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AI Diploma

Assessment Two

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Docker:

Definition:

Docker is a platform which aims to simplify the process of running multiple software with different requirements on the same machine, Docker perform by making a virtual operating system in the form of containers, so that each container carries the required process table, network interfaces, dependencies and libraries needed to run the application. The first appearance of docker programming was on 2013, and it was written in Go programming language.

Advantages:

- Supporting multiple applications with different requirements and dependencies to have the same host machine.
- Reducing the used disk space and memory used to perform the running process.
- Speeding up the machine bootup as the docker does not require creating standalone operating system like the virtual machines.
- Decreasing the cost of hardware.

Disadvantages:

- The main disadvantage of docker is that the docker host hosts applications which have the same operating system as requirement.

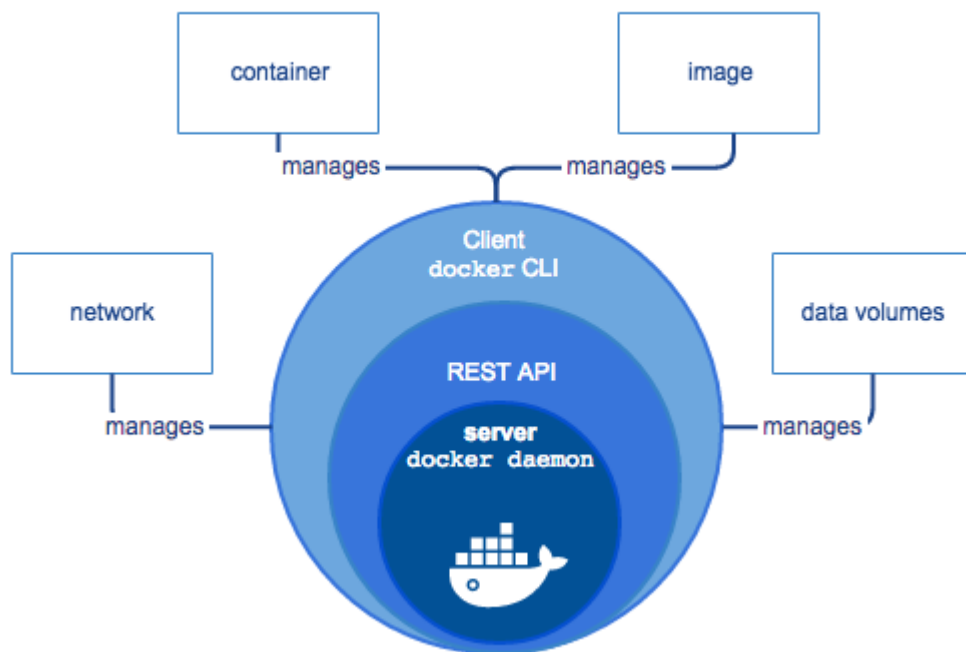
Functionality:

Docker Engine is the main responsible component of managing the docker functioning. It consists of three main components:

- 1) Server: which runs a manager called the docker daemon that is responsible of containers, images and data volumes creation and management.
- 2) Rest API: organize the communication between the docker server and application to ensure they perform correctly.
- 3) Client: a command line allowing the user to interact with the docker.

And the client has two important components:

1. Docker Image: template which carries the application and all it's dependencies and libraries.
2. Docker Container: Logical component which contain the dockers image and system kernel and run the image.



Devops:

Definition:

Devops is software production methodology, which tries to get rid of the limitations in the previous models like waterfall and agile model, by reducing the gap between the teams of the development and operations. It aims to fasten the process of software development during all the phases of software development life cycle. Using automated tools to turn the development process, testing, requirement gathering, analysis and software design faster than the traditional ways. It also aims to break down the process of development into small chunks of coding and testing, to produce a high performance, low cost, efficient and optimized software.

Advantages:

- Reducing the software development time.
- Increasing the productivity of the company.
- Saving cost of maintenance.
- Improving the quality and reusability of the system components, by intensifying feedback.
- Improving the visibility of features developments to the client.
- Enhancing the communication and calibration between the company teams.

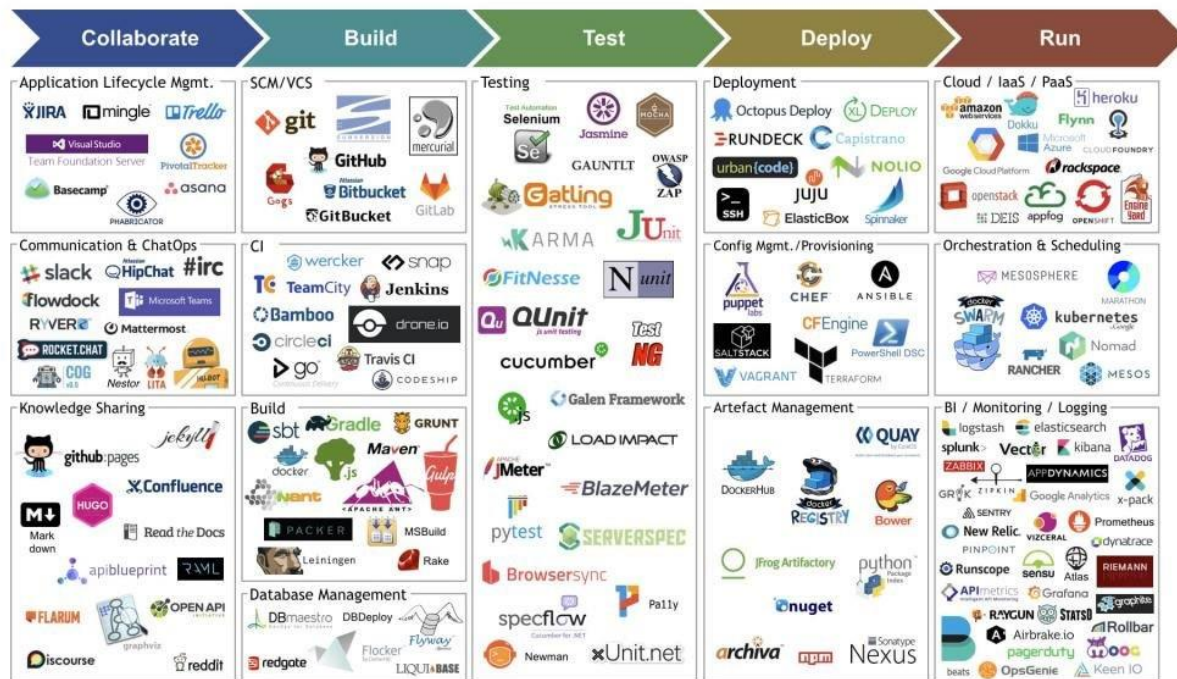
Disadvantages:

- Might face challenges or fail if the organization culture does not coop with the aspects of devops, in cases where the company have a restrictive system of accessing the data for example.

- The difference of interests and the way the teams of operations and developers sees the software might affect the operation.
- The deep-seated companies, where the employees do not have the mentality of shifting roles is a huge draw back to the devops methodology.

Tools:

- Slack: communication tool used between the teams to transfer data and to get support.
- Git: used in the phase of software building.
- Jenkins: automation server used for the continuous integration and delivery.
- Kubernetes: used to build server less functions to run on any cloud, ending the limitations of execution duration, languages availability and the code size.



Ai Companies Egypt:

1. EPSILON AI
2. ABM Egypt
3. Adam
4. Advansy ESC
5. Affective
6. Agolo
7. Arqamfc
8. Ave labs
9. Avid beam
10. BADR
11. Bee Smart Payment Solutions
12. Botler
13. Cequens
14. Cognitev(Mena commerce)
15. Comiot
16. Crowd analyzer
17. Data Gear BI18. DLC
19. El menus
20. Elves
21. Heuro Labs
22. HUB 43
23. IBM Egypt
24. Incorta
25. InnoVision Systems
26. Itworx
27. Knowledge officer
28. Media Gate
29. Mendel
30. Microsoft ATLC
31. OMS
32. Optomatica

33. Oracle
34. Orange
35. Pixellion
36. Raisa Energy
37. RDI
38. Rology
39. Sadeem
40. Seeloz
41. Soho Square Solutions
42. Speakol
43. Sypron
44. Stratochem
45. Tactful
46. Tahrir news
47. TA Telecom
48. TayRec
49. Teradata
50. The D. GmbH
51. Tpay
52. Trendak
53. Trustious
54. Usy tech
55. Valeo
56. Vditory
57. Wego
58. WideBot
59. Wuzzuf
60. Xtrava
61. Yaoota!

References

- [1] Shahzan, "freeCodeCamp," 17 04 2020. [Online]. Available: <https://www.freecodecamp.org/news/docker-simplified-96639a35ff36/>.
- [2] E. AI, "https://epsiloneg.com/," Epsilon AI, [Online]. Available: <https://epsiloneg.com/wp-content/uploads/2020/10/AI-Driven-Companies-in-Egypt.pdf>.
- [3] D. A. S. A. (DASA), "DevOps Agile Skills Association (DASA)," 11 07 2019. [Online]. Available: <https://www.devopsagileskills.org/dasa-and-devops/>.
- [4] S. M. ., L. E. L. ., J. T. ., a. T. M. Leah Riungu-Kalliosaari, "DevOps Adoption Benefits and Challenges," University of Helsinki, Finland, 2016.
- [5] A.Tintin, "Devopedia," 06 01 2020. [Online]. Available: <https://devopedia.org/devops#qst-ans-5>.