

 README.md

Backup for Mathematica Notebooks

Backup is a Mathematica package that uses the built-in Mathematica function `RunScheduledTask[]` to automatically save and backup your Mathematica notebooks while you are editing and working on them. This provides a degree of protection from losing your notebook if Mathematica crashes. *Backup* provides the function

```
StartBackup[]
```

that schedules a set of tasks to save your notebook every 3 minutes, and to also make regular backup copies of it. Backups are saved to the directory `NotebookDirectory[] <> "name_bak"`, where *name.nb* is your Notebook file.

The backup files that are generated are:

`<name>_session-N.nb` where $N = \text{Mod}[s, 10]$, and s is an edit-and-work session count. The current session count is stored in the file `<name>_bak/SessionNumber.dat`.

When `StartBackup[]` is executed, the Notebook is saved and a backup copy of it is also made. The last 10 such backups of the initial state of an edit-and-work session are kept.

Note that all other backup files are saved at times that are random w.r.t. the edited state of the file, so they might contain incomplete statements that you have not finished typing...

`<name>_03min-N.nb` A backup each 3 min, but only written if it will differ from any of the last backups written. There are two such files, $N = 0, 1$.

`<name>_15min-N.nb` where $N = 0, \dots, 3$ is the quarter of the hour (4 files).
A backup for each new 1/4 hour, but only written if it will differ from the last 1/4 hr backup written.

`<name>_hourly-N.nb` where $N = 00, \dots, 23$ is the hour of the day (24 files).
A backup for each new hour, but only written if it will differ from the last hourly backup written.

`<name>_daily-ddd.nb` where $ddd = \text{Mon, Tue, } \dots$ is the day of the week (7 files).
A backup for each new day, but only written if it will differ from the last daily backup written.

`<name>_monthly-N.nb` where $N = 01, \dots, 12$ is the month of the year (12 files).
A backup for each new month, but only written if it will differ from the last monthly backup written.

The backup set will grow slowly over time, as need be. A full backup set (collected over a year or more) will contain $10 + 2 + 4 + 24 + 7 + 12 = 59$ files, none of which are the same.

Prerequisites

Backup will run on any system with a recent Mathematica (the built-in function `RunScheduledTask[]` that *Backup* uses was introduced in Mathematica 8.0 and updated in 10.0.2).

Installation

Download the latest .zip from the [release page](#), then `unzip Backup-x.x.x.zip`. Move the extracted directory "Backup" into either one of these directories (evaluate these expressions in Mathematica),

```
FileNameJoin[{$UserBaseDirectory, "Applications"}] (for single user installation)
```

```
FileNameJoin[{$BaseDirectory, "Applications"}] (for system wide installation)
```

On Linux, these are typically `"/home/username/.Mathematica/Applications"` and `"/usr/share/Mathematica/Applications"`.

Usage

Add these lines somewhere near the beginning of any Mathematica Notebook that you are working on,

```
Needs["Backup`"]
StartBackup[]
```

`StartBackup[]` should be run soon after opening your Notebook for a session of editing or working. If you can remember to, `StopBackup[]` before closing your Notebook. Otherwise, you will be prompted to `DeleteLockFile[]` next time that `StartBackup[]` is run. *Backup* is easy to use -- it only has these 3 functions.

To recover after crashing your Notebook, list the contents of directory *name_bak* by creation date in order to select a recent backup of your Notebook to copy and rename.

Documentation

Help for *Backup*'s functions is available via `?StartBackup` , `?StopBackup` , and `?DeleteLockFile` .

Licence

Backup is a Mathematica package that runs scheduled backups for Mathematica Notebooks.

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<https://github.com/ahnorton/Backup-mathematica>