# SVN Tutorial (Mac)

# Setting up the server

- 1. Download SmartSVN from <a href="http://www.smartsvn.com/">http://www.smartsvn.com/</a>
  - a. Extract SmartSVN, and open it

$\bullet \bigcirc \bullet$	
Steps <ul> <li>Program Edition</li> </ul>	Program Edition Choose the SmartSVN edition you want to use.
Crash Reporting First Steps	I understand and agree to all terms and conditions of the license agreement
	Free Professional edition, for 31 days
	You can use the full-featured Professional edition free of charge for 31 days. Without registering, the feature set will automatically be switched to SmartSVN Foundation after that period.
	Registered Professional or Enterprise edition
	As a registered user of SmartSVN Professional or SmartSVN Enterprise please select the license file you have received by e-mail after purchase.
	License File:
	Exit Go Back Continue Finish

Agree to the terms and conditions, select the free professional edition, then click continue
 a. Agree to send crash reports if you want to, then click continue

Steps Program Edition Crash Reporting > First Steps	First Steps To work with SmartSVN you w creating a repository and gets I want assistance in setting My repositories are already	up the repository
	Exit	Go Back Continue Finish

3. Select "I want assistance in setting up the repository", and click finish

			SmartSVN I	Professio	nal 9.1.3 (demo until Jan 31, 2017)		
emove	Move	Revert	Delete	Fix	Changes Anno	tate Log	Graph
te A	R S	elect the		directory	where the repository shall be created. T now, content can be added later.	he	Q
		-	ry Location: /ith importir	ng files in	to this repository	OK	
			_				

- a. Click the folder icon next to the text box
- b. Navigate to your desktop, and make a new folder "SVN Tutorial"
- c. Navigate into that folder, make a new folder "Server", and click open
- d. Click OK

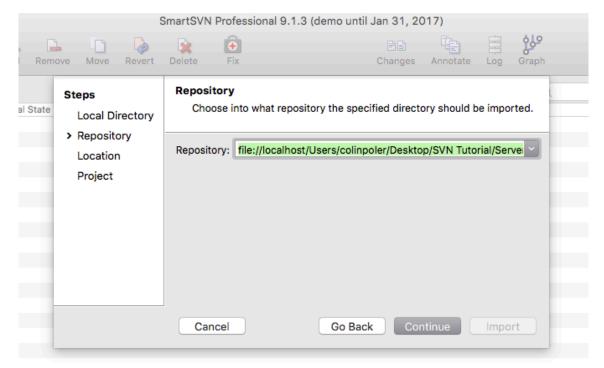
The "SVN Tutorial" repository we'll set up is **only** on your computer. There's **no way to mess up** the team repository by playing with the "SVN Tutorial" repository. You can and should experiment with this tutorial repository!

Furthermore, if you're ever afraid of messing up the team repository, you can always test out the action on the tutorial repository to see what it does!

# Setting up the local copy

		5	SmartSVN F	Professional 9	.1.3 (demo un	til Jan 31, 20	017)		
Remove	Move	Revert	X Delete	Fix		E E Changes	Annotate	Log	Graph
	ocal Dire	-	Local Di Selec repos	t the unversior	ned directory wh	nich should b	e imported i	nto the	L
Lo	epositor ocation roject	У	Directory	: ~/Desktop/S	SVN Tutorial/Loo	al			
			Cano	el	Go Ba	ick Cor	ntinue	Impo	rt

- 1. Click the folder icon next to the text box
  - a. Navigate to the "SVN Tutorial" folder from before, make a new folder "Local", and click open
  - b. Click continue



		S	SmartSVN	Professional 9	.1.3 (demo un	til Jan 31, 20	017)		
Remove	Move	Revert	💥 Delete	Fix		E E Changes	Annotate	Log	Graph
State	teps Local Dir			se the import lo	ocation. Usually w directories w		-	d 'trunk'	
>	Reposito Location Project	-	HEAD of Director		Users/colinpole	er/Desktop/S\	/N Tutorial/S	Server	2
			🗲 fi	e://localhost/l	Jsers/colinpole	er/Desktop/S	VN Tutorial	/Serve	
			Can	cel	Go Ba	ack Cor	ntinue	Impo	rt

2. Check the repository URL looks like the above, and click continue

- 3. Check the list looks like the above, and click continue
  - a. If it asks "Are you sure to select a directory not named 'trunk'?", just click continue
- 4. Leave the project import options as they are, and click import

#### Committing changes

SVN works by keeping a master version of all the files on the server, and letting each user work on an independent local copy. When you are satisfied with the changes you've made, you'll want to change the master version on the server. This is called "committing".

- 1. Open "TextEdit" (it's installed on all Macs by default)
- 2. Make a new document
  - a. Type something, e.g. "This is my first change"
  - b. Save the document as "Test Document 1.rtf" in the "Local" folder we created above
- 3. Make another document
  - a. Type something, e.g. "Rocket Team is pretty cool"
  - b. Save the document as "Test Document 2.rtf" in the "Local" folder we created above
- 4. Back in SmartSVN, click the two icons highlighted below, so that icons 2,3,5,6 are selected as below
  - a. As an aside, this makes the file list show all files (modified or not) and also shows only files in the current folder (you can navigate folders in the left pane)

Q File Filter		Ê
ctory	and	

5. Select both documents in the main file list

Files ×	
Name	Revision Local State
Test Document 1.rtf	Unversioned
Test Document 2.rtf	Unversioned

6. Modify > Commit...

• • • Steps Repositories	Files Review the entries and provide the commit message. Only the selected entries will be committed.
Detect Moves > Files Locks	Change       Path       Ext.         ✓ * Add       ③ Test Document 1.rtf         ✓ * Add       ③ Test Document 2.rtf rtf         ✓ * Add       ③ Test Document 2.rtf rtf         ✓ Ites       Differences         ✓ History         Created some files with some test content
	Cancel Go Back Continue Commit

 a. Check off the boxes next to the files you want to commit.
 This controls which changes are sent to the server. Say you've made lots of changes, but only want to send a few of them to the server (e.g. you've changed the nosecone, and also the fin can, and you're only ready with the nosecone). Here, you can select just the files that you want to send to the server (e.g. just send the nosecone files).

- Type in a message describing your changes.
   This message describes to other users what you did, so they can search for it later. For instance, if you change a tube length, you should say so, so that we can easily figure out when the tube length changed.
- c. Click commit

Challenge: make more changes to the files, and commit them to the repository.

#### Locking files

Say Alice busy working on a CAD file, and Bob starts to edit the same file. When Alice is done, she commits her file to the server. When Bob finishes later, he tries to commit the file, but SVN realizes he was working on an old version of the file. Since SVN can't intelligently combine the changes, SVN asks him whether he wants to cancel the commit, or overwrite Alice's changes.

How can we avoid wasting Bob's time making changes that can't be committed? Well, Alice can tell the server she's going to be editing the file in advance, so Bob knows. That's called "locking" the file.

1. Select "Test Document 1.rtf", then Locks > Lock...

$\bullet \odot \bullet$
Lock files for editing The comment is optional and can be used to inform other users.
Comment:
Adding content to the file.
Steal locks if necessary (might confuse locks of other users!)
Update to HEAD before (only the HEAD revision can be locked)
Cancel Lock

2. Type in a message describing why you have a lock.

Usually, it's sufficient to say you're editing CAD files.

- 3. Click lock
- 4. Open "Test Document 1.rtf"
- 5. Add some content to the document, and save it.
- 6. Back in SmartSVN, select "Test Document 1.rtf", and Modify > Commit

$\bullet \odot \bullet$		
Steps Repositories	Files Review the entries and provide the commit message. Only the selected entries will be committed.	0
Detect Moves > Files Locks	Change Path Ext.	
- r 1 1 2	1 file Commit Message:	
	Cancel Go Back Continue Commit	

a. Type a message for the commit, and click continue

7. Notice that you can either "Keep locks for committed files", or "Unlock committed files"

• • •		
Steps Repositories Detect Moves	Locks Decide what to do with locked files after commit.	
Files > Locks	O Unlock committed files	
r 1 2 2		
	Cancel Go Back Continue Commit	

If you "unlock files", SVN will release the locks on the files after you commit.

If you "keep locks", SVN will keep the file locked for you.

a. Click cancel. (Actually, we're going to go unlock the files)

You might choose to unlock the files if someone else needs to edit the files urgently, and you're not done yet. Just be aware that you'll need to start over with the most recent version.

8. Select "Test Document 1.rtf" again, then Locks > Unlock...



a. Click unlock

**Challenge:** get a lock on "Test Document 2.rtf", make a change to it, and commit it to the repository without committing "Test Document 1.rtf". *If you commit "Test Document 1.rtf", make another change to it, so that we have a change to experiment with in the next section.* 

#### Reverting changes

Reverting is useful when you were making a change, but you realize at some point that you've made a mistake. By reverting, you can reset your local copy of any file to whatever the server has, and just start over.

1. Select "Test Document 1.rtf" again, then Modify > Revert...

Are you sure to revert the local changes of 1 entry?
Click Cancel to keep your local modifications.
Cancel Revert

- a. Click revert
- Try opening "Test Document 1.txt"; your change has disappeared! Your change disappears because you never committed it, so the server gives you the most recent version that was committed.

**Challenge:** Delete "Test Document 1.txt". Try reverting the deleted file. (Hint: try selecting the missing file, then Modify > Revert...)

### Updating your local copy

You might update to see if any files have changed since your last update. You should update periodically to make sure you have the latest files, and you **really should** update before you make changes, so that you're working on the latest files.

Directories ×	•
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1. Select the repository on the left, then Modify > Update...

Update working copy Get the latest changes from the repository or select another revision to update your working copy to.	]
Basic Advanced	
Update To: Update To: HEAD Revision:	
Depth: Fully recursive	
Cancel Update	

2. Check the settings match the above figure, and click update

## Getting an old version

SVN keeps all historical versions of files, so you can get old revisions too!

You may also want to limit the number of files you sync, because Rocket Team SVN might take up a lot of space. Here's how to do that.

1. Select the repository on the left again, then Modify > Update...

Update working copy Please enter a valid revision.	<b>%</b> ]
Basic Advanced	
Update To: HEAD ORevision:	
Depth: Fully recursive	
Cancel Update	•

2. Select "Revision:", then click the ellipsis marked above

$\bullet \circ \bullet$		
	revision d a revision by its commit message, start typing.	
	a a revision by its commit message, start typing.	
Browse R	evisions at: OHEAD OPeg Revision:	Refresh
Revision	<ul> <li>Commit Message Time Author Path</li> </ul>	
3	Made Test D 1 coli fil	
2	Added some 1 coli fil	
1	Created som Y coli fil	
0	<no message=""> Y fil</no>	
-		
		Cancel Select

a. Select a revision to travel back to (e.g. revision 1), and click select

#### 3. Click update

The other file isn't on your machine, but the server still has it. Also, next time you commit, SVN knows not to delete the server copy.

# Connecting to the Rocket Team SVN

1. In SmartSVN, Project > Check out...

Steps > Repository Location Local Directory Project	Repository Select from which repository you want to ch Repository: https://edcensrv2.mit.edu/svn/Roc		
_	Cancel	Go Back Continue Finish	

2. For the repository, enter "https://edcensrv2.mit.edu/svn/Rocket\_Team", then click continue

Confirm server certificate for 'EDCENSRV2'
The certificate is not issued by a trusted authority. Use the fingerprint to validate the certificate manually:
B3:BA:8C:FE:98:90:D6:C2:3F:DE:A1:C4:3D:06:85:6E:FF:2E:B4:3F
Cancel Confirm

3. If it asks to "Confirm server certificate", click confirm. This appears because we didn't pay for a certificate authority to endorse our certificate.

Authentica	tion details
	ter username and password to connect to ' <https: <br="">2.mit.edu:443&gt; VisualSVN Server'.</https:>
Realm:	<https: edcensrv2.mit.edu:443=""> VisualSVN Server</https:>
User Name:	cpoler
Password:	•••••
	Save password
	Cancel Login

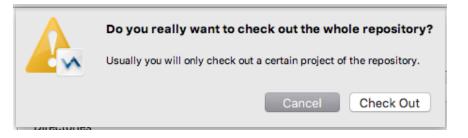
4. Type in the username and password that you'll be given, select "Save password", and click login

$\bullet \bigcirc \bullet$	
The master passwo	er password for the encrypted password store ord is used to protect passwords and passphrases authenticate with servers.
OUse the following	master password
Master Password:	
Retype Again:	
	This master password is case-sensitive and should contain lowercase and uppercase characters, digits and other characters. Longer passwords are in general more secure than shorter ones.
O Don't use a maste	r password
everyone who has a	assword makes your passwords and passphrases readable for ccess to the password file located at /Users/colinpoler/Library/ VN/9.1/passwords. Use this option only if you are sure that this
	Cancel OK

a. If it asks to configure a master password, select "Don't use a master password", and click OK. If anyone steals your computer, you have bigger problems than the SVN server...

Steps Repository	Location Select the file or directory you want to check o	ut.	
<ul> <li>Location</li> <li>Local Directory</li> <li>Project</li> </ul>	HEAD of https://edcensrv2.mit.edu/svn/Rocket_Te	am	Show Revision
	★ https://edcensrv2.mit.edu/svn/Rocket_To 2017 (28)	eam (28)	
	Cancel	Go Back	Continue Finish

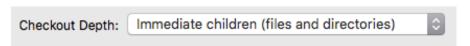
5. Make sure the full URL is selected in the location prompt, and click continue



a. If it asks you "are you sure?", click "check out"

1	
Steps Repository	Local Directory Enter or select a local directory, where the checked out project should be stored.
Location <ul> <li>Local Directory</li> </ul>	Local Directory: ~/Documents/RT SVN
Project	Check Out: 💿 Directly into the above directory
	Into subdirectory: root
	Relative to repository root
	Checkout will be performed directly into the following final directory. If it does not exist yet, it will be created automatically.
	Checkout Directory: /Users/colinpoler/Documents/RT SVN
	Checkout Depth: Immediate children (files and directories)
	Cancel Go Back Continue Finish

- 6. Click the folder icon next to the text box
  - a. Navigate to your documents folder, or wherever you'd like to keep RT stuff
  - b. Create a folder called "RT SVN", and click open
- 7. Confirm that "Directly into the above directory is selected"



- 8. Change the Checkout Depth to "Immediate children"
- 9. Click continue

Steps Repository	Project Select whether to checkout a working copy or to export files only.					
Location Local Directory	Check out a working copy					
<ul> <li>Project</li> </ul>	Add a new project: RT SVN in group: <sorted group="">     Add to current project</sorted>					
	O Don't manage as project					
	O Export only (don't create a working copy or a working copy metadata directory, i.e. ".svn")					
	Cancel Go Back Continue Finish					

10. Make sure the settings match the above figure, and click finish

• • •				RT SVN - SmartS	VN Professional 9.	1.3 (demo until Jan	31, 2017)				
Update Commit		Add Remove	Move	Revert Delete	Fix	Changes	Annotate Log	Graph	Main	Review P	Purchase
Directories ×	Files ×							Q File Filter		🕒 🗋 🖬	B
PT SVN (Immediate ( 2017 (Only this d 2017) (Only this d				Revision Local State	<ul> <li>Remote State</li> </ul>	Change Set Copy	From Relati	ve Directory		Branch	
hanges ×				_						\$	2
utput ×					<u> </u>	ansactions ×				<u>م</u> ا	-> 88
V Check Out: revision 2	3 (1 entry)						ormation could b	e found - <u>build cache</u>		- <b>6</b>	<b>\$</b>
👔 2017 (Added)											

You should see the repository on your machine, but there's only a 2017 folder. Next, we'll sync the relevant files for you, and leave the rest out.



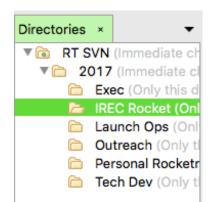
11. Select the 2017 folder in the navigator on the left, then Modify > Update...

Update working copy Get the latest changes from the repository or select another revision to update your working copy to.	<b>%</b> ]
Basic Advanced	
Update To: OHEAD Revision:	
Depth: Immediate children (files and directories)	
Cancel Upda	te

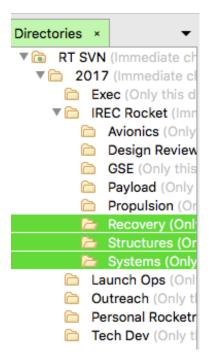
- a. Confirm the revision is HEAD
- b. Change the depth to "Immediate children"
- c. Click advanced, and then select "Set depth to working copy"

Update working copy Get the latest changes from the repository or select another revision to update your working copy to.
Basic Advanced
Set depth to working copy
This option changes the sticky depth of the working copy. It can be used to retrieve more parts of the repository tree, and to exclude parts of the tree from the current working copy.
Allow unversioned obstructions ("Force")
Include Externals
Cancel Update

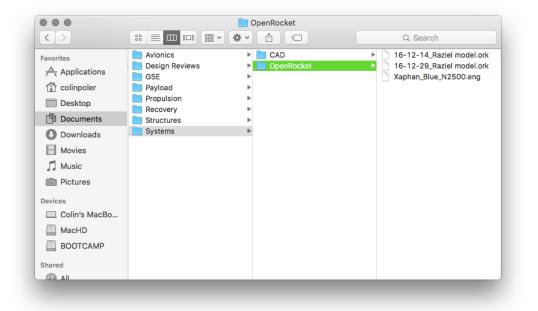
d. Click update



- 12. Expand the 2017 folder, select the "IREC Rocket" folder in the navigator on the left, then Modify > Update... (we're going to check out immediate children, just as above)
  - a. Confirm the revision is HEAD
  - b. Change the depth to "Immediate children"
  - c. Click advanced, and then select "Set depth to working copy"
  - d. Click update
- 13. Expand the "IREC Rocket" folder
  - a. Select the relevant folders for you in the navigator on the left (you can use the command button to select multiple folders)
    - i. For example, if you help with Structures and Recovery, you should select Structures, Recovery **and Systems** (so you can see all the latest systems info)



- b. Then Modify > Update... (this is not the same as above)
- c. Confirm the revision is HEAD
- d. Change the depth to "fully recursive"
- e. Click advanced, and then select "Set depth to working copy"
- f. Click update



- 14. Make sure you can find all the files you need in the Finder
- 15. You're connected to the RT SVN server! Have fun rocketing!