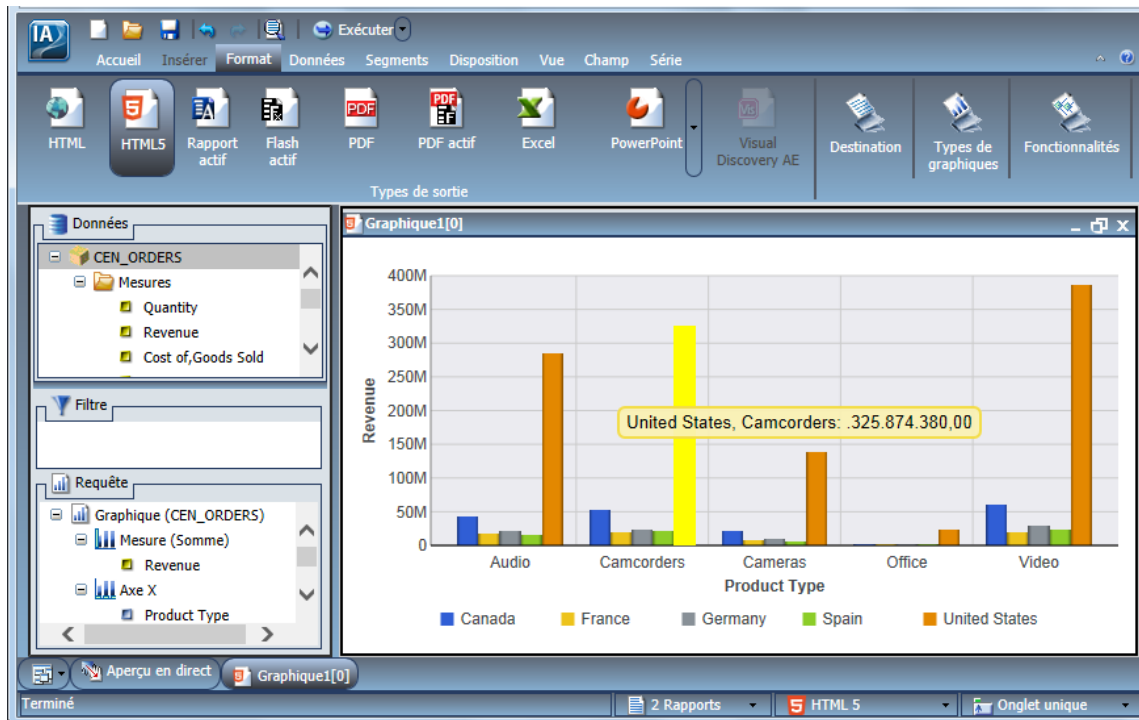
Scott Forstie – IBM US
forstie@us.ibm.com
[@Forstie_IBMi](#)



Habillage Web avec DB2 Web Query

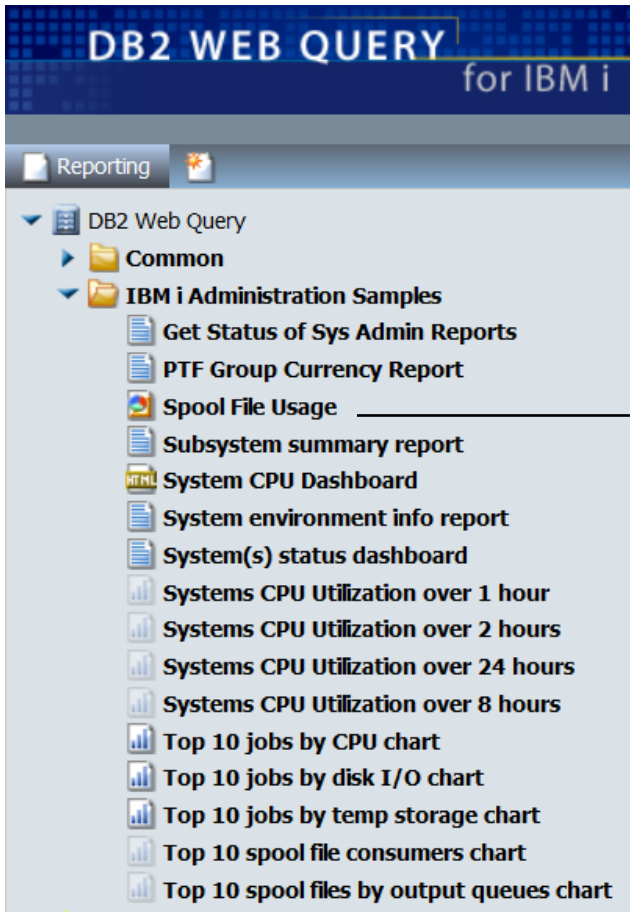
Les services IBM i et DB2 Web Query

- Qu'est-ce que DB2 Web Query ?
 - Une solution d'informatique décisionnelle / BI (Business Intelligence) pour IBM i
 - Rapports, graphiques, tableaux de bord, OLAP, intégration Excel
 - DB2, MySQL, Postgres et driver JDBC générique
 - Consolidation de données, création d'entrepôts de données

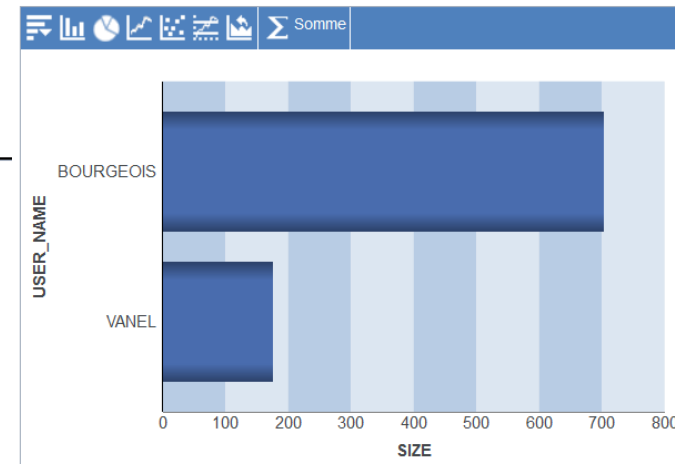
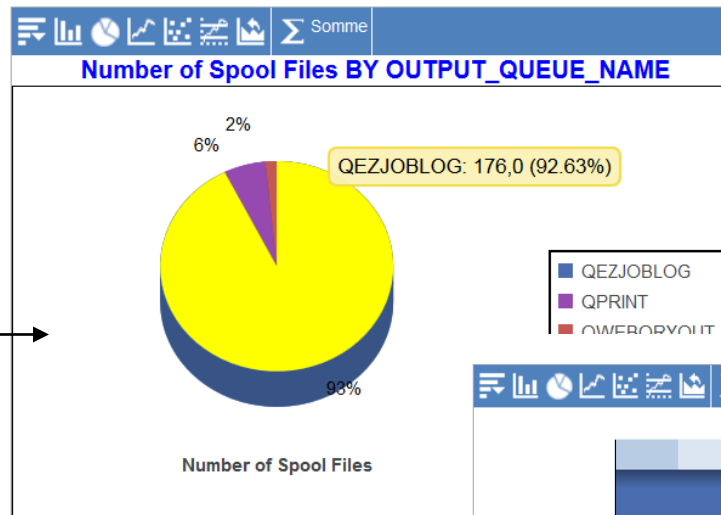


Les services IBM i et DB2 Web Query

- 1. Le résultat de certains **services** IBM i peuvent être visualisés par des rapports et des graphiques **prédéfinis** et **fournis en standard**



Output Queue Top 10 at 19.23.40 on mai 4, 2017



Les services IBM i et DB2 Web Query

- 1. Ces rapports et graphiques **prédéfinis** :
 - a. Sont livrés avec la procédure **EZ-Install**

DB2 Web Query for i

Insight and perspectives on DB2 Web Query and Analytics using IBM i

Si vous n'avez pas encore installé DB2 Web Query

Thursday, January 12, 2017

DB2 Web Query: EZ-Install for a Fast Path to Value

DB2 Web Query EZ-Install – Now Available

One of the things I hear often at speaking engagements or by working directly with customers around the world is that they know of DB2 Web Query, would like to evaluate or get some hands on experience, but aren't always sure how to get started and gain quick value from it. In 2016 we started thinking about ways to simplify the getting started process, and that has led to the emergence of something we're calling the [DB2 Web Query EZ-Install package!](#)

With its availability TODAY the DB2 for i Lab Services team is providing a simplified process of obtaining and installing the complete suite of DB2 Web Query trial software. The products are at the latest level (including Group PTFs already applied) and include both Express Edition, Standard Edition, and the DataMigrator ETL tool. The trial code period for this is 70 days, although you could choose to apply license keys at any time and have this become permanent (just keep in mind your license keys will dictate which components you have purchased which may be less than the entire suite you've got in this package). **Also note that while this package is made available to you, it should not circumvent the normal ordering and acquisition process.**

One big benefit of the EZ-Install package is...IT'S EASY. A many step process including acquiring the code, installing it and setting it up is made much simpler by providing a one-stop shopping install package that also sets up the environment for you so when complete, you are ready to go to work.

Links

[DB2 Web Query Home Page](#)

[DB2 Web Query Technical Wiki](#)

[DB2 for i Blog](#)

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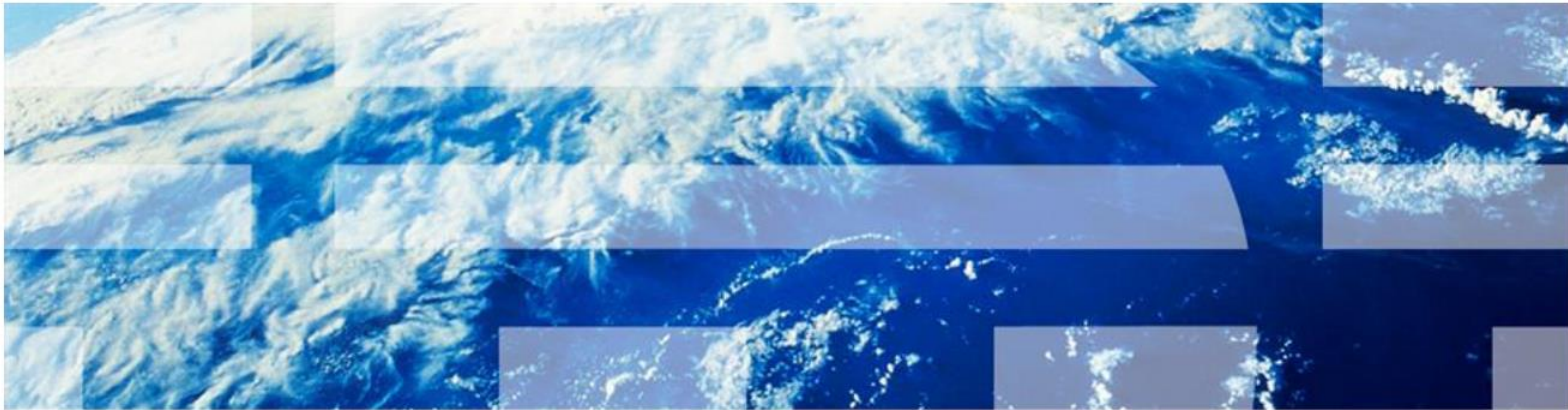
[e](#) Doug Mack

Les services IBM i et DB2 Web Query

- 1. Ces rapports et graphiques **prédéfinis** :
 - a. Doivent être demandés à QU2@us.ibm.com

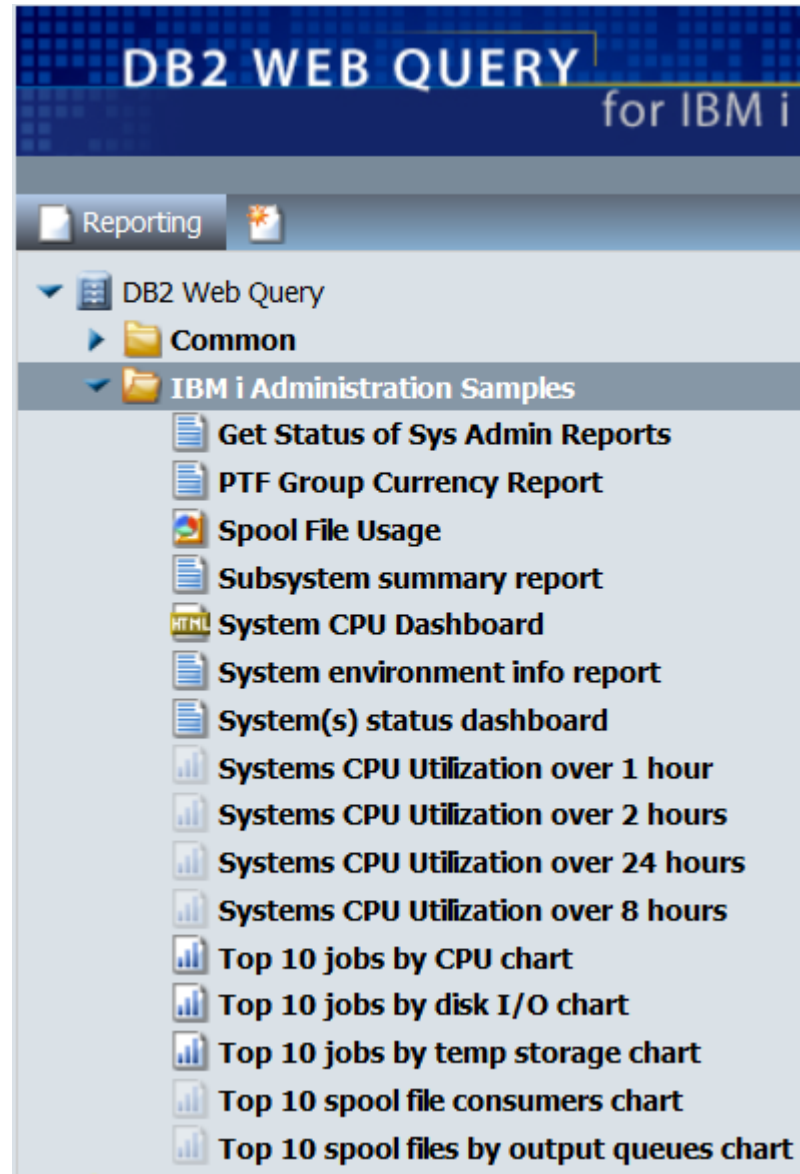
Si vous avez déjà installé DB2 Web Query

Installing and Using Service reports for DB2 Web Query



Les services IBM i et DB2 Web Query

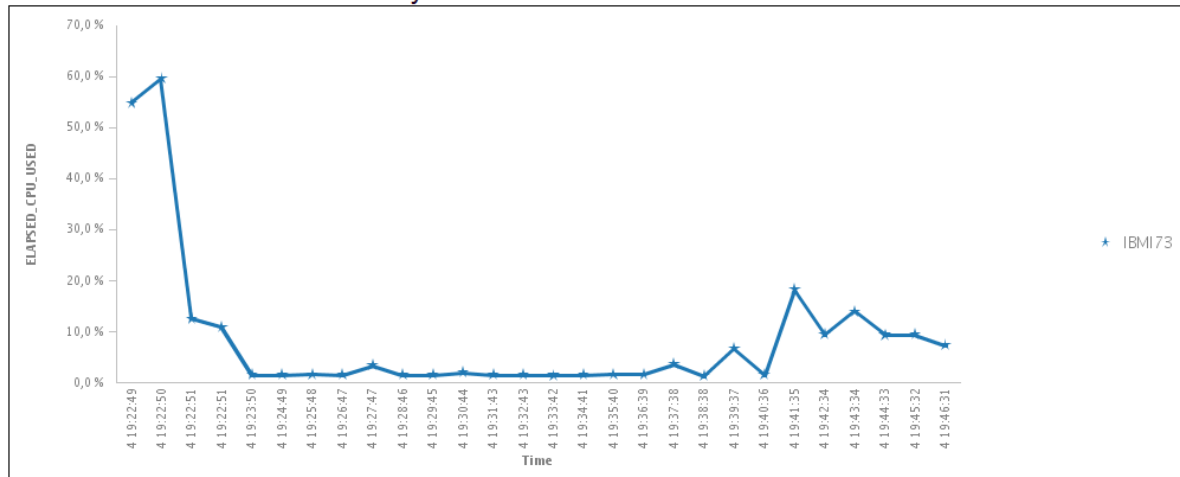
- 1. Rapports et graphiques **prédéfinis**



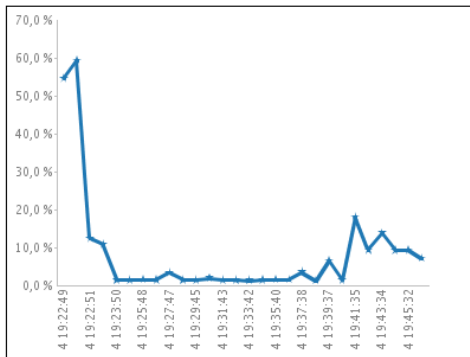
Les services IBM i et DB2 Web Query

- 1. Rapports et graphiques prédéfinis
 - System CPU dashboard

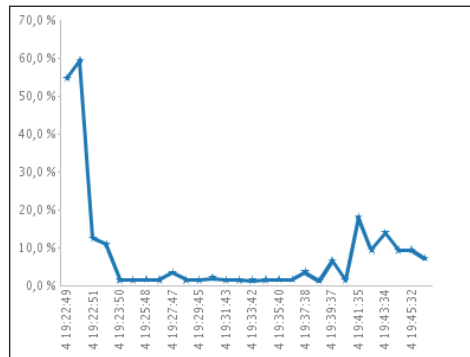
Systems CPU Utilization - 1 Hour



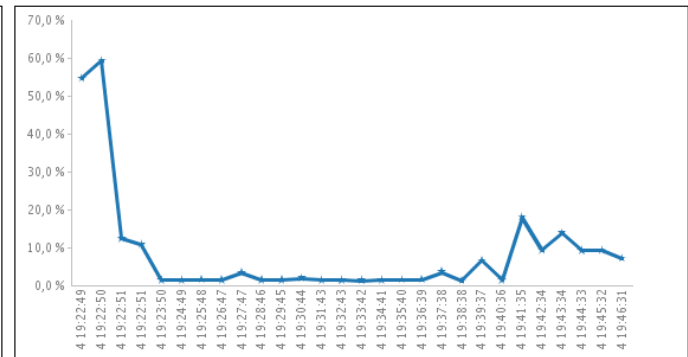
2 Hours



8 Hours



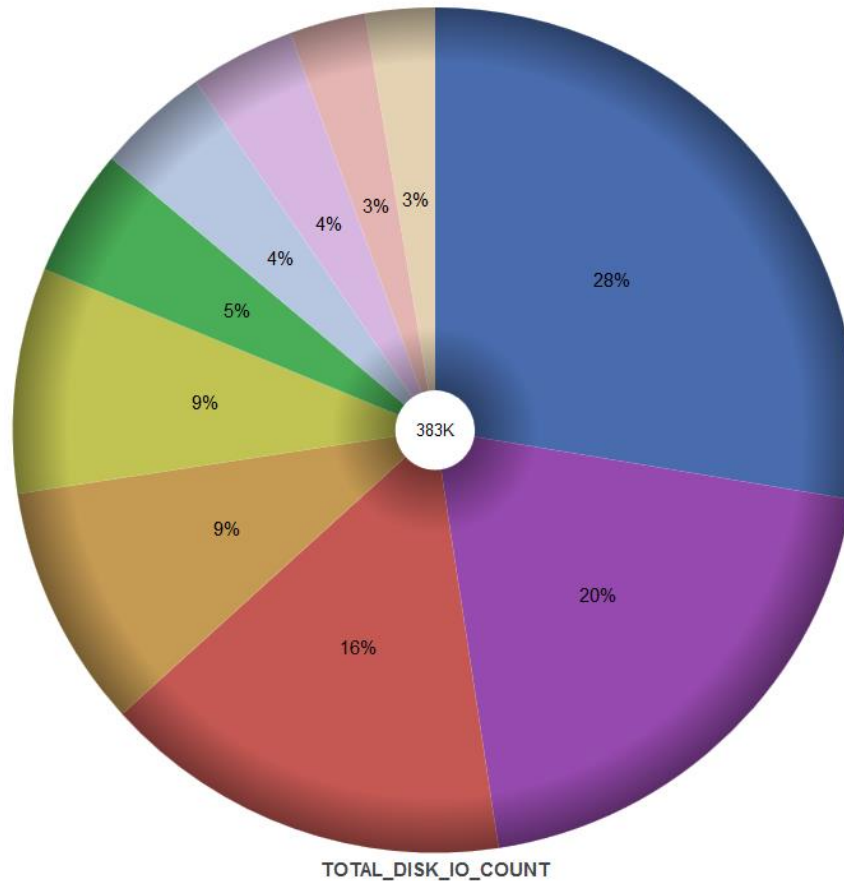
24 Hours



Les services IBM i et DB2 Web Query

- 1. Rapports et graphiques **prédéfinis**
 - Top 10 Jobs by Disk I/O

Top 10 Jobs by Disk I/O



Les services IBM i et DB2 Web Query

- 1. Rapports et graphiques **prédéfinis**
 - PTG Group Currency Report

PTF Currency Report

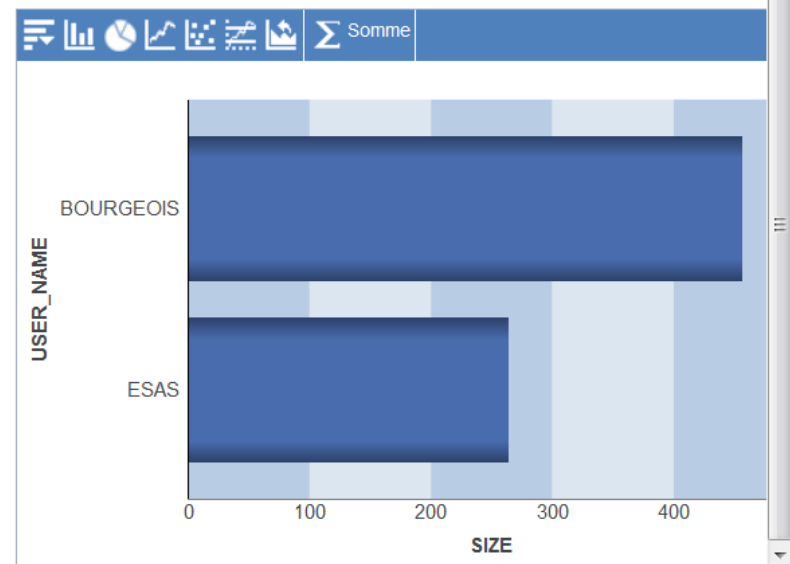
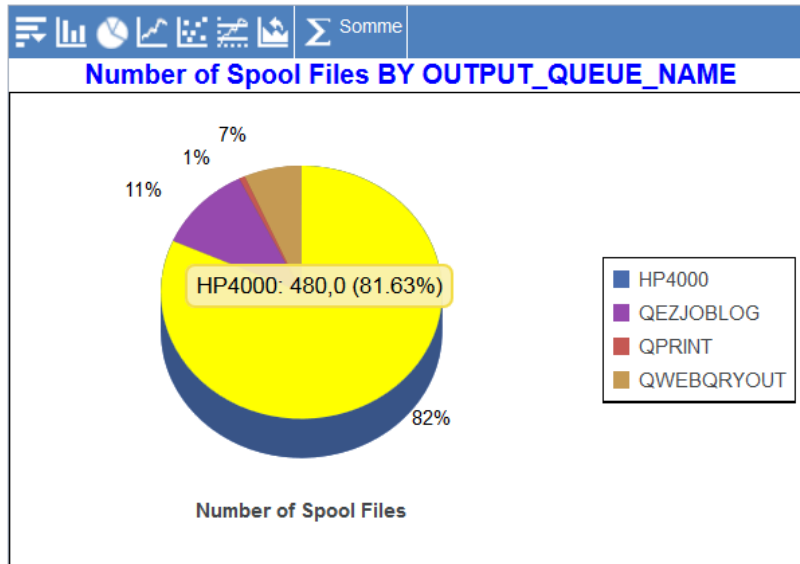
Status	PTF Group ID	PTF Name	Installed Level	Level Available	Date of last IBM Update
INSTALLED LEVEL IS CURRENT	SF99225	IBM Open Source Solutions for i	3	3	2017/01/19
	SF99581	WebSphere App Server V8.5	3	3	2016/12/22
	SF99724	Backup Recovery Solutions	9	9	2017/03/19
	SF99727	Technology Refresh	2	2	2017/03/16
	SF99730	Current Cumulative PTF Media Documentation	17061	17061	2017/03/17
	SF99876	High Availability for IBM i	3	3	2016/11/15
RELATED GROUP	SF99859	IBM MQ for IBM i - v7.1.0/v8.0.0	3	3	2017/02/01
UPDATE AVAILABLE	SF99252	Content Manager OnDemand for i - 5770-RD1 7.3	4	5	2017/04/11
	SF99333	DB2 Web Query for i V2.2.0	2	3	2017/04/24
	SF99703	DB2 for IBM i	3	4	2017/03/29
	SF99722	IBM HTTP Server for i	6	7	2017/04/24
	SF99723	Performance Tools	2	3	2017/03/29
	SF99725	Java	3	4	2017/04/26
	SF99728	Group Security	12	14	2017/05/02
	SF99729	Group Hiper	25	29	2017/05/02
SF99731	All PTF Groups except Cumulative PTF Package	8	9	2017/03/28	
SF99875	Hardware and Related PTFs	9	10	2017/05/01	

4 mai, 2017 at 19.38.50

Les services IBM i et DB2 Web Query

- 1. Rapports et graphiques **prédéfinis**
 - Spool File Usage

Output Queue Top 10 at 19.15.43 on mai 14, 2017



Les services IBM i et DB2 Web Query

- 2. Construction de rapports et graphiques sur **vos** services



Using Sample DB2 Web Query Reports and Charts built over IBM i (SQL) Services – for System Administrators

For those customers with DB2 Web Query Version 2.2 already installed

