Techila with Python

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Introduction of the Python peach syntax

- **Simple interface for creating Projects**
  - In the current version, commands parsed with a dynamic-link library (.dll) for Windows or dynamically linked shared object libraries (.so) for Linux
  - Plans for a new implementation
    - Will make more features available
- **Typically the Python peach syntax will define:**
  - The function that will be executed on Workers
  - The Python-script containing the executable functions
  - Input arguments for the executable function
  - Files that will be transferred to the participating Workers
  - Number of Jobs in the Project
  - Location of the gmk directory

Introduction of the Python peach syntax

- **Example of a Python peach syntax:**

```
result = peach("test_dist",          # Name of the executable function
               [a,b,"<param>"],      # Input arguments
               ["test_dist.py",      # File given to 'execfile' on Workers
               "datafile.txt"],      # Transfer 'datafile.txt' to Workers
               range(0,10),          # Number of Jobs set to 10
               gmkRoot="../../..")   # Path of the 'gmk' directory
```

Introduction of the Python peach syntax

- **Streaming and Callback functions can be enabled with additional parameters:**

```
result = peach("test_dist",          # Name of the executable function
               [a,b,"<param>"],      # Input arguments
               ["test_dist.py",      # File given to 'execfile' on Workers
               "datafile.txt"],      # Transfer 'datafile.txt' to Workers
               range(0,10),          # Number of Jobs set to 10
               gmkRoot="../../..",   # Path of the 'gmk' directory
               streamResults=True,   # Enable streaming
               callbackMethod=callbackF) # Name of the callback function
```

Preparation

- **Creating the GridManagement.conf file**
  - This step is typically required if you receive the following error message when running the example: "RuntimeError: ('Grid error', -22, 'Unable to find Java runtime library')"
- **Steps:**
  1. Navigate to the <full path>\gmk\grid folder
  2. Rename the '**GridManagement.conf.example**' to '**GridManagement.conf**'
  3. Open the **'GridManagement.conf'** file with a text editor
  4. Enter path of the jvm.dll file as the value of the JVMPATH. An example is shown below:

     JVMPATH=C:\Program Files\Java\jdk1.6.0_24\jre\bin\server\jvm.dll
  5. Save the file

Preparation

- **Installing the 'numpy' package**
  - This step is only required if you do not have 'numpy' installed.
  - Download links available at: http://www.scipy.org/Download
    - Select and install the package compatible with your system
  - When applicable in Linux, use apt-get install python-numpy

Creating a test Project

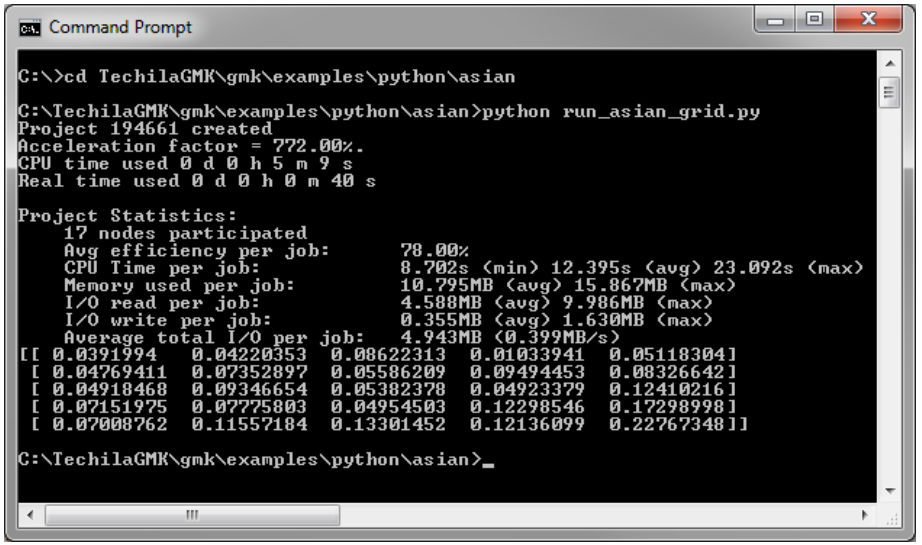
1. **Launch a Command Prompt / Terminal**
2. **Change your current working directory to:**

   <full path>\gmk\examples\python\asian

3. **Create the Project with command:**

   `python run_asian_grid.py`

4. **When prompted, enter your password**
5. **The computational Project will be created**
   - Progress will be visible in the status bar



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