Kudos Analytics Tuning

There are many properties that can be changed in Kudos Analytics to configure how it performs and how much memory it uses.

Standard Performance

This option is the default behaviour. This yields the best possible performance for Kudos Analytics. The average usage would normally equate to approximately 0.1MB per user.

1. Set min JVM heap size of 0.1MB/user
2. Set max JVM heap size of 0.15MB/User

Please Note:

- **These values are based on the usage in an average IBM Connections environment. More active environments may need to increase the max JVM heap size.**

Lower Memory Usage

This option stores more of the commonly used data on the hard disk drive in order to reduce the memory footprint.
Depending on the number of users and quantity of data in your environment, this option might suit environments who are OK with slightly reduced performance in regards to processing times of reports and the Kudos Analytics Engine run time.

1. Create a file – AnalyticsDataViews.js
2. Put Code Block 1 in this file. This code block moves the largest dataviews onto disk and out of memory.
3. Create a file – resource.properties
4. Put Code Block 2 in this file – This stops the Kudos Analytics Engine from running during every restart of the application.
5. Place all these files (AnalyticsDataViews.js & resource.properties) in <PROFILES_STATS_DIR>/KudosProperties directory
   (e.g. /opt/IBM/Connections/data/shared/profiles/statistic/KudosProperties).
   Create the KudosProperties directory if it doesn't exist and merge the file contents if the file already exists.
6. Restart the Kudos Application using the WebSphere ISC.

Code Block 1 - AnalyticsDataViews.js:

```
[
        {
               id:"metricsUserMap",
                storage:"CACHED"
        },
        {
                id:"membership",
                storage:"CACHED"
        },
        {
                id:"userAttributes",
                storage:"CACHED"
        },
        {
                id:"communityScope",
                storage:"CACHED"
        }

]
```

Code Block 2 - resource.properties:

```
    analyticsRunAtStartup=false
```

Improved Performance

This yields the best possible performance for Kudos Analytics. Please be aware that this can be quite memory intensive as most of the data is loaded into memory. Code block 4 is the largest dataview and as such will increase the memory requirement significantly.

1. Create a file – AnalyticsDataViews.js
2. Put Code Block 3 and/or 4 in this file. This code block moves the largest dataviews onto disk and out of memory.
3. Place this file (AnalyticsDataViews.js) in <PROFILES_STATS_DIR>/KudosProperties directory
   (e.g. /opt/IBM/Connections/data/shared/profiles/statistic/KudosProperties).
   Create the KudosProperties directory if it doesn't exist and merge the file contents if the file already exists.
4. Restart the Kudos Application using the WebSphere ISC.

Code Block 3 - AnalyticsDataViews.js:

```
        {
                id:"profileMembership",
                storage:"MEMORY"
        },
        {
                id:"awardedBadges",
                storage:"MEMORY"
        },
        {
                id:"awardedThanksBadges",
                storage:"MEMORY"
        },
        {
                id:"profileProgress",
                storage:"MEMORY"
        },
        {
                id:"leaderboardRanks",
                storage:"MEMORY"
        },
        {
                id:"fileDownloads",
                storage:"MEMORY"
        },
        {
                id:"activitiesAttributes",
                storage:"MEMORY"
        },
        {
                id:"forumsAttributes",
                storage:"MEMORY"
        }
```

Code Block 4 - AnalyticsDataViews.js:

```
        {
                id:"contentAttributes",
                storage:"MEMORY"
        }
```

Other Tuning Options

- It is recommended that for medium and large deployments of IBM Connections that a new Cluster is created solely for Kudos Analytics. IBM provides documentation on how to achieve this here.
- If the shared drive network connection or disk speed is slow, you can move the filesystem database from the shared drive to the local server filesystem. This is achieved by creating a new WebSphere Variable called KUDOS_ANALYTICS_DIR and point this to a location not on the shared drive, i.e. /opt/KudosAnalytics. This file location needs to be valid on each server running Kudos Analytics and have enough free space allocated to hold the Kudos Analytics data.

Initial implementation monitoring

1. Monitor the memory usage during the Kudos Analytics Engine Run on each of the servers running Kudos Analytics
2. Monitor the memory usage when loading the 'Custom Content Report Inc. Parent' from the Kudos Analytics administrative community
3. Monitor the usage of the shared drive in relation to free space available
4. Monitor SystemOut and SystemErr logs for any error occurring related to the engine run and when loading the 'Custom Content Report Inc. Parent', particularly around memory issues and run-time of the Kudos Analytics Engine.

Please Note:

- **For more detailed logging, please set the trace logging string to com.isw.analytics.*=finest as per IBM documentation.**