I was tasked with testing the source control product **SVN** with **PowerBuilder**. After beating my head against this task, and with the help of Gary Collins and Eduardo G, I was finally able to make this work. Here's how...

Environment

Windows 7, 32 bit o/s PB v12.1, b 7055 Single user

Required Tools

Slik-Subversion-1.6.16-win32.msi https://sliksvn.com/pub/

TortoiseSVN-1.6.16.21511-win32-svn-1.6.17.msi

<u>https://sourceforge.net/projects/tortoisesvn/files/1.6.16/Application/TortoiseSVN-1.6.16.21511-win32-svn-1.6.17.msi/download</u>

pbsccsetup_2.01.80.zip

http://www.antepedia.com/detail/p/pbscc-proxy.html

Please note that the **versions** are IMPORTANT! These are the **ONLY** versions of the code that will work correctly with PowerBuilder.

Installation

The required tools **must** be installed in this order:

1. PowerBuilder	Must be installed and working. Close it before you begin.
2. Slik-Subversion-1.6.16-x64.msi	After you have a working version of PB, install this first.
3. TortoiseSVN-1.6.16.21511-x64-svn-1.6.17.msi	Next, run this installer, then reboot your VM or PC.
4. pbsccsetup.exe	Extract this from the ZIP file, and run it. Ignore the "pbscc.ver" file.

5. After the three products have been installed and the PC/VM has been rebooted, open up the "Programs and Features" Control Panel to verify that the three products have been installed correctly.

• •		•		
🔀 Oracle Data Provider for .NET Help	Oracle Corporation	10/19/2011	1.16 MB	10.2.050
 BSCC Proxy		9/11/2017		
😼 Pdf995		2/12/2013		
🖾 Phish Alert	KnowBe4	11/9/2016	27.9 MB	1.1.5
PL/SQL Developer 11.0.5.1775	Allround Automations	10/3/2016		11.0.5.1775
E QVCS 3.10.6	Quma Software, Inc.	11/6/2012		
SAP InfoMaker 12.6	SAP AG	9/15/2015		12.6.0.3506
SAP PowerBuilder 12.6	SAP AG	9/15/2015		12.6.0.3506
 Slik Subversion 1.6.16 (x86)	SlikSvn & The SharpSvn Project	9/11/2017	9.51 MB	1.6.16.0
🐬 SQL Anywhere 11	iAnywhere Solutions, Inc.	11/6/2012	296 MB	11.1.2044
🐝 Sybase PowerBuilder 12.1	Sybase	3/1/2013		12.1.0.7055
Sybase Software Asset Management License Serv	Sybase, Inc.	11/7/2012		2.2.0.5
🔛 System Center Endpoint Protection	Microsoft Corporation	5/22/2016		4.7.214.0
TextPad 4.6	Helios	11/13/2012	3.11 MB	4.6.2
 TortoiseSVN 1.6.16.21511 (32 bit)	TortoiseSVN	9/11/2017	18.3 MB	1.6.21511
VMWare Tools	VMware Toc	0/2/2012	28.1 MB	8 3 17 17464

- 6. Once installed, Tortoise integrates itself to Windows Explorer as shown below.
 - a) Right-click on any folder to display the two new menu items now included on the right-click popup menu of *Windows Explorer*.

	🔡 C:\Work					
	Computer + Local Disk (C:) + Work +					
	File Edit View Tools Help					
	Organize 🔻 🔚 Open Include in library 💌 Share with 💌 Ne	w folder				
	T in scripts	Name				
		Name .				
	I D Wat	📙 ~Outlook				
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	Cor Open in new window	µ Testing				
	Do: 7-2IP Do: 7-2IP Scan with System Center Endpoint Protection	PB NL issue #1 - Nov 2002.pdf				
		Out of the office until 13-AUG-2003.				
Two new menu items	MIr Share with	ftp_test.txt				
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	1± ora RTortoiseSVN	PRT_1_v10.pbl				
	Restore previous versions	<u>5</u> ASCII Chart 0-127.gif				
	Include in library	🔄 OlanKnight_casual.jpg				
	E Send to	🚬 20091225_OlanKnight.jpg				
	Rei Cut	🔁 2011 ISUG Membership.pdf				
	E SY: Copy	🕼 ICABS4 Changes pbl_list v22.xlsx				
	🚡 Sy: Delete	🔁 health.pdf				
	🛨 <u>]</u> Ter Rename	💼 Olan Knight – Drive Mappings.docx				
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	Doos Date modified: 7/7/2017 5:18 PM					

- b) Create your source control repositories
 - INFO: SVN requires **two** repositories. One will be your MAIN repository and the other one will be your WORK repository. Choose a location that makes sense to you and to your folder structure.
 - NOTE: Both of these repositories MUST reside on your primary drive; in my case the "C" drive. The reason is that the Tortoise application is running a single user Server on the same machine. If this was a multi-user setup, we would have created the repository on a remote machine running a multi-user server like the one from CollabNet.

In my case, my PowerBuilder Local Root Directory is "C:\Apps12". All of my PowerBuilder v12.1 code resides under that top-level, or "root", directory. I added both repositories directly under the root folder:



i. Create two new folders, one for each repository. Name them appropriately. In my case my application is named ICABS4.



ii. Right-click on the MAIN repository, not the WORK repository, and select the "TortoiseSVN / Create Repository Here" option.

Expand		
Open in new window		
7-Zip	•	
Scan with System Center Endpoint Protection	n	
Share with	•	
SVN Checkout		
***TortoiseSVN	•	🔍 Repo-browser
Restore previous versions		Export
Include in library	•	
Send to		Create repository here
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Cut		Settings
Сору		? Help
Delete		About
Rename	1	
New	•	
Properties		

This takes a few seconds. Once complete, the previously empty folder will contain the following:



iii. While in the MAIN repository, select the "TortoiseSVN / Repo-browser" option:

E 🍌 APPS12	Name *	Date modified
ICABS4_repository	Expand	9/11/2017 1:54 PM
Julid12 Declass	Open in new window 7-Zip	9/11/2017 2:48 PM 9/11/2017 1:54 PM
E Decompile	Scan with System Center Endpoint Protection	9/11/2017 1:54 PM 9/11/2017 1:54 PM
	SVN Checkout	9/11/2017 1:54 PM
PB121 Runtimes test	Restore previous versions	Export
	Send to	Create repository here
SAVE	Cut Copy	Resettings ? Help
⊕ 🍌 shared ⊕ 🍌 web	Delete Rename	About .
🗄 📙 Boot	New	
🕌 Config.Msi	Properties	

This opens up the tool you use to look **inside** the repository.

Open up the Repo-browser and select the ADD FOLDER for each "project" to be added to the repository. This will take a few moments. It will add PBLS to the repository, and that's fine – leave them alone.

<pre># file:///C:/APPS12/_ICABS4_repository - R</pre>	lepository Bro	wser				
URL:file:///C:/APPS12/_ICABS4_repository				💌 💓 R	evision:	HEAD
File:///C:/APPS12/_ICAB54_repository Define:///C:/APPS12/_ICAB54_repository Define:///PB_CLAS5 PB_CLAS5 PB_Source	File build12 PB_CLASS PB_Source scc.ini	Extension .ini	Revision 25 1 4 3	Author olan.knight olan.knight olan.knight olan.knight	Size	Date 9/11/20 9/11/20 9/11/20 9/11/20
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children too	Curro (0 1080 8		Copy	to URL to clipbo	ard	Help

In my case I added two folders: PB_CLASS and PB_SOURCE.

iv. Right-click on the **WORK** repository, and select the "SVN Checkout" option.

	Expand
	Open in new window
	7-Zip 🕨
	Scan with System Center Endpoint Protection
	Share with
 1	SVN Checkout
R	TortoiseSVN
	Restore previous versions
	Include in library
	Send to 🔶
	Cut
	Сору
	Delete
	Rename
	New 🔸
	Properties

This displays the CHECKOUT properties. Populate them appropriately. Note that you will need to navigate to the appropriate folders by clicking on the <u>ellipses</u> to the right of each field.

🕷 Checkout	×
Repository URL of repository: file:///C:/APPS12/_ICABS4_repository Checkout directory: C:\APPS12\build12\iCABS_ICABS4_repository	
Checkout Depth Fully recursive Omit externals	
Revision • HEAD revision • Revision	Show log
OK Ca	ncel Help

Click OK, then wait for the processing to complete.

Once finished, the WORK repository will have the defined PROJECT repositories in place. 🖃 📗 APPS12 Name + Date modified Size ICABS4_repository .svn 9/11/2017 2:48 PM ICABS4 work repository 🌛 build12 9/11/2017 2:16 PM 🖃 鷆 build12 PB_CLASS 9/11/2017 2:07 PM 🕀 🚹 Class 🌛 PB_Source 9/11/2017 2:16 PM 🖃 🚹 compile 9/11/2017 2:10 PM 刻 scc.ini 🕀 퉲 PB_CLASS PB EXE

c) Open the PowerBuilder IDE, right click on the **Target**, and open the **Workspace Properties**.



Populate the properties with the appropriate information. The PROJECT field must list the WORK repository:

Properties of Workspace	2 X					
Targets Deploy Preview	Source Control					
Source Control System:	PBSCC Proxy					
User ID:	olan.knight					
Project:	C:\APPS12_ICABS4_work_repository					
Local Root Directory:	c:\APP512					
Log All Activity	<u>Connect</u> <u>A</u> dvanced					
Eile Name:						
Append to log file O Qverwrite log file						
 Require comments on check-In This project requires that I sometimes work offline Delete PowerBuilder-generated object files Perform diff on status update Suppress prompts to overwrite read-only files Show warning when opening objects not checked out Status Refresh Rate: 5 						
ОК Са	ncel <u>Apply</u> <u>H</u> elp					

Click APPLY. While processing you will get a prompt similar to this one:



Click YES.

When finished, click OK on the Worplace Properties window.

d) In PowerBuilder, display the list of objects in one of the PBLs that have been added into one of the PROJECTS of the MAIN repository. You will see the <u>standard PB IDE SCC icons</u> and options from this point on:



Right-click on any object, or any group of selected objects and the PB IDE SCC options are now available in the Library Painter right-click popup menu.

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🛋 Library - SCC - PBSCC Proxy	
Computer	icabs_corp.pbl in C:\APPS12\build12\compile\PB_Source
🖻 🗁 PB_Source 🗾	Name
(icabs4_compile.pbt	+ w_guery_maint_icabs
🕀 🛋 csgi_icabs.pbl	+ 🗌 w expl
🕀 🛋 icabs.pbl	
😥 🛋 icabs_asap.pbl	Edit Source
🖻 🛋 icabs_aur.pbl	Search
🖻 🛋 icabs_bill_print.pbl	
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🖻 🛋 icabs_bos.pbl	
🖻 🛋 icabs_cfg.pbl	
🗈 🛋 icabs_company.pbl	
🖻 🛋 icabs_corp.pbl	
🖻 🛋 icabs_dddw.pbl	+ Onvo_we have
🖻 🛋 icabs_dispute.pbd	+ 💆 n_cst_f 🖉 Delete
🕀 🛋 icabs_dispute.pbl	+ 💆 n_cst_0 👘
🕀 🛋 icabs_emi.pbl	+ 💆 n_cst_c 🔘 Regenerate
🕀 🛋 icabs_ext.pbl	+ 💆 n_cst_é 🛃 Export
🕀 🛋 icabs_fa.pbl	+ 🗑 m_quer 🗾
🕀 🛋 icabs_fnc.pbl	+ 🏶 calculat 📄 Print
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icabs_lerg.pbl	+ d_jurisc
icabs_license.pbd	+ d jurisc Properties
icabs_license.pbl	d jurisdictions
🕀 🛋 icabs_occ_adj.pbd	

Once an object has been added to source control, the other standard SCC options are available from the popup menu.

🚰 Computer 🗖 🗵	icabs_aur.pbl in C:\APPS12\build12\compile\PB_Source	
PB_Source	Name	Ver Modi
icabs4_compile.pbt	w_field_name_topic	12 10/1
🕀 🔿 csgi_icabs.pbl	w_backout_usage	12 10/1
🕀 📥 icabs.pbl	🚬 🗔 w aur up 🧭 Edit	2 10/1
🕀 🛋 icabs_asap.pbl		2 10/1
🕀 🔿 icabs_aur.pbl		2 10/1
🕀 🛋 icabs_bill_print.pbl	, w aur pi 🔗 Search	2 1/11
🔁 🔿 icabs_billing.pbl		-2 4/20
🕀 🔿 icabs_bos.pbl		2 1/24
🕀 🔿 icabs_cfg.pbl		2 10/1
🗈 🔿 icabs_company.pbl		-2 10/1
🕀 🔿 icabs_corp.pbl	Copy	2 10/1
🕀 🔿 icabs_dddw.pbl		2 10/1
🕀 🔿 icabs_dispute.pbd		2 10/1
🕀 🛋 icabs_dispute.pbl	• 😋 u_tabpg_ 🖉 Delete	2 10/1
🕀 🚔 icabs_emi.pbl	• Ou_tabpg_	2 10/1
🕀 🔜 icabs_ext.pbl	• gu_tabpg_ 🔮 Regenerate	2 10/1
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E 🔁 icabs_fnc.pbl	• 💆 u_tabpg_	2 10/1
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La cabs_payment.ppi	Remove from Source Control	1 1/27
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	Bin diery	1 1/23
	Show History	1 1/40
		1 1/4/
		1 1/4/
	Refresh Status	1 1/4/2
	Properties	1 1/4/2
		1 1/4/2
	. d_wc_clli_list_fccid	11 1/4/2

- e) Go to the first PBL in the PROJECT, select all of the objects, right-click to get the popup menu, then select the ADD TO SOURCE CONTROL option.
 - In the Library Painter, wait for the list of objects to be fully loaded, then do a SELECT ALL on those objects.
 Hover the mouse over the selected objects and right click, then select ADD TO SOURCE CONTROL.
 You'll get a dialog like this that allows you to determine which objects are to be added.

ld to Source Control	1
<u>F</u> iles:	
♥::\apps12\build12\compile\pb_source\icabs_emi.pbl(d_emi.srd)	ок
✓c:\apps12\build12\compile\pb_source\icabs_emi.pbl(d_emi_f_null_bill_date	
✓c:\apps12\build12\compile\pb_source\icabs_emi.pbl(d_emi_xref.srd)	Cancel
✓c:\apps12\build12\compile\pb_source\icabs_emi.pbl(d_emi_xref_null.srd)	
✓c:\apps12\build12\compile\pb_source\icabs_emi.pbl(d_find_emi_rcrd.srd)	De <u>s</u> elect All
✓c:\apps12\build12\compile\pb_source\icabs_emi.pbl(d_view_detail.srd)	
✓c:\apps12\build12\compile\pb_source\icabs_emi.pbl(dddw_emi_xref_clli.sr	<u>A</u> dvanced,,,,

Click OK.

PI	SCC Proxy			×
	- Description			- ۱
	History :		•	
	Message :	Baseline Powe	Builder code for ICABS4, b0160.	
	Path :	command : Add C:\APPS12\bu C:\APPS12\bu	d ild12\compile\PB_Source\d_emi.srd ild12\compile\PB_Source\d_emi_f_null_bill_date.srd	
		•		
			OK Cancel	

Next, you'll get a dialog from the PBSCC Proxy.

Here I have entered <u>my information</u> into the MESSAGE field.

Here is what the Library Painter looks like at this point.

ools Window Help				_	
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Library - Scc-Posccrioxy		-1			
Computer		Wicabs_emi.pbl in C:\APPS12\build12\compile\PB_Source			
PB_Source	<u> </u>	Name	Ver Modification Date		
icabs4_compile.pbt		+ 🍯 u_tabpg_evaluate_emi	1/17/2014 11:04:29	9	53
🕀 🛋 csgi_icabs.pbl		+ 💆 u_tabpg_emi_records	10/18/2011 09:41:14	9	69
tabs.pbl		+ 📃 dddw_emi_xref_usage_period_null_bill_dt	1/4/2011 18:36:07	9	4
Itabs_asap.pbi		+ 🔲 dddw_emi_xref_usage_period	1/4/2011 18:36:07	9	4
		+ 📃 dddw_emi_xref_tt_null_bill_date	1/4/2011 18:36:07	9	5
		+ 📃 dddw_emi_xref_tt	1/4/2011 18:36:07	9	5
		+ 📃 dddw_emi_xref_juris_null_bill_date	1/4/2011 18:36:07	9	5
		+ 🔲 dddw emi xref juris	1/4/2011 18:36:07	9	e
		. dddw emi xref clli null bill date	1/4/2011 18:36:07	9	4
E a icabs_company.pbi		dddw emi xref clli	1/4/2011 18:36:06	9	4
	DRECC Drown				48
	PDSCC Proxy		j.		-
	Description			٦ ۲	ŝ
itabs_emi.pol	History :		-	ĥ	
Itabs_ra.pbi	Message : Ba	aseline PowerBuilder code for ICABS4, b0160.	A.	ľ	1.
				P	
icabs_license.pbd					
icabs_order.pbi					
Table reperting abl					
			*		
	Path: co	mmand : Add	•		
	C:	VAPPS12\build12\compile\PB_Source\d_emi.srd			
icabs_secabio.pbi	C:	\APPS12\build12\compile\PB_Source\d_emi_f_null_bill_c	late.srd		
in in iteds_secontrippi in iteds_secontrippi	1				
the secal 13 pb					
teas_secab14.pbl					
icabs_secab15.pbl		OK Cancel			
H → icabs_sectors.pbi					

Here's a close up showing the "+" signs next to each object that has not yet been put into source control. Wicabs_emi.pbl in C:\APPS12\build12\compile\PB_Source ٠ Name 🕂 🍯 u_tabpg_evaluate_emi 📙 u_tabpg_emi_records dddw_emi_xref_usage_period_null_bill_dt dddw_emi_xref_usage_period 📃 dddw_emi_xref_tt_null_bill_date 🛛 📃 dddw_emi_xref_tt | dddw_emi_xref_juris_null_bill_date 📃 dddw_emi_xref_juris 🛛 📃 dddw_emi_xref_clli_null_bill_date | 📃 dddw_emi_xref_clli BSCC Proxy Description History : Message : Baseline PowerBuilder code for ICABS4, b0160.

Click OK on the PBSCC PROXY dialog box.

After the processing has finished, the <u>"+"</u> is changed to a <u>solid circle</u>, indicating that the object is now in source control.

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Library - SCC - PBSCC Proxy			
Computer	🔲 🗙 🔯 icəˈɔs_emi.pbl in Ci	:\APPS12\build12\compile\PB_Source	
PB_Source	▲ Name	Ver	Modification Date
icabs4_compile.pbt	• 🔏 u_tabpg_evalua	ate_emi 43	1/17/2014 11:04:29
🕀 🔿 csgi_icabs.pbl	📕 🔏 u_tabpg_emi_re	ecords 43	10/18/2011 09:41:14
icabs.pbl	📕 🔒 🔲 dddw_emi_xref	_usage_period_null_bill_dt 43	1/4/2011 18:36:07
· icabs_asap.pbl	📕 🔒 🔲 dddw_emi_xref	_usage_period 43	1/4/2011 18:36:07
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	📕 🔒 🔲 dddw_emi_xref	_tt 43	1/4/2011 18:36:07
	📕 🔒 🔲 dddw_emi_xref	_juris_null_bill_date 43	1/4/2011 18:36:07
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icabs_crg.pbi	📕 🔒 🔲 dddw_emi_xref	_clli_null_bill_date 43	1/4/2011 18:36:07
icabs_company.poi	🔤 🔒 📃 dddw_emi_xref	_clli 43	1/4/2011 18:36:06
teass_corp.per	📃 🔒 🔲 d_view_detail	43	1/4/2011 18:36:06
t → icabs_dispute.pbl	📃 🚛 🗐 d_find_emi_rcro	d 43	1/4/2011 18:36:06
icabs emi.pbl	📕 🚛 d_emi_xref_nul	I 43	1/4/2011 18:36:06
icabs_ext.pbl	📕 🚛 d_emi_×ref	43	1/4/2011 18:36:06
icabs_fa.pbl	📕 🚛 d_emi_f_null_bi	II_date 43	1/4/2011 18:36:06
🔢 🕀 🛋 icabs_fnc.pbl	d_emi	43	9/14/2006 10:12:25
🔢 🕀 🛋 icabs_ic.pbl			
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ii. Repeat the steps listed above for every PBL in the PROJECT.

f) Copy the MAIN REPOSITORY to a different drive.

This will be your back-up copy of the MAIN source control repository.

Update the copy at least once a week, and DATE the copied repositories. I recommend that you maintain *at least* one month's worth of back-ups at all times.

A typical SAVE folder might look like this:

<u>Different drive</u>	Back-up folder	Back-up re	positories, each on	<u>e dated</u>	
M:\Dev PB12\Source Control\ICA Image: Source Control () Ima	B54_repository ATLCSGI/ILE03.csgicorp.o	com\DevGrp) (M:) ★ Dev F	B12 ▼ Source Control ▼ IC	ABS4_repository →	
Dev (\\ATLCSGIFILE03.csgicory _PowerBuilder IDE CarrierBilling Dev PB12 APPS12 Database Eclipse 4.2.1 Java Licenses NextVersion Online Help QVCS Source Control ICAB54_repository tools	p.com\DevGrp) (M:)	Name *	repository repository repository repository repository	Date modified 9/12/2017 11:48 AM 9/12/2017 11:48 AM 9/12/2017 11:48 AM 9/12/2017 11:48 AM 9/12/2017 11:48 AM	Size

g) Please remember that this source control configuration is for a SINGLE USER.

The way for others to see your code is for them to:

- 1. Have Person B set up their environment **exactly** as described in this article.
- 2. Copy the back-up repository desired, which will usually be the latest version, and replacing the MAIN repository on their primary drive, which is usually the "C" drive.
- 3. Open up their PB IDE, navigate to the desired object(s), select them, right-click, and select the GET LATEST VERSION option.

This will work as long as the standard PB object rules are observed. Example: an ancestor object has not been [modified but not updated] in person B's library.

If you want a multi-user setup you will need to put the MAIN repository on a drive accessible to all of the users, and you will need a multi-user SERVER for SVN – like the one from CollabNet. I have not done this.

Please let me know if you have any questions.

Olan Knight