

BIMcloud Basic Backup Guide

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Backup levels

1st level – Project and Library snapshots

Data Backed up:

- Server data of Projects (BIMProject)
- PLN snapshots on the Server
- Each user's Local Cache (PLA)

Useful:

- Recovery from a project data corruption event
- Duplication of project (exploring a new idea)

Frequency:

- Several times daily

2nd level – Full BIMcloud Basic Data backup

Data Backed up:

- BIM Server Manager data
- Server module data / BIMProject and BIMLibrary files

Useful:

- Recovery from entire BIMcloud data corruption event
- Duplication of BIMcloud on a different machine

Frequency:

- Daily – outside of work hours

3rd level - Operating System snapshot

Data Backed up:

- Snapshot of the Virtual Machine

Useful:

- when OS or computer hardware is damaged

Frequency:

- Daily or weekly – outside of work hours

1st level – Project and Library snapshots

Backup on BIMcloud Basic

- **Snapshot options**

Two options are available [out of the box](#) to save project backups onto the BIMcloud Basic:

- Server data of project in .BIMProject format
- PLN backups uploaded to the BIMcloud Basic

- **Scheduling snapshots**

Snapshot schedule can be [set up individually for all Projects](#) in the BIMcloud Basic Manager. If a server contains multiple large projects it is advised to define different times for each in order to avoid peaks in the BIMcloud Basic hardware usage.

- **Managing snapshots**

[Manage existing snapshots](#) from the BIMcloud Basic Manager. Based on these any project can be reverted to an earlier stage or imported on another server. Location of snapshots on the server:

Windows: *C:\Program Files\GRAPHISOFT\BIMcloud\Server-<installation-date>\Projects\Project GUID\Backups*

macOS: *System drive/Applications/GRAPHISOFT/BIMcloud/Server-<installation-date>/Projects/Project GUID/Backups*

Backup on the client machines

Each user has a [local copy](#) of any joined project on their client machine. This local cache is synchronized with the server data with every Send & Receive. The local data along with its libraries can be saved off in PLA format to serve as a backup of the project from that user's perspective.

Restore Snapshots on the Server

[Snapshots can be restored](#) on the BIMcloud Basic by importing the BIMProject files in the Manager interface. PLN and PLA backups can be restored by re-sharing these files from ARCHICAD to the BIMcloud Basic.

2nd level – Full BIMcloud Basic Data backup

Outline of the full BIMcloud Basic Backup and Restore

1. **Export Manager Data** - copy configuration and user databases
2. **Export Server Data** – copy necessary Server folders to backup
3. **Import** - move the exported backup folders into a BIMcloud Basic installation

BIMcloud services must be stopped during the copying of folders so it is important to schedule the backup to times that will least disturb users.

Backup BIMcloud Basic Manager Data

- **Folders to be backed up**

There are two folders that need to be copied to the backup AS IS:

- Config
- Data

Default location of these folders:

Windows: *C:\Program Files\GRAPHISOFT\BIMcloud\Manager-<installation-date>*

macOS: *System drive/Applications/GRAPHISOFT/BIMcloud/Manager-<installation-date>*

Note: It is possible to define an alternate location for the Data folder in the BIMcloud Basic Manager. Make sure to include it in the backup.

- **Run the backup with scripts**

It is common to automate this process with a script. Scripts can also be scheduled to run regularly, read more about this in the section: *Scheduling Backups*. Example scripts can be downloaded together with the BIMcloud Basic Server scripts below.

Backup BIMcloud Basic Module Data

- **Folders to be backed up**

There are five folders in the BIMcloud Basic Server folder that need to be copied to the backup AS IS when the BIMcloud Services are stopped:

- Attachments
- Config
- Mailboxes
- Projects
- Sessions

Default location of these folders:

Windows: *C:\Program Files\GRAPHISOFT\BIMcloud\Server-<installation-date>*

macOS: *System drive/Applications/GRAPHISOFT/BIMcloud/Server-<installation-date>*

Note: It is possible to define an alternate location for Projects and Attachments folders of the BIMcloud Basic Server. Make sure to include these in the backup.

- **Before performing the backup**

The BIMcloud Basic Server's service must be stopped before the files are copied. Services can be stopped with the [BIMcloud Basic Server Tray icon](#) or with [these instructions](#). Copying the above folders may take a significant amount of time therefore it is recommended to perform this backup outside of office hours.

- **Run the backup with scripts**

Instead of copying the folders manually, you can use a script to make this automated. Scripts can also be scheduled to run regularly, read more about this in the section: *Scheduling Backups*. Example scripts are available here both for [Mac](#) and [PC](#). These scripts contain stopping the service, backing up files and restarting the service. The scripts provide some guidance about the process but should be augmented by you to accommodate your site's backup policy.

PC Script

1. Adjust path for **ManagerDir, ManagerDataDir, ServerDir, ProjectDir, LibraryDir, localBkUp, ManagerService, ServerService**. Make sure to also update **ManagerService** and **ServerService** in v24StopManagerService.bat and v24StopServerService.bat.
2. Run the script from an Administrator Command Prompt.

Mac script

1. Make the script executable on your machine. To do this open Terminal and type **chmod +x "/Path/For/The/Backup/Script.sh"**.
2. Adjust path for **ManagerDir, ManagerDataDir, ServerDir, ProjectDir, LibraryDir, localBkUp, ManagerDaemon, ServerDaemon**.
3. Run the script from Terminal with sudo prefix.

Please note that version number may be different from this example, based on the installed BIMcloud Basic version (e.g. 2020.1 is running with the major version number v23, while 2020.2 is running with the major version number v24).

Scheduling Backups

Schedule PC Backup Scripts to Run Unattended

Use Windows Task Scheduler

- Open the Task Scheduler and create a new folder for the tasks, like **BIMcloud Basic**
- Within the folder right click and Create Task....
- General Tab:
 - Name it for example **Backup BIMcloud Basic Data**
 - Choose an Administrator user account that has a password which won't expire
 - Choose to *Run whether user is logged on or not*
 - Tick the *Run with highest privileges* checkbox
- Triggers Tab:
 - New...
 - Begin the task: *On a schedule*
 - Specify the frequency and time to run (for example run daily at 10:00 pm)
 - Make sure the *Enabled* checkbox is turned on, then OK the dialog
- Actions Tab:
 - New...
 - Action: *Start a program*
 - *Program/Script:* Browse for the .bat file you would like to run.
 - *Start in:* If your .bat file calls other files make sure to add the path here for the folder where the scripts are located. If the folder is not specified here only one bat file will run that is defined in the *Program/Script* field.
- After clicking OK on the Create Task dialog add your password as required for the account that will run the task

Schedule Mac Backup Scripts to Run Unattended

Outline of scheduling a script to run on macOS:

1. Create a plist file that configures the time and environment in which the backup script will run.
2. Give correct ownership for the plist file
3. Locate that plist file appropriately on the computer.
4. Start/Stop the daemon (background process) that runs the script on its schedule.

1. Create the plist file

The plist file is a daemon configuration file, here is a short description of the tags that can be found in the plist:

- **Label** should be the name of the plist file minus the “plist” extension. It is used for listing.
- **ProgramArguments** determines the location and name of the backup script that will be run at the scheduled time.
- **Nice** determines the priority of scheduling the process. The lower the number the more CPU percentage will be delegated to the process. Values can be set up between -20 and 20. Value 1 used in the example scripts proved to perform the process quickly and reliably.
- **StartCalendarInterval** determines when the backup script will be run:
 - o The **com.example.BkUpDaily.plist** file is set to run the backup script at 2:01AM daily. The clock is a 24 hour clock. If The **Hour** key had been left out it would run on the first minute of every hour.
 - o The **com.example.BkUpWeekly.plist** file is set to run the backup script at 6:30PM on every Sunday. It uses the **Weekday** key. The days are numbered starting with 0=Sunday, 1=Monday,... 6 =Saturday.
- **WorkingDirectory**, **StandardErrorPath**, and **StandardOutPath** are directories where the script will work in, output its errors, and output its standard output respectively.

The example plist files can be found [here](#).

2. Change ownership for the plist file

Once downloaded the ownership of the plist file will be set for the user account you are currently signed in with. However, the plist file will work correctly only if the owner is set to the root. The owner can be changed by opening Terminal and typing the following:

sudo chown root:wheel "/Path/To/The/example.plist"

Hit Return to execute the command and enter the admin password when requested to make the change.

3. Locating the plist file on the computer

It also matters where the plist file is located on the computer. The launchd daemon looks for plist files in several places. There are two useful places to put plists for backup scheduling: ~/Library/LaunchAgents

/Library/LaunchDaemons

The user specific LaunchAgents directory is a good place for initial testing. When a user logs in into the computer the LaunchAgents directory is automatically searched and the plist files that are there are used to configure the environment. The background processes controlled in this case will only run as long as the user is logged into the machine.

On the other hand, the LaunchDaemons directory will be searched when the computer is first started and these plist configurations will remain intact for as long as the computer is

running. So, the LaunchDaemons directory should be used in general when you are confident of your backup scripts.

4. Starting/Stopping the daemon controlled processes

The plist file will start working only after its daemon controlled background process is loaded into the OS. To load a plist file use one of the following Terminal commands (depending on where you placed your plist file):

sudo launchctl load /Library/LaunchDaemons/Example.plist

launchctl load ~/Library/LaunchAgents/Example.plist

If there is a need to stop the script that is configured by the plist, it must be unloaded. The control is done with the following Terminal commands:

sudo launchctl unload /Library/LaunchDaemons/Example.plist

launchctl unload ~/Library/LaunchAgents/Example.plist

If you would like to modify the plist file after its loaded you will have to unload it first, make the change and then load it again. The **sudo** command is necessary only if the service is run as a system wide process. Also note the directory where the plist has been placed.

Restore BIMcloud Basic Data

- **Before performing the restore**

BIMcloud Basic Data files can only be restored into a clean installation that has exactly the same configuration settings, and installation paths as the original. It is best if this computer has the same name and IP address as the original, otherwise some relinking such as libraries and hotlinks will be necessary.

- **Restore process**

Both the BIMcloud Basic Manager and Server services need to be stopped for the time of the restore. Stop services from the [BIMcloud Basic Tray icon](#).

Stop BIMcloud services/daemons

Overwrite the following BIMcloud Manager folders from Backup:

.../BIMcloud/Manager-<installation-date>/Config

.../BIMcloud/Manager-<installation-date>/Data

Overwrite the following BIMcloud Server folders from Backup:

.../BIMcloud/Server-<installation-date>/Attachments

.../BIMcloud/Server-<installation-date>/Config

.../BIMcloud/Server-<installation-date>/Mailboxes

.../BIMcloud Server-<installation-date>/Projects

.../BIMcloud Server-<installation-date>/Sessions

Restart the BIMcloud Basic Manager and Server services/daemons.

3rd level – Operating System snapshot

The host computer together with the BIMcloud is backed up or image taken by first stopping the BIMcloud services. The method is simply:

- [stop BIMcloud Basic services/daemons](#)
- perform the backup
- [start BIMcloud Basic services/daemons](#)

Upon restoring the Virtual Machine image or replicating the server onto another machine the original Fully Qualified Domain Name must be assigned to the new server for the restored BIMcloud to work seamlessly as its source BIMcloud did.