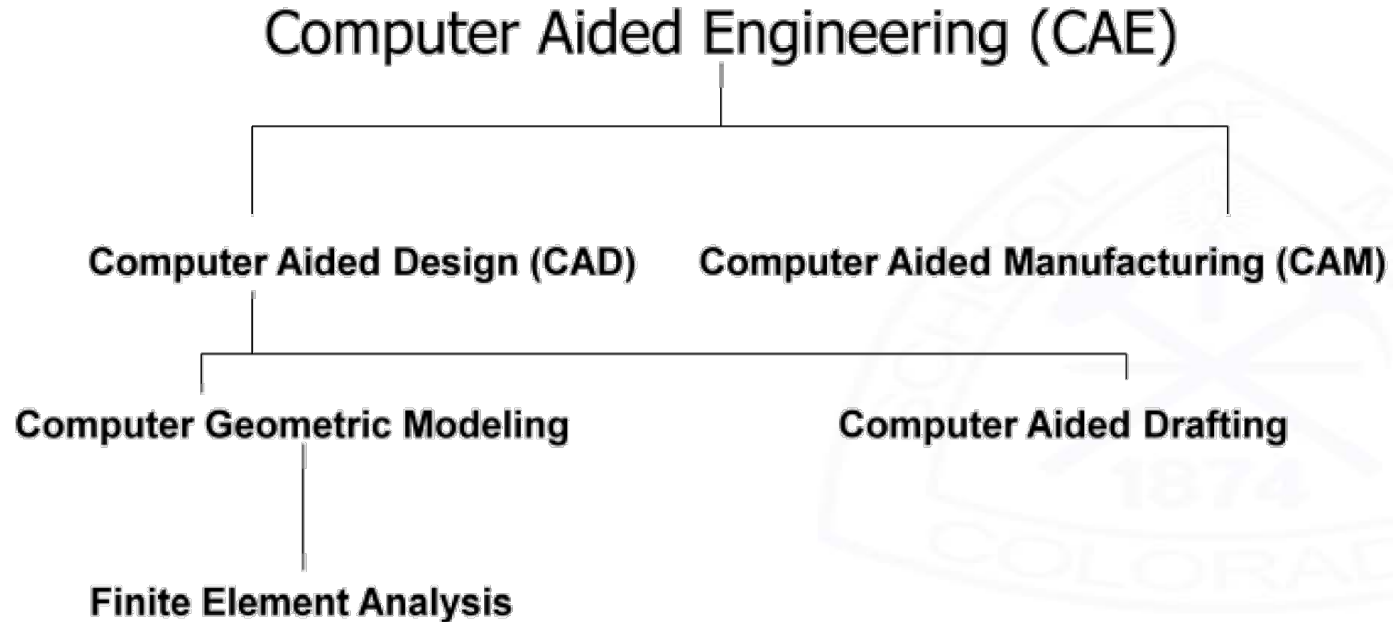
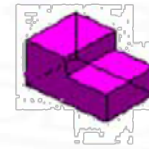
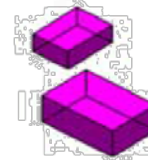
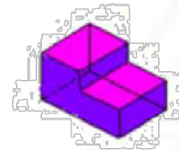
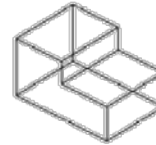


Computer-Aided Design (CAD)



Computer-Aided Design (CAD) Evolution

- **2D Wireframe – Points and Lines**
- **3D Wireframe – Points and Edges**
- **Surface Modeling – Adding a surface to 3D Wireframe**
- **Solid Modeling – Constructive Solid Geometry**
 - **Assembling primitive solids by adding or subtracting**



Computer-Aided Design (CAD) Evolution

- Feature-Based Parametric Solid Modeling
 - A design process
 - Sketch a 2D shape
 - Add Dimensions for size
 - Extrude or revolve the shape to make a solid
 - Repeat as needed while adding or cutting away features
 - Dimensions can be changed at any time in the design process and the part will be updated
 - This approach is typical for parametric modeling programs – these include Pro Engineer, Solid Works, Solid Edge, CATIA, and other software packages.

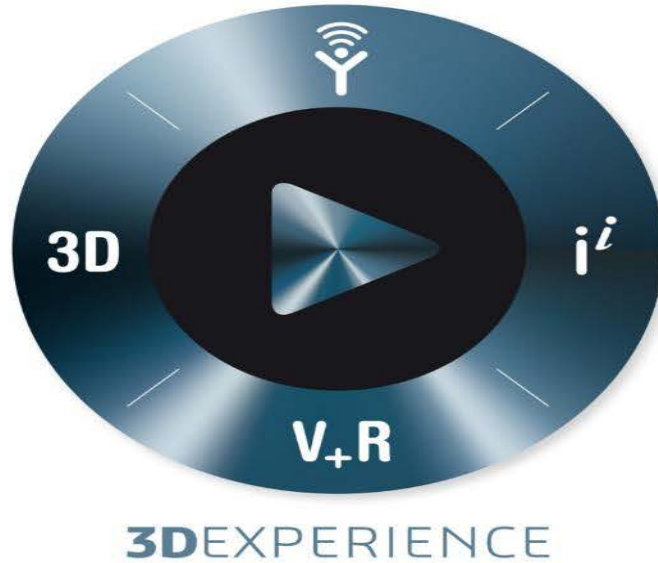


First Off

- Open **CHROME**
- Go to <https://join.me/DESIGNEPICSFALL>



SolidWorks Sessions Introduction



SolidWorks Prepares Student for their Future



Certified SolidWorks Associate Exam (CSWA)

- Ascertain students' 3D CAD skills and fundamental engineering principles
- Assessment tool for articulation agreements and government standards
- Network verification for SolidWorks global customers



SolidWorks Users are Everywhere

2 Million users worldwide

170,000 customers

worldwide

500,000

Facebook
fans

1 Million
active 3D

ContentCentral
users

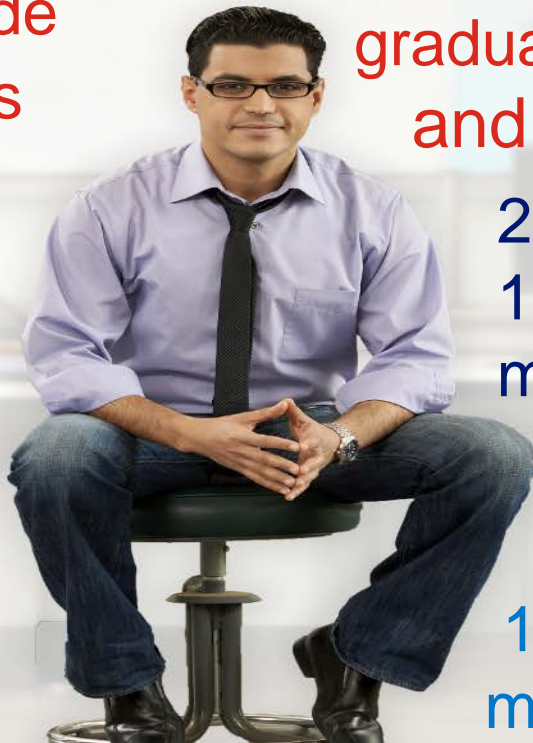
46,000 YouTube
videos

2.5 Million students
graduating in 26,000 schools
and universities

200 User groups with
15,000 active
members

100,000
certified users

150,000 forum
members

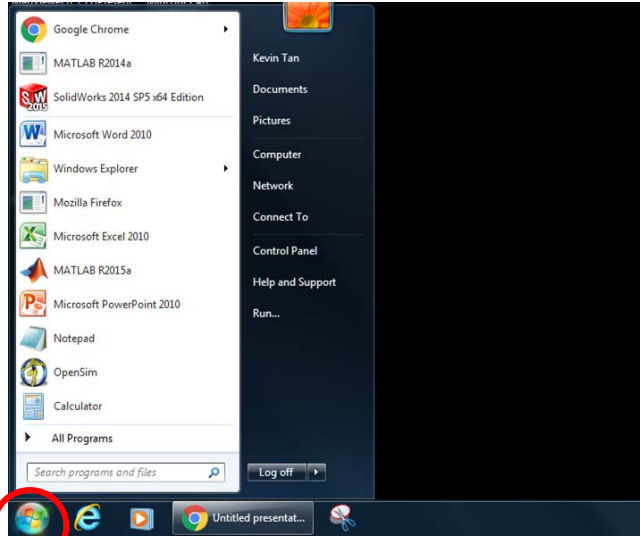


GETTING SOLIDWORKS SOFTWARE

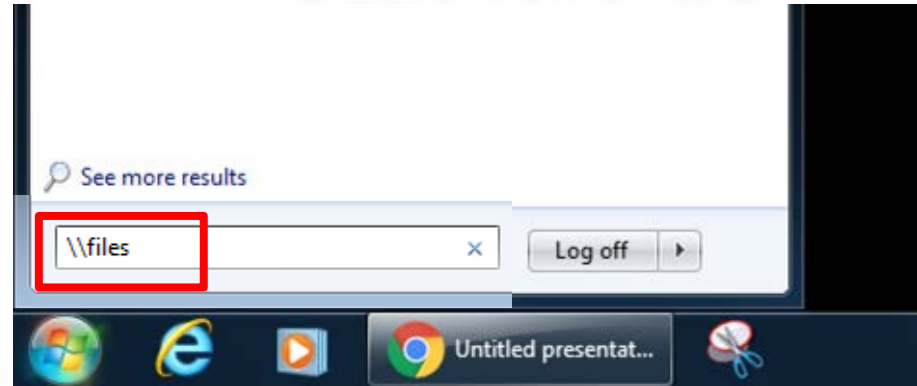
- SolidWorks Academic Version
 - Look at installation instruction at CCIT website
<http://inside.mines.edu/Software-Title/SolidWorks>
 - Follow installation instruction
 - Download the software from Mines software download site
<https://pebble.mines.edu/download/software/>

Setting Up Your Workspace

Step 1

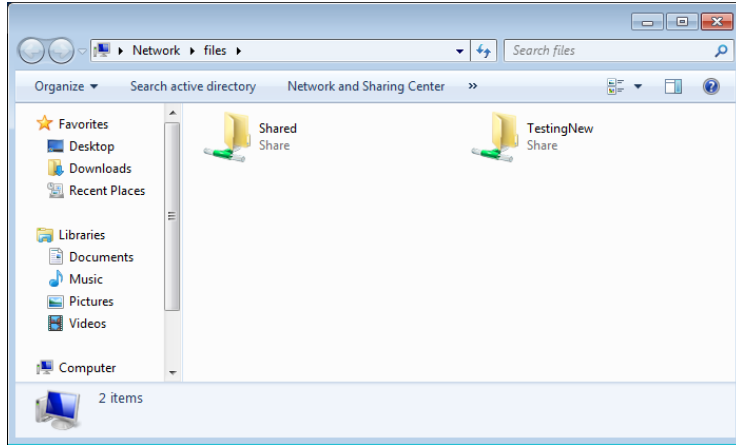


Step 2



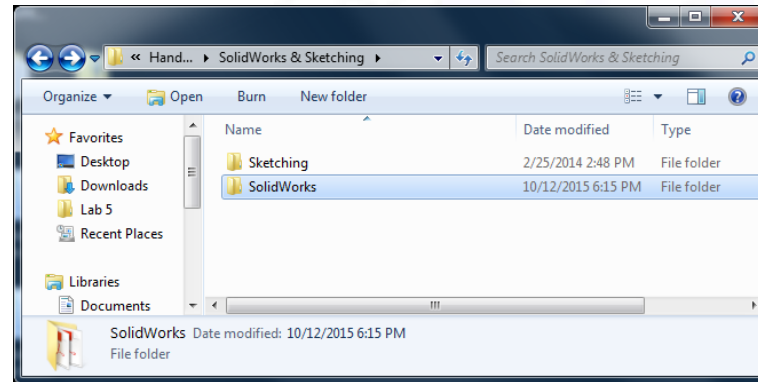
Setting Up Your Workspace

Step 3



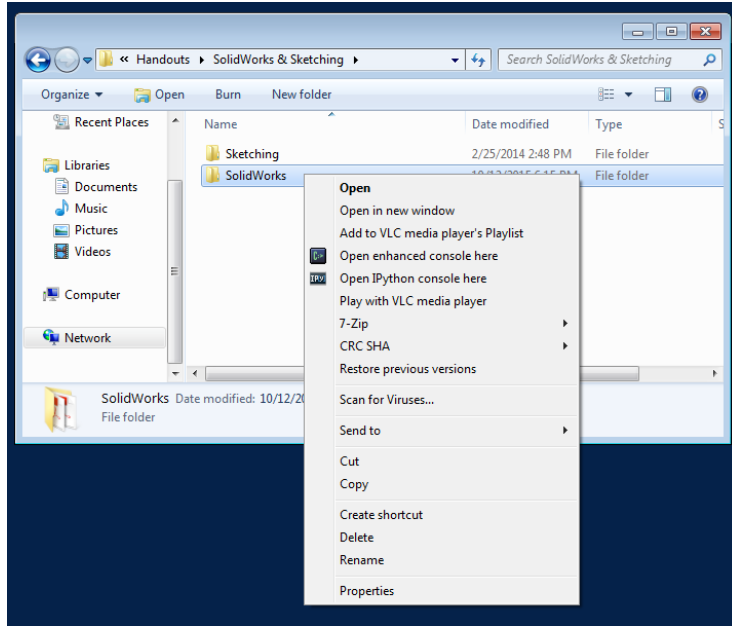
Step 4

- ▶ Click on Shared
- ▶ Click on Common
- ▶ Click on Handouts
- ▶ Scroll down and click on SolidWorks & Sketching

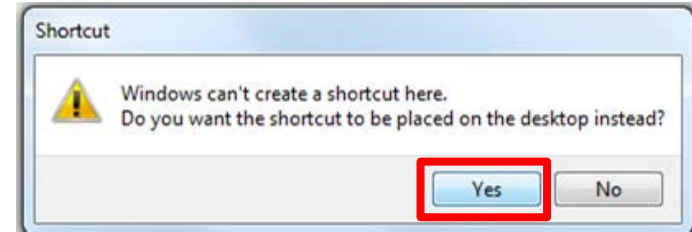


Setting Up Your Workspace

Step 5

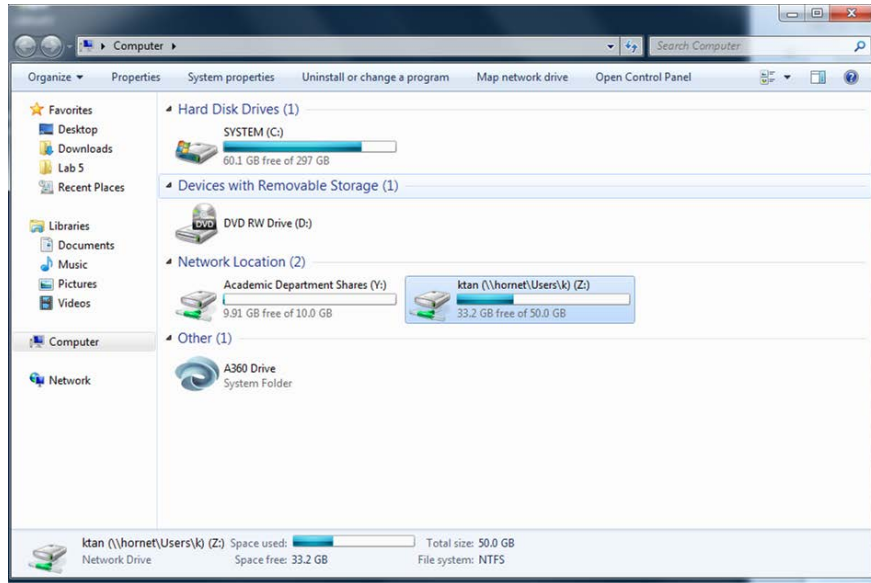


Step 6



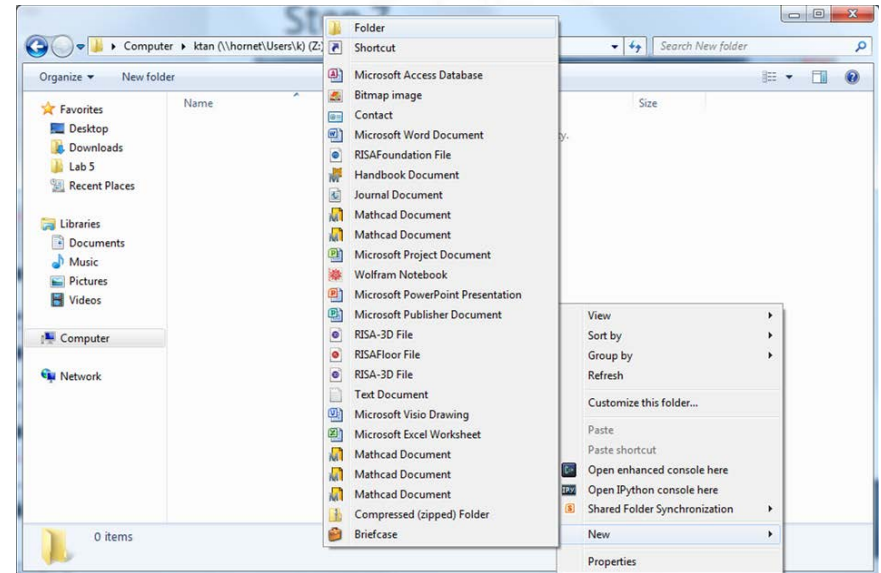
Setting Up Your Workspace

Step 7



Step 8

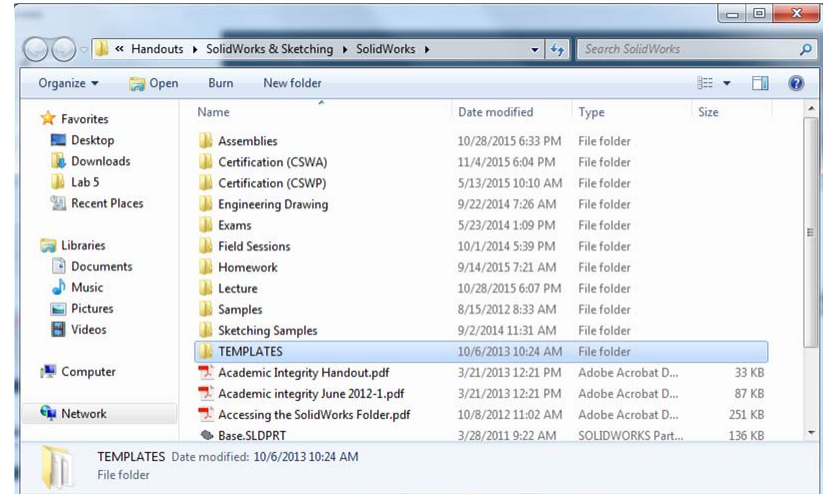
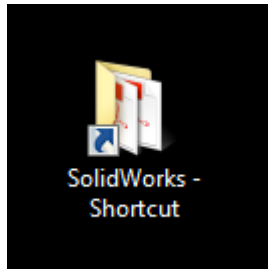
- Create new folder and call it “SolidWorks”



Setting Up Your Workspace

Step 9

- ▶ Leave SolidWorks folder open and also open to **Desktop's** "SolidWorks - Shortcut"



Step 10

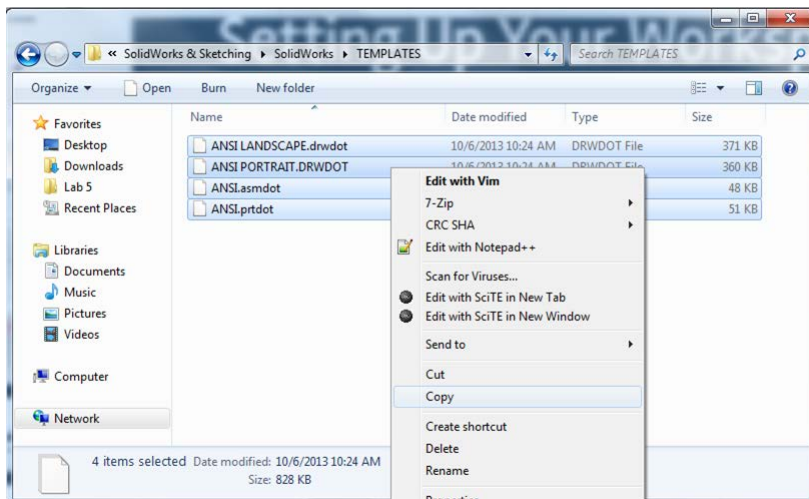
- ▶ Open the "TEMPLATES" folder



Setting Up Your Workspace

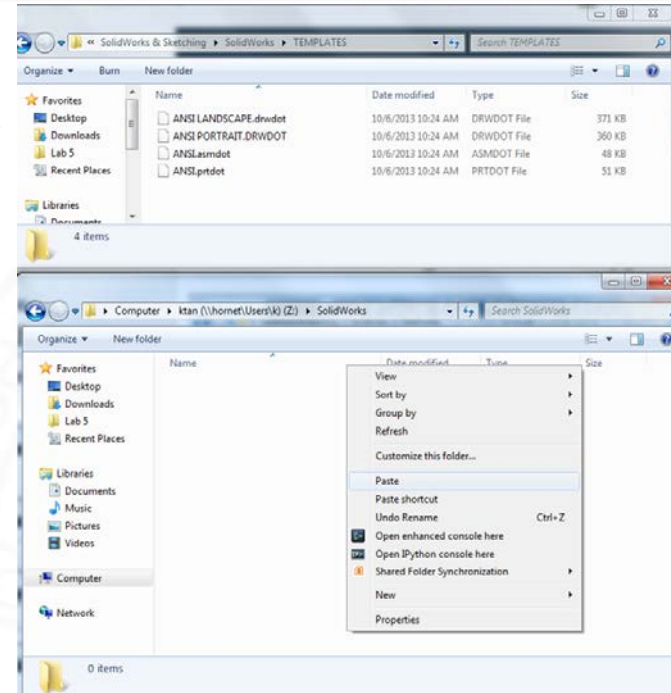
Step 11

- ▶ Select all, Right click and **Copy**



Step 12

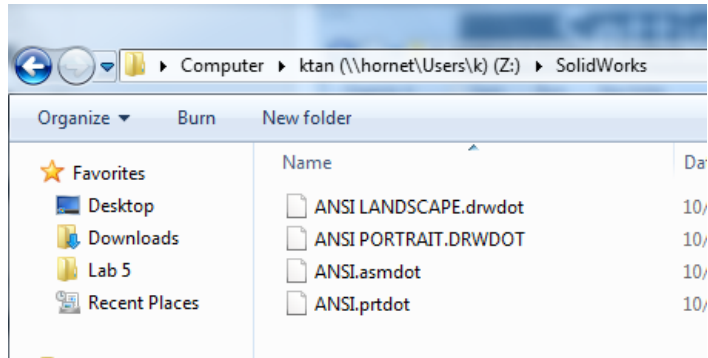
- ▶ Now go to “SolidWorks” folder that was created in your Z drive and paste files.



Setting Up Your Workspace

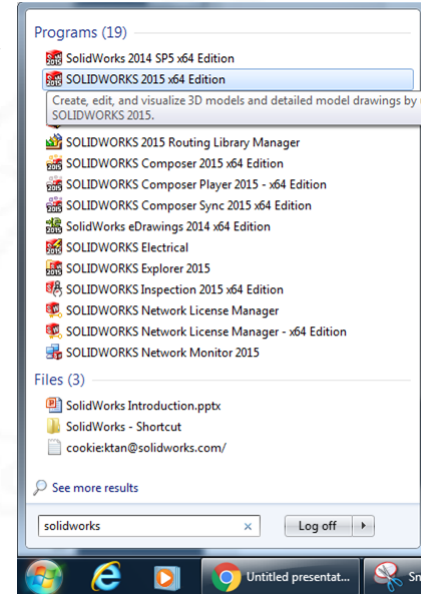
Step 13

- ▶ It should look like this now.



Step 14

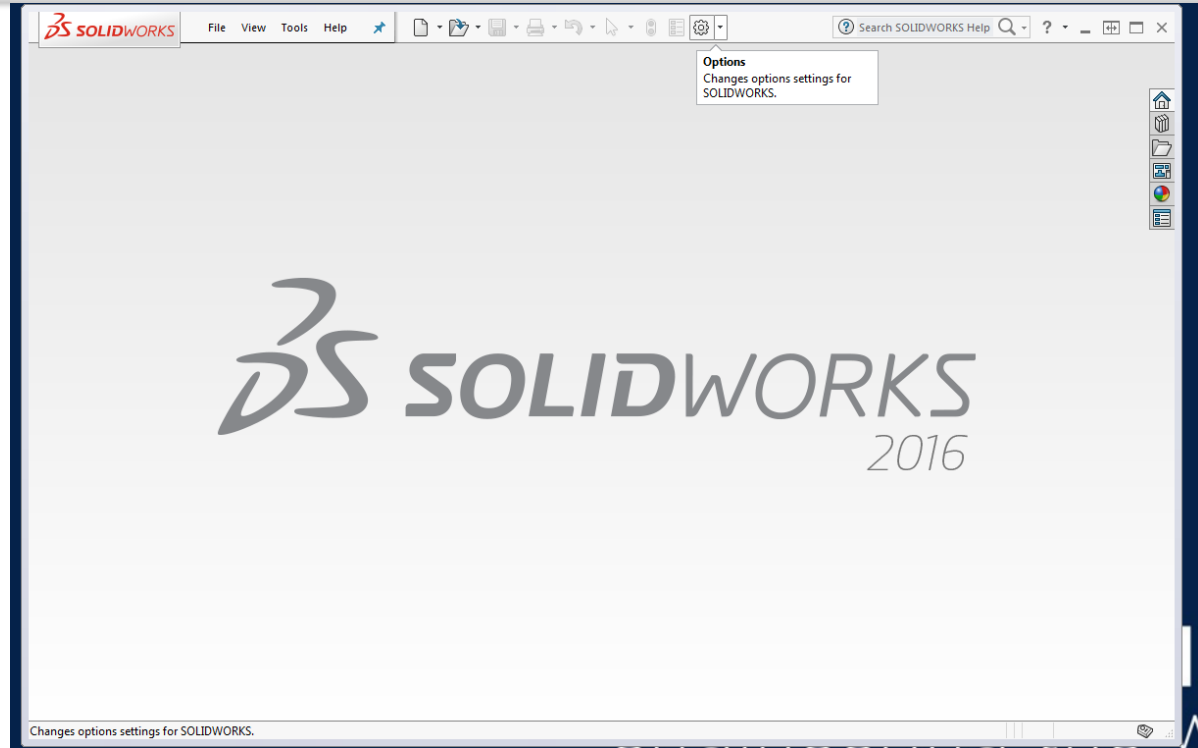
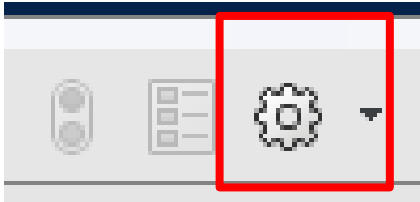
- ▶ Open SolidWorks
- ▶ Make sure it is the 2016 x64 Edition



Setting Up Your Workspace

Step 15

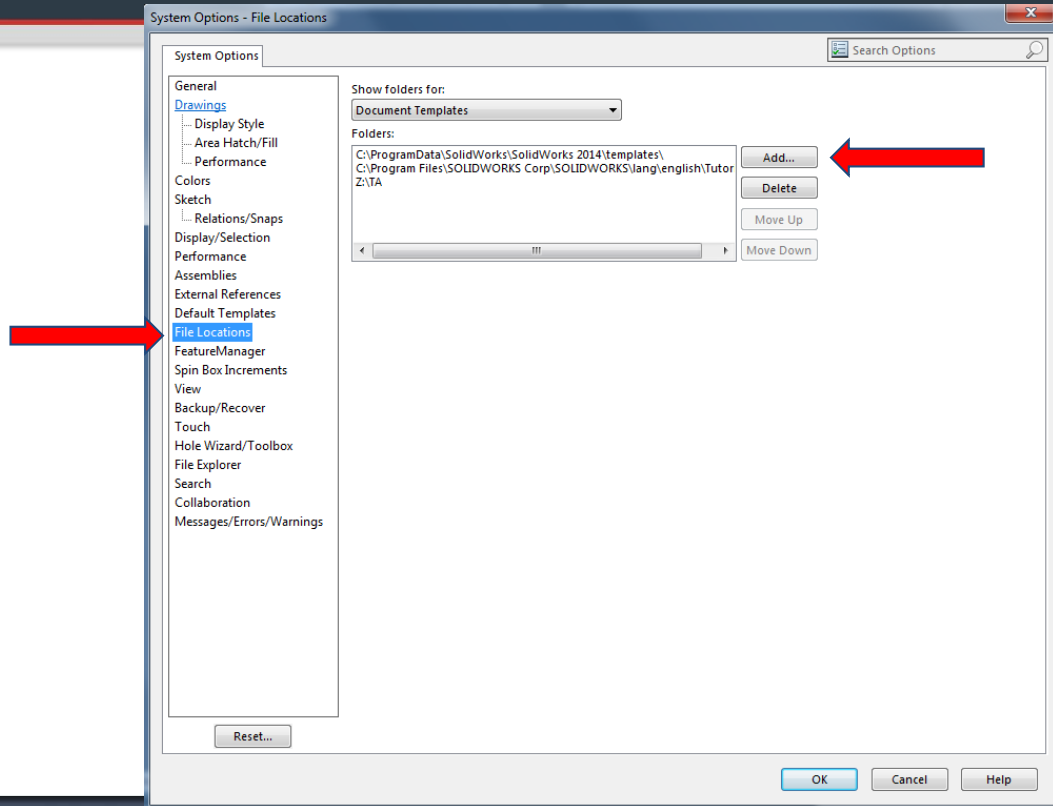
- ▶ Click on options



Setting Up Your Workspace

Step 16

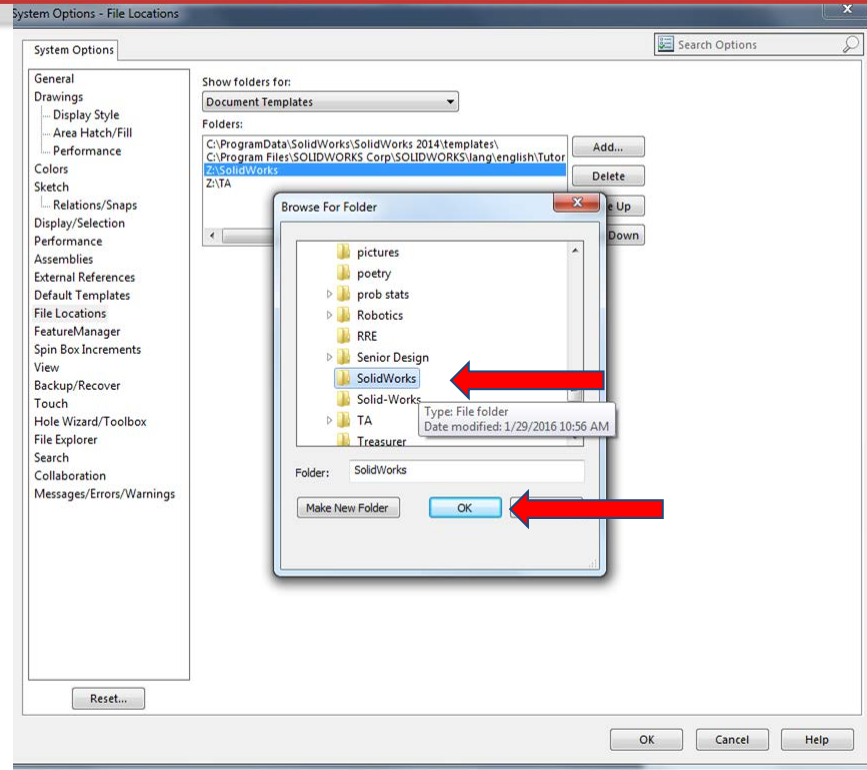
- ▶ Click on File Locations
- ▶ Then click on “Add...”



Setting Up Your Workspace

Step 17

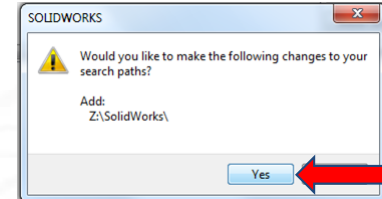
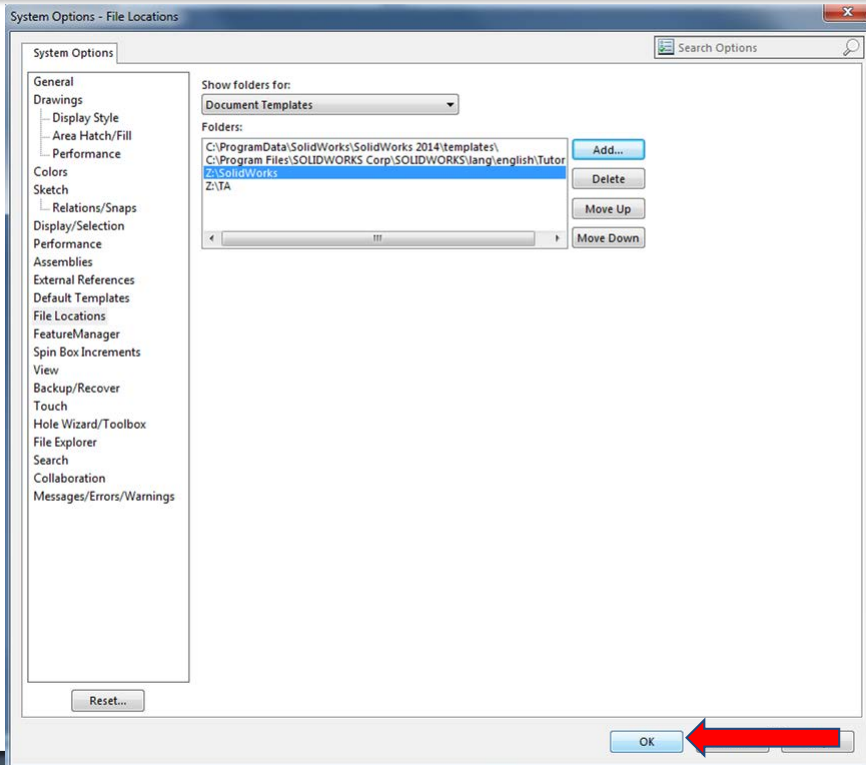
- ▶ Find location of folder in Z drive
- ▶ Then click on “Okay”



Setting Up Your Workspace

Step 18

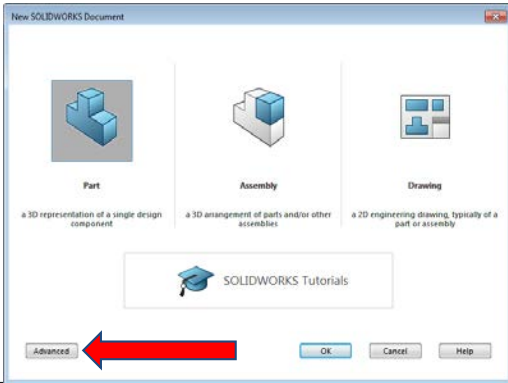
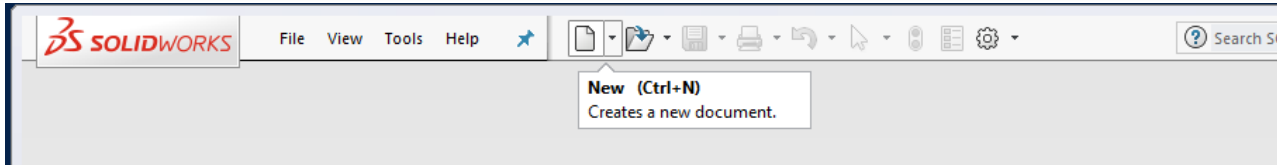
- ▶ Click on “Okay” again
- ▶ Then click, Yes
- ▶ Then click, No and No



Setting Up Your Workspace

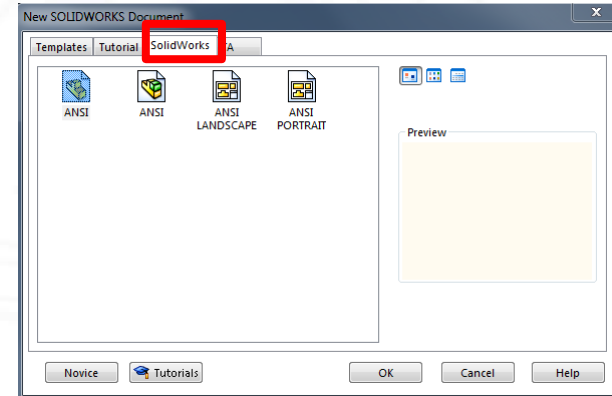
Step 19

- ▶ When you are finished click “New”
- ▶ Then click “Advanced”



Step 20

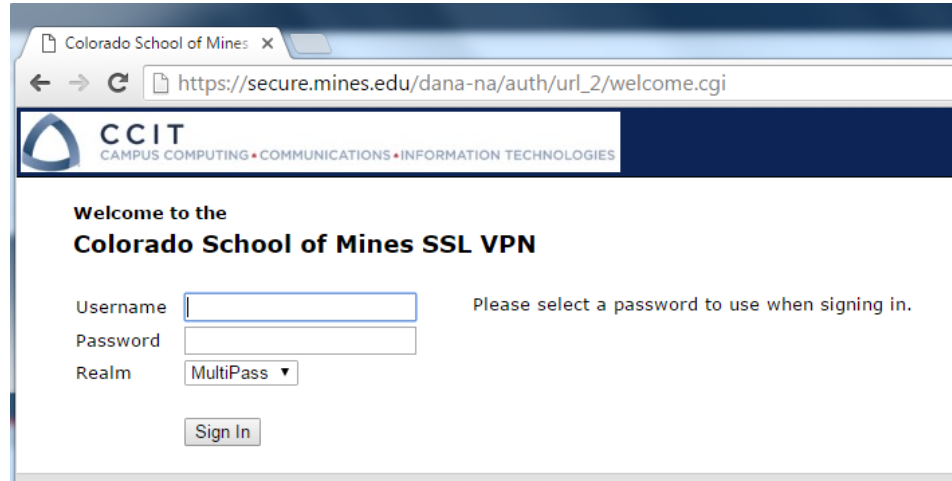
- ▶ You should have something like this.
- ▶ Click the SolidWorks tab
- ▶ Then click “OK”



Getting to Files from Home

Step 1

- ▶ Open Google Chrome
- ▶ Go to `secure.mines.edu`
- ▶ Sign in



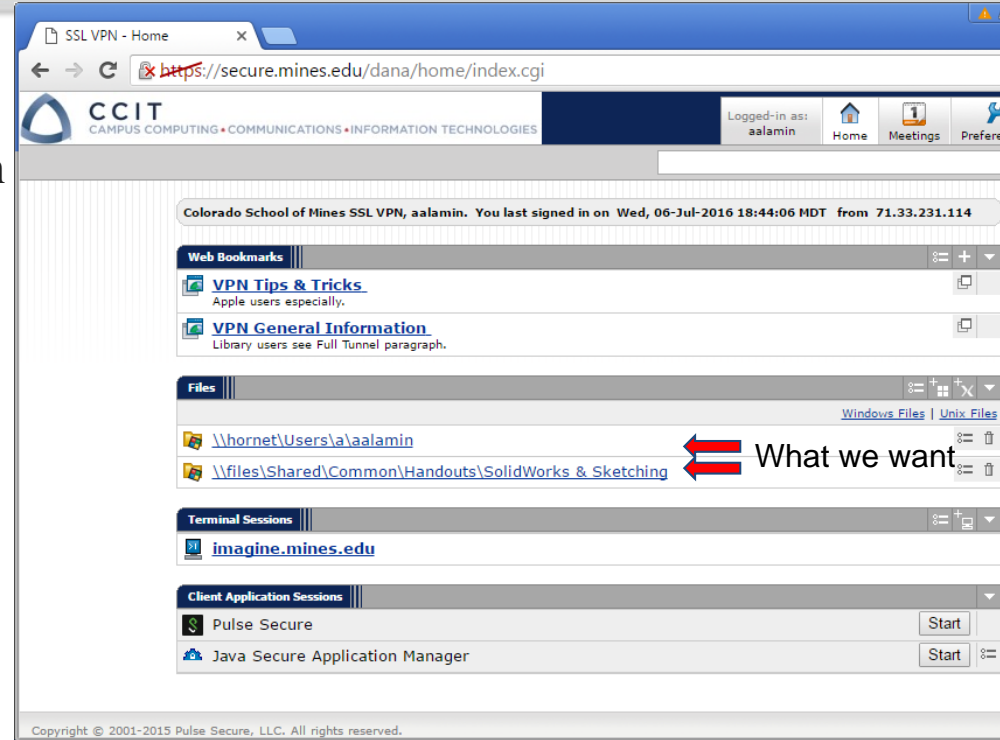
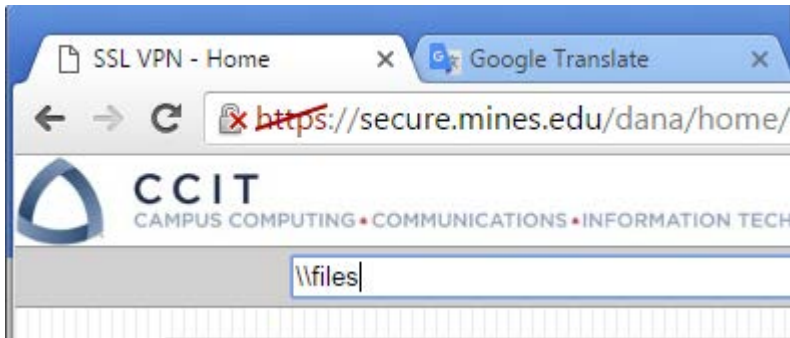
A screenshot of a web browser window showing the login page for the Colorado School of Mines SSL VPN. The browser's address bar displays the URL `https://secure.mines.edu/dana-na/auth/url_2/welcome.cgi`. The page header features the CCIT logo (Campus Computing, Communications, Information Technologies) on the left and a dark blue bar on the right. The main content area is titled "Welcome to the Colorado School of Mines SSL VPN". Below the title, there are three input fields: "Username" (a text box), "Password" (a text box), and "Realm" (a dropdown menu currently showing "MultiPass"). To the right of the "Password" field, a note reads "Please select a password to use when signing in." Below the input fields is a "Sign In" button. A faint, large watermark of the word "COLORADO" is visible in the background of the page.



Getting to Files from Home

Step 2

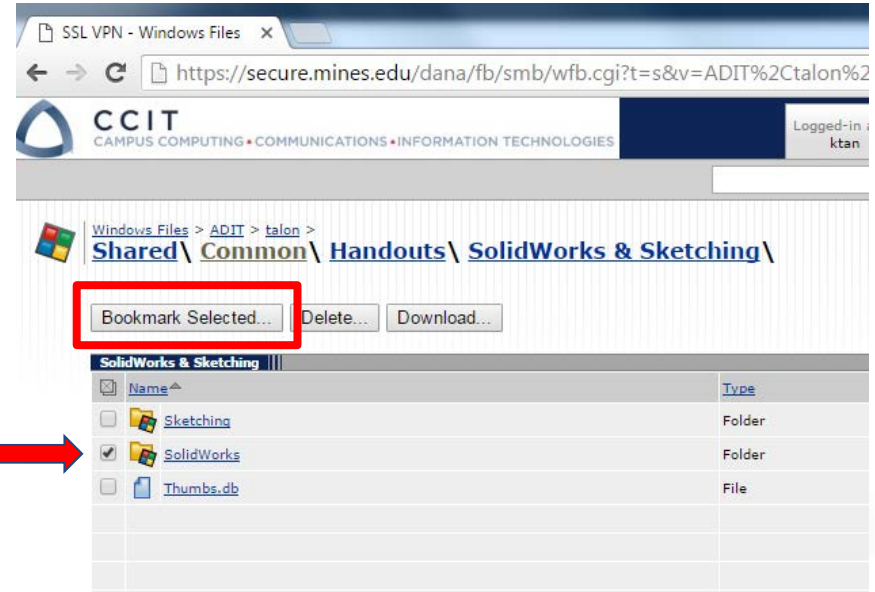
- ▶ Go to the search bar and type in \\talon
- ▶ Click “Browse”



Getting to Files from Home

Step 3

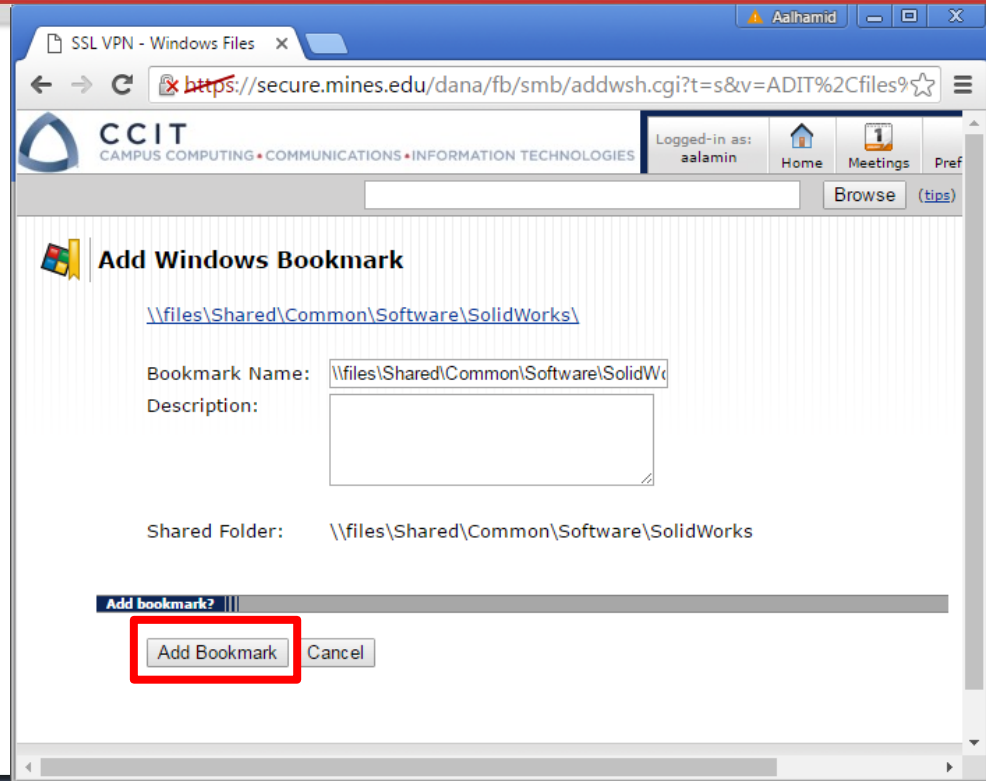
- ▶ Click on “Shared”
- ▶ Then “Common”
- ▶ Then “Handouts”
- ▶ Scroll down and click on “SolidWorks & Sketching”
- ▶ Then check the box SolidWorks
- ▶ Then click on “Bookmark Selected...”



Getting to Files from Home

Step 4

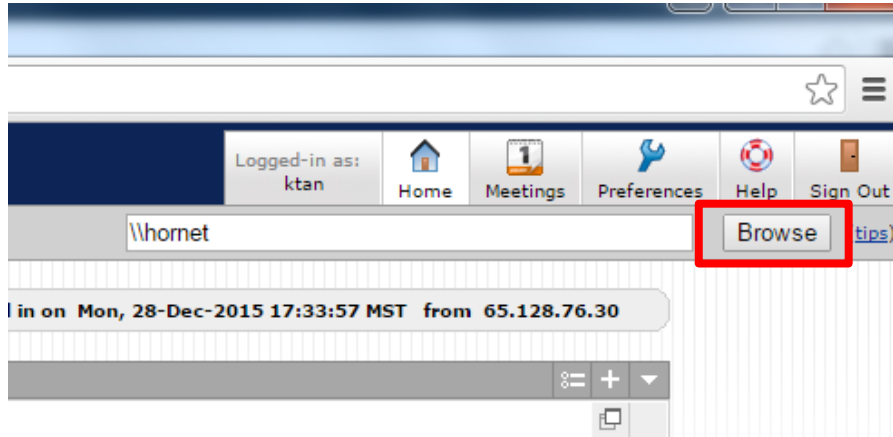
- ▶ Click “Add Bookmark”



Getting to Files from Home

Step 5

- ▶ Click in the search bar
- ▶ Type in \\hornet
- ▶ Then click “Browse”



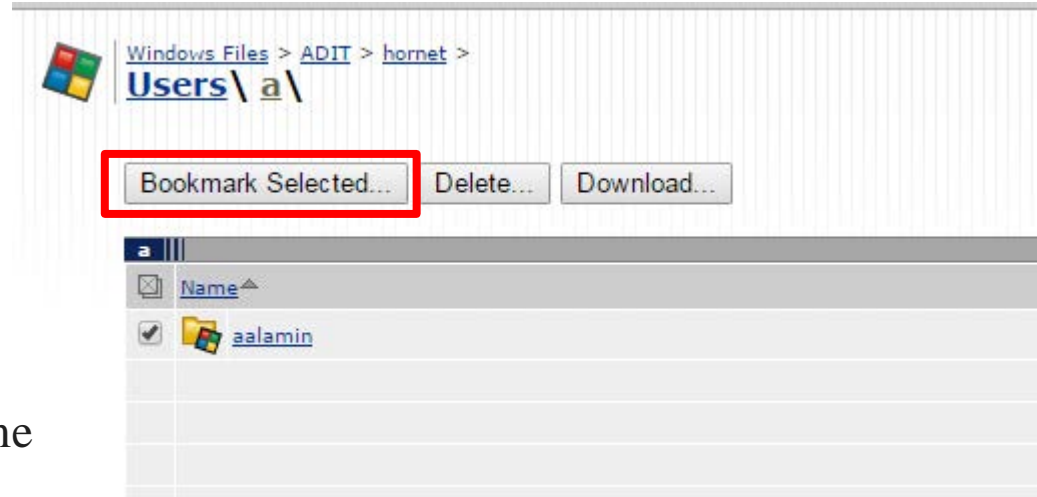
- ▶ Click on “Users”



Getting to Files from Home

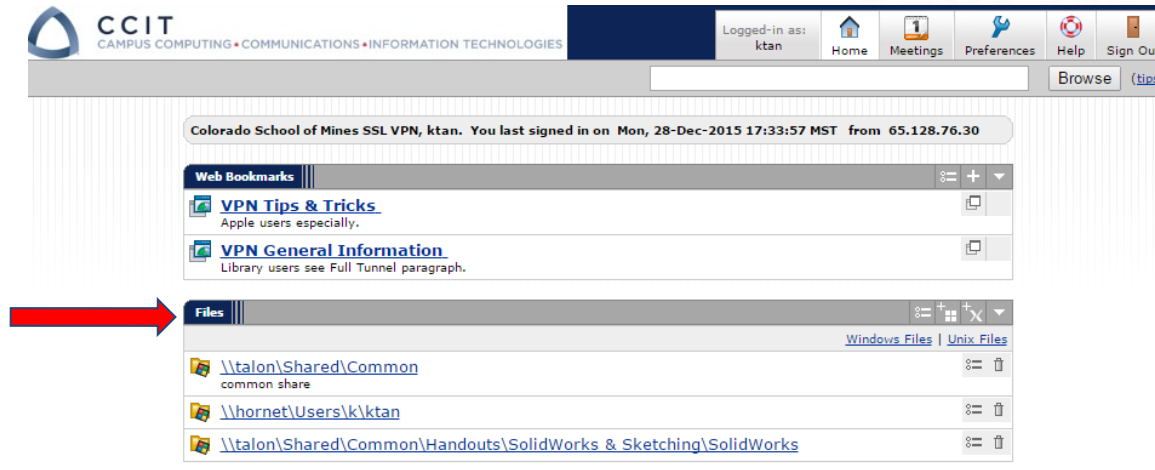
Step 6

- ▶ Click on the first letter of your username
- ▶ Example:
 - my username: aalamin
 - click on “a”
 - check the box next to username
- ▶ Then click on “Bookmark Selected...”
- ▶ And then “Add Bookmark”



Done with File Set up!

Now if you ever need to access files from home, just log on to `secure.mines.edu` and click on the folder you want.



Homework Reminder

- ▶ Homework will be up TODAY on Blackboard
- ▶ Due September 20th, 2016 @ 11:59 pm
 - *ALL HOMEWORK IS DUE TUESDAY @ 11:59 PM BEFORE NEXT SOLIDWORKS CLASS*
- ▶ 1 Conceptual Question
- ▶ 3 Questions - Questions are taken from Engineering Drawing Folder. Numbers 1- 20



Blackboard

- ▶ Supplemental Materials
 - SolidWorks term summary
 - SolidWorks introduction material
 - Orthographic views overview
 - **EPICSSolidWorks YOUTUBE!**



Class Outline

- What/ where is the Command Manager?
- What/ where is the Feature Manager?
- What/ where is the status bar?
- Features vs. applied features
- Pan, zoom, rotate
- Change views
- Units
- Sketch filter F5
- Select a plane
- Create a sketch
- Line tool
- Arc tool
- O- snap
- Sketch relations
- Smart dimension
- Trim entities
- Fully defined
- Under defined
- **Over defined**
- Extrude boss base
- Extrude cut
- Fillet and Chamfer
- Rebuild
- Mass properties



User Interface Overview

