

## Package Manager for Db2 z/os

### House Keeping for the Db2 Catalog

Avoid SQLCODEs -805 and -818

Automatically clean up unnecessary packages

Support statically linked load modules

**Package Manager** examines consistency of load modules and/or DBRMs and packages of the Db2 catalog to determine unnecessary packages. The main objectives of **Package Manager** are:

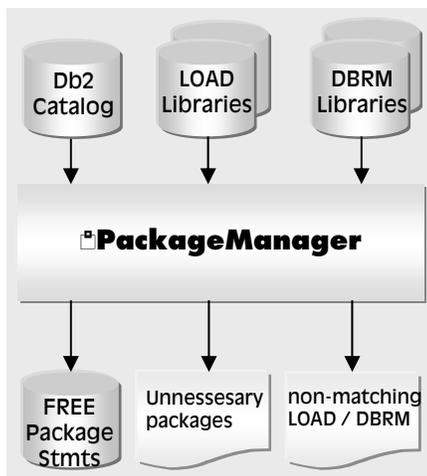
- Examine the consistency of load modules and/or DBRMs to avoid SQLCODEs -805 and -818.
- Determine unnecessary packages.
- Generate and execute the FREE PACKAGE statements to clean up unnecessary package versions.
- Support statically linked load modules.

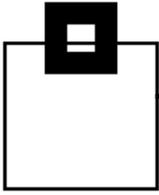
**Package Manager** offers easy to use end-user library administration that controls the examination of DBRMs and load libraries for many Db2 subsystems. Using generic wildcards, all processing can additionally be controlled to filter specific members and collections.

### BACKGROUND

With the execution of a program and a call of SQL, Db2 submits, among others, the name and the CONTOKEN of the packages, as well as the section number of the SQL to be executed. Db2 checks whether the package exists in the catalog with the corresponding CONTOKEN, finds the SQL with the section number, and executes the program code stored in the directory in order to access the data. If Db2 doesn't find the CONTOKEN of the package in the catalog, i.e., the one submitted by the program code, either a SQLCODE -805 or -818 is issued for the package or plan/DBRM, respectively. It is possible to bind a DBRM for which no load module with a corresponding CONTOKEN exists. The bind works, however when the program is executed, a timestamp error is issued (SQLCODE -805 or -818).

To avoid this problem, **Package Manager** checks the consistency between DBRMs and load modules, either for a single program or for the whole library. Furthermore, **Package Manager** can match the DBRMs and load modules with the corresponding packages in the Db2 Catalog to determine DBRMs that are not yet bound.





## WHAT'S THE PROBLEM WITH VERSIONING?

Normally, a new bind of like-named DBRMs overwrites the package in the catalog. Should different versions of a program be valid, the VERSION parameter can be specified with the precompile. Using VERSION, a character string consisting of up to 64 digits can be provided. The different versions of the packages are valid in parallel. If VERSION(AUTO) is specified, the versioning is automatic and the precompiler generates the precompile timestamp as the version. On the positive side, different versions of a program of the same name are operational. However on the negative side, packages now exist in the catalog to which there are no corresponding executable load modules. This is especially valid with the use of VERSION(AUTO). Because all SQL texts, among other things, are saved for every version, these unnecessary packages use a lot of space in the SYSPKGE table space.

☐ **PackageManager** determines versions of packages to which no load module with a corresponding CONTOKEN exists. On request, ☐ **PackageManager** can also generate and execute the FREE PACKAGE statement to clean up these package versions.

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☐ **PackageManager** belongs to a family of quality assurance tools. Other tools offered include:

- ☐ **Analyze** performs expert evaluations of SQL and provides tuning recommendations to promote effective application tuning and quality assurance. A customizable rule system allows you to implement and control in-house coding standards. Automated evaluation processes prevent poorly performing applications from reaching your production environment.
- ☐ **DBRM/Checker**® determines compliance of your current quality assurance rules by verifying new programs during the compile procedure and analyzing whole DBRM libraries.
- ☐ **ProductionSimulator**® provides the user with a method to create Db2 catalog statistics in the test environment so that actual application access paths may be simulated during testing.

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