Docker containers & Geonode in 2019

Francesco Frassinelli (Frafra)
francesco.frassinelli@nina.no

About Frafra & NINA

Frafra – https://frafra.eu

- Software engineer at NINA, environmental data department
- Python, Django, GIS, containers, databases, …
- OpenStreetMap, GNU/Linux and FLOSS enthusiast
- francesco.frassinelli@nina.no

NINA – https://nina.no

- Norwegian Institute for Natural Research
- Founded in 1998, ~260 employees
- Multiple GeoNode instances
- Preview: https://geodata.nina.no

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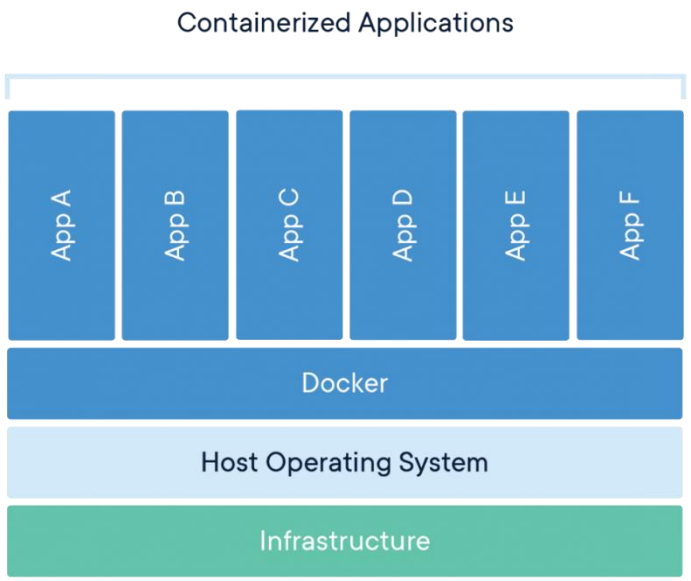
What is Docker?

Industry standard for container



A container is a standard unit of software that packages up code and all its dependencies so the application runs quickly and reliably from one computing environment to another.

-- https://www.docker.com/resources/what-container

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News (since GeoNode summit 2018)

- Documentation
  - Ongoing process (by Francesco Bartoli)
- SPCGeoNode has been merged (by Oliver Dalang)
  - Alternative GeoNode Docker setup
  - Focused on a production-ready GeoNode (SSL and backups)
- SPCGeoNode has been improved
- Various fixes and improvements

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Documentation

	GeoNode	GeoNode (project)	SPCGeoNode
Based on	GeoNode		SPCGeoNode
Status	Work in progress	To-do	To-do
Target	2.10	2.10	To be defined
People working on it	Francesco Bartoli	Francesco Bartoli	Francesco Bartoli, Francesco Frassinelli

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GeoNode vs SPCGeoNode

	GeoNode	SPCGeoNode
Documentation	~	✗
Docker Hub (updates)	✓	✗
PostGIS ingestion	✓	✗
End-to-end tests	✗	✓
Clean first run	~	~
--build all the images	✗	✓
Built-in SSL	✗	✓
Built-in backup	geonode	rclone + pgdumper
Avoid docker.sock	✗	✓
Avoid using root	✗	✗
Open issues	7	9

Which one should I use?

Regular user? Try standard GeoNode setup first.

Want to have more? Try SPCGeoNode.

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One Dockerfile to rule them all!

- Dockerfiles stored in different places:
  - Standard GeoNode setup stored under:
    - geonode/geonode repository
    - geonode/geonode-project repository
  - SPCGeoNode setup stored under:
    - geonode/geonode (scripts/spcgeonode directory)
- Dockerfiles, compose files and entrypoints are very different

Beyond 2.10

- Testing
  - CI testing for regular GeoNode
  - Run tests inside a container
- Merge GeoNode with SPCGeoNode
- Avoid copy-and-paste
  - Use git submodule (just an idea)
  - Share parameters between containers
- Improve security
  - No root
  - SELinux support
- Kubernetes

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Use it, test it, contribute!

Please join us at the code sprint!

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Thanks for your attention!

Any question?

Cooperation and expertise for a sustainable future

Foto. A. Staverløkk