

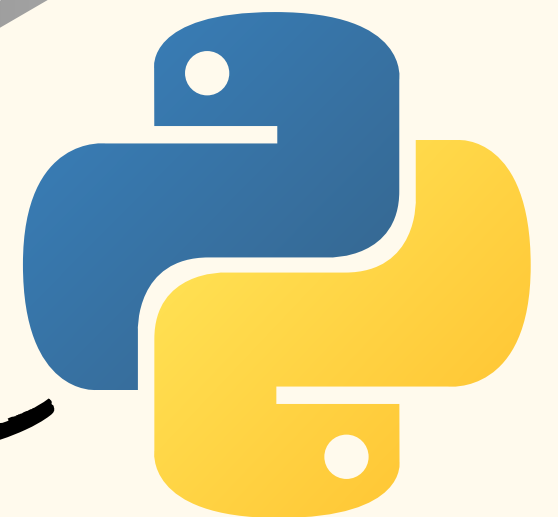
PYTHON VIRTUAL ENVIRONMENTS : DRIVERS OF PROGRAMMING

CONDA

tox



AND MORE...



HOW TO UNDERSTAND & CHOOSE VIRTUAL ENVIRONMENTS

[HTTPS://GITHUB.COM/INSIGHTBUILDER](https://github.com/insightbuilder)

CHALLENGES SOLVED

DEPENDENCY MANAGEMENT : EACH PROJECT HAS ITS OWN SET OF LIBRARY

PROJECT ISOLATION : WORKING ON ISOLATING ENVIRONMENT OF PROJECTS

TESTING AUTOMATION : ESPECIALLY WHEN INTEGRATION TESTING REQUIRED

COLLABORATION: SHARING THE ENVIRONMENT BECOMES EASIER

DEPLOYMENT : SETTING UP PRODUCTION ENVIRONMENT IS SIMPLIFIED

CHANGE MANAGEMENT: ANY CHANGE IN DEPENDENCIES CAN BE TRACKED &

SHARED

[HTTPS://GITHUB.COM/INSIGHTBUILDER](https://github.com/insightbuilder)

DOCKERS & VIRTUAL ENVIRONS

CONDA

TOX

POETRY

VIRTUALENV

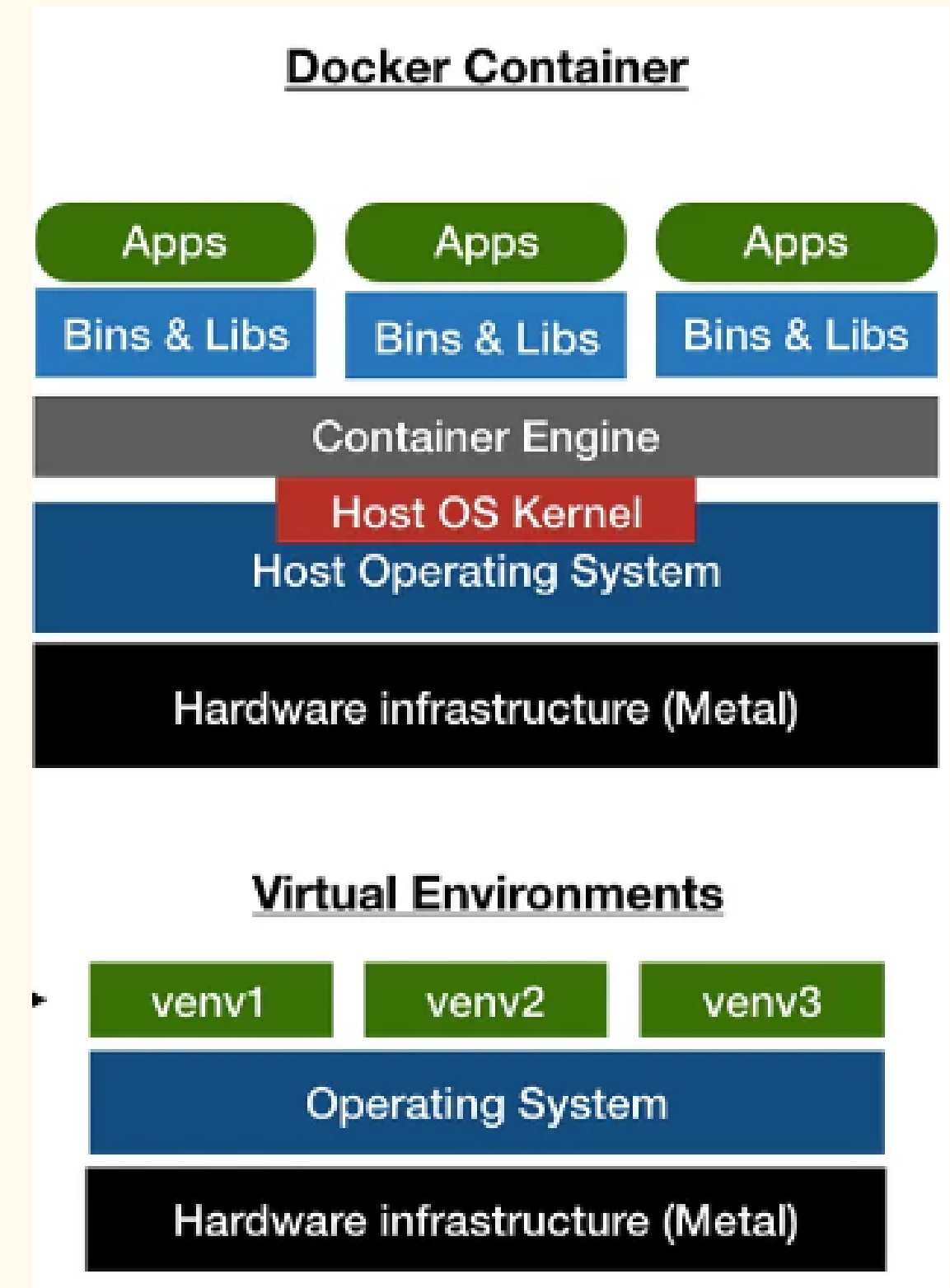
PYENV

PIPENV

HOW ABOUT DOCKERS?

- USEFUL IN PRODN
- EASILY SHAREABLE
- S/W INSTALL NOT RQD

NEEDS TO SETUP DOCKER
WITH ROOT PRIVILEGE



[HTTPS://STEPHEN-ODAIBO.MEDIUM.COM/DOCKER-CONTAINERS-PYTHON-VIRTUAL-ENVIRONMENTS-VIRTUAL-MACHINES-D00AA9B8475](https://stephen-odaibo.medium.com/docker-containers-python-virtual-environments-virtual-machines-d00aa9b8475)

[HTTPS://GITHUB.COM/INSIGHTBUILDER](https://github.com/insightbuilder)

WHERE VIRTUAL ENVIRONMENT ARE USED?

- AUTOMATING THE TESTING AND DEPLOYMENT PROCESS AND MAKING THE DEVS LIFE EASIER.
- WHEN LEARNING A NEW TECH LIKE AI / API OR WEB-SCRAPING THE LIBRARIES WILL BE DIFFERENT
- CONFLICTS DUE TO THE LIBRARY VERSIONS WHEN DEPENDENCIES ON YOUR CODE BECOMES OVERWHELMING TO MANAGE
- REVERSE ENGINEERING THE CODE SHARED BY OTHER STARTS BY UNDERSTANDING THE LIBRARIES & THEIR VERSIONS
- MAINTAINING YOUR EXISTING ENVIRONMENT UNTOUCHED IS POSSIBLE

AI NETWORK ENVIRONMENTS

- PYTORCH
- JAX
- FLAX
- TENSORFLOW

AI TASKS / ACTIVITIES

- VISION / IMAGE PROCESSING
- AUDIO / TEXT PROCESSING
- NATURAL LANGUAGE PROCESSING

ABOVE ALL REQUIRE CUDA SUPPORT

MACHINE LEARNING LIBRARIES

- SCI-KIT LEARN
- SCIPY
- PANDAS

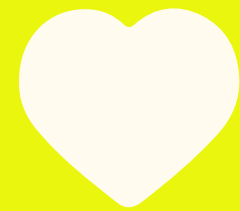
HOW IS VIRTUAL ENVIRONMENT RELATED TO AI?

- **OPEN SOURCE ECOSYSTEM IS SHARING THE CODE THAT IS PACKAGED IN VIRTUAL ENVIRONMENTS**
- **WHEN LEARNING A NEW TECH LIKE AI / API OR WEB-SCRAPING THE LIBRARIES WILL BE DIFFERENT**
- **CONFLICTS DUE TO THE LIBRARY VERSIONS, AND THE DEPENDENCIES ON YOUR CODE CAN BECOME OVERWHELMING TO MANAGE**
- **REVERSE ENGINEERING THE CODE SHARED BY OTHER STARTS BY UNDERSTANDING THE LIBRARIES & THEIR VERSIONS**

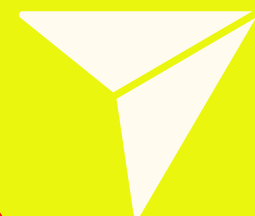
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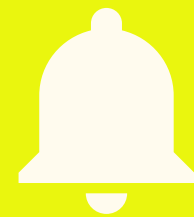
THANKS FOR WATCHING



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