EDGE Version Control Tutorial

Using the Engineering Design Guide and Environment as a Version Controlled Design Document Repository

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Outline

EDGE Subversion and Engineering Document
Revision Control

Installing Tortoise SVN on your computer
Making a Sandbox on your computer
Checking out a project to your sandbox
Using the Public area of your repository
Using the Private area of your repository
Creating your own directories
Setting file types from tortoise svn
Using the revision control history

These examples assume you are using MS Windows. Similar tasks can be accomplished in Linux and Apple operating systems.
EDGE is an open source environment to aid product design and development teams with their collaboration on design projects. EDGE is being developed by students, staff, and faculty at RIT. The EDGE site is being developed primarily for use with the RIT multi-disciplinary capstone design courses, but we eventually hope to extend its use to other courses and application environments.

EDGE will help you keep track of all documents used within your design team, using version control, so that you can recover lost, damaged, or revised documents at any point in your design history.

EDGE will allow you to control which documents are accessible only to your team members, and which documents are accessible to all EDGE site visitors.
Install a subversion client on your local computer. THIS HAPPENS ONE TIME.

Use windows explorer to create a sandbox folder on your local computer. Some people like to make their sandbox inside of Documents. Other people like to make their sandbox at the top level of a USB thumb drive. It’s up to you! In these examples, the sandbox is at c:\www\sandbox\ THIS HAPPENS ONE TIME.

CHECKOUT a working copy of your project from the EDGE repository to YOUR sandbox. THIS HAPPENS ONE TIME.

UPDATE your working copy of your project each time you begin work.

Do your work on your local working copy of the project files, in your sandbox. If you goof up, delete your local working copy and then UPDATE again to get a clean copy from the repository.

COMMIT the local changes in your sandbox working copy back to the EDGE repository. Changes will be immediately visible to web browsers. Changes will be available to other team members’ sandbox working copies when THEY update THEIR sandbox!
Tortoise SVN is a plug-in that works alongside your Windows Explorer file management system. You will see additional menus and symbols in Windows Explorer after you install Tortoise SVN and restart your computer!
Ed and Kate are working on a mechanical design project. Ed is responsible for all components on subsystem B, and Kate is responsible for all components on subsystem A. However, Ed is developing a 3-d solid model of a mechanical component, such as a pillow block to be used to retain a shoulder bearing. Ed is using a solid modeling package, such as Solidworks. Ed creates his solid model on his own computer, and saves the parts file (PillowBlock.step) in an industry standard STEP format on his local hard disk. The pillow block, an integral part of subsystem B, needs to be mounted onto Kate's subsystem A.

Now Ed wants to share this file with his team-mate, Kate, who is going to add some clearance holes to the base of the Pillow Block so that Ed's component can mate with the vehicle frame which is part of the subsystem A that Kate is designing. Kate uses Pro-Engineer for her work.

In many design groups, this type of problem is encountered on a daily basis. Without proper document control, and revision control, it becomes very difficult to ensure that the Pillow Block originally designed by Ed, and then modified by Kate, can have strong design integrity.

Subversion is a document control system and version control system that helps team members keep track of their collaborative efforts.

Subversion CAN ONLY WORK WELL if the team members are in regular communication with one another about who is making changes to files, and why they are doing so.
Connecting to the EDGE server

The server identification dialog box requires you to enter the name of the subversion server. In the example graphic, I used the IP address of the computer, instead of the name of the computer.

https://edge.rit.edu/dav/PROJECT

In this example, I am checking out Project (or Repository) P07200, and creating a new directory called P07200 within my local sandbox, which I chose to be "C:\www\". You can make your local sandbox on any drive that you select.

URL:  https://edge.rit.edu/dav/P07200
Checkout directory:  c:\www\sandbox
Update your Sandbox EVERY TIME BEFORE you begin work!

In Windows Explorer, navigate to your sandbox, and your project. Right click on the project directory, bring up the popup window. Highlight “SVN Update” Left click to ensure that your project is up to date with the EDGE repository, and get any changes that your team-mates have made, before you start work! As the update progresses, you will see a running log of all the changes your team mates have made.

You will also be able to tell if nobody other than you is making contributions to the design files.
Do your design work locally

Now, use Windows Explorer to look at the contents of the new folder you have just created. You now have a local working copy in your "sandbox" that you can play with.

You can make changes to your working copies of these files and this will have no impact on the group's files shared in the project repository, until and unless you COMMIT your modifications back to the repository.

This is a great safety net -- you can totally goof up someone else's file and rest assured that you can roll back your design documents to any point in time.
Many times, you will create new files such as CAD drawings, in your sandbox as you create design content it will generate lots of electronic information.

The example to the right, I am getting ready to add this presentation (the one you are reading) to my sandbox. Notice that the Windows Explorer bar has a question mark on the folder. That means that the folder contents are not yet under version control.

Navigate to the folder. Right click, hover over Tortoise SVN on the pop-up menu, and then left-click on ADD. You will see a log window of all files you just added.
In this example, I created many files to develop a slide show that can be shared both as a PowerPoint download, and viewed as a series of slides in an on-line slide show, for people to read, just like you are doing now!

Each file has a + sign next to it, to indicate that it is part of the sandbox copy of the repository.

The + signs indicate that the files have been added to version control but not yet committed.
Commit your changes EVERY TIME YOU FINISH work, or want to have a backup!
Continue working, Periodically Commit

Save your work often!

You can coordinate between team members more easily that way!

Talk to each other.

Avoid tripping over one another’s work!

The RED !
Indicates that your Sandbox is different From the EDGE repository
Make your own directory tree for your team!

Content in `project/web/public` will be visible to the world via their browser.

Content in `project/web/private` will be visible to the guests via their browser.

Content outside of `project/web/` will be visible to guests via subversion only, not through the web.

In this example, `FacultyResources` are not accessible through the web browser.
Setting the Mime Type on Files

Step 1
- Open the Properties window

Step 2
- Click on the Properties button

Step 4
- Select the value "application/octet-stream"
## Common MIME Types

<table>
<thead>
<tr>
<th>MIME Type</th>
<th>Setting</th>
<th>For File Types…</th>
</tr>
</thead>
<tbody>
<tr>
<td>text/wiki</td>
<td><code>text/wiki</code></td>
<td>Wiki node</td>
</tr>
<tr>
<td>application/octet-stream</td>
<td><code>application/octet-stream</code></td>
<td>Most binary files</td>
</tr>
<tr>
<td>application/mspowerpoint</td>
<td><code>application/mspowerpoint</code></td>
<td>Microsoft Powerpoint</td>
</tr>
<tr>
<td>application/msword</td>
<td><code>application/msword</code></td>
<td>Microsoft Word</td>
</tr>
<tr>
<td>application/ms-excel</td>
<td><code>application/ms-excel</code></td>
<td>Microsoft Excel</td>
</tr>
<tr>
<td>text/plain</td>
<td><code>text/plain</code></td>
<td>Plain text, ASCII</td>
</tr>
<tr>
<td>application/pdf</td>
<td><code>application/pdf</code></td>
<td>Adobe PDF</td>
</tr>
</tbody>
</table>
Viewing the Revision History

The “history” link at the bottom of each page allows you, as you navigate your project, to easily track any changes to your project or subdirectory of your project -- who made the changes, when, and why!
Where to go for more help...

Subversion Help

Listing of general help topics associated with the EDGE subversion access. The topics are sorted by their task complexity, from "Beginner" to "Advanced" level.

The help topics in the order listed here will generally be the easiest for newcomers, while more experienced users may use the links to access advanced topics.

Advanced Topics

- Nomenclature - Learn about nomenclature, terminology, definitions, etc.
- Subversion - Information about the "subversion" open source version control system and its origins.

Intermediate Topics

- History - Review the history of changes made to your project by all editors.

Beginner Topics

- Clients - Learn how to install the subversion package on your own computer.
- Sandbox - Learn how to create a local sandbox, or working copy, of project files on your own computer.
- File Extensions - Learn how to repair file extensions for files uploaded with the Wiki editor.

areas: EDGE Help | Wiki Help