

Packaging in the containerized world

who am i

Aleksandra Fedorova

- DevOps/CI/Build Engineer
- CI Engineer at Red Hat
- Fedora Engineering Steering Committee member
- <https://medium.com/quantum-integration>
- Fedora User Group NRW @ Meetup.com

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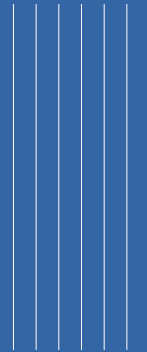
DevOps

vision

Ops

Dev

sad reality



devops

even more real and even more sad reality



devops



poorly
managed
ops

Packaged distribution

goal

Venue for cross-ecosystem, cross-functional integration

business value

Shared
environment



how

- Metadata, versioning and dependency management
- Human verification and signing
- CVE tracking
- Integration testing and releases
- Long-term support
- Legal verification for licenses and patents
- ...

Fedora Initiatives

Fedora Modularity

modularity

```
# dnf module list nodejs
```

Name	Stream	Profiles	Summary
nodejs	8	default [d], development, minimal	Javascript runtime
nodejs	10	default [d], development, minimal	Javascript runtime
nodejs	11	default [d], development, minimal	Javascript runtime

```
# dnf module install nodejs:8
```

[https://docs.fedoraproject.org/en-US/modularity/
installing-modules/](https://docs.fedoraproject.org/en-US/modularity/installing-modules/)

modularity

- Parallel **availability** of several versions of the software stack
- No parallel **installability**

Fedora Minimization

minimization

- Define use-cases
- Estimate sizes of the footprint
- Track changes and highlight them to maintainers

minimization - caveats

- Comparizon of a base image is not a reliable data
- Modularization of systemd toolset

Container tools

buildah mount

```
# containerId=$(buildah from scratch)
# mountpath=$(buildah mount $containerId)
# dnf install --installroot $mountpath --release=29 buildah \
    --setopt install_weak_deps=false -y
# dnf --installroot $mountpath clean all
# buildah umount $containerId
# buildah commit $containerId myimage
# podman run myimage buildah --help
```

man buildah-mount

Ecosystem-specific packaging

ecosystem

- Autogenerated dependencies for Rust, Go, Python packaging systems

Packit!

packit at github

- Autopackage the GitHub update to Fedora update
- Test GitHub pull-request in Fedora environment

<https://packit.dev/>

Contribute

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