Activity 22.1: Using DASK to Create Multiple Files in Parallel (40:00)

Start Assignment

Due Nov 13 by 11:29am **Points** 20 **Submitting** a file upload

Available after Nov 6 at 8am

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C Learning Outcome Addressed:

2. Run parallel operations in DASK.

In this activity, you will practice defining a pandas *dataframe* and then writing the contents to files in parallel by using the DASK *library*.

To complete this activity, follow these steps:

1. In a Terminal window, run the command below to install the DASK *library* locally:

pip install dask

Provide a screenshot to show that you successfully installed DASK.

- Download the <u>Activity 22_1.py</u>
 (https://classroom.emeritus.org/courses/9296/files/2494004/download) file and open it using VS Code. Provide a screenshot to show that you opened the file correctly.
- 3. In the Activity 22_1.py file, use the pandas DataFrame function to create a dataframe with two columns. The first column, odd_num, will contain, as entries, all the odd numbers between 1 and 10. The second column, even_num, will contain, as entries, all the even numbers between 1 and 10. Assign this dataframe to the pandas_df variable. Provide a screenshot to show that you created the pandas_df dataframe correctly.
- 4. In the Activity 22_1.py file, set the npartitions argument inside the from_pandas function equal to 2. Provide a screenshot to show that you set the npartitions argument equal to 2.
- 5. Run and debug your code in VS Code. Provide a screenshot to show that you ran the code without any errors.
- 6. In a Terminal window, navigate to the activity22.1 folder. List the files inside of the activity22.1 folder. Provide a screenshot to show that the 0.part and 1.part files are present inside of the activity22.1 folder.
- 7. In a Terminal window, use the cat command to visualize the contents of the 0.part and 1.part files. Provide two screenshots. The first screenshot should show the contents of the 0.part file. The second screenshot should show the contents of the 1.part file.

You have now completed this activity and practiced defining a pandas *dataframe* and writing the contents to files in parallel by using the DASK *library*.

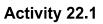
Submission Instructions:

Your submission for this activity should be a Word document that includes the following screenshots, each labeled for the step that the screenshot represents:

- 1. Provide a screenshot to show that you successfully installed DASK.
- 2. Provide a screenshot to show that you opened the file correctly.
- 3. Provide a screenshot to show that you created the pandas df dataframe correctly.
- 4. Provide a screenshot to show that you set the npartitions argument equal to 2.
- 5. Provide a screenshot to show that you ran the code without any errors.
- 6. Provide a screenshot to show that the 0.part and 1.part files are present inside of the activity22.1 folder.
- 7. Provide two screenshots. The first screenshot should show the contents of the 0.part file. The second screenshot should show the contents of the 1.part file.

Additional Details:

- Estimated time: 40 minutes
- This is a required activity and counts toward course completion.



Criteria	Ratings		Pts
Provide a screenshot to show that you successfully installed DASK.	3 pts Complete The correct screenshot has been included in the submission.	O pts Incomplete The screenshot has not been included in the submission or is the incorrect screenshot.	3 pts
2. Provide a screenshot to show that you opened the file correctly.	2 pts Complete The correct screenshot has been included in the submission.	O pts Incomplete The screenshot has not been included in the submission or is the incorrect screenshot.	2 pts
3. Provide a screenshot to show that you created the pandas_df dataframe correctly.	3 pts Complete The correct screenshot has been included in the submission.	O pts Incomplete The screenshot has not been included in the submission or is the incorrect screenshot.	3 pts
4. Provide a screenshot to show that you set the npartitions argument equal to 2.	3 pts Complete The correct screenshot has been included in the submission.	O pts Incomplete The screenshot has not been included in the submission or is the incorrect screenshot.	3 pts
5. Provide a screenshot to show that you ran the code without any errors.	3 pts Complete The correct screenshot has been included in the submission.	O pts Incomplete The screenshot has not been included in the submission or is the incorrect screenshot.	3 pts
6. Provide a screenshot to show that the 0.part and 1.part files are present inside of the activity22.1 folder.	3 pts Complete The correct screenshot has been included in the submission.	O pts Incomplete The screenshot has not been included in the submission or is the incorrect screenshot.	3 pts

Criteria	Ratings		Pts
7. Provide two screenshots. The first screenshot should show the contents of the 0.part file. The second screenshot should show the contents of the 1.part file.	3 pts Complete Both correct screenshots have been included in the submission.	O pts Incomplete Both screenshots have not been included in the submission or are the incorrect screenshots.	3 pts

Total Points: 20

Top Questions It's all empty here! If you have any questions ask one