

Challenges with Docker technologies

The objective of this survey is to identify and gauge the challenges developers encounter when working with Docker technologies namely Dockerfiles and Docker Compose.

*** Required**

Personal context

1. What is your job title? *

Mark only one oval.

☐

Software Developer

☐

Other: _____

How many years of experience do you have working on projects...

2. ... which had a Dockerfile? *

Mark only one oval.

0

1

2

3

4

5

6

☐☐☐☐☐☐☐

3. ... which had a docker-compose.yml file? *

Mark only one oval.

0

1

2

3

4

5

6

☐☐☐☐☐☐☐

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

Mark only one oval.

0	1	2	3	4	5	6

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

Mark only one oval.

0	1	2	3	4	5	6

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

Mark only one oval.

[illegible]

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

Mark only one oval.

0	1	2	3	4	5	6

8. In the Dockerfiles I've developed, I've specified...

Check all that apply.

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

9. In the docker-compose.yml files I've developed, I've configured...

Check all that apply.

- ☐ ... volumes.
- ☐ ... networks.

Working with Docker technologies

10. When I write a Dockerfile, I spend a lot of time... *

Mark only one oval per row.

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

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

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

Mark only one oval.

☐ Yes

☐ No

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

14. When I write a docker-compose.yml file, I spend a lot of time... *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
reading Docker documentation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
finding out what are the keys that I need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
finding out what images are available.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
trying to understand why the services are not working as intended.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(re)starting the services to confirm that they are working as intended.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
configuring the properties of each service (e.g. port mapping, name, ...).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
configuring the dependencies between the services (e.g. depends_on).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
configuring volumes and how they are attached to the services.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
configuring networks and how they are connected to the services.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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

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

Mark only one oval.

☐ Yes

☐ No

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

18. When I read a docker-compose.yml file, I spend a lot of time trying to understand ... *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
what the services are.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the dependencies between services (e.g. depends_on).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
what volumes are used and how they are attached to the services.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
what networks are used and how they are connected to the services.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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