

HPC Applications on Shaheen

CFD Basic Module

How to Run Various Test Cases on Shaheen?

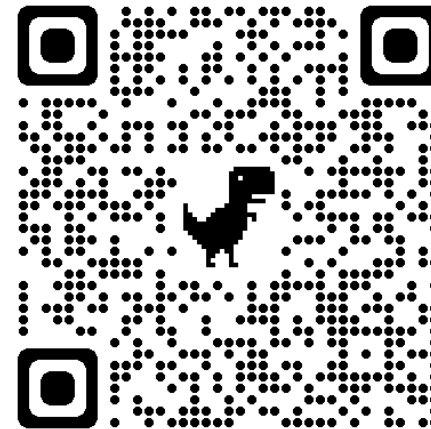
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CFD Services

- Basic Support: Maintaining and Upgrading Software and Test Cases
- Training: Basic, Intermediate and Advanced
- Helpline: cfid-helpline@hpc.kaust.edu.sa
- CFD Consulting Projects
- ANSYS Workshop Series
- CFD User Group Meetings
- Student Certification



Basic CFD Module

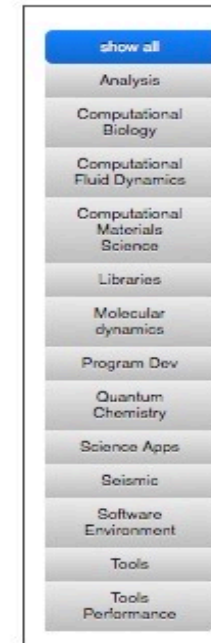
- Quick Overview of Applications on Shaheen
- Typical CFD workflow
- CFD Example Cases
 - Ansys/Fluent
 - CONVERGE
 - OpenFOAM
 - Paraview
 - Tecplot
 - Strong Scalability
 - Interactive Computing in Batch Mode
- Shaheen users can find all material here:

`/sw/xc40cle7up03/ansys/cfd_module.tar`

Applications on Shaheen

CFD Applications:

- Commercial codes (Fluent, CONVERGE)
- Open source codes (OpenFOAM)
- Code development tools (dealii, FEniCS, OpenFOAM)
- Mesh generation (ANSYS)
- Post processing (Tecplot, visit, paraview, Ensight)



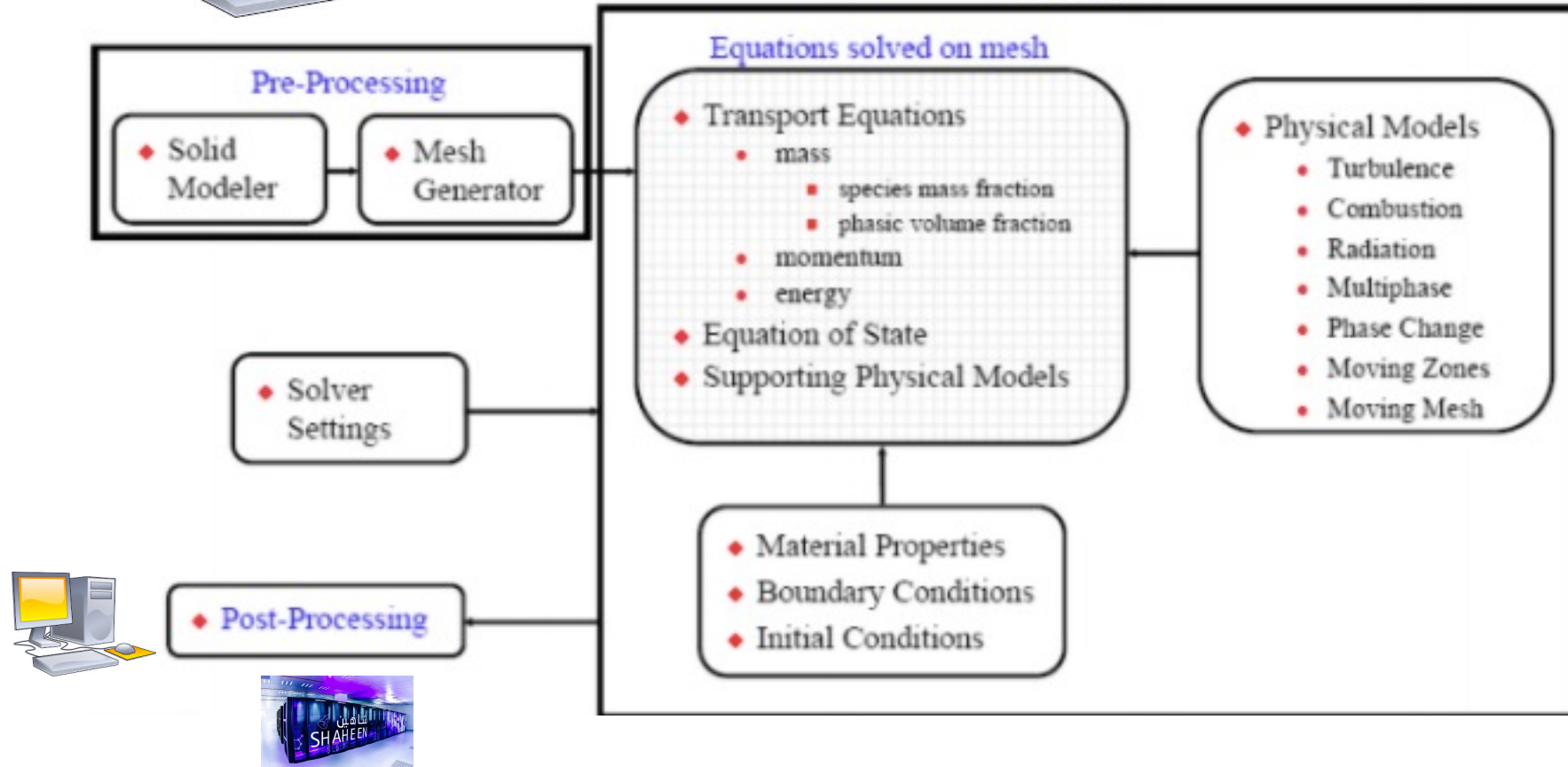
Applications installed on Shaheen II



Typical CFD Workflow



Solver



Hands-on Demo

- Log into Shaheen
- `cd /scratch/$USER`
- `tar -xf /sw/xc40cle7up03/ansys/cfd_module.tar`
- `cd cfd_module`

MacOS Users Accessing Shaheen for the First Time:

Terminal -> Preferences -> Profiles -> Advanced -> Uncheck “Set locale environment variables on startup” You will then need to restart the Terminal application.