**Tutorial #1**

***Installation Manual (Abaqus)***

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C:\Users\kotharit2\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\D150AE7A.tmp

A close up of a logo

Description automatically generated

1. Prerequisites- Anaconda, Python, Abaqus, Dakota, Python scripts, and SwiftComp Package.

* Pythion: version 3.8, required packages – NumPy, SciPy, and SymPy, TensorFlow
* Python scripts (in the package): Add the root directory of the scripts (e.g., `<your\_local\_path\_to>/DATC\_lib`) to the environment variable `PYTHONPATH`.
* Dakota:
  + Download Dakota 6.11 ('command line only' interface) from the official link (<https://dakota.sandia.gov/download.html>).
  + Unpack the package to a custom location. `DAKOTA\_ROOT` is used to indicate the root directory of Dakota below.
  + Set environment variables:
    - Add `DAKOTA\_ROOT/bin` and `DAKOTA\_ROOT/lib` to `PATH`.
    - Add `DAKOTA\_ROOT/share/dakota/Python` to `PYTHONPATH`.
* Add swiftcomp.exe to system path

1. Download the Abaqus plug-in package files.
2. Unpack the installation files.
3. Copy the ATC folder to

* home\_dir\abaqus\_plugins, where home\_dir is your home directory (Recommended), or
* current\_dir\abaqus\_plugins, where current\_dir is the current directory.

1. Open Command Prompt, change directory to home\_dir\abaqus\_plugins\ATC or current\_dir\abaqus\_plugins\ATC. Type “python Paths.py”. The PYTHONPATH and PATH of local computer will be output in a “Paths.txt”.
2. Copy Paths.txt to your working directory. This file will be read by the plug-ins to replace the default Abaqus python to system python.
3. Copy the folders “model”, “PyYML” and “PyML” in your current working directory.