



# Use of Conda at INL HPC

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*Changing the World's Energy Future*

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# Team Conda

## Use of Conda at INL



# What is Conda?

- Package Management
  - Software packages
  - Dependencies
- Manages environments
  - Different versions of software
  - Different environment requirements
    - TensorFlow vs Pytorch for example

# How do we use it?

- 33 General environments
  - 11 variants/versions of TensorFlow
  - 6 variants/versions of PyTorch
- Linked in to Open OnDemand
- Allow users to create their own Python environments that they can share with groups or keep to themselves

# Conda vs Other Tools

- Conda vs PIP
  - We use both together
  - Conda has been great for dependency resolution on older operating systems like CentOS7
  - Use Conda to create environment and download some packages, pip for others
- Conda vs Lmod
  - We use both together - ``module load Conda``
  - Use Lmod for many packages, usually just use Conda for Python, ML/AI
- Conda vs Containers
  - We're experimenting with using both together, but haven't too much yet
  - Conda isn't great at being reproducible or portable. Basically, start from scratch
  - Users don't need root to build a Conda environment



# Cool Uses

- 2 Factor authentication for distribution of licensed codes
- Different Jupyter Kernels via virtual environments