Practices and challenges when using Docker technologies

Thank you for your interest in participating in this study. The goal of the survey is to identify and gauge the challenges developers encounter when working with Docker technologies namely Dockerfiles and Docker Compose.

You can find here the 1min video explaining why the study is important:
https://vimeo.com/426652252

Characterization of the participants

1. Country *

    _____

2. Where do you currently work? *

    Tick all that apply.

    ☐ Industry
    ☐ Academia
    Other: ☐ _____

3. What are your main professional responsibilities? *

Tick all that apply.

- [ ] Software Development
- [ ] Operations
- [ ] Quality Assurance
- [ ] Coaching
- [ ] Product Management
- [ ] Scientific Research
- [ ] Teaching

Other: [ ] _____

How much experience (in years) do you have working on projects ...

4. ... that had a Dockerfile? *

_____

5. ... that had a docker-compose.yml file? *

_____

6. ... where you have used Dockerfiles created by others (colleagues or third parties)? *

_____

7. ... where you have used docker-compose.yml files created by others (colleagues or third parties)? *

_____

8. ... where you created/updated a Dockerfile? *

_____

9.   ... where you created/updated a docker-compose.yml file? *

_____

10.   In the Dockerfiles that I have developed, I have at some point specified ...

Tick all that apply.

☐ ... arguments/variables (ARG instruction).
☐ ... volumes (VOLUME instruction).
☐ ... the user (USER instruction).
☐ ... the working directory (WORKDIR instruction).
☐ ... environment variables (ENV instruction).

11.   In the docker-compose.yml files I have developed, I have at some point specified ...

Tick all that apply.

☐ ... volumes.
☐ ... networks.
☐ ...configs.
☐ ...secrets.

Working with Docker technologies

12. When I write a Dockerfile, I spend considerable time ... *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
reading Docker documentation.	○	○	○	○	○
finding out what are the right Dockerfile commands that I need.	○	○	○	○	○
finding out what parent image is the most suitable.	○	○	○	○	○
finding out what are the dependencies of my system that must be added to the docker image.	○	○	○	○	○
confirming if the resulting container is working as intended.	○	○	○	○	○
trying to understand why the resulting container is not working as intended (e.g., running commands and tests on the container).	○	○	○	○	○
finding out which commands are responsible for the container misbehaviour.	○	○	○	○	○
rebuilding the image and re-running the container to confirm that it is working as intended.	○	○	○	○	○

13. What steps or strategies do you usually follow in order to diagnose and fix bugs in the creation of Dockerfiles?

_____

_____

_____

_____

_____

14. Do you use any plugins/tools when developing Dockerfiles? *

    Mark only one oval.

    ( ) Yes

    ( ) No

15. If so, which ones and how do they help you?

_____

_____

_____

_____

_____

16. When I write a docker-compose.yml file, I spend considerable time… *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
reading Docker documentation.	◯	◯	◯	◯	◯
finding out what are the keys that I need.	◯	◯	◯	◯	◯
finding out what images are available.	◯	◯	◯	◯	◯
trying to understand why the services are not working as intended.	◯	◯	◯	◯	◯
(re)starting the services to confirm that they are working as intended.	◯	◯	◯	◯	◯
configuring the properties of each service (e.g. port mapping, name, …).	◯	◯	◯	◯	◯
configuring the dependencies between the services (e.g. depends_on).	◯	◯	◯	◯	◯
configuring volumes and how they are attached to the services.	◯	◯	◯	◯	◯
configuring networks and how they are connected to the services.	◯	◯	◯	◯	◯
configuring configs and how they are accessed by the services.	◯	◯	◯	◯	◯
configuring secrets and how they are accessed by the services.	◯	◯	◯	◯	◯

17. What steps or strategies do you usually follow in order to diagnose and fix bugs in the creation of docker-compose.yml files?

_____

_____

_____

_____

_____

18. Do you use any plugins/tools when developing docker-compose.yml files? *

Mark only one oval.

◯ Yes

◯ No

19. If so, which ones and how do they help you?

_____

_____

_____

_____

_____

20. When I read a docker-compose.yml file, I spend considerable time trying to understand ... *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
what the services are.	◯	◯	◯	◯	◯
the dependencies between services (e.g. depends_on).	◯	◯	◯	◯	◯
what volumes are used and how they are attached to the services.	◯	◯	◯	◯	◯
what networks are used and how they are connected to the services.	◯	◯	◯	◯	◯

21. Comments

Feel free to leave us a comment. Do you use Docker, Docker Compose or any other technology related to software containers in a specific way that we may find interesting? Have you detected anything wrong with the questions in this questionnaire? Let us know your email address if you want to receive further details about this research.