SUBVERSION

SVNTest

- Download the SVNTest project from the class web site.
- Un-tar the project.
- Import the Project into Eclipse.
- Build, test, make sure the project works.

Subversion

- What is source code version control?
 - http://svnbook.red-bean.com/
 - allow multiple people to modify the same source code
- Image allow one person to manage multiple versions of their source code
 - move from computer to computer to develop
 - track all changes



Topics

- Subversion
 - Source Control
 - Check in
 - Check out
 - Update
 - Commit
 - Merge Conflict
 - Revert a file

Version Control

- Each change you make to the source code is a *revision* stored in the repository
 - can annotate your change with a note
 - why did I do that?
 - you can browse back through the repository to find old revisions of file
 - changed a data structure and it did not work
 - rewrote an algorithm and it got slower!
 - check out the old (working) revision from the repository

Hmmm....

How often should I update and commit?

- every major change
- once every 15 minutes
- right before you do something you think may be a bad idea
- be sure to update and commit before you log off of a lab machine!
 - Or before you leave the lab
 - Someone may reboot your machine!

How to get this to work

- Create a repository on zeus
 - do this exactly once
 - use this one repository for all your projects
- login to zeus

zeus\$ svnadmin create /home/shereen/SVNROOT

Check in SVNTest

- Problem: Let's check this project into the repository.
- How?
- Right click on the SVNTest project, then Team, then Share Project.
 - See next slide

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Resource Configurations	>	upgrade Projects	

Share Project

Share Project

Select the repository plug-in that will be used to share the selected project.



Select a repository type:

聲 CVS

🐴 SVN

۵ 🕒	Share Project Wizard	\odot \odot \otimes
Enter Repo Define the S additional se	sitory Location Information /N repository location information. You can specify ttings for proxy and svn+ssh, https connections.	SVN
<u>G</u> eneral <u>A</u>	dvanced SS <u>H</u> Settings SS <u>L</u> Settings	
URL: svn+s	sh://zeus.cs.pacificu.edu/home/shereen/SVNR00T	Browse
Use a	<u>c</u> ustom label:	
Authentica	tion	
<u>U</u> ser: Password:		~
<u>S</u> ave a To manage	authentication (could trigger secure storage login) e your security data, please see <u>"Secure Storage"</u>	
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۵	Share Project Wizard	\odot
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SVNTest		
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Use <u>Repository Locati</u>	on layout	
Use s <u>i</u> ngle project lay	out	
Use <u>m</u> ultiple projects	layout with the specified root name:	
SVNTest		
Use Su <u>b</u> version recor	nmended layout ('trunk', 'branches' and 'tags')	
Project files location on th layout type. You can see f	ne repository will be different depending on the s uture files location below:	selected
🕞 svn+ssh://zeus.cs.pa	cificu.edu/home/shereen/SVNR00T/trunk/SVNTest	t
•	< <u>B</u> ack <u>N</u> ext > <u>F</u> inish	Cancel

۵ 🕒	Share Project Wizard	\odot \otimes \otimes
Enter a commit comm Type the commit comment	ent t for the Share Project operation.	SVN
Share project "SVNTest" SVNROOT"	into "svn+ssh://zeus.cs.pacificu.edu/home/shereen/	
C <u>h</u> oose a previously enter	red comment or template:	
		~
✓ Launch the Commit D	ialog for the shared resources	
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۵ 🕒	User Credentials	\odot \odot \otimes
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Apply To: svr	n+ssh://zeus.cs.pacificu.edu	~
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Commit		\odot \otimes \otimes
Enter a commit comment		61/D1
You can specify a new message or choose the previousl Empty comments are allowed, but filling a comment mes other people to understand the changes.	y entered one. ssage would help	SVN
Comment		
Committing SVNTest for the first time		
Choose a previously entered comment or template:		
		~
Keep Locks	<u>P</u> aste se	elected names
Resource	: Content 🔺 :	Properties
✓ ➢ SVNTest/.settings	New	
🕑 🗁 SVNTest/bin	New	
✓ ➢ SVNTest/include	New	
SVNTest/src	New	
SVNTest/.cproject	New	
SVNTest/.project	New	~
Select All Clear Selection	Sel	ected: 10 of 10
•	ок	Cancel

How to do a code commit

To commit a project, right click on the project folder \rightarrow Team \rightarrow Commit

Add very descriptive comments for EACH code commit. You will not be sorry.

Let's Delete SVNTest

- Right Click the SVNTest project -> Delete
- CHECK \rightarrow Delete project contents on disk

How to checkout

To checkout a project, File \rightarrow Import, then



۵	Checkout from SVN	\odot \odot \otimes
Checkout Project fro	m SVN repository	CV/N
Select an existing repo	sitory location or create a new location.	
This wizard will help you	to checkout a project from the SVN repository.	
O <u>C</u> reate a new repos	itory location	
• <u>U</u> se existing reposit	ory location:	
Label	∧ ∶URL	:
svn+ssh://zeus.cs.pac	fic_svn+ssh://zeus.cs.pacificu.edu/home/shereen/S\	/NROOT
svn+ssh://zeus.cs.pac	fice svn+ssh://zeus.cs.pacificu.edu/home/shereen/S	NROOT
	< <u>Back</u> <u>Next</u> <u>Finish</u>	Cancel

۵ 🕒	Checkout from SVN	\odot \otimes \otimes
Select Resou Select a resou	irce urce which will be checked out as project.	SVN
URL: svn+ssh	://zeus.cs.pacificu.edu/home/shereen/SVNR00T 🗸 🗸	Browse
Revision		
• Head Rev	ision	
O Date:	9/26/2012 💭 1:55:02 AM 😴	
O Revision:	Browse	
?	< <u>B</u> ack <u>Next</u> > <u>F</u> inish	Cancel

۵ 🕒 🗉	Check Out As	\odot \otimes \otimes
Check Out As You can check you prefer to u	out the selected repository resource by different ways. Select the method of checkout se.	SVN
Choose how to Check out Find projec Check out	check out folder 'SVNROOT' as a project configured using the New Project <u>W</u> izard ts in the children of the selected resource as a folder into <u>e</u> xisting project	
Check out	as a project with the name specified:	
Depth: Recurs	sively	~
Revision • Head Rev Date: Revision:	sion 9/26/2012 💭 1:56:13 AM 💭 Browse	
?	< <u>Back</u> <u>N</u> ext > <u>F</u> inish	Cancel

Check Out Projects

Selected projects will be checked out into the workspace

Following list contains projects that were automatically found on the repository. You can select project set you wish to be checked out into the workspace.



Check out as a <u>f</u>olders into existing project

• Check out as a projects into workspace

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Repository URL	Project Name	Project Type
svn+ssh://zeus.cs.pacificu.edu/home/sher	01 GamePieces	Eclipse Project
svn+ssh://zeus.cs.pacificu.edu/home/sher	CS300CodeExamples	Eclipse Project
svn+ssh://zeus.cs.pacificu.edu/home/sher	MyAddition	Eclipse Project
svn+ssh://zeus.cs.pacificu.edu/home/sher	Assignment3-CreditCar	Eclipse Project
svn+ssh://zeus.cs.pacificu.edu/home/sher	CodeLayout	Eclipse Project
🖌 svn+ssh://zeus.cs.pacificu.edu/home/sher	SVNTest	Eclipse Project
svn+ssh://zeus.cs.pacificu.edu/home/sher	HelloWorld (1)	Eclipse Project
svn+ssh://zeus.cs.pacificu.edu/home/sher	HelloWorld	Eclipse Project
svn+ssh://zeus.cs.pacificu.edu/home/sher	TestingPython	Eclipse Project
svn+ssh://zeus.cs.pacificu.edu/home/sher	Tutorial2D	Eclipse Project
Select All	<u> </u>	spect projects hierarch
(2)	<u>N</u> ext > <u>F</u> ir	nish Cancel

۵	Check Out Projects	\odot \otimes \otimes
Check Out Projec	ts To	SVN
Select the projects working set or choo	location. You can either use default workspace location and se the other ones. Type the name of working set if you want t	
Location		
✓ Use default wo	orkspace location	
/home/shereen/wo	prkspace	Browse
Select <u>w</u> orking set:	<default set="" working=""></default>	~
?	< <u>B</u> ack <u>N</u> ext > <u>F</u> inish	Cancel

Make a change in Eclipse

- Add printf("I love CS 300!\n"); to main()
- Build and run (just to be sure)
- Commit to SVN:
 - Right Click SVNTest | Team | Commit
- Do NOT commit .o or executable files!

Show History

- In Eclipse
- Right Click a File
 - Team | Show History

When things go bad...

- Let's revert ONE FILE back to before the last change
- Right Click the project to revert
- Replace With | Revision
 - Revisions listed with comments
 - Double-click a revision

Using Subversion by hand

- Open a single shell prompt
- Create a folder called Junk and change into it
- Check out SVNTest project in Junk directory
- Type
- \$ svn checkout svn+ssh://zeus/home/shereen/
 SVNROOT/SVNTest
- Using Geany, add a printf to main().

Using Subversion by hand

- From a command line, find the Makefile and re-make the project and run it.
- Now commit the changes to the repository by hand.

\$ svn commit -m "add second printf"

 In Eclipse and do an update on SVNTest. Your changes should show up.
 Right Click SVNTest | Team | Update to HEAD

Check out on Zeus

```
ssh to zeus.
zeus~> mkdir cs300
zeus~> cd cs300
zeus~> svn checkout svn+ssh://zeus/home/shereen/SVNROOT/
SVNTest
zeus~> cd SVNTest
zeus~> make clean
zeus~> make
```

This is how you should test on zeus from now on.