**RT/DT CALCULATION:**

**Pre-requisites:**

* The files Phase 2 – Districts.csv, and Phase 2 – Wards.csv should be complete and up-to-date with the latest count of cases/recoveries/deaths etc

**Code-flow:**

Only the process for districts is discussed here. The process for wards is very similar

**Step 1:** **/tasks/updateEpiStatsRepo\_districts\_task.py** is the main task that triggers the RT calculation process. This script calls upon other scripts **/tasks/epi\_stats/calcRT\_tasks.py** and **/tasks/epi\_stats/calcDT\_tasks.py** that download the CSV files required for RT/DT calculation

**Step 2 – Download the requisite CSV files:** The scripts calcRT\_tasks.py and calcDT\_tasks.py call the function DownloadCityStatsTask() available in another script **/tasks/epi\_stats/fetch\_citystats.py** to download the file “Phase 2 - Districts.csv”. The DownloadCityStatsTask() function also implements the criteria to select the most critical districts for RT/DT calculation using the critical\_districts() function available in the same file.

**Step 3 – Calculate RT/DT:** RT/DT values are computed for the critical districts in the calcRT\_tasks.py and calcDT\_tasks.py scripts. For RT calculation, an R script **/R\_scripts/Epistim\_rt\_districts\_script.R** is called to perform the calculations (an R script is used since the package EpiEstim is required to calculate the RT). For DT, the calculation is implemented using the run\_DT() function housed in **/R\_scripts/dt\_script.py**

**Step 4 – Merge RT/DT values with the CSV:** The RT/DT values computed in Step 3 above is merged with the main “Phase 2 - Districts.csv” file in the main **/tasks/updateEpiStatsRepo\_districts\_task.py** script, before the file is pushed back to the AWS S3 bucket. The dashboard picks up the RT/DT values from this file (“Phase 2 – Wards.csv” file for wards)

The task is scheduled using the YAML file Run\_rt\_calcs.yml file.

**COMMONLY ENCOUNTERED ISSUES:**

1. **RT/DT values not showing up properly:** This could be due to many reasons. The recommendation would be to check the github-actions associated with the repository <https://github.com/swb-ief/etl-pipeline/actions> and examine the log of the latest R\_proc action, to see if the data has been updated. If R\_proc has successfully run, check if the step where the RT/DT values are merged to the main csv is working as expected (the merge is performed in **/tasks/updateEpiStatsRepo\_districts\_task.py** or **/tasks/updateEpiStatsRepo\_wards\_task.py**)