

CVS overview

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CVS - Concurrent Versions System

Definition: concurrent

coincident, coincidental, coinciding, concurrent, cooccurring, simultaneous occurring or operating at the same time; "a series of coincident events".

What's the point?

- Manage your source code.
- Revision history.
- Allows multiple users to work on the same files.
- Allow multiple revisions of the same files.
- Allow access from multiple locations.

- <http://cvs.nongnu.org/>
- <http://ximbiot.com/cvs/manual/>
- http://en.wikipedia.org/wiki/Concurrent_Versions_System
- http://www.gnu.org/software/emacs/manual/html_mono/pcl-cvs.html
- http://www.vim.org/scripts/script.php?script_id=58
- <http://www.tortoisecvs.org/>
- <http://sourceforge.net/projects/cvswebclient/>
- `man cvs`

- CVS labels a single project (set of related files) which it manages as a module.
- A CVS server stores the modules it manages in its repository.
- Programmers acquire copies of modules by checking out.
- The checked-out files serve as a working copy, sandbox or workspace.
- Changes to the working copy will be reflected in the repository by committing them.
- To update is to acquire or merge the changes in the repository with the working copy.

CVS setup

Location

```
/mn/kvant/compphys/cvsroot
```

Edit file: \$HOME/.bashrc

```
export CVSROOT="/mn/kvant/compphys/cvsroot"
```

Connect from anywhere else: \$HOME/.bashrc

```
export CVS_RSH="ssh"  
export CVSROOT=":ext:username@login.uio.no:/mn/kvant/compphys/cvsroot"
```

CVS command

Usage

Usage: cvs [cvs-options] command [command-options-and-arguments]

Help

```
$ cvs --help-options
```

CVS global options (specified before the command name) are:

-H	Displays usage information for command.
-Q	Cause CVS to be really quiet.
-q	Cause CVS to be somewhat quiet.
-r	Make checked-out files read-only.
-w	Make checked-out files read-write (default).
-n	Do not execute anything that will change the disk.
-t	Show trace of program execution (repeat for more verbosity) -- try with -n.
-R	Assume repository is read-only, such as CDROM
-v	CVS version and copyright.
-T tmpdir	Use 'tmpdir' for temporary files.
-e editor	Use 'editor' for editing log information.
-d CVS_root	Overrides \$CVSROOT as the root of the CVS tree.
-f	Do not use the ~/.cvsrc file.
-z #	Use compression level '#' for net traffic.
-x	Encrypt all net traffic.
-a	Authenticate all net traffic.
-s VAR=VAL	Set CVS user variable.

CVS command

```
$ cvs --help-commands
```

```
CVS commands are:
```

add	Add a new file/directory to the repository
admin	Administration front end for rcs
annotate	Show last revision where each line was modified
checkout	Checkout sources for editing
commit	Check files into the repository
diff	Show differences between revisions
edit	Get ready to edit a watched file
editors	See who is editing a watched file
export	Export sources from CVS, similar to checkout
history	Show repository access history
import	Import sources into CVS, using vendor branches
init	Create a CVS repository if it doesn't exist
log	Print out history information for files
login	Prompt for password for authenticating server
logout	Removes entry in .cvspass for remote repository
ls	List files available from CVS
rannotate	Show last revision where each line of module was modified
rdiff	Create 'patch' format diffs between releases
release	Indicate that a Module is no longer in use
remove	Remove an entry from the repository
rlog	Print out history information for a module
rls	List files in a module
rtag	Add a symbolic tag to a module
status	Display status information on checked out files
tag	Add a symbolic tag to checked out version of files
unedit	Undo an edit command
update	Bring work tree in sync with repository
version	Show current CVS version(s)
watch	Set watches
watchers	See who is watching a file

CVS command

Command help

```
$ cvs -H checkout
```

Usage:

```
cvs checkout [-ANPRcflnps] [-r rev] [-D date] [-d dir]
              [-j rev1] [-j rev2] [-k kopt] modules...
```

- A Reset any sticky tags/date/kopts.
- N Don't shorten module paths if -d specified.
- P Prune empty directories.
- R Process directories recursively.
- c "cat" the module database.
- f Force a head revision match if tag/date not found.
- l Local directory only, not recursive
- n Do not run module program (if any).
- p Check out files to standard output (avoids stickiness).
- s Like -c, but include module status.
- r rev Check out revision or tag. (implies -P) (is sticky)
- D date Check out revisions as of date. (implies -P) (is sticky)
- d dir Check out into dir instead of module name.
- k kopt Use RCS kopt -k option on checkout. (is sticky)
- j rev Merge in changes made between current revision and rev.

Creating a project

Project contents

```
$ ls -lR 200902-Oslo/
200902-Oslo/:
-rw----- 1 gustavj mnfstu00  143 2009-02-17 10:29 Makefile
drwx----- 3 gustavj mnfstu00 4096 2009-02-17 10:45 src

200902-Oslo/src:
-rw----- 1 gustavj mnfstu00 1715 2009-02-17 10:29 commands.tex
-rw----- 1 gustavj mnfstu00 2322 2009-02-17 10:44 pres.tex
```

Importing to CVS

```
$ cvs import -m "Import sources" grj/test/cvspres grj start

N grj/test/cvspres/Makefile
cvs import: Importing /srv/cvsroot/grj/test/cvspres/src
N grj/test/cvspres/src/commands.tex
N grj/test/cvspres/src/pres.tex

No conflicts created by this import
```

Creating a project

Importing to CVS

```
$ cvs import -m "Import sources" test/cvspres grj start

cvs import: cannot make path to /srv/cvsroot/test: Permission denied
N test/cvspres/Makefile
cvs import: ERROR: cannot write file cvsroot/test/cvspres/Makefile,v: No such file or directory
cvs import: Importing cvsroot/test/cvspres/src
cvs import: ERROR: cannot mkdir cvsroot/test/cvspres/src -- not added: No such file or directory

No conflicts created by this import
```

Importing to CVS

```
$ cvs import grj/test/cvspres grj start

U grj/test/cvspres/Makefile
cvs import: Importing /srv/cvsroot/grj/test/cvspres/src
U grj/test/cvspres/src/commands.tex
U grj/test/cvspres/src/pres.tex

No conflicts created by this import
```

Checking out a project

Ordinary checkout

```
$ cvs checkout grj/test/cvspres
```

```
cvs checkout: Updating grj/test/cvspres
```

```
U grj/test/cvspres/Makefile
```

```
cvs checkout: Updating grj/test/cvspres/src
```

```
U grj/test/cvspres/src/commands.tex
```

```
U grj/test/cvspres/src/pres.tex
```

Checking out a project

Directory structure

```
$ ls -lR
.:
total 4
drwxr-xr-x 4 grj grj 4096 2009-02-18 10:54 grj

./grj:
total 8
drwxr-xr-x 2 grj grj 4096 2009-02-18 10:54 CVS
drwxr-xr-x 4 grj grj 4096 2009-02-18 10:54 test

./grj/test:
total 8
drwxr-xr-x 2 grj grj 4096 2009-02-18 10:54 CVS
drwxr-xr-x 4 grj grj 4096 2009-02-18 10:54 cvspres

./grj/test/cvspres:
total 12
drwxr-xr-x 2 grj grj 4096 2009-02-18 10:54 CVS
-rw-r--r-- 1 grj grj 1715 2009-02-18 10:34 Makefile
drwxr-xr-x 3 grj grj 4096 2009-02-18 10:54 src

./grj/test/cvspres/src:
total 20
-rw-r--r-- 1 grj grj 1715 2009-02-18 10:20 commands.tex
drwxr-xr-x 2 grj grj 4096 2009-02-18 10:54 CVS
-rw-r--r-- 1 grj grj 9442 2009-02-18 10:20 pres.tex
```

Checking out a project

Checkout to a specific directory

```
$ cvs checkout -d cvspres grj/test/cvspres
```

```
cvs checkout: Updating cvspres
U cvspres/Makefile
cvs checkout: Updating cvspres/src
U cvspres/src/commands.tex
U cvspres/src/pres.tex
```

Directory structure

```
$ ls -lR
.:
total 4
drwxr-xr-x 4 grj grj 4096 2009-02-18 11:16 cvspres

./cvspres:
total 12
drwxr-xr-x 2 grj grj 4096 2009-02-18 11:16 CVS
-rw-r--r-- 1 grj grj 1715 2009-02-18 10:34 Makefile
drwxr-xr-x 3 grj grj 4096 2009-02-18 11:16 src

./cvspres/src:
total 20
-rw-r--r-- 1 grj grj 1715 2009-02-18 10:20 commands.tex
drwxr-xr-x 2 grj grj 4096 2009-02-18 11:16 CVS
-rw-r--r-- 1 grj grj 9442 2009-02-18 10:20 pres.tex
```

CVS directory

Directory structure

```
$ ls -l cvspres/ CVS
total 12
-rw-r--r-- 1 grj grj 55 2009-02-18 11:34 Entries
-rw-r--r-- 1 grj grj 17 2009-02-18 11:16 Repository
-rw-r--r-- 1 grj grj 31 2009-02-18 11:16 Root
```

CVS/Entries

```
/Makefile/1.1.1.2/Wed Feb 18 09:34:47 2009//
D/src////
```

CVS/Repository

```
grj/test/cvspres
```

CVS/Root

```
/mn/kvant/compphys/cvsroot
```

Committing changes

Command

```
cvcs commit
```

```
cvcs ci
```

Commit output

```
$ cvcs ci
cvcs commit: Examining .
cvcs commit: Examining src

? src/commands.aux
? src/.pres.tex.swp
? pres.vrb
? pres.toc
? pres.snm
? pres.pdf
? pres.out
? pres.nav
? pres.log
? pres.aux
cvspres/src/pres.tex,v <-- src/pres.tex
new revision: 1.9; previous revision: 1.8
```

Excluding files from output

Excluded by default

```
RCS      SCCS      CVS      CVS.adm
RCSLOG   cvslog.*
tags     TAGS
.make.state      .nse_depinfo
*~         ##         .##         ,*         _$*         *$
*.old      *.bak      *.BAK      *.orig     *.rej      .del-*
*.a        *.olb      *.o        *.obj      *.so       *.exe
*.Z        *.elc      *.ln
core
```

Userdefined from .cvsignore

- Global in \$HOME/.cvsignore
- Directory specific .cvsignore

Excluding files from output

`$HOME/.cvsignore`

```
$ cat ~/.cvsignore  
*.aux  
*.swp
```

`Local .cvsignore`

```
$ cat .cvsignore  
pres.vrb  
pres.toc  
pres.snm  
pres.pdf  
pres.out  
pres.nav  
pres.log
```

Excluding files from output

Directory listing

```
grj@strange ~/work/uio/presentations/200902-0slo $ ls -la
total 216
-rw-r--r-- 1 grj grj      64 Feb 18 14:07 .cvsignore
drwxr-xr-x 2 grj grj    4096 Feb 18 14:07 CVS
-rw-r--r-- 1 grj grj     143 Feb 17 10:35 Makefile
-rw-r--r-- 1 grj grj    4932 Feb 18 14:08 pres.aux
-rw-r--r-- 1 grj grj   39895 Feb 18 14:08 pres.log
-rw-r--r-- 1 grj grj   3101 Feb 18 14:08 pres.nav
-rw-r--r-- 1 grj grj      0 Feb 18 14:08 pres.out
-rw-r--r-- 1 grj grj  128646 Feb 18 14:08 pres.pdf
-rw-r--r-- 1 grj grj      0 Feb 18 14:08 pres.snm
-rw-r--r-- 1 grj grj     67 Feb 18 14:08 pres.toc
-rw-r--r-- 1 grj grj   3056 Feb 18 14:08 pres.vrb
drwxr-xr-x 3 grj grj    4096 Feb 18 14:08 src
```

Output

```
$ cvs ci
cvs commit: Examining .
cvs commit: Examining src

/srv/cvsroot/grj/uio/presentations/200902-0slo/.cvsignore,v <-- .cvsignore
new revision: 1.3; previous revision: 1.2
/srv/cvsroot/grj/uio/presentations/200902-0slo/src/pres.tex,v <-- src/pres.tex
new revision: 1.12; previous revision: 1.11
```

Adding files to the project

Two step process

1. Schedule file for addition

```
$ cvs add addtest.txt
```

```
cvs add: scheduling file 'addtest.txt' for addition
```

```
cvs add: use 'cvs commit' to add this file permanently
```

2. Committing changes

```
cvs commit: Examining .
```

```
cvs commit: Examining src
```

```
uio/presentations/200902-0slo/addtest.txt,v <-- addtest.txt
```

```
initial revision: 1.1
```

```
uio/presentations/200902-0slo/src/pres.tex,v <-- src/pres.tex
```

```
new revision: 1.13; previous revision: 1.12
```

Removing files from the project

Three step process

1. Removing the file

```
$ rm addtest.txt
```

2. Schedule file for deletion

```
$ cvs remove addtest.txt  
cvs remove: scheduling 'addtest.txt' for removal  
cvs remove: use 'cvs commit' to remove this file permanently
```

3. Committing changes

```
$ cvs ci  
cvs commit: Examining .  
cvs commit: Examining src  
  
uio/presentations/200902-Oslo/addtest.txt,v <-- addtest.txt  
new revision: delete; previous revision: 1.1  
uio/presentations/200902-Oslo/src/pres.tex,v <-- src/pres.tex  
new revision: 1.14; previous revision: 1.13
```

Merging changes from other people

Command

```
cvcs update  
cvcs up
```

Local files unmodified since commit

```
$ cvcs up -d  
  
cvcs update: Updating .  
U .cvsignore  
cvcs update: Updating src  
P src/pres.tex
```

Local files modified since commit

```
$ cvcs up  
  
cvcs update: Updating .  
cvcs update: Updating src  
M src/pres.tex
```

Releasing the project

Tell other users that you are done with this module.

Command

```
cv s release  
cv s release -d
```

Local files unmodified since commit

```
$ cv s release -d 200902-0slo  
You have [0] altered files in this repository.  
Are you sure you want to release (and delete) directory '200902-0slo':
```

Local files modified since commit

```
$ cv s release 200902-0slo  
  
M src/pres.tex  
You have [1] altered files in this repository.  
Are you sure you want to release directory '200902-0slo': no  
** 'release' aborted by user choice.
```

Checking for changes: status

Command

```
cvs status filename
```

Local files unmodified since commit

```
$ cvs status Makefile
=====
File: Makefile          Status: Up-to-date

Working revision:      1.1
Repository revision: 1.1    /srv/cvsroot/grj/uis/presentations/200902-0slo/Makefile,v
Commit Identifier:    677d499a84ec4567
Sticky Tag:           (none)
Sticky Date:          (none)
Sticky Options:       (none)
```

Local files modified since commit

```
$ cvs status src/pres.tex
=====
File: pres.tex          Status: Locally Modified

Working revision:      1.15
Repository revision: 1.15    /srv/cvsroot/grj/uis/presentations/200902-0slo/src/pres.tex,v
Commit Identifier:    7398499c2a164567
Sticky Tag:           (none)
Sticky Date:          (none)
Sticky Options:       (none)
```

Checking for changes: status

Local file outdated

```
$ cvs status src/pres.tex
```

```
=====
```

```
File: pres.tex
```

```
Status: Needs Patch
```

```
Working revision: 1.14
```

```
Repository revision: 1.15 uio/presentations/200902-Oslo/src/pres.tex,v
```

```
Commit Identifier: 7398499c2a164567
```

```
Sticky Tag: (none)
```

```
Sticky Date: (none)
```

```
Sticky Options: (none)
```


Checking for changes: diff

Command

```
cvs diff filename
```

Local file changed since commit

```
$ cvs diff src/pres.tex
Index: src/pres.tex
=====
RCS file: /srv/cvsroot/grj/uio/presentations/200902-0slo/src/pres.tex,v
retrieving revision 1.16
diff -r1.16 pres.tex
3,9d2
< %\mode<article> % only for the article version
< %{\n
< % \usepackage{beamerbasearticle}
< % \usepackage{fullpage}
< % \usepackage{hyperref}
< %}
<
684c677
< Repository revision: 1.15 /srv/cvsroot/grj/uio/presentations/200902-0slo/src/pres.tex,v
---
> Repository revision: 1.15 uio/presentations/200902-0slo/src/pres.tex,v
716a710,711
>
> % Comment to test the cvs diff command.
```

Checking for changes: annotate

Command

```
cvs annotate filename
```

Latest revision

```
$ cvs annotate Makefile
Annotations for Makefile
*****
1.1      (grj      17-Feb-09): NAME=pres
1.2      (grj      18-Feb-09): pdf:
1.1      (grj      17-Feb-09):      pdflatex src/${NAME}.tex
1.1      (grj      17-Feb-09): .PHONY : clean
1.1      (grj      17-Feb-09): clean :
1.1      (grj      17-Feb-09):      rm src/*.aux *.aux *.log *.dvi *.pdf *.toc
```

Previous revision

```
$ cvs annotate -r 1.1 Makefile
Annotations for Makefile
*****
1.1      (grj      17-Feb-09): NAME=pres
1.1      (grj      17-Feb-09): dvi:
1.1      (grj      17-Feb-09):      pdflatex src/${NAME}.tex
1.1      (grj      17-Feb-09): pdf: dvi
1.1      (grj      17-Feb-09):      dvipdfm ${NAME}.dvi
1.1      (grj      17-Feb-09): .PHONY : clean
1.1      (grj      17-Feb-09): clean :
1.1      (grj      17-Feb-09):      rm src/*.aux *.aux *.log *.dvi *.pdf *.toc
```

Checking for changes: annotate

The revision valid one hour ago

```
$ cvs annotate -D "1 hour ago" Makefile
```

```
Annotations for Makefile
```

```
*****
```

```
1.1      (grj      17-Feb-09): NAME=pres
1.1      (grj      17-Feb-09): dvi:
1.1      (grj      17-Feb-09):      pdflatex src/${NAME}.tex
1.1      (grj      17-Feb-09): pdf: dvi
1.1      (grj      17-Feb-09):      dvipdfm ${NAME}.dvi
1.1      (grj      17-Feb-09): .PHONY : clean
1.1      (grj      17-Feb-09): clean :
1.1      (grj      17-Feb-09):      rm src/*.aux *.aux *.log *.dvi *.pdf *.toc
```

The revision valid yesterday

```
$ cvs annotate -D yesterday Makefile
```

```
Annotations for Makefile
```

```
*****
```

```
1.1      (grj      17-Feb-09): NAME=pres
1.1      (grj      17-Feb-09): dvi:
1.1      (grj      17-Feb-09):      pdflatex src/${NAME}.tex
1.1      (grj      17-Feb-09): pdf: dvi
1.1      (grj      17-Feb-09):      dvipdfm ${NAME}.dvi
1.1      (grj      17-Feb-09): .PHONY : clean
1.1      (grj      17-Feb-09): clean :
1.1      (grj      17-Feb-09):      rm src/*.aux *.aux *.log *.dvi *.pdf *.toc
```

Working with revisions: tagging

Tagging current revision

```
$ cvs tag rel-0-9

cvs tag: Tagging .
T .cvsignore
T Makefile
cvs tag: Tagging src
T src/commands.tex
T src/pres.tex
```

Tagging an earlier revision

```
$ cvs tag -D yesterday rel-0-1

cvs tag: Tagging .
T Makefile
cvs tag: Tagging src
T src/commands.tex
T src/pres.tex
```

Working with revisions: tagging

Status after tagging

```
$ cvs status -v
```

```
=====
File: pres.tex                Status: Locally Modified

Working revision:    1.17
Repository revision: 1.17    /srv/cvsroot/grj/uis/presentations/200902-0slo/src/pres.tex,v
Commit Identifier:   742a499c31f44567
Sticky Tag:          (none)
Sticky Date:         (none)
Sticky Options:      (none)

Existing Tags:
    rel-0-1                (revision: 1.3)
    rel-0-9                (revision: 1.17)

=====
File: Makefile              Status: Up-to-date

Working revision:    1.2
Repository revision: 1.2    /srv/cvsroot/grj/uis/presentations/200902-0slo/Makefile,v
Commit Identifier:   742a499c31f44567
Sticky Tag:          (none)
Sticky Date:         (none)
Sticky Options:      (none)

Existing Tags:
    rel-0-1                (revision: 1.1)
    rel-0-9                (revision: 1.2)
```

Working with revisions

Checkout of a specific revision

```
$ cvs co -r rel-0-1 -d 200902-0slo grj/uis/presentations/200902-0slo
```

```
cvs checkout: Updating 200902-0slo
U 200902-0slo/Makefile
cvs checkout: Updating 200902-0slo/src
U 200902-0slo/src/commands.tex
U 200902-0slo/src/pres.tex
```

```
$ cvs status -v src/pres.tex
```

```
=====
File: pres.tex          Status: Up-to-date
```

```
Working revision:      1.3
Repository revision: 1.3      /srv/cvsroot/grj/uis/presentations/200902-0slo/src/pres.tex,v
Commit Identifier:    67b7499a8b7d4567
Sticky Tag:           rel-0-1 (revision: 1.3)
Sticky Date:          (none)
Sticky Options:       (none)
```

```
Existing Tags:
    rel-0-1              (revision: 1.3)
    rel-0-9              (revision: 1.17)
```

Working with revisions

Updating to a specific revision of a file

```
$ cvs up -r rel-0-9 Makefile
P Makefile

$ cvs status -v
=====
File: Makefile          Status: Up-to-date

Working revision:      1.2
Repository revision: 1.2      /srv/cvsroot/grj/uis/presentations/200902-0slo/Makefile,v
Commit Identifier:    742a499c31f44567
Sticky Tag:           rel-0-9 (revision: 1.2)
Sticky Date:          (none)
Sticky Options:       (none)

Existing Tags:
    rel-0-1                (revision: 1.1)
    rel-0-9                (revision: 1.2)
```

Updating the entire module

```
$ cvs up -r rel-0-9
cvs update: Updating .
U .cvsignore
P Makefile
cvs update: Updating src
P src/pres.tex
```

Working with revisions: Branchtag

Tagging current revision

```
$ cvs tag -b rel-0-9-patches
```

```
$ cvs status -v
```

```
=====
```

File: Makefile	Status: Up-to-date
----------------	--------------------

Working revision:	1.2
Repository revision:	1.2 /srv/cvsroot/grj/ui/presentations/200902-0slo/Makefile,v
Commit Identifier:	742a499c31f44567
Sticky Tag:	(none)
Sticky Date:	(none)
Sticky Options:	(none)

Existing Tags:

rel-0-9-patches	(branch: 1.2.2)
rel-0-1	(revision: 1.1)
rel-0-9	(revision: 1.2)

```
=====
```

File: pres.tex	Status: Locally Modified
----------------	--------------------------

Working revision:	1.17
Repository revision:	1.17 /srv/cvsroot/grj/ui/presentations/200902-0slo/src/pres.tex,v
Commit Identifier:	742a499c31f44567
Sticky Tag:	(none)
Sticky Date:	(none)
Sticky Options:	(none)

Existing Tags:

rel-0-9-patches	(branch: 1.17.2)
rel-0-1	(revision: 1.3)
rel-0-9	(revision: 1.17)

Working with revisions

Checkout of a branch

```
$ cvs co -r rel-0-9-patches -d 200902-0slo grj/uis/presentations/200902-0slo
cvs checkout: Updating 200902-0slo
U 200902-0slo/.cvsignore
U 200902-0slo/Makefile
cvs checkout: Updating 200902-0slo/src
U 200902-0slo/src/commands.tex
U 200902-0slo/src/pres.tex
```

```
$ cvs ci
cvs commit: Examining .
cvs commit: Examining src
```

```
/srv/cvsroot/grj/uis/presentations/200902-0slo/Makefile,v <-- Makefile
new revision: 1.2.2.1; previous revision: 1.2
```

```
$ cvs status -v Makefile
```

```
=====
File: Makefile                Status: Up-to-date

Working revision:      1.2.2.1
Repository revision:  1.2.2.1 /srv/cvsroot/grj/uis/presentations/200902-0slo/Makefile,v
Commit Identifier:    79c3499c5ac04567
Sticky Tag:           rel-0-9-patches (branch: 1.2.2)
Sticky Date:          (none)
Sticky Options:       (none)

Existing Tags:
    rel-0-9-patches      (branch: 1.2.2)
    rel-0-1              (revision: 1.1)
    rel-0-9              (revision: 1.2)
```

Export: Checkout without CVS information

Export to a specific directory

```
$ cvs export -D now -d 200902-0slo grj/uio/presentations/200902-0slo
cvs export: Updating 200902-0slo
U 200902-0slo/.cvsignore
U 200902-0slo/Makefile
cvs export: Updating 200902-0slo/src
U 200902-0slo/src/commands.tex
U 200902-0slo/src/pres.tex
```

Directory structure

```
$ ls -lR 200902-0slo/
200902-0slo/:
total 8
-rw-r--r-- 1 grj grj 110 Feb 18 17:06 Makefile
drwxr-xr-x 2 grj grj 4096 Feb 18 20:05 src

200902-0slo/src:
total 28
-rw-r--r-- 1 grj grj 1715 Feb 17 10:35 commands.tex
-rw-r--r-- 1 grj grj 20868 Feb 18 17:06 pres.tex
```