**A STEP-BY-STEP GUIDE USING SOFTWARE DEVELOPMENT KIT (SDK)
FOR PRIMAVERA VERSION 6.x**

SCHEDULE PREPARATION

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04 August 10

This short paper is a simple and easy guide in preparing a program or schedule using Software Development Kit (SDK). This tutorial assumes that you know the basics of Primavera 6.x. With this tutorial, even you're a novice you can prepare the program very easy. Also, another premise is you have already SDK program installed in your PC.

You can find in this exercise a very simple small project just to give you an overview on how you can deal with the importing of all data you have in spreadsheet to Primavera 6.x. I provided a sample of Bill of Quantity (BOQ) and Manpower Tabulation for your resources' reference.

At the end of this exercise, you will come up with the schedule shown below. Just follow the step-by-step instructions and you can achieve the same. Goodluck!
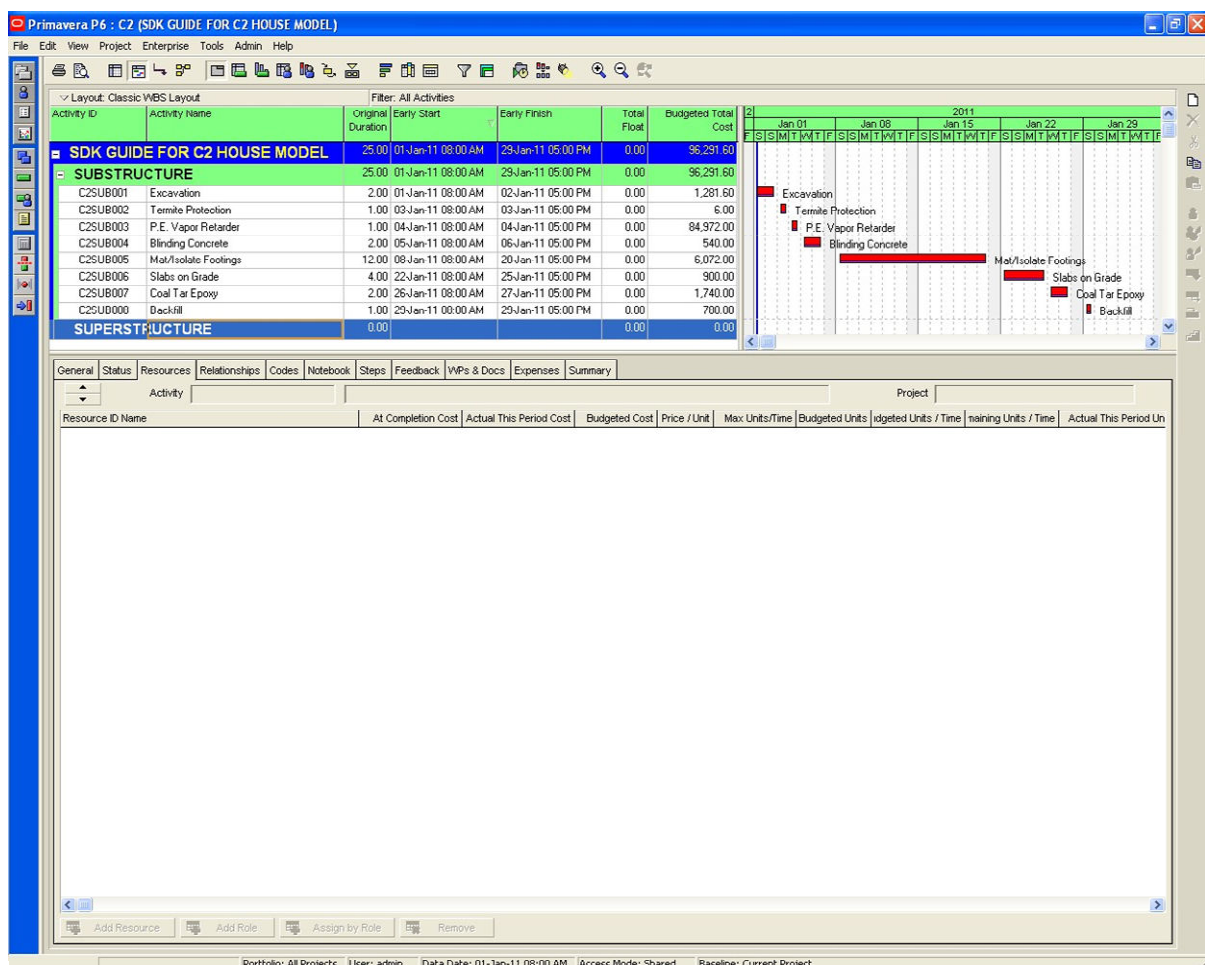
To start with, first you have to create a New Project and make its Project ID named "C2" and Project Name as "SDK Guide for C2 House Model" or any Project Name you like. See illustration below.

Before you start, take a glance first on the sample Bill of Quantity and Manpower Tabulation that you will be using as your reference in this exercise.

SAMPLE BOQ

Activity ID	Activity Name	Budgeted Qty.	Unit	Price/Unit
	SUBSTRUCTURE			
10.01.a	Excavation	89.00	m³	14.40
10.01.b	Backfill (to bottom of slab on grade)	3.00	m³	2.00
10.01.2	Reinforced Concrete: (Mat/Isolate Footings)	97.00	m³	876.00
10.01.3	Reinforced Concrete: (Structural and non-Structural Slabs on Grade)	1.00	m³	540.00
10.01.4	Blinding Concrete, 50mm thick	253.00	m²	24.00
10.01.6	Polyethylene Vapor Retarder (Barrier)	250.00	m²	3.60
10.01.7	Coal Tar Epoxy	348.00	m²	5.00
10.01.8	Termite Protection	1.00	Lot	780.00

SAMPLE MANPOWER TABULATION

Activity ID	Activity Name	Budgeted Qty.	Duration	Price/Unit
	SUBSTRUCTURE			
10.01.a	Excavation	3.70	2	896.00
C2-L	Labor	3.00		96.00
C2-BO	Backhoe Operator	0.25		200.00
C2-LO	Loader Operator	0.25		200.00
C2-DD	Dump Truck Driver	0.10		200.00
C2-WD	Water Tanker Driver	0.10		200.00
10.01.b	Backfill (to bottom of slab on grade)	2.45	1	696.00
C2-L	Labor	2.00		96.00
C2-LO	Loader Operator	0.25		200.00
C2-DD	Dump Truck Driver	0.10		200.00
C2-WD	Water Tanker Driver	0.10		200.00
10.01.2	Reinforced Concrete: (Mat/Isolate Footings)	9.00	12	456.00
C2-L	Labor	4.00		96.00
C2-C	Carpenter	2.00		120.00
C2-M	Mason	1.00		120.00
C2-SF	Steel Fixer	2.00		120.00
10.01.3	Reinforced Concrete: (Structural and non-Structural Slabs on Grade)	9.00	4	456.00
C2-L	Labor	4.00		96.00
C2-C	Carpenter	2.00		120.00
C2-M	Mason	1.00		120.00
C2-SF	Steel Fixer	2.00		120.00
10.01.4	Blinding Concrete, 50mm thick	5.50	2	336.00
C2-L	Labor	4.00		96.00
C2-C	Carpenter	1.00		120.00
C2-M	Mason	0.50		120.00
10.01.6	Polyethylene Vapor Retarder (Barrier)	3.00	1	96.00
C2-L	Labor	3.00		96.00
10.01.7	Coal Tar Epoxy	2.00	2	120.00
C2-PA	Painter	2.00		120.00
10.01.8	Termite Protection	2.00	1	240.00
C2-ST	Subcontractor (Anti-Termite)	2.00		240.00

Step 1. In this exercise you will create Two (2) Work Breakdown Structure (WBS) Names only, Substructure and Superstructure. But this exercise focused only in Substructure. Open your Excel file for WBS Macro then click WBS tab to set your WBS Name. Proceed to Step 2.
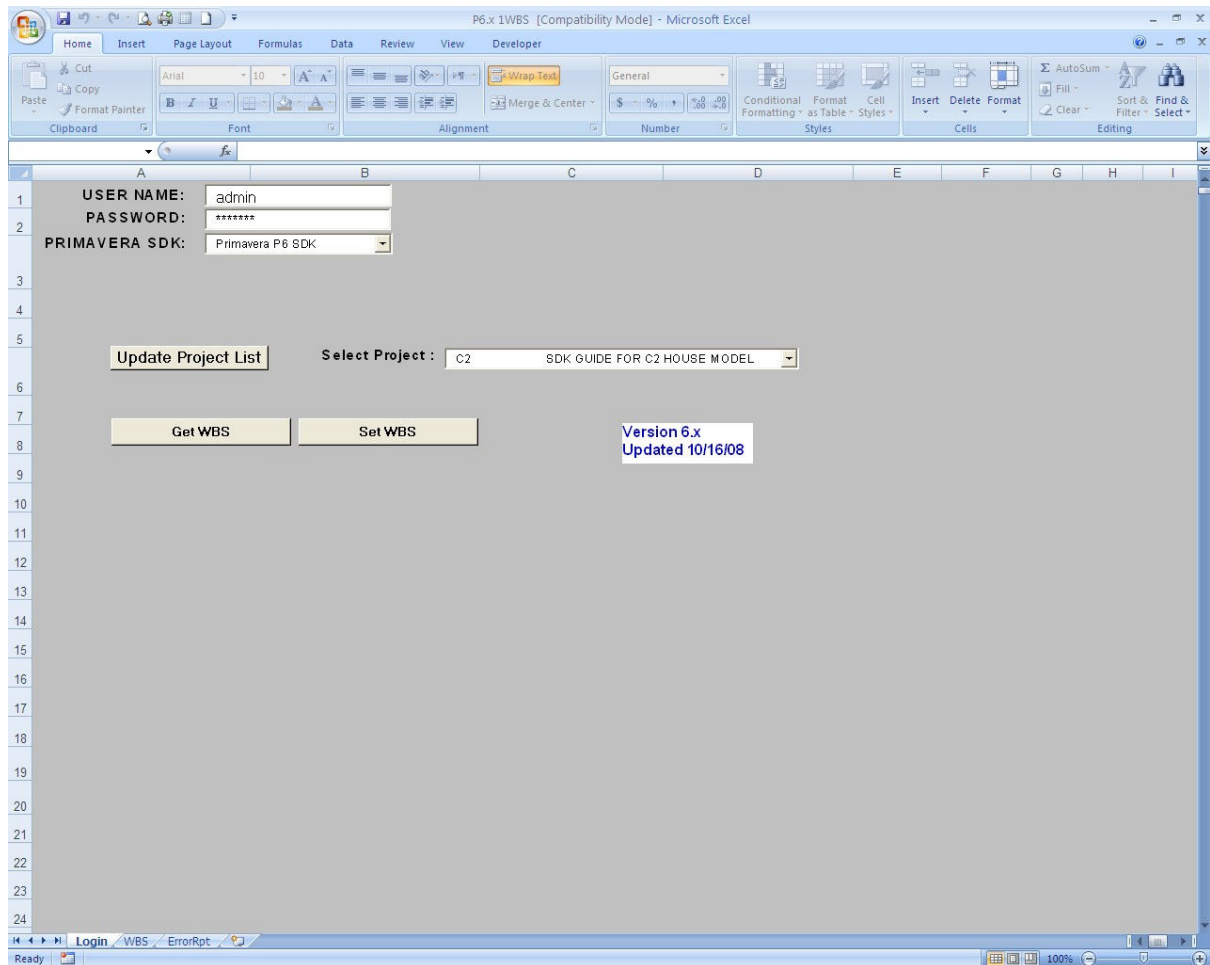
Step 2. After filling up the WBS Names, WBS Codes and Parent WBS ID's, Go to Login tab then Put your USER NAME and PASSWORD. Update Project List and select C2 Project ID then Set WBS. Open your Primavera P6.x program and check your WBS. If it's ok, then proceed to the next step.

Note:

If your Primavera 6.x software is open at the same time with your Excel File Macro, you must close the Primavera 6.x software first and re-open it to load up what you have done in your Excel File. Do this to the rest of this exercise everytime you will Set your tasks.

Step 3. Setting up your Activities. Open your Activity 6.x Excel File. Put your USER NAME and PASSWORD then Update Project List. Select C2 Project. Click Activity Details tab to setup your Activities. Proceed to the next Step.
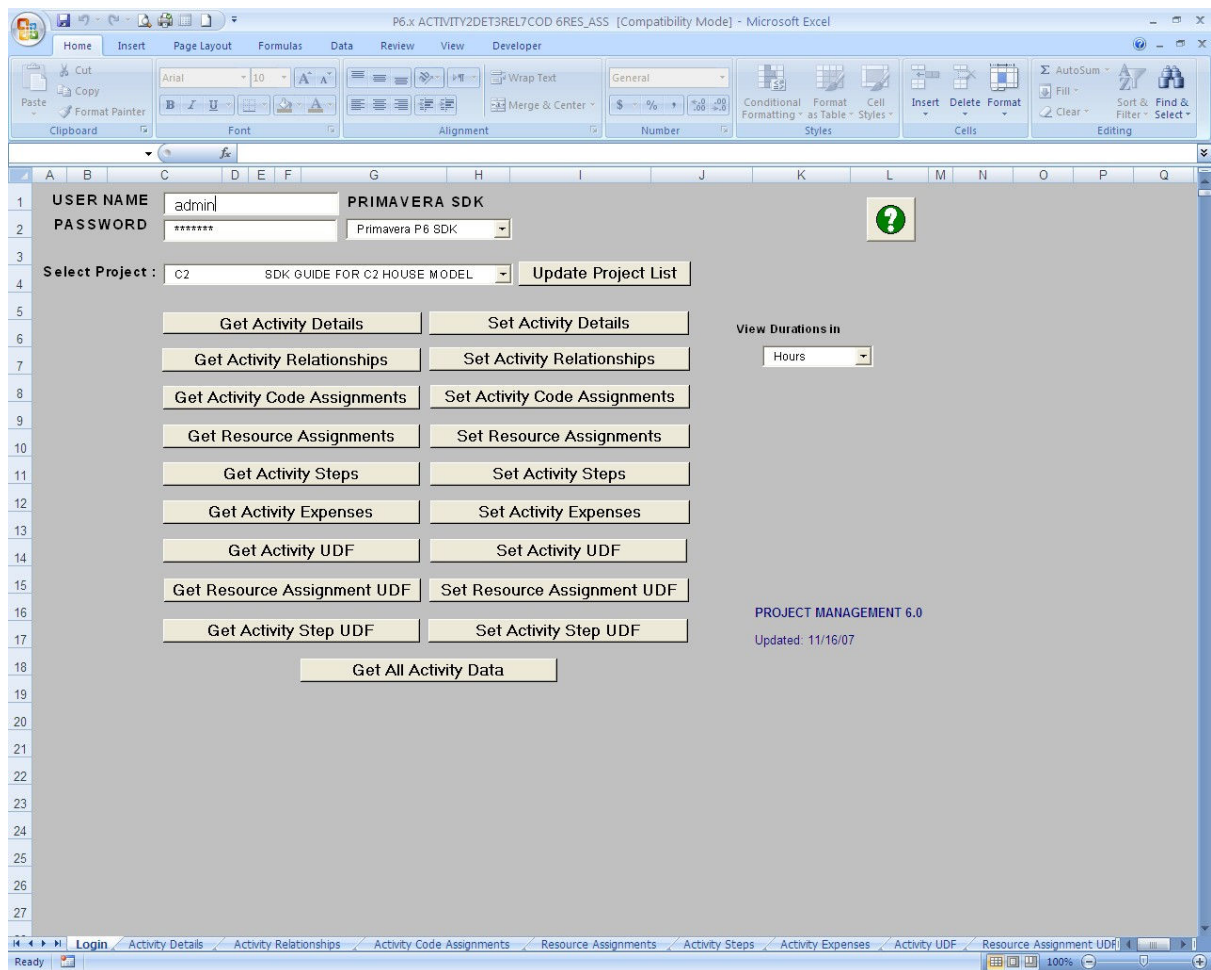
Step 4. Setting up your activity details to SUBSTRUCTURE WBS. In doing this, see WBS column, C2.SUB means C2 is the Parent WBS ID and SUB means your WBS Code and put a Dot separator. For this sample project, Pick STANDARD for your Calendar and make your activities all Task Dependent. Activity ID is self explanatory in its nature and the Duration is just an assumption. After finishing the tasks, Go to Login Tab then Set Activity Details. Again, Open your Primavera 6.x and check if all activities were there. If OK, then proceed to next step.

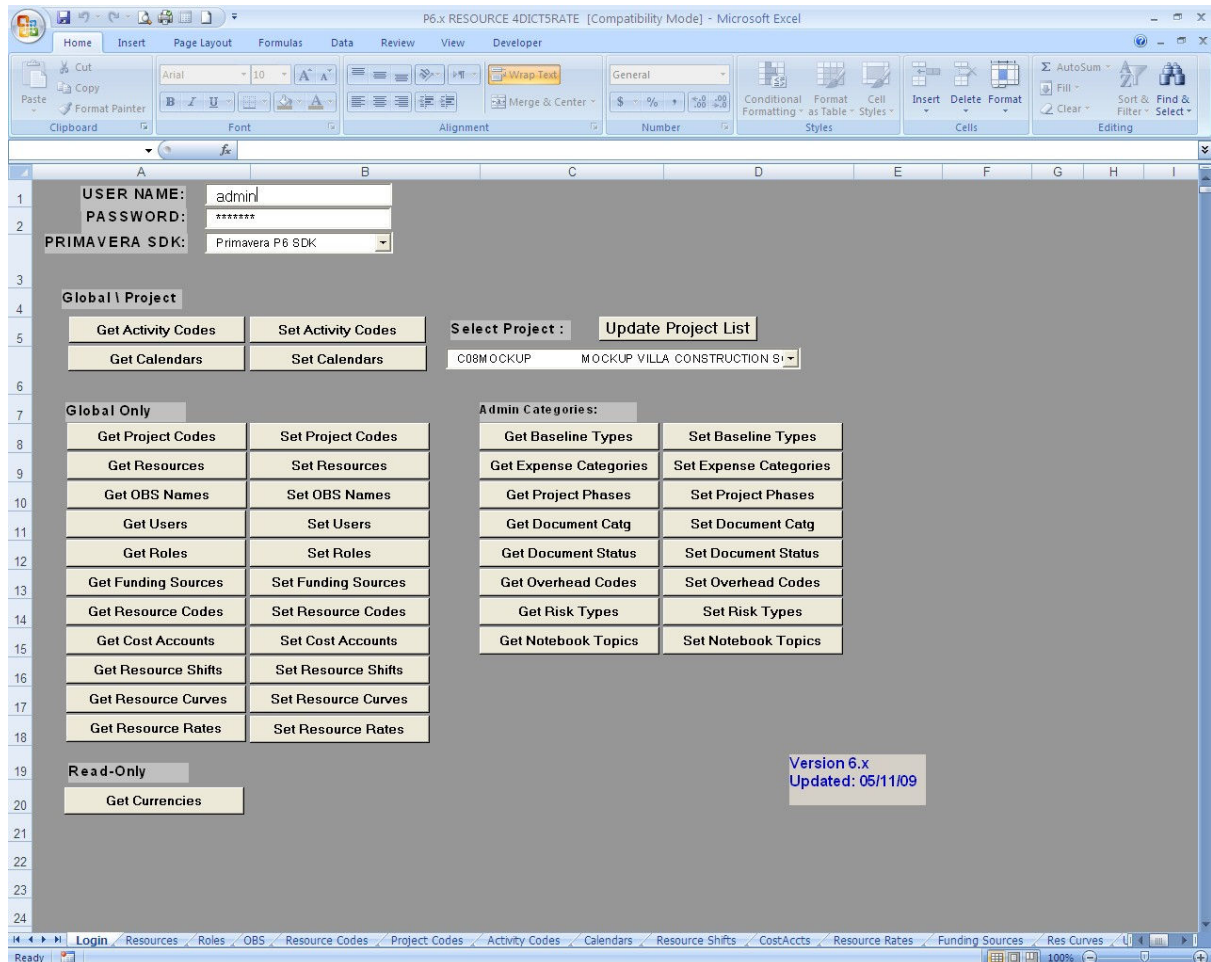|	A	B	C	D	E	F	G	H	I	J	K	L
1			ACTIVITY DETAILS									
			Project - C2	SDK GUIDE FOR C2 HOUSE MODEL		Duration Setting - Days						
2	Internal ID (Read-Only)	Activity ID	Description	Original Dur.	Remaining Dur.	Duration Type	% Complete	% Complete Type	Calendar	Activity Type	WBS	Primary Cstr. Type
3		C2SUB001	Excavation	2	2				STANDARD	TT_Task	C2.SUB	
4		C2SUB002	Termite Protection	1	1				STANDARD	TT_Task	C2.SUB	
5		C2SUB003	P.E. Vapor Retarder	1	1				STANDARD	TT_Task	C2.SUB	
6		C2SUB004	Blinding Concrete	2	2				STANDARD	TT_Task	C2.SUB	
7		C2SUB005	Mat/Isolate Footings	12	12				STANDARD	TT_Task	C2.SUB	
8		C2SUB006	Slabs on Grade	4	4				STANDARD	TT_Task	C2.SUB	
9		C2SUB007	Coal Tar Epoxy	2	2				STANDARD	TT_Task	C2.SUB	
10		C2SUB008	Backfill	1	1				STANDARD	TT_Task	C2.SUB	
11												
12												

Step 5. Set your Relationships. Click Activity Relationship Tab then type all you see in the screenshots provided below. For Relationship Type, I used Finish-To-Start only. You can try also other Relationships and put some lags if you like. After finishing the tasks, Go to Login Tab then Set Activity Relationship. Again, Open your Primavera 6.x and check if all activities were there. If OK, then proceed to next step.

	A	B	C	D	E	F	G	H
1		ACTIVITY RELATIONSHIPS						
		Project - C2	SDK GUIDE FOR C2 HOUSE MODEL		Duration Setting - Days			
2	Internal ID (Read-Only)	Activity ID	Project	Predecessor	Pred Project	REL TYPE	REL LAG	Driving (Read-Only)
3		C2SUB002	C2	C2SUB001	C2	PR_FS	0	
4		C2SUB003	C2	C2SUB002	C2	PR_FS	0	
5		C2SUB004	C2	C2SUB003	C2	PR_FS	0	
6		C2SUB005	C2	C2SUB004	C2	PR_FS	0	
7		C2SUB006	C2	C2SUB005	C2	PR_FS	0	
8		C2SUB007	C2	C2SUB006	C2	PR_FS	0	
9		C2SUB008	C2	C2SUB007	C2	PR_FS	0	
10								
11								
12								

Step 6. Setting up your Material Resources. ***Before you proceed, create a Resource ID <u>C2</u> first and Resource Name <u>C2 RESOURCES FOR SDK GUIDE</u> (or any Resource Name you like) .*** Then, Open your Dictionary 6.x Excel File for Resources Details. Put your USER NAME and PASSWORD then Update Project List. Select C2 Project. Click Resources tab to setup all your Resources. Proceed to Step 2.

Step 7. Set your Material Resource Dictionary. Click Resources Tab then copy the listed sample below. In this exercise, I separated the setting up for Material and Manpower to give way first to Material Resources Rates and Assignments. After finishing the tasks, Go to Login Tab then Set Resources. Once again, Open your Primavera 6.x and check if all Resources were there. You will notice that your reources category is in Labor. Change it to material by clicking the labor then CTLRL+E to copy Fill Down. If OK, then proceed to next step.

	Resource ID	Resource Name	Title	Employee ID	Office Phone	Other Phone	E-Mail Address	Parent Resource ID	Default Units/Time
3	10.01.a	Excavation						C2	
4	10.01.b	Termite Protection						C2	
5	10.01.2	P.E. Vapor Retarder						C2	
6	10.01.3	Blinding Concrete						C2	
7	10.01.4	Mat/Isolate Footings						C2	
8	10.01.6	Slabs on Grade						C2	
9	10.01.7	Coal Tar Epoxy						C2	
10	10.01.8	Backfill						C2	

Step 8 . Set your Material Resource Rates. Click on Resource Rates Tab, copy the Resource ID's and Description in the sample BOQ provided on the outset of this exercise. Effective Date and Max Units/Time are just an assumption. You can change as you wish. But to have the same outcome for this exercise just follow the same. After finishing the tasks, Go to Login Tab then Set Resource Rates. Once again, Open your Primavera 6.x and check if all Resource Rates were there. If OK, then proceed to next step.

RESOURCE RATES

|	Resource ID	Description	Shift Number	Effective Date	Max Units/Time	Price/Unit	Price/Unit2
3	10.01.a	Excavation		01-Jan-11	0	14.40	
4	10.01.b	Termite Protection		01-Jan-11	0	2.00	
5	10.01.2	P.E. Vapor Retarder		01-Jan-11	0	876.00	
6	10.01.3	Blinding Concrete		01-Jan-11	0	540.00	
7	10.01.4	Mat/Isolate Footings		01-Jan-11	0	24.00	
8	10.01.6	Slabs on Grade		01-Jan-11	0	3.60	
9	10.01.7	Coal Tar Epoxy		01-Jan-11	0	5.00	
10	10.01.8	Backfill		01-Jan-11	0	780.00	

Step 9. In setting up your Material Resource Assignments, Open your Activity 6.x Excel File. Put your USER NAME and PASSWORD then Update Project List. Select C2 Project. Click Resource Assignment Tab to setup your Activities. Proceed to the next Step.

Note:

Resource Assignments for Material and Manpower is located in this Excel File.

Step 10. Set your Material Resource Assignment by clicking the Resource Assignment Tab. Budgeted Units and Remaining Budgeted Units is just the same for a baseline schedule. See Budgeted Units on our sample BOQ aforementioned in the beginning of this paper. After finishing the tasks, Go to Login Tab then Set Resource Assignments. Once again, Open your Primavera 6.x and check if all Resources were correctly assigned. If OK, then proceed to next step.

	A	B	C	D	E	F	G	H	I	J
RESOURCE ASSIGNMENTS										
1		Project - C2		SDK GUIDE FOR C2 HOUSE MODEL						Duration Set
2	Internal ID (Read-Only)	Activity ID	Resource ID	Role ID	Cost Account	Budgeted Units	Actual Units	Remaining Units	Rem Units \ Time	Budgeted Cost
3		C2SUB001	10.01.a			89.00		89.00		
4		C2SUB002	10.01.b			3.00		3.00		
5		C2SUB003	10.01.2			97.00		97.00		
6		C2SUB004	10.01.3			1.00		1.00		
7		C2SUB005	10.01.4			253.00		253.00		
8		C2SUB006	10.01.6			250.00		250.00		
9		C2SUB007	10.01.7			348.00		348.00		
10		C2SUB008	10.01.8			1.00		1.00		
11										
12										

Step 11. Setting up your Manpower Resources. Open your Dictionary 6.x Excel File for Resources Details. Put your USER NAME and PASSWORD then Update Project List. Select C2 Project. Click Resources tab to setup all your Resources. Same thru with Material, the procedure is just the same. Proceed to Step 2.
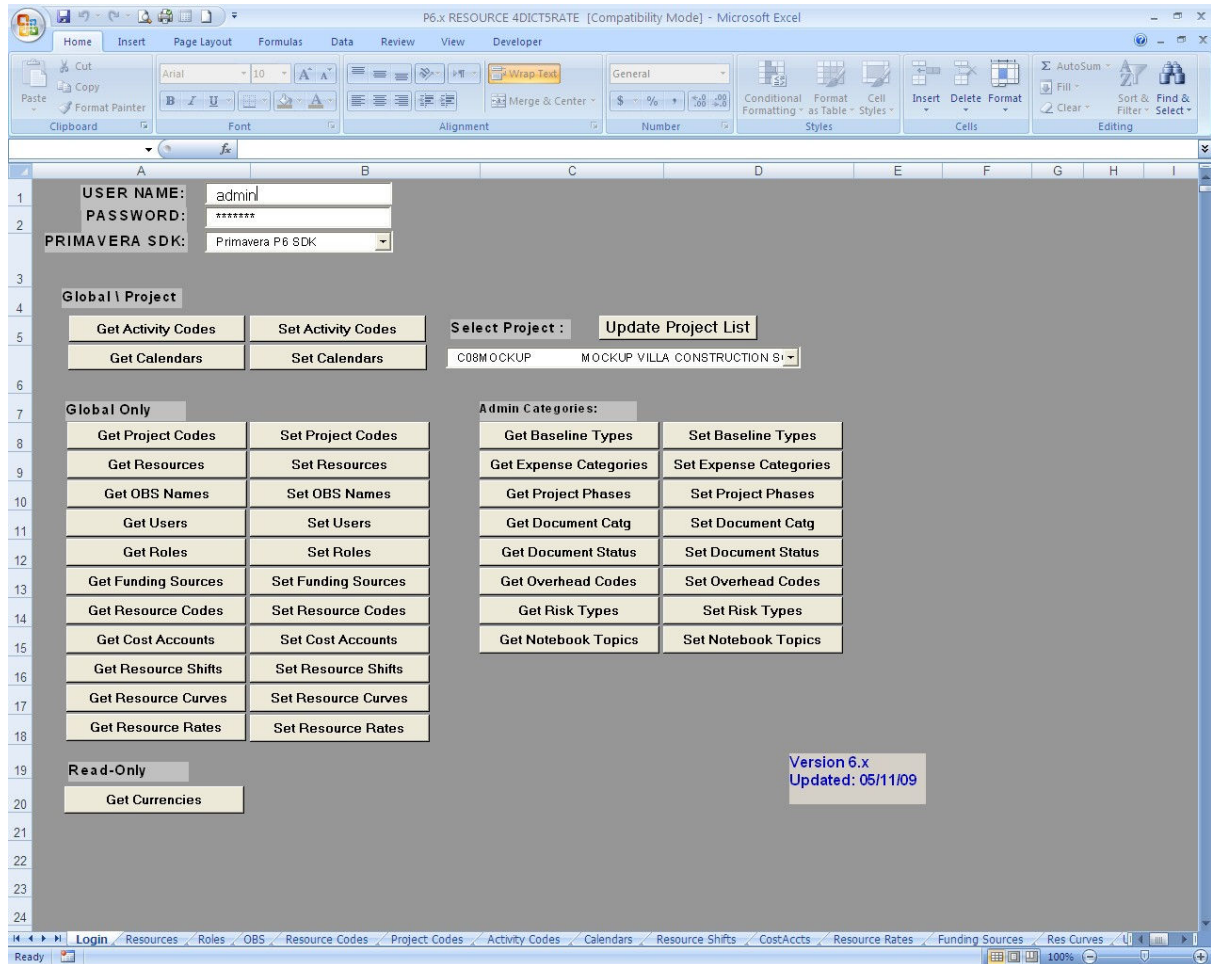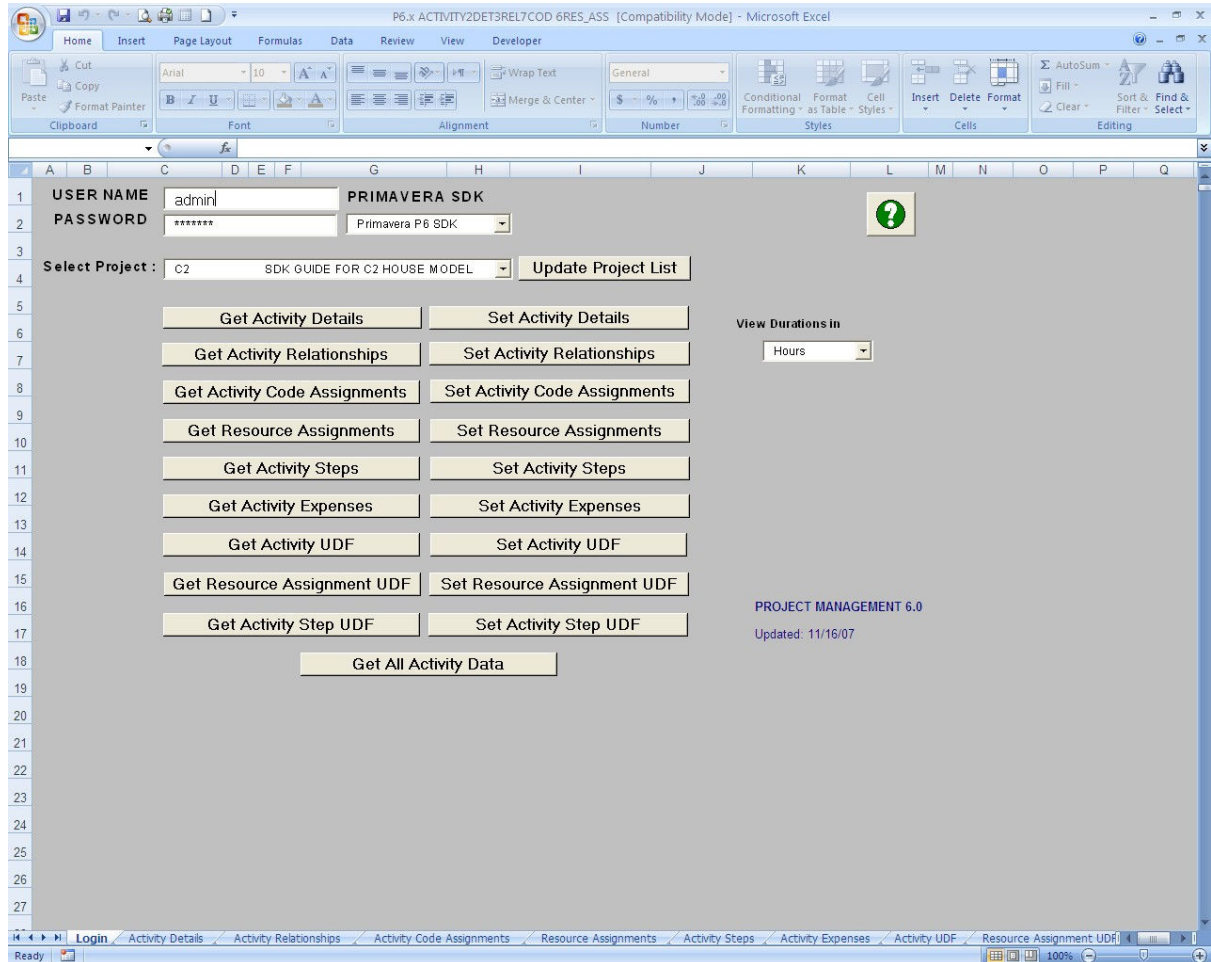
Step 12. Set your Manpower Resource Dictionary. Click Resources Tab then copy the listed sample below. After finishing the tasks, Go to Login Tab then Set Resources. Once again, Open your Primavera 6.x and check if all Resources were there. You will notice that your reources category is in Labor already. If OK, then proceed to next step.

Step 13. Set your Manpower Resource Rates. Click on Resource Rates Tab, copy the Resource ID's and Description in the sample BOQ provided on the outset of this exercise. Effective Date and Max Units/Time are just an assumption. You can change as you wish. But to have the same outcome for this exercise just follow the same. After finishing the tasks, Go to Login Tab then Set Resource Rates. Once again, Open your Primavera 6.x and check if all Resource Rates were there. If OK, then proceed to next step.

Step 14. In setting up your Manpower Resource Assignments, Open your Activity 6.x Excel File. Put your USER NAME and PASSWORD then Update Project List. Select C2 Project. Click Resource Assignment Tab to setup your Activities. Proceed to the next Step.

Step 15. Set your Manpower Resource Assignment by clicking the Resource Assignment Tab. Budgeted Units and Remaining Budgeted Units is just the same for a baseline schedule. See Budgeted Units on our sample BOQ aforementioned in the beginning of this paper. After finishing the tasks, Go to Login Tab then Set Resource Assignments. Once again, Open your Primavera 6.x and check if all Resources were correctly assigned. If OK, then proceed to next step.

RESOURCE ASSIGNMENTS

Project - C2   SDK GUIDE FOR C2 HOUSE MODEL   Duration Setting - Hours

Internal ID (Read-Only)	Activity ID	Resource ID	Role ID	Cost Account	Budgeted Units	Actual Units	Remaining Units	Rem Units \ Time	Budgeted Cost	Actual Cost	Remaining Cost
	C2SUB001	C2-L			3.00		3.00				
	C2SUB001	C2-BO			0.25		0.25				
	C2SUB001	C2-LO			0.25		0.25				
	C2SUB001	C2-DD			0.10		0.10				
	C2SUB001	C2-WD			0.10		0.10				
	C2SUB002	C2-ST			2.00		2.00				
	C2SUB003	C2-L			3.00		3.00				
	C2SUB004	C2-L			4.00		4.00				
	C2SUB004	C2-C			1.00		1.00				
	C2SUB004	C2-M			0.50		0.50				
	C2SUB005	C2-L			4.00		4.00				
	C2SUB005	C2-C			2.00		2.00				
	C2SUB005	C2-M			1.00		1.00				
	C2SUB005	C2-SF			2.00		2.00				
	C2SUB006	C2-L			4.00		4.00				
	C2SUB006	C2-C			2.00		2.00				
	C2SUB006	C2-M			1.00		1.00				
	C2SUB006	C2-SF			2.00		2.00				
	C2SUB007	C2-PA			2.00		2.00				
	C2SUB008	C2-L			2.00		2.00				
	C2SUB008	C2-LO			0.25		0.25				
	C2SUB008	C2-DD			0.10		0.10				
	C2SUB008	C2-WD			0.10		0.10				

That's it for Schedule Preparation! Now you have the idea how this macro works for Primavera 6.x then you can try this as well for updating purposes. I hope that you enjoyed it. CHEERS!!!