



GiAPA Installation and Data Collection

GiAPA can be downloaded from www.giapa.com → Downloads → New Installation.

GiAPA comes as a zipped file named **giapa.zip**. It can be unzipped on your PC using the password supplied by your GiAPA sales representative. The zipped file consists of a save file **giapalib.savf** (containing the library GIAPALIB), GiAPAmannual.pdf, and our "General Terms and Conditions".

Transfer the unzipped **giapalib.savf** in binary mode to an already existing ***SAVF** on your server, then install by using command **RSTLIB SAVLIB(GIAPALIB) DEV(*SAVF) SAVF(*mysavefile*)**.

Please observe: GIAPALIB must be restored to the system ASP or to a basic ASP – not to an independent ASP.

Call CL Program GIAPALIB/GIAPAUSER to Create the GIAPAUSER Profile.

Running this program requires obviously a user profile with authority to create profiles and grant authorities. The source code is available in file **GIAPALIB/GIAPAEXAMP(GIAPAUSER)**, and explained in the following:

Program GIAPALIB/GIAPAUSER: **(Create profile to run GiAPA Data Collection)**

```
CRTUSRPRF  USRPRF(GIAPAUSER)
            PASSWORD(*NONE)
            USRCLS(*PGMR)
            CURLIB(GIAPALIB)
            TEXT('Profile to run GiAPA data collection in batch')
            SPCAUT(*JOBCTL)
```

*PGMR user class is needed to read the history log,

*JOBCTL special authority is needed for command CHGJOB used to set Run Priorities for the GiAPA jobs.

Authorities needed for GiAPA Batch Jobs Collecting Resource Usage Data

Authority to call the performance collector APIs:

```
GRTOBJAUT OBJ(QPMWKCOL) OBJTYPE(*PGM) USER(GIAPAUSER) AUT(*USE)
```

```
GRTOBJAUT OBJ(QPMLPFRD) OBJTYPE(*PGM) USER(GIAPAUSER) AUT(*USE)
```

If Job Accounting is active, the following command allows GiAPA data collection to read the entries in the job accounting journal receivers containing CPU usage in microseconds and totals for physical I/Os.

```
GRTOBJAUT OBJ(QACGJRN) OBJTYPE(*JRN) USER(GIAPAUSER) AUT(*ALL)
```

Access to job accounting data will enable GiAPA to show precise CPU usage and physical I/Os for all jobs.

The "List Performance Data" API passes data to GiAPA only every 15 seconds, meaning that tiny jobs only active a few seconds in between such two intervals are not included.

GiAPA's alternative is obtaining data from QHST log not including I/Os and showing CPU in rounded seconds. For servers running a huge number of small jobs, the difference in total CPU time and I/Os can be significant.

```
GRTOBJAUT OBJ(QSYS/QHST*) OBJTYPE(*FILE) USER(GIAPAUSER) AUT(*USE)
```

Backup of GIAPALIB

To avoid abnormal termination of GiAPA jobs if GIAPALIB is backed up using “save while active” during performance data collection, the save command used must include

```
OMITOBJ((GIAPALIB/*ALL *USRSPC) (GIAPALIB/GIAPA115* *USRIDX)) .
```

Start of Data Collection

The batch jobs running GiAPA’s collection of performance data is started by using

- GiAPA menu option 11 (use command **GIAPALIB/GIAPA** to display the menu), or
- command **GIAPALIB/GIAPA110**

Change of the default parameters for the data collection will most likely not be necessary. However, you are of course welcome to refer to the user manual for various options.

When starting GiAPA you may use keyword MINUTES to specify a collection time limit. If you leave the default value *NOMAX unchanged, GiAPA will continue running, restarting every midnight. To terminate the data collection please use GiAPA menu option 13 or command **GIAPALIB/GIAPA130 TERMINATE(Y)** .

The data collection typically uses less than 0.1% CPU. A software security code (installed by command **GIAPALIB/GIAPA009**) is only needed to run the analysis of the collected data.

A certain level of authorization is required for the user profile running the batch jobs collecting performance data, because the APIs and commands needed are shipped with public authority *EXCLUDE. Below please find an example showing creation of a user profile having the required authority for the data collection.

Is GiAPA Data Collection Active?

Look for job names prefixed with “GIAPA” in the QSYSWRK subsystem. To get an impression of the amount of data collected choose GiAPA Menu option 81 selection 5 to obtain the statistics per record type.

*MGTCOL objects

Use of the IBM Performance Collector APIs also generates *MGTCOL objects with attribute *PFR. These objects are not used by GiAPA. Command **DSPOBJD OBJ(*ALL/*ALL) OBJTYPE(*MGTCOL)** can show the disk space they occupy. “Configuration and Services” in iSeries Navigator or CL-command **CFGPFRCOL** can be used to specify how long time *MGTCOL objects are retained on the system (default is 24 hours).

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Authorities needed for SQL Observer Batch Jobs Collecting Plan Cache data

Our independent software product “SQL Observer” is also included as a part of a GiAPA license.

The following four commands will allow use of IBM’s Job Watcher to retrieve the needed SQL Plan Cache data:

```
GRTOBJAUT OBJ(RMVJWDFN) OBJTYPE(*CMD) USER(GIAPAUSER) AUT(*USE)
```

```
GRTOBJAUT OBJ(ADDJWDFN) OBJTYPE(*CMD) USER(GIAPAUSER) AUT(*USE)
```

```
GRTOBJAUT OBJ(STRJW) OBJTYPE(*CMD) USER(GIAPAUSER) AUT(*USE)
```

```
CHGFCNUSG FCNID(QIBM_SERVICE_JOB_WATCHER) USER(GIAPAUSER) USAGE(*ALLOWED)
```