

QGIS Application - Bug report #20870

'gdal_fillnodata.bat' is not recognized as an internal or external command

2018-12-22 10:10 PM - Harm Olthof

Status:	Closed	
Priority:	Normal	
Assignee:		
Category:	Build/Install	
Affected QGIS version:	3.4.2	Regression?: No
Operating System:	Windows 10	Easy fix?: No
Pull Request or Patch supplied:	No	Resolution: fixed/implemented
Crashes QGIS or corrupts data:	No	Copied to github as #: 28689
Description		
When you run menu item: raster -> Analysis -> Fill no data and use the default settings in the following popup and push run, an error occurs indicating that gdal_fillnodata.bat is missing from the OSGeo4W setup. Using OSGeo4W setup (advanced), updating GDAL, does not resolve the issue. Nor is gdal_fillnodata.bat visible in the OSGeo4W shell environment. the complete error log is: <pre>Processing algorithm... Algorithm 'Fill nodata' starting... Input parameters: { 'BAND' : 1, 'DISTANCE' : 10, 'INPUT' : 'C:/Users/Harm/Downloads/r_02dn1.tif', 'ITERATIONS' : 0, 'MASK_LAYER' : None, 'NO_MASK' : False, 'OUTPUT' : 'C:/Users/Harm/AppData/Local/Temp/processing_5f044c95297b44e69512fd54e6eb7577/7f29e9f1bf05452a9362a0fb74d1666d/OUTPUT.tif' } GDAL command: cmd.exe /C gdal_fillnodata.bat -md 10 -b 1 -of GTiff C:/Users/Harm/Downloads/r_02dn1.tif C:/Users/Harm/AppData/Local/Temp/processing_5f044c95297b44e69512fd54e6eb7577/7f29e9f1bf05452a9362a0fb74d1666d/OUTPUT.tif GDAL command output: 'gdal_fillnodata.bat' is not recognized as an internal or external command, operable program or batch file.</pre>		

Associated revisions

Revision b6293f23 - 2019-01-07 03:41 PM - Jürgen Fischer

osgeo4w: run python scripts with python3 (fixes #20870)

Revision 8b8e6b81 - 2019-02-11 10:28 AM - Jürgen Fischer

osgeo4w: run python scripts with python3 (fixes #20870)

(cherry picked from commit b6293f23c8c54602f668f980f50d76ef09271e8a)

History

#1 - 2018-12-24 10:13 AM - Alexander Bruy

- Category changed from Rasters to Build/Install

Looks like packaging issue.

#2 - 2018-12-31 12:54 PM - Alexander Bruy

- Status changed from Open to Feedback

Please check if you have GDAL and its python tools and bindings installed.

Can you call any of the GDAL Python tools (like gdal_edit, gdal_fillnodata etc) from the OSGeo shell?

#3 - 2018-12-31 01:10 PM - Harm Olthof

- File Schermafdruk 2018-12-31 13.10.20.png added

According to the OSGeo4W setup GDAL 2.4.0-3 is installed (including Python 3 bindings and Scripts). I can see some commands the OSGeo4W Shell, but not all (esp. not gdal_fillnodata).

Here is a list of commands in the OSGeo4W Shell:

C:\>o-help

~~-(OSGeo4W Shell Commands)-~~

cct	cs2cs
curl	derb
dllupdate	fax2ps
fax2tiff	gdaladdo
gdalbuildvrt	gdaldem
gdalenhance	gdalinfo
gdallocationinfo	gdalmanage
gdalserver	gdalsrsinfo
gdaltindex	gdaltransform
gdalwarp	gdal_contour
gdal_grid	gdal_rasterize
gdal_translate	genbrk
genccode	gencfu
gencmn	gencnval
gendict	gennorm2
genrb	gensprep
geod	gie
gnmanalyse	gnmmanage
gpsbabel	icuiinfo
icupkg	makeconv
nad2bin	nccopy
ncdump	ncgen
ncgen3	nearblack
nircmd	nircmdc
ogr2ogr	ogrinfo
ogrlineref	ogrindex
osgeo4w-setup-work	osgeo4w-setup
pal2rgb	pkgdata

ppm2tiff	proj
psql	python3
pythonw3	qgis-bin
raw2tiff	sqlite3
testpsg	textreplace
tiff2bw	tiff2pdf
tiff2ps	tiff2rgba
tiffcmp	tiffcp
tiffcrop	tiffdither
tiffdump	tiffinfo
tiffmedian	tiffset
tiffsplit	uconv
vcredist_2015_x64	xmlcatalog
xmlint	xmlwf
xxmklint	o-help
o4w_env	py3_env
python-qgis	qgis-designer
qgis	qt5_env
setup-test	setup

GDAL 2.4.0, released 2018/12/14

C:\>

#4 - 2018-12-31 03:42 PM - Giovanni Manghi

- Priority changed from High to Normal

- Easy fix? changed from Yes to No

Works fine here on a clean install of osgeo4w on Windows 10.

#5 - 2019-01-04 12:37 AM - Harm Olthof

I made a clean install also. However I have the same issues as reported before.

What is the supposed path to gdal_fillnodata.bat?

(I do see that the folder C:\OSGeo4W64\bin\gdalplugins is empty)

#6 - 2019-01-07 09:18 AM - Giovanni Manghi

Harm Olthof wrote:

I made a clean install also. However I have the same issues as reported before.
What is the supposed path to gdal_fillnodata.bat?
(I do see that the folder C:\OSGeo4W64\bin\gdalplugins is empty)

C:\OSGeo4W64\bin

#7 - 2019-01-07 11:31 AM - Harm Olthof

Not in my (clean) install:

C:\OSGeo4W64\bin>dir C:\OSGeo4W64\bin

Volume in drive C is OS

Volume Serial Number is xxx-xxx

Directory of C:\OSGeo4W64\bin

```
04-01-2019  00:30  <DIR>      .
04-01-2019  00:30  <DIR>      ..
11-10-2018  16:08      47.616 adrg.dll
29-10-2014  02:36      7.680 boost_atomic-vc110-mt-1_56.dll
29-10-2014  02:36      9.728 boost_atomic-vc110-mt-gd-1_56.dll
29-10-2014  02:36     28.672 boost_chrono-vc110-mt-1_56.dll
29-10-2014  02:36     49.664 boost_chrono-vc110-mt-gd-1_56.dll
29-10-2014  02:36     31.232 boost_container-vc110-mt-1_56.dll
29-10-2014  02:36    108.544 boost_container-vc110-mt-gd-1_56.dll
29-10-2014  02:36      7.168 boost_context-vc110-mt-1_56.dll
29-10-2014  02:36      9.728 boost_context-vc110-mt-gd-1_56.dll
29-10-2014  02:36     57.344 boost_coroutine-vc110-mt-1_56.dll
29-10-2014  02:36    115.712 boost_coroutine-vc110-mt-gd-1_56.dll
29-10-2014  02:36     50.688 boost_date_time-vc110-mt-1_56.dll
29-10-2014  02:36    129.024 boost_date_time-vc110-mt-gd-1_56.dll
29-10-2014  02:36    117.248 boost_filesystem-vc110-mt-1_56.dll
29-10-2014  02:36    218.112 boost_filesystem-vc110-mt-gd-1_56.dll
29-10-2014  02:36    262.144 boost_graph-vc110-mt-1_56.dll
29-10-2014  02:36    740.864 boost_graph-vc110-mt-gd-1_56.dll
29-10-2014  02:36     51.200 boost_iostreams-vc110-mt-1_56.dll
29-10-2014  02:36     83.968 boost_iostreams-vc110-mt-gd-1_56.dll
29-10-2014  02:36    481.280 boost_locale-vc110-mt-1_56.dll
29-10-2014  02:36   1.099.776 boost_locale-vc110-mt-gd-1_56.dll
29-10-2014  02:36    641.024 boost_log-vc110-mt-1_56.dll
29-10-2014  02:36   1.668.096 boost_log-vc110-mt-gd-1_56.dll
29-10-2014  02:36    764.928 boost_log_setup-vc110-mt-1_56.dll
29-10-2014  02:36   2.144.768 boost_log_setup-vc110-mt-gd-1_56.dll
29-10-2014  02:36    34.304 boost_math_c99-vc110-mt-1_56.dll
29-10-2014  02:36    78.336 boost_math_c99-vc110-mt-gd-1_56.dll
29-10-2014  02:36    34.304 boost_math_c99f-vc110-mt-1_56.dll
29-10-2014  02:36    78.848 boost_math_c99f-vc110-mt-gd-1_56.dll
29-10-2014  02:36    32.256 boost_math_c99l-vc110-mt-1_56.dll
29-10-2014  02:36    73.728 boost_math_c99l-vc110-mt-gd-1_56.dll
29-10-2014  02:36    193.024 boost_math_tr1-vc110-mt-1_56.dll
29-10-2014  02:36   453.632 boost_math_tr1-vc110-mt-gd-1_56.dll
29-10-2014  02:36   204.800 boost_math_tr1f-vc110-mt-1_56.dll
29-10-2014  02:36   488.960 boost_math_tr1f-vc110-mt-gd-1_56.dll
29-10-2014  02:36    193.024 boost_math_tr1l-vc110-mt-1_56.dll
29-10-2014  02:36   451.584 boost_math_tr1l-vc110-mt-gd-1_56.dll
29-10-2014  02:36    35.840 boost_prg_exec_monitor-vc110-mt-1_56.dll
29-10-2014  02:36    60.928 boost_prg_exec_monitor-vc110-mt-gd-1_56.dll
29-10-2014  02:36   433.152 boost_program_options-vc110-mt-1_56.dll
29-10-2014  02:36   916.480 boost_program_options-vc110-mt-gd-1_56.dll
29-10-2014  02:36    24.064 boost_random-vc110-mt-1_56.dll
```

29-10-2014	02:36	39.936	boost_random-vc110-mt-gd-1_56.dll
29-10-2014	02:36	765.440	boost_regex-vc110-mt-1_56.dll
29-10-2014	02:36	2.525.696	boost_regex-vc110-mt-gd-1_56.dll
29-10-2014	02:36	245.760	boost_serialization-vc110-mt-1_56.dll
29-10-2014	02:36	762.368	boost_serialization-vc110-mt-gd-1_56.dll
29-10-2014	02:36	58.880	boost_signals-vc110-mt-1_56.dll
29-10-2014	02:36	165.888	boost_signals-vc110-mt-gd-1_56.dll
29-10-2014	02:36	19.456	boost_system-vc110-mt-1_56.dll
29-10-2014	02:36	32.256	boost_system-vc110-mt-gd-1_56.dll
29-10-2014	02:36	102.912	boost_thread-vc110-mt-1_56.dll
29-10-2014	02:36	220.160	boost_thread-vc110-mt-gd-1_56.dll
29-10-2014	02:36	29.696	boost_timer-vc110-mt-1_56.dll
29-10-2014	02:36	51.712	boost_timer-vc110-mt-gd-1_56.dll
29-10-2014	02:36	535.552	boost_unit_test_framework-vc110-mt-1_56.dll
29-10-2014	02:36	1.444.864	boost_unit_test_framework-vc110-mt-gd-1_56.dll
29-10-2014	02:36	628.736	boost_wave-vc110-mt-1_56.dll
29-10-2014	02:36	1.645.568	boost_wave-vc110-mt-gd-1_56.dll
29-10-2014	02:36	167.936	boost_wserialization-vc110-mt-1_56.dll
29-10-2014	02:36	471.040	boost_wserialization-vc110-mt-gd-1_56.dll
06-08-2013	16:28	408.064	cblas.dll
09-10-2018	22:36	52.736	cct.exe
26-04-2017	15:10	13.824	charset-1.dll
09-10-2018	22:36	48.128	cs2cs.exe
30-06-2018	12:02	352.768	curl.exe
30-06-2018	12:02	888.832	curl.pdb
04-02-2017	20:56	25.600	derb.exe
11-09-2018	12:48	72.192	dllupdate.exe
11-10-2018	16:08	19.968	dtcanada.dll
11-10-2018	16:08	44.032	dted.dll
11-10-2018	16:08	9.216	dtusa.dll
31-07-2013	22:28	136.704	expat.dll
28-05-2017	14:53	20.480	fax2ps.exe
28-05-2017	14:53	18.432	fax2tiff.exe
19-07-2015	14:36	66.560	freexl.dll
20-10-2018	01:15	21.187.072	gdal203.dll
22-12-2018	22:35	21.633.536	gdal204.dll
22-12-2018	22:36	82.944	gdaladdo.exe
22-12-2018	22:36	18.944	gdalbuildvrt.exe
22-12-2018	22:36	78.848	gdaldem.exe
22-12-2018	22:36	101.376	gdalenhance.exe
22-12-2018	22:36	17.408	gdalinfo.exe
22-12-2018	22:36	30.720	gdallocationinfo.exe
22-12-2018	22:36	23.040	gdalmanage.exe
04-01-2019	00:29	<DIR>	gdalplugins
22-12-2018	22:36	20.480	gdalserver.exe
22-12-2018	22:36	85.504	gdalsrsinfo.exe
22-12-2018	22:36	32.256	gdaltindex.exe
22-12-2018	22:36	24.064	gdaltransform.exe
22-12-2018	22:36	29.696	gdalwarp.exe
22-12-2018	22:36	29.184	gdal_contour.exe
22-12-2018	22:36	17.408	gdal_grid.exe
22-12-2018	22:36	77.824	gdal_rasterize.exe
22-12-2018	22:36	81.920	gdal_translate.exe

04-02-2017 20:56	21.504 genbrk.exe
04-02-2017 20:56	12.288 gcccode.exe
04-02-2017 20:56	17.920 gencfu.exe
04-02-2017 20:56	12.800 gencmn.exe
04-02-2017 20:56	26.624 gencnval.exe
04-02-2017 20:56	28.672 gendict.exe
04-02-2017 20:56	52.736 gennorm2.exe
04-02-2017 20:56	139.264 genrb.exe
04-02-2017 20:56	25.600 gensprep.exe
09-10-2018 22:36	45.568 geod.exe
09-10-2018 22:58	2.023.424 geos.dll
11-10-2018 14:26	482.816 geos_c.dll
09-10-2018 22:36	86.016 gie.exe
22-12-2018 22:36	99.328 gnmanalyse.exe
22-12-2018 22:36	104.960 gnmmanage.exe
23-03-2014 13:08	1.745.920 gpsbabel.exe
06-08-2013 16:30	2.782.720 gsl.dll
14-10-2013 22:48	2.212.864 hdf5.dll
14-10-2013 22:48	99.840 hdf5_hl.dll
26-04-2017 15:10	1.023.488 iconv-2.dll
31-07-2013 22:10	1.332.224 iconv.dll
04-02-2017 20:56	26.277 icu-config
04-02-2017 20:56	25.048.064 icudt56.dll
04-02-2017 20:56	2.713.600 icuin56.dll
04-02-2017 20:56	12.800 icuinfo.exe
04-02-2017 20:56	66.560 icuio56.dll
04-02-2017 20:56	345.088 icule56.dll
04-02-2017 20:56	60.416 iculx56.dll
04-02-2017 20:56	25.600 icupkg.exe
04-02-2017 20:56	73.728 icutest56.dll
04-02-2017 20:56	263.680 icutu56.dll
04-02-2017 20:56	1.818.624 icuuc56.dll
29-08-2016 19:04	146.944 jpeg.dll
29-08-2016 19:04	147.968 jpeg12.dll
30-06-2018 12:02	398.848 libcurl.dll
27-10-2016 23:01	2.265.088 libeay32.dll
28-05-2017 11:01	151.040 liblzma.dll
14-04-2017 17:38	4.107.264 libmysql.dll
23-04-2017 23:11	190.464 libpng16.dll
17-08-2013 18:02	174.080 libpq.dll
28-05-2017 14:53	427.520 libtiff.dll
31-07-2013 20:30	1.392.128 libxml2.dll
11-10-2018 17:40	1.355.776 lwgeom.dll
04-02-2017 20:56	55.296 makeconv.exe
11-10-2018 17:43	9.701.376 mod_spatialite.dll
19-02-2011 21:51	608.080 msvcpl100.dll
18-02-2011 23:52	829.264 msucr100.dll
09-10-2018 22:36	41.472 nad2bin.exe
21-05-2017 20:20	45.568 nccopy.exe
21-05-2017 20:20	73.216 ncdump.exe
21-05-2017 20:21	172.032 ncgen.exe
21-05-2017 20:20	76.800 ncgen3.exe
22-12-2018 22:36	15.872 nearblack.exe

21-05-2017 20:20	1.015.296 netcdf.dll
11-08-2013 14:41	115.712 nircmd.exe
11-08-2013 14:40	113.664 nircmdc.exe
04-11-2018 13:52	852 o-help.bat
27-05-2017 08:53	406 o4w_env.bat
11-10-2018 16:08	158.720 ogdi.dll
22-12-2018 22:36	92.160 ogr2ogr.exe
22-12-2018 22:36	92.672 ogrinfo.exe
22-12-2018 22:36	123.392 ogrlineref.exe
22-12-2018 22:36	90.624 ogrtindex.exe
02-09-2018 18:11	123.392 opencl.dll
08-10-2017 10:25	287.232 openjp2.dll
26-02-2018 20:44	910.304 osgeo4w-setup.exe
28-05-2017 14:53	17.408 pal2rgb.exe
04-02-2017 20:56	41.984 pkgdata.exe
28-05-2017 14:53	17.408 ppm2tiff.exe
04-09-2016 19:51	472.064 proj.dll
09-10-2018 22:36	52.224 proj.exe
09-10-2018 22:36	513.536 proj_5_2.dll
17-08-2013 18:02	379.904 psql.exe
08-10-2018 16:48	141 py3_env.bat
04-01-2019 00:30	481 python-qgis.bat
23-12-2018 07:30	481 python-qgis.bat.tmpl
27-06-2018 04:00	59.032 python3.dll
27-06-2018 04:01	99.992 python3.exe
27-06-2018 04:00	3.844.760 python37.dll
27-06-2018 04:01	98.456 pythonw3.exe
04-01-2019 00:30	852 qgis-bin.env
23-12-2018 05:16	113.152 qgis-bin.exe
22-12-2018 23:26	408 qgis-bin.vars
04-01-2019 00:30	318 qgis-designer.bat
23-12-2018 07:30	318 qgis-designer.bat.tmpl
04-01-2019 00:30	448 qgis.bat
23-12-2018 07:30	448 qgis.bat.tmpl
08-10-2018 01:22	214 qt.conf
08-10-2018 01:22	214 qt5.conf
08-10-2018 01:22	488 qt5_env.bat
28-05-2017 14:53	25.088 raw2tiff.exe
11-10-2018 16:08	40.448 remote.dll
11-10-2018 16:08	68.608 rpf.dll
04-01-2019 00:30	191 setup-test.bat
10-08-2017 08:19	179 setup-test.bat.tmpl
04-01-2019 00:30	178 setup.bat
10-08-2017 08:19	166 setup.bat.tmpl
11-10-2018 16:08	36.352 skeleton.dll
03-11-2014 04:24	538.624 spatialindex-64.dll
03-11-2014 04:24	227.328 spatialindex_c-64.dll
11-10-2018 17:43	9.655.808 spatialite.dll
12-12-2018 15:54	1.412.096 sqlite3.dll
12-12-2018 15:54	170.496 sqlite3.exe
27-10-2016 23:01	383.488 ssleay32.dll
14-10-2013 22:45	45.056 szip.dll
22-12-2018 22:36	67.584 teststepg.exe

11-09-2018 12:48	89.600 textreplace.exe
28-05-2017 14:53	427.520 tiff.dll
28-05-2017 14:53	18.432 tiff2bw.exe
28-05-2017 14:53	75.776 tiff2pdf.exe
28-05-2017 14:53	49.664 tiff2ps.exe
28-05-2017 14:53	18.432 tiff2rgba.exe
28-05-2017 14:53	21.504 tiffcmp.exe
28-05-2017 14:53	35.840 tiffcp.exe
28-05-2017 14:53	108.032 tiffcrop.exe
28-05-2017 14:53	16.384 tiffdither.exe
28-05-2017 14:53	21.504 tiffdump.exe
28-05-2017 14:53	18.944 tiffinfo.exe
28-05-2017 14:53	22.528 tiffmedian.exe
28-05-2017 14:53	14.848 tiffset.exe
28-05-2017 14:53	14.848 tiffsplit.exe
04-02-2017 20:56	55.296 uconv.exe
19-08-2014 10:11	7.188.536 vcredist-2013-x64.exe
21-02-2017 10:15	14.572.000 vcredist_2015_x64.exe
11-10-2018 16:08	194.560 vrf.dll
05-12-2017 20:43	3.095.040 xerces-c_3_2.dll
31-07-2013 20:31	14.336 xmlcatalog.exe
31-07-2013 20:31	50.688 xmllint.exe
31-07-2013 22:28	19.968 xmlwf.exe
01-04-2005 14:01	49.152 xmxlink.exe
04-08-2017 19:41	159.232 zip.dll
31-07-2013 20:27	77.824 zlib1.dll
08-12-2017 21:37	245.760 zstd.dll
227 File(s) 181.771.292 bytes	
3 Dir(s) 328.881.299.456 bytes free	

#8 - 2019-01-07 11:35 AM - Giovanni Manghi

maybe you a particularly aggressive antivirus that do not allow the installer to deploy such .bat files?

#9 - 2019-01-07 02:15 PM - Harm Olthof

I just did a "reinstall" and checked gdal-2.4.0-3.tar.bz2 in the download dir.
 The files are also missing in the tar. Can you confirm that they are in your version of this tar?
 (Just using MS Defender)

#10 - 2019-01-07 02:20 PM - Giovanni Manghi

Harm Olthof wrote:

I just did a "reinstall" and checked gdal-2.4.0-3.tar.bz2 in the download dir.

The files are also missing in the tar. Can you confirm that they are in your version of this tar?

(Just using MS Defender)

there you have only the tools that are .exe. Others are python scripts, you have to look into python3-gdal-2.4.0-3.tar.bz2

#11 - 2019-01-07 02:24 PM - Harm Olthof

I don't think that is true: in gdal-2.4.0-3.tar.bz2 there are also *.bat files.
In python3-gdal-2.4.0-3.tar.bz2 I also don't find the missing gdal_fillnodata.bat

#12 - 2019-01-07 02:37 PM - Giovanni Manghi

Harm Olthof wrote:

| *I don't think that is true: in gdal-2.4.0-3.tar.bz2 there are also *.bat files.*

in this file I see only .exe files, and I have a working copy of qgis/gdal/osgeo4w

| *In python3-gdal-2.4.0-3.tar.bz2 I also don't find the missing gdal_fillnodata.bat*

no, there you have the .py script, the .bat files are generated by the script "make-bat-for-py.bat"

#13 - 2019-01-07 02:37 PM - Giovanni Manghi

- Assignee deleted (Giovanni Manghi)

#14 - 2019-01-07 02:44 PM - Jürgen Fischer

Giovanni Manghi wrote:

| *Harm Olthof wrote:*

| | *I don't think that is true: in gdal-2.4.0-3.tar.bz2 there are also *.bat files.*

| *in this file I see only .exe files, and I have a working copy of qgis/gdal/osgeo4w*

| | *In python3-gdal-2.4.0-3.tar.bz2 I also don't find the missing gdal_fillnodata.bat*

| *no, there you have the .py script, the .bat files are generated by the script "make-bat-for-py.bat"*

The batch files are only generated for py2 (by gdal-python)

#15 - 2019-01-07 02:47 PM - Giovanni Manghi

| *The batch files are only generated for py2 (by gdal-python)*

so this may explain: I also did a 2.18 installation, so .bat files are generated. Meanwhile if someone does only a 3.* installation then .bat files are not generated but Processing needs them.

#16 - 2019-01-07 02:53 PM - Harm Olthof

I can confirm that I only have QGIS 3.x installed.
So that explains it?

#17 - 2019-01-07 02:54 PM - Giovanni Manghi

Harm Olthof wrote:

I can confirm that I only have QGIS 3.x installed.
So that explains it?

try installing also qgis 2.18, then try use the tool in qgis 3.

#18 - 2019-01-07 03:31 PM - Harm Olthof

I installed the LTR version (2.18) and I can confirm that raster -> Analysis -> Fill no data now works in QGIS 3.4
So that is a nice workaround until this is fixed in 3.x.

Thanks for the support!
Regards,
Harm

#19 - 2019-01-07 03:41 PM - Jürgen Fischer

- Status changed from Feedback to Closed
- % Done changed from 0 to 100

Applied in changeset commit:qgis|b6293f23c8c54602f668f980f50d76ef09271e8a.

#20 - 2019-01-07 05:14 PM - Jürgen Fischer

- Description updated

#21 - 2019-01-07 05:15 PM - Jürgen Fischer

- Resolution set to fixed/implemented

Files

Schermafdruck 2018-12-31 13.10.20.png	320 KB	2018-12-31	Harm Olthof
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