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How to use Subversion

Get a repository

The Subversion repositories are stored and accessible on **https://svn.iac.ethz.ch**. You can ask for a **user repository** which will be only accessible by you. Or you can ask for a **project repository** which can be accessible by other users too. If your repository should be accessible without authentication (anonymous read access) ask for a **public repository**. Send a mail to urs.beyerle@env.ethz.ch to ask for a new repository.

For a **project and public repository** the following information is needed:

- (Folder) name of the repository.
- Usernames of the users that have access to the repository. You may want to distinguish between read and write access.
- For external users (not ETH members), please provide their name, email address and a possible username.

It's possible to enable **email notification** for repositories. If enabled, the users will get an email in case something was changed in the repository (file added, file modified, etc).

Location of repositories

- Repositories can be found under **https://svn.iac.ethz.ch/repos/**
- The repositories are located in following folders
  - **users**: Repositories related to a IAC user (only the owner will have access to his repository)
    - ◊ **https://svn.iac.ethz.ch/repos/users/username** - this is the standard repository for a user
  - **projects**: Repositories related to a project (several users may have access to these repositories)
    - ◊ **https://svn.iac.ethz.ch/repos/projects/projectname** - each project has its own repository
  - **pub**: Public repositories which can be read by everybody (anonymous user)
    - ◊ **https://svn.iac.ethz.ch/repos/pub/projectname** - each project has its own repository

Browse the repositories

You can browse the repositories with a normal web browser. Two different views are available:

- View with WebSVN, which offers diff view, colorization of file listings, blame view, log message searching, RSS feed support and more.
  - https://svn.iac.ethz.ch/websvn/repos/ (restricted IAC repositories, need authentication to view)
  - https://svn.iac.ethz.ch/websvn/pub/ (public IAC repositories, no authentication needed)

- Classic view of repositories
  - https://svn.iac.ethz.ch/repos/

Subversion clients

- *Linux*: **svn** command line tool.

- *Windows*: TortoiseSVN download at tigris.org
- *Mac*: SvnX

Access the repositories with WebDAV

With WebDAV you can access the repository like a normal file system. If you remove, add or modify a file, a new revision of your repository is automatically created.

- **Linux**: Use konqueror and point it to
  `webdavs://iacsvn.ethz.ch/repos/path_to_your_repo`
- **Windows**: Use Internet Explorer

Email notification

- It's possible to setup email notification for a repository. In case you would like to enable email notification contact iac-it@env.ethz.ch

Working with Repositories using svn command

- To **checkout (co)** your repository into a folder (my_repo), type

        svn co https://svn.iac.ethz.ch/repos/users/beyerleu my_repo

  Now you have a so called **working copy** of your personal repository in the folder `my_repo`

- You can also checkout only one folder of your repository, for example

        svn co https://svn.iac.ethz.ch/repos/users/beyerleu/matlab matlab

- You may want to check out your project repository into a local folder having the same name as the repository

        svn co https://svn.iac.ethz.ch/repos/projects/projectname projectname

- The above commands will checkout the latest revision. In case you want to checkout an older revision, use the option --revision. To checkout revision 14 type

        svn co --revision 14 https://svn.iac.ethz.ch/repos/projects/projectname projectname-

- Now change to your working copy folder

        cd my_repo
        # or
        cd projectname

- To show **information** about your checked out repository

        svn info

- To **add** a file to your working copy

        touch testfile
        svn add testfile

- View the **status** of your working copy

```
svn status
svn st
```

- It's **highly recommended** to use instead of the Linux file commands (rm, mv, cp) the svn commands to delete, rename ore copy files!

- **Delete** a file

```
svn delete testfile
```

- **Copy** a file

```
svn cp file copy_of_the_file
```

- **Rename** a file

```
svn mv oldfile newfile
```

- **Commit / check-in (ci)** your changes to the repository on the server

```
svn ci -m "testfile created"
```

If you don't define a comment with the option **-m**, your default editor will be open to let you write a comment. You can define your default editor by setting the $EDITOR environment variable.

- Everything you do a check-in the revision number of your repository is increasing by one.

- **View changes** between your working copy and the repository on the server

```
svn diff
svn diff <file>
```

Comparing current folder content with content of an older revision (-r 100) or from 2010-01-15

```
svn diff -r 100
svn diff -r {2010-01-15}
```

- **Update** your local copy against the repository on the server

```
svn update
svn up
```

- You may want to see first what will be updated (use svn status with -u option)

```
svn st -u
```

- **Restore `<file>`** to version stored in the repo (un-do local edits in your working copy)

```
svn revert <file>
```

- **Restore `<file>`** to an older revision, for example revision 100:

```
svn up -r 100 <file>
```

- **Go back** to an older revision, for example revision 80:

```
svn up -r 80
```

or to the status of a specific date, for example 2010-01-15

```
svn -r {2010-01-15} up
```

- In order to start from scratch, you can check out also an older revision of your repository

```
svn co -r {2009-10-01} https://beyerleu@svn.iac.ethz.ch/repos/users/beyerleu my_repo
```

- Make a file **executable** that was not executable before. Note, there is no "svn chmod" commando, use instead

```
svn propset svn:executable ON <file>
```

- List the **Logs**

```
svn log
```

Only list logs for a specific file

```
svn log <file>
```

- Get **help**

```
svn help
svn help <subcommands>
svn help cp
```

For more info about common tasks see http://svnbook.red-bean.com/en/1.4/svn.tour.cycle.html

Important note about security

Per default the Linux svn client is caching your password. This can be quite useful, since you don't have to type in your password every time you check out or commit a change. However, the password is stored in **cleartext**. Per default the folder storing the password `~/.subversion/auth` is only readable by you. You should definitely not change this.

Nevertheless, I would recommend to **disable the password caching of the svn command completely** by uncomment the following line in your `~/.subversion/config` file.

```
store-passwords = no
```

Afterwards, remove all stored svn passwords with

```
rm ~/.subversion/auth/svn.simple/*
```

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