**Allocation ‘Batch’ Process for Quantum**

* **Batch Background**
  + Batch is the process of taking our generated Allocation .NET Extract Source data files for Quantum and feeding this relational data into the Quantum system.
    - This process is executed on an AIX Allocation database server. (i.e. MLWALD21)
    - This process will queue up work and trigger workers to process this work on corresponding RedHat Linux Allocation application server(s) via REST service calls (i.e. MLWALA21-26)
    - Both the tasks executing on the database and allocation servers will access and write to the corresponding Oracle database on said database server (i.e. MLWALD21)
    - At a high level, the process does the following tasks:
      * Generates and compares md5 hash values for each .gz compressed source data file
      * Reads/Writes source data into ‘ex’ stage Quantum Oracle database tables
      * Transforms and moves data from ‘ex’ stage tables into ‘qr’ system tables
      * Leaves errors in ‘ee’ error database tables
      * Runs various Quantum calculation related tasks based on new source data (i.e. actual, mld, forecasting, etc…)
      * Logs to the following:
        + Database Server: ‘/sftw/quantum/LogFile/prodenv.log’
        + Application Server: ‘/mnt/quantum/LogFile/qlogic\_out.log’
      * Leaves bookmark directory breadcrumb trail of progress in the ‘/sftw/quantum/ProcessFile’ directory
* **Batch Scripts Install and Execution Directory**
  + /sftw/quantum/Scripts
    - Contains ‘batch.sh’, which is the entry point for the batch process
    - The ‘batch.sh’ script is executed from this directory to initiate the batch process
* **Execute Batch**
  + Login to the targeted environment’s AIX Allocation database server (i.e. MLWALD21)
  + Ensure you are operating under the ‘quantum’ user’s identity
    - su quantum
    - whoami
  + Ensure the source data files you would like to import are sitting in the appropriate ‘/sftw/quantum/preprocess/[DATE]’ directory. (i.e. So if you are running for 3/12/2014 on UAT-NA, we should have our 3/12 source data ‘.gz’ and accompanying ‘.gz.md5’ files sitting in the ‘/sftw/quantum/preprocess/20140312/’ directory
    - FTP via Filezilla or automatically FTPed via CTRL-M
  + Clear any existing ‘bookmark’ files (breadcrumb trail log of directories of batch process progress)
    - cd /sftw/quantum/ProcessFile
    - rm –r \*
  + Ensure the date of this batch execution is set appropriately
    - * Use ‘PL/SQL Developer’ to connect to the appropriate Oracle schema
        + DEV – qtdev (NA – qtdev1, EU- qtdev2)
        + TRAIN – qttrain (NA – qttrain 1, EU- qttrain 2)
        + UAT – qtqa (NA – qtqa 1, EU- qtqa 2)
        + TEST – qttst (NA – qttst 1, EU- qttst 2)
        + PROD - qtprod (NA – qtprod 1, EU- qtprod 2)
      * Run the following query and ensure the returned date is set as expected (If not, it should probably be called out as Q can only handle re-runs or subsequent days runs)
        + SELECT current\_run\_cycle FROM qr\_system\_config
  + Kick off the Batch
    - cd /sftw/quantum/Scripts
    - nohup ./batch.sh &
* **Monitor Progress of Currently Executing Batch**
  + Database Server
    - tail –f /sftw/quantum/LogFile/prodenv.log
      * No ‘ERROR’s should appear
    - ls –lrt /sftw/quantum/ProcessFile
      * No ‘.failed’ directories should be created
      * These bookmark directories will all be deleted by batch upon successful completion of batch (as a last step type thing)
  + Application Server
    - tail –f /mnt/quantum/LogFile/qlogic\_out.log
      * Nice to monitor for ‘heartbeat’ to just see that it is still doing something on some of the long running jobs on app server without much logging back on database server
* **Confirm Batch Results**
  + You should see ‘OVERALL BATCH STOPPED’ in the last few lines of the log file (prodenv.log)
  + Any ‘ERROR’ lines visible in the log (prodenv.log)?
    - Can ‘sed’ the file for ‘ERROR’…. (forget the syntax right now…)
  + Any bookmark directories left in ‘/sftw/quantum/ProcessFile’ directory?
  + Run the following query on the environment’s Oracle database to determine if errors were present
    - SELECT \* FROM err\_tbl\_counts\_vw
* **Error Handling**
  + At ‘/sftw/quantum/ProcessFile’ you can note if there are any failed bookmarks
  + I really have no information as to how to troubleshoot this…we encountered a few errors in the beginning that were resolved by Quantum and haven’t seen them since
  + I’d note the errors and setup and contact Quantum with the details
  + Possibly delete the failed bookmark, and run again…or even to force complete, rename the failed bookmark directory as ‘.completed’ and re-run
* **‘Bouncing’ QI**
  + This is the process of recycling the ‘QI’ service on the environment’s Red Hat Linux Allocation Application servers
  + NOTE: Quantum has stated that their next release would include this step in the batch process, so it would not need to be manually performed
  + First, STOP the service:
    - On any Red Hat Linux Allocation Application server (i.e. MLWALA21)
      * sudo service qi stop
  + Next, START the service and client processes:
    - On ALL Red Hat Linux Allocation Application servers: (i.e. MLWALA21-26)
      * sudo service qi start
* **Confirm the Web Application is Functional**
  + Visit the appropriate URL and note the date on the login screen, as it should read the NEXT day after the last date that was just processed through Quantum via batch
  + (i.e. <http://mlwala21:7700/q/login/login.jsp> )