

SVN and ORCHIDEE

ORCHIDEE training course 16-17 January 2020

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Subversion (SVN)

- a version control software

- Store different versions of ORCHIDEE
- Keep track of changes done over the time
- Makes it easier to work in a group on the same version and exchange developments (“branches”) before inclusion in the main version (“trunk”)
- Archive the work done by phd-students, post-docs, researchers,.. (stored in “perso” folder)
- Make sure that the code is on SVN for important simulations
-> this is your reference while writing papers

ORCHIDEE wiki

<https://forge.ipsl.jussieu.fr/orchidee>

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Model
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Wiki of ORCHIDEE model

This wiki aims at gathering information on ORCHIDEE model : code versions and documentation, configurations used by the model, evaluation, seminars...
Information is organized according different sections which are described below :

Section	Description	Highlights or short cuts to sub-sections
Model Developments	In this section, you will find all the informations on the ongoing developments	CMIP6
Documentation	'News', Scientific documentation, Information on the implementation of the code, Users guide/How To, Informations on the forcing	UserGuide/How To
Source Code	Where you will find the source code of the different versions, restricted access for some ongoing developments	See the trunk here.
Reference Simulations	All the information on evaluation protocol and reference simulation	validation simulation with rev 2724
Group Activities	Include: ORCHIDEE-POLICY , meetings, seminars, users list, contact, training courses	Training courses

Web-interface of the ORCHIDEE svn server

<https://forge.ipsl.jussieu.fr/orchidee/browser>

Login to see also read protected directories

forge.ipsl.jussieu.fr/orchidee/browser/tags/ORCHIDEE_2_1/ORCHIDEE

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source: tags / ORCHIDEE_2_1 / ORCHIDEE

Name	Size	Rev	Age	Author	Last Change
..					
arch		5574	2 weeks	joefine.ghattas	Change in compilation : * Now always put -L and -I in arch.path file ...
DOC		4384	18 months	joefine.ghattas	Clairifications on t2m variable names. No changes in the calculation. - ...
src_driver		5609	9 days	joefine.ghattas	Integrated correction done in changeset [5329] in ...
src_global		5566	3 weeks	joefine.ghattas	Corrected call to ipsierr_p into ipsierr when called only from ...
src_oasisdriver		5573	2 weeks	joefine.ghattas	Do not use t2m/q2m coming from the atmospheric model anymore and instead ...
src_parallel		5573	2 weeks	joefine.ghattas	Do not use t2m/q2m coming from the atmospheric model anymore and instead ...
src_parameters		5605	10 days	joefine.ghattas	Added new option VEGETMAP_RESET. This option should be used to to change ...
src_sechiba		5613	9 days	joefine.ghattas	Added reading of variable pond from floodplains.nc, see ticket #441 A ...
src_stomate		5614	9 days	joefine.ghattas	Add reinitialization of leaf_age and leaf_frac. See ticket #444 A. Jorinet
src_xml		5628	2 days	joefine.ghattas	Updated version of DataRequest? for CMIP6 as done in the tag ORCHIDEE_2_0 ...
tools		1513	5 years	joefine.ghattas	- Added FCM version PATCHED/V1.2 in directory tools. - Modified ...
AA_make	1.5 KB	1249	6 years	joefine.ghattas	Correction for "make clean" target.
AA_make.ldef	82 bytes	12	8 years	mmaipsl	correct Id, HeadURL, Date, Author and Revision svn properties.
bld.cfg	2.3 KB	5523	6 weeks	joefine.ghattas	Changes related to the compilation: * Move variables CONFIG_PATH from ...
Doxyfile_ORCHIDEE.init	10.4 KB	947	6 years	didier.solyga	Merge Hydrology branch into ORCHIDEE trunk version.
makeorchidee_fcm	18.6 KB	5576	2 weeks	joefine.ghattas	Add link to lib and inc folder
orchidee.default	71.6 KB	5608	9 days	joefine.ghattas	Update orchidee.default due to changes in rev [5605]
ORCHIDEE_CeCILL.LIC	2.1 KB	8	8 years	orchidee	import first tag equivalent to CVS orchidee_1_9_5 + OOL_1_9_5

View changes...

Click to compare 2 directories

Click to show modifications done in this directory or file

Note: See [TracBrowser](#) for help on using the repository browser.

Different versions of ORCHIDEE on SVN

Base repository

svn://forge.ipsl.jussieu.fr/orchidee

- trunk Standard version. Regularly updates with new developments and bug corrections
- tag A copy of the trunk for a specific revision. Validation done.
- branches Modifications for a specific development. A branch starts from a copy of the trunk or branch
- perso Folder for personal versions. Ask for help to initialize your folder.

2 different login are needed

<http://forge.ipsl.jussieu.fr/orchidee/wiki/Documentation/UserGuide/DifferentLogin>

1- Login SVN

SVN anonymous login

« sechiba » (passwd ipsl2000)

Only for extracting public versions of ORCHIDEE : trunk and tags

SVN personal login

« firstname.lastname »

To extract all versions where you have the permission

To be used to commit changes

2- Login “forge”

Forge is a machine at IPSL where the orchidee project is technically managed using trac, wiki and svn.

A specific login at forge is needed to use web-interface for your personal folder and private branches.

Same login is also used to modify the wiki and to create tickets.

Ask for login by sending a mail to [orchidee-help @ ipsl.jussieu.fr](mailto:orchidee-help@ipsl.jussieu.fr)

Basic use of SVN

svn co path_on_svn # checkout

svn info # information about
what has been extracted

svn status # what has been changed locally

svn -u status # what has been changed locally and
on the server

svn diff # see differences

svn update [-r XXX] # update local version

svn revert # remove local modifications

svn co

svn co *path_on_svn* : Extract a directory with sub-directories.
Add « -r *rev* » for a specific revision.

Example : Extract latest revision of tag 1.9.6 :

```
> svn co svn://forge.ipsl.jussieu.fr/orchidee/tags/ORCHIDEE_1_9_6/ORCHIDEE MYORCH
```

Example : Extract revision 4661 of trunk :

```
> svn co -r 4661 svn://forge.ipsl.jussieu.fr/orchidee/trunk/ORCHIDEE MYORCH
```

Extract with modipsl

For ORCHIDEE the extraction is done using modipsl. You do not need to do “svn co ...” as it is embedded in the scripts.

The script « **model** » in modipsl extracts ORCHIDEE and all tools needed for a specific configuration. Example :

```
> svn co http://forge.ipsl.jussieu.fr/igcmg/svn/modipsl/trunk modipsl
> cd modipsl/util
> ./model ORCHIDEE_trunk
```

The model will now be installed in modipsl/modeles/ORCHIDEE.

svn info

Information will be printed on the screen about extracted version

Example :

```
> cd modipsl/modeles/ORCHIDEE  
> svn info
```

```
Chemin : .  
URL : svn://forge.ipsl.jussieu.fr/orchidee/tags/ORCHIDEE_1_9_6/ORCHIDEE  
Racine du dépôt : svn://forge.ipsl.jussieu.fr/orchidee  
UUID du dépôt : f489ceea-5127-0410-b15c-c4a6149ed9a7  
Révision : 881  
Type de nœud : répertoire  
Tâche programmée : normale  
Auteur de la dernière modification : didier.solyga  
Révision de la dernière modification : 880  
Date de la dernière modification: 2012-05-09 16:08:00 +0200 (mer. 09 mai 2012)
```

In this example the version of ORHCIDEE is tags/ORCHIDEE_1_9_6 and the revision is 881. You can also see that no changes for this subdirectory are done since revision 880 which is the latest modified revision.

svn stat

svn stat Compare local version with the extracted version

```
> svn stat
?      Makefile
?      src_sechiba/Makefile
M      src_sechiba/intersurf.f90
M      src_sechiba/enerbil.f90
```

svn -u stat Compare local version to latest version on the server

```
> svn -u stat
?      Makefile
?      src_sechiba/Makefile
M      src_sechiba/intersurf.f90
*      src_sechiba/routing.f90
M *    src_sechiba/enerbil.f90
```

```
> svn help stat
'A' Added
'C' Conflicted
'D' Deleted
'M' Modified
'?' item is not under version control
'!' item is missing
* a newer revision exists on the server
```

svn diff

svn diff Show local modifications compared to extracted version

Example :

```
> svn diff
```

```
Index: src_sechiba/intersurf.f90
```

```
=====
--- src_sechiba/intersurf.f90 (revision 1054)
+++ src_sechiba/intersurf.f90 (working copy)
@@ -257,6 +257,7 @@
     itau_sechiba = kjit + itau_offset
     !
-    CALL intsurf_time( itau_sechiba, date0_shifted, xrdt )
+    CALL intsurf_time( itau_sechiba, date0_shifted, xrdt, toto )
+    WRITE(numout,*) 'toto'
     !
     ! 1. gather input fields from kindex array
```

Lines starting with “+” are added in the local version (also called working copy).
Lines starting with “-” are removed. In this example, the line “CALL intsurf....” has been modified and the line “WRITE(...” has been added.

svn diff

svn diff

Difference between working copy (local version) and the version/branch that was extracted. If changes are done on the repository after extraction, they will not be seen

svn diff -r HEAD

Difference between the working copy and the latest revision on the version you extracted.

svn diff -r x1

Difference between working copy and revision x1

svn diff -r x1:x2

Difference between revision x1 and revision x2

svn revert

svn revert one_or_several_files

Get back to the version of the file on the server, without your changes.

For example:

```
> svn revert src_sechiba/intersurf.f90
```

svn update

svn update [-r X] : Update working copy with the latest revision or revision X on the server

- Updates only with changes on the same branch
- Local changes will be kept. Conflicts can occur if the same file is modified locally and on the server
- Changes are done only in the local working directory

Example:

If you extracted a tag or a branch, changes done on the trunk will not be added in your directory.

If there is a conflict on a file, type p for postpone. svn will then save your modifications in a separate file. The file without modifications is also saved in your directory.

Commit to svn

svn add newfile.f90

Add locally new files and/or directories under version control. They will be added on the server in next commit

svn rm file.f90

The file will be removed locally and the file is scheduled to be removed from the svn repository in next commit.

svn commit
(or **svn ci**)

Commit all changes to the server
The revision number is increased.

Best practice for commit to svn

<https://forge.ipsl.jussieu.fr/orchidee/wiki/Documentation/UserGuide/CommitOnTrunk>

- Prepare before commit : *Clean your code, comment it, follow ORCHIDEE coding guidelines*
- Update to the latest revision
- Add a log message to each commit
- Commit all files concerned by the modification in the same commit, avoid to commit file by file
- Discuss with the people concerned before commit

Summary - Example of a work cycle

- > svn info # Which version did you extract ?
 - > svn stat # Verify the files you changed
 - > svn diff # Verify each change in all files
 - > svn -u stat # Check if up to date
 - > svn update # If needed, update working copy
 - > svn stat/ svn diff # Check again after update
 - > svn revert toto.f90 # Clean if modifications not needed
 - > svn add / svn rm # Declare adds or removes
- > svn ci # Commit all changes into the server

Changes only affecting local copy

Your changes are now on the svn repository. Tell your colleagues so they can update their version of the branch.