Red Hat Enterprise Linux Release 9.2 Manual Pages on 'dnf.modularity.7' command

$ man dnf.modularity.7

DNF.MODULARITY(7)   DNF   DNF.MODULARITY(7)

NAME

    dnf.modularity - Modularity in DNF

    Modularity is new way of building, organizing and delivering packages.

    For more details see: https://docs.pagure.org/modularity/

DEFINITIONS

    modulemd

        Every repository can contain modules metadata with modulemd doc?

        uments. These documents hold metadata about modules such as

        Name, Stream or list of packages.

    (non-modular) package

        Package that doesn't belong to a module.

    modular package

        Package that belongs to a module. It is listed in modulemd under

        the artifacts section. Modular packages can be also identified

        by having %{modularitylabel} RPM header set.

    (module) stream

        Stream is a collection of packages, a virtual repository. It is

        identified with Name and Stream from modulemd separated with

        colon, for example "postgresql:9.6".

        Module streams can be active or inactive. active means the RPM

        packages from this stream are included in the set of available

        packages. Packages from inactive streams are filtered out.

Streams are active either if marked as default or if they are explicitly enabled by a user action. Streams that satisfy depen‑ dencies of default or enabled streams are also considered ac‑ tive. Only one stream of a particular module can be active at a given point in time.

PACKAGE FILTERING

Without modules, packages with the highest version are used by default. Module streams can distribute packages with lower versions than avail‑ able in the repositories available to the operating system. To make such packages available for installs and upgrades, the non-modular packages are filtered out when their name or provide matches against a modular package name from any enabled, default, or dependent stream. Modular source packages will not cause non-modular binary packages to be filtered out.

Demodularized rpms

Contains names of RPMs excluded from package filtering for particular module stream. When defined in the latest active module, non-modular RPMs with the same name or provide which were previously filtered out will reappear.

HOTFIX REPOSITORIES

In special cases, a user wants to cherry-pick individual packages pro‑ vided outside module streams and make them available on along with packages from the active streams. Under normal circumstances, such packages are filtered out or rejected from getting on the system by Fail-safe mechanisms. To make the system use packages from a reposi‑ tory regardless of their modularity, specify module_hotfixes=true in the .repo file. This protects the repository from package filtering. Please note the hotfix packages do not override module packages, they only become part of available package set. It's the package Epoch, Ver‑ sion and Release what determines if the package is the latest.

FAIL-SAFE MECHANISMS

Repositories with module metadata are unavailable

When a repository with module metadata is unavailable, package filter‑

ing must keep working. Non-modular RPMs must remain unavailable and must never get on the system.

This happens when:

? user disables a repository via --disablerepo or uses --repoid

? user removes a .repo file from disk

? repository is not available and has skip_if_unavailable=true

DNF keeps copies of the latest modulemd for every active stream and uses them if there's no modulemd available for the stream. This keeps package filtering working correctly.

The copies are made any time a transaction is resolved and started. That includes RPM transactions as well as any dnf module <enable|dis?able|reset> operations.

When the fail-safe data is used, dnf show such modules as part of @mod?ulefailsafe repository.

Orphaned modular packages

All packages that are built as a part of a module have %{modularityla?bel} RPM header set. If such package becomes part of RPM transaction and cannot be associated with any available modulemd, DNF prevents from getting it on the system (package is available, but cannot be in?stalled, upgraded, etc.). Packages from Hotfix repositories or Command?line repository are not affected by Fail-safe mechanisms.

AUTHOR

See AUTHORS in DNF source distribution.

COPYRIGHT

2012-2023, Red Hat, Licensed under GPLv2+