Welcome to the Eastwood Harris Pty Ltd Primavera P6 Versions 8.2 EPPM Web Tool 2 day training course “Enterprise Portfolio Project Management”

**Course Aim**

This course aim to teach participants:
- Introduction to the user interface,
- How to create and plan projects without resources including creating the WBS, adding activities, relationships and constraints,
- Formatting, filters, layouts and printing,
- Assigning Baselines and updating an un-resourced project,
- Adding and assigning Roles and Resources,
- Updating a Resourced project,

Successful completion of the workshops is required to complete the course.

**Course Agenda**

**DAY 1**

1 - Introduction
2 - Creating a Project Plan
3 - Starting Up and Navigation
4 - Creating a New Project
5 - Defining Calendars
6 - Creating a Primavera Project WBS
7 - Adding Activities and Organizing Under the Wbs
8 - Formatting the Activity Window and Views
9 - Adding Relationships
10 - Activity Network View
11 - Constraints

continued...

**Administration**

- Evacuation
- Facilities, timings and meals
- Mobile phones & Emails
- Introductions:
  - Your name,
  - The types of projects you are involved in,
  - Your experience in scheduling software and
  - What you seek from this course,
- Course attendance sheet,
- Course conduct.

**Important Points for Instructor**

- See notes below.
Course Agenda

DAY 2
12 - Printing and Reports
13 - Scheduling Options and Setting a Baseline
14 - Updating an Unresourced Schedule
15 - Administer Menu
16 - Creating Roles and Resources
17 - Assigning Roles, Resources and Expenses
18 - Resource Optimization
19 - Updating a Resourced Schedule
20 - Other Methods of Organizing Project Data
21 – Index.

1.1 – Purpose of the course
- Provide a method for planning, scheduling and controlling projects using Primavera,
- Within an established Enterprise Project database or a blank database,
- Up to an intermediate level.

1.2 - Required Background Knowledge
- The ability to use a personal computer and understand the fundamentals of the operating system,
- Experience using application software such as Microsoft Office and
- An understanding of how projects are planned, scheduled and controlled, including understanding the project management processes applicable to your projects.

1.3 - Purpose of Planning
- The ultimate purpose of planning is to build a model that allows you to predict which activities and resources are critical to the timely completion of the project,
- Strategies may then be implemented to ensure that these activities and resources are managed properly, thus ensuring that the project will be delivered both On Time and Within Budget.

Planning aims to:
- Identify the total scope and stakeholders
- Plan to deliver the scope and understand the risks
- Evaluate different project delivery methods
- Identify the deliverables under a logical breakdown of the project, often called WBS or PBS
- Identifying activities required to produce the deliverables
- Identify and optimize the use of resources
- Evaluate if target dates may be met
- Identify risks and plan to minimize them
- Provide a baseline plan
- Assist in stakeholders’ communication
- Assist management to think ahead and make informed decisions.
2.4.5 Add the logic Links

The PMI defines three types of logic:
- Mandatory dependencies,
- Discretionary dependencies,
- External dependencies.

2.4.6 - Developing a Closed Network

- In a Closed Network every activity, except the project start milestone(s) and finish milestone(s), has one or more:
  - Start Predecessors, and
  - Finish Successors.

2.4.7 - Scheduling the Project

- When a schedule has a Closed Network scheduling the project will identify the:
  - Critical Path(s)
  - Total Float
  - Free Float
  - Plus other useful data such as Driving Relationships.

2.4.8 - Critical Path(s)

- The Critical Path is the shortest duration that a project may be completed in and a delay to any activity will delay the end date of the project, shown in red below:

2.4.9 - Total Float

- The Total Float is the amount of time an activity may be delayed without delaying the end of a project,
  - An activity with Total Float may delay another activity,
  - May be displayed in a column and in the Gantt Chart, as per the thin black bar below and
  - May be negative.

2.4.10 - Free Float

- The Free Float is the amount of time an activity may be delayed without delaying another activity,
  - Displayed only in a column and not as a bar, and
  - Is never in the negative.
3.2 - Logging In
- The Administrator will provide you with:
  - A web "Address" to access the Primavera Web Access software Login screen, which may be different to the one below,
  - A Username and a Password,
  - Open the Advanced tab to select another database or to change the Language,
  - A database to log into that may be different to the one below,
  - Click onto the Login button:

3.3 - Primavera P6 Architecture
- Primavera P6 has the following core components:
  - Databases
  - Web Tools
  - Windows Client Tool
  - Other Tools

3.4 - P6 Web Functionality Areas
- P6 Web has the following functionality areas:
  - Dashboards - these display Portlets that may be customised by the user to display information relevant to the portfolios, projects and resources,
  - Portfolios - this allows you to review information on groups of projects,
  - Projects - this is where one or more projects may be created or opened and manipulated. This area will be covered in detail in this book,
  - Resources - this is where resources are created and managed,
  - Administration - where the User set the user preferences and Database Administrator administers users and the database.

3.5 - Viewing Project Data
- This section will cover the viewing of project data found under the Project tab.

3.5.1 - Projects, EPS Tab
- The Projects, EPS tab allows access to areas where:
  - EPS Nodes may be create and edited and
  - Projects may be create and
  - Project Preferences administered.

3.5.2 Projects, Activities Tab
- The Projects, Activities tab allows access to areas where:
  - Project may be opened using the Open Projects command
  - Enterprise Project Data viewed, created and edited and
  - Project Scheduled Services administered, out of scope of this book.
4.7.1 - Project, EPS General Tab
- From the Project, EPS, General tab:
  - Highlight a project or EPS Node,
  - The project must be open to edit some project data,
  - You must also have the appropriate access rights to edit data,
  - Click on the General tab:

4.7.2 - Project Preferences Form
- The project preference form is where other important project defaults are set and is accessed by selecting Project, EPS, Set Project Preferences:

4.8 - Saving Additional Project and EPS Information – Notebook Topics
- Often additional information about a Project or EPS Node is required to be saved with the project such as location, client and type of project,
- This data may be saved in the Project Details, Notebooks tab:

4.7 - Workshop 2 - Creating Your Project
Background
- You are an employee of Wilson International and are responsible for planning the Bid preparation required to ensure that a response to an RFQ (Request For Quote) from OzBuild Pty Ltd is submitted on time,
- While short-listed, you have been advised that the RFQ will be available on 02 December 2013 at 8:00hrs (8:00am) and you will be required to submit 3 bound copies of the proposal before 27 January 2014 at 16:00hrs (4:00pm).

5 - DEFINING CALENDARS
5.1 - Database Default Calendar
5.2 - Accessing Global, Resource and Project Calendars
5.3 - The Project Default Project Calendar
5.4 - Creating a New Global Calendar
5.5 - Creating a New Project Calendar
5.6 - Shared Resource Calendar
5.7 - Administer, My Calendar
5.8 - Promote, Copy, Rename and Delete a Calendar
5.9 - Base Calendars
5.10 - Adjusting Calendar Working Hours
5.11 - Calendars for Calculating Project, WBS and Other Summary Durations
5.12 - Tips for Mixed Calendar Schedules
5.13 - Workshop 3 – Maintaining the Calendars.
Simple Examples of WBS Structures

- The WBS for three buildings on one site may look like the pictures below:
- In which situations would each example be applicable?

6.1 - Opening and Navigating the WBS

- The project must be open and the Activities window must be displayed,
- Ensure you have a view with a WBS icon beside it.

6.2 - Creating and Deleting a WBS Node

- To create a new WBS Node select a WBS Code or Name and either:
  - Right-click to display the menu and use the menu commands Add Child WBS or Add Sibling WBS, or
  - Use the menu toolbar Add Child WBS icon,
- Then use the icons on the Move toolbar to put the WBS Nodes at the right level or to reorder them,
- The commands Add, Delete, Copy, Cut and Paste all work to create, delete, move, and copy WBS Nodes.

6.3 - WBS Node Separator

- The Default WBS Node Separator is assigned in select Administer, Application Settings, General tab.
- Each individual project WBS Node separator may be defined from the Projects window, EPS tab, Set Project Preferences… form, General tab:

6.4 - Activity Window Work Breakdown Structure Lower Pane

- The Activity window lower displays different tabs when a WBS Node is selected to when an activity is selected,
- The tabs may be hidden or displayed by left clicking on a tab to open a menu:

6.5 - WBS Categories

- WBS Nodes may be assigned categories, which enable WBS Nodes within an EPS to be grouped and sorted in different ways,
- Create WBS Categories by selecting Administer, Enterprise Data, Projects WBS Categories,
- WBS Categories are assigned to and removed from WBS Nodes by inserting the WBS Categories column into the General tab:
7.11 - Reordering or Sorting Activities

- There are two principal methods of ordering activities after they have been added:
  - Using the Sort function in the Customize Activity View form,
  - Highlighting a column title and clicking with the mouse.

7.12 - Undo

- There is no undo as in the Professional or Optional Client.

7.13 - Summarizing Activities Using WBS

- The WBS bands may be summarized in the same way as in other project planning and scheduling software,
- WBS Nodes may be summarized or expanded by:
  - Double-clicking any WBS band description. The band will either roll up when expanded or expand when rolled up,
  - Clicking on the Expand All and Collapse All icons that will either display all activities or roll up the project to one bar, which is usually not very useful,
- WBS Nodes may be reordered by clicking the Move icons on the Move toolbar.

7.14 - Spell Check

- There is no spell check as in the Client, you could export to Excel and spell check there.

7 - ADDING ACTIVITIES AND ORGANIZING UNDER THE WBS - SUMMARY

- 7.11 - Reordering or Sorting Activities
- 7.12 - Undo
- 7.13 - Summarizing Activities Using WBS
- 7.14 - Spell Check.
9.7 - Circular Relationships

A Circular Relationship is created when a loop is created in the logic.

- When you reschedule you will be presented with the Error form, which identifies there is a problem in the logic, but not specifically identifies a loop.

- If an error is detected when scheduling a project, the Schedule Project Log report should be displayed which will identify any problems.

9.8 - Scheduling the Project

- After you have your activities and the logic in place, Primavera calculates the activities’ dates/times.

- More specifically, Primavera Schedules the project to calculate the Early Dates, Late Dates, Free Float and the Total Float.

- This will enable you to review the Critical Path of the project. (Microsoft Project uses the term Slack instead of the term Float).

- Press F9 or click on the Scheduler icon to open the Schedule Project form.
12.3.3 - Custom Header and Custom Footer Tabs

- The Custom Header & Custom Footer tabs operate in the same way.
- The instructor will demonstrate how the icons operate:

12.3.4 - Sheet Tab

- Print Range
- Selecting a Specific date range will enable parts of the schedule to be printed,
  - Fit to:
  - Table,
  - Print ? Table columns,
  - Scale,
  - Print table on all pages,
  - Page Order.

12.4 - Reports

- Reports are run from the dashboard and are not part of this book:

12.5 - Other Primavera Reporting Options

- There are several other tools available from Oracle that may be used generate Primavera reports,
  - These include P6 Analytics and BI Publisher which are not covered in this course.

12.6 - Workshop 12 - Printing

- We want to issue a report for comment by management and will set up our Headers and Footers.
13.2.7 - When scheduling progressed activities use

- There are three options for calculating the finish date of the successor when the successor activity has started before the predecessor activity is finished,
- The selected option is applied to all activities in a schedule when it is calculated,
- Open the Schedule Options form, General tab by selecting Scheduler and clicking on the, Options icon where the options are found under When scheduling progressed activities use.

---

Retained Logic

- The relationship is maintained between the predecessor and successor for the unworked portion of the activity (the Remaining Duration) and continued after the predecessor has finished,
- The picture below represents the status of the activities before updating the schedule:

---

Progress Override

- In the following example, the Finish-to-Start relationship between the predecessor and successor is disregarded, and the unworked portion of the activity (the Remaining Duration) continues before the predecessor has finished,
- The relationship is not a driving relationship and DOES NOT form part of the critical path in the example following. The predecessor in the example has float.

---

Actual Dates

- This function operates when there is an activity with Actual Dates in the future, which is not logical,
- With this option the remaining duration of an in-progress activity is calculated after the activity with actuals,
- The pictures below is with Actual Dates and the Remaining Duration is scheduled after the completion of the activity in the future:

---

The Windows Client picture is clearer:
14.5 - Suspend and Resume
• Suspend and Resume dates enables the work to be suspended and the activity resumed at a later date,
• Display the Suspend and Resume date columns,
• NOTE: This enables only one break in an activity, the Suspend in the past and Resume in the future.

14.6 - Scheduling the Project
• At any time, but usually after some or all the activities have been updated, the project is scheduled:
  • Open the Schedule Project form by either:
    - Select Scheduler (F9) icon or
    - Press the F9 key,
  • Select the revised Current Data Date and Time from the Data Date box and click the Schedule button.
  • The software will recalculate all the early finish dates from the remaining durations and the new Current Data Date, taking into account the relationships and the Schedule Options.

14.7 - Update Project
• There is no Update Project function as found in the Windows Client.

14.8 - Comparing Progress with Baseline
• You may view any variance using bars or columns:

14.9 - Progress Line Display on the Gantt Chart
• A progress line displays how far ahead or behind activities are in relation to the Baseline,
• Either the Project Baseline or the Primary User Baseline may be used and there are four options,
• The Progress Line is formatted in the Customize Activity View form, Gantt Chart tab:

14.9 - Corrective Action
• Suggested solutions to bring the project back on track include:
  • Reducing the durations of activities on, or near, the critical path,
  • Providing more work time and changing calendars,
  • Reducing the project scope and deleting activities,
  • Changing activity relationships so activities take place concurrently,
  • Changing the plan and therefore changing the logic to reduce the overall length of the critical path.
17 - ASSIGNING ROLES, RESOURCES AND EXPENSES

- 17.10 - Resource, Planning Window
- 17.11 - Expenses
- 17.12 - Suggested Setup for Creating a Resourced Schedule
- 17.13 - Workshop 14 – Assigning Resources and Expenses to Activities.

17.1 - Understanding Resources

- During the planning stage, Roles may be assigned to Activities to gain an understanding of the long-term resource demand,
- Roles are later replaced by a Resource when it is known who will be undertaking the work,
- If you are not using named resources then you should consider not using Roles, as Resources have more functionality than Roles,
- A Resource may be assigned:
  - Directly to an Activity, or
  - To a Role which has been assigned to an Activity.

17.2 - Understanding Resource Calculations and Terminology

- A Resource has three principal components after it has been assigned to an Activity:
  - Quantity, in terms of Work in hours or days or Material quantities required to complete the activity, which are referred to as Units by Primavera,
  - The Resource Unit Rate is termed Price/Unit in Primavera and
  - Cost, which is calculated from the Resource Unit Rate x Units.

17.3 - Project Preferences Form, Resource Defaults

- Preferences and defaults (which may be changed for each resource assignment) affect how all resources in a project are calculated are set in the Project Preferences form and pertain to all activities and resources,
- These settings must be understood:

17.3.1 - Rate Type

- There are five Resource Rates available in Primavera,
- One rate may be set as a project default,
- After assignment to an activity, the Resource Rate may be changed using the Rate Type field in the Assignments tab of the Activities Window.

<table>
<thead>
<tr>
<th>Rate Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default Rate</td>
<td></td>
</tr>
<tr>
<td>Labor Rate</td>
<td></td>
</tr>
<tr>
<td>Material Rate</td>
<td></td>
</tr>
<tr>
<td>External Rate</td>
<td></td>
</tr>
<tr>
<td>Price Rate</td>
<td></td>
</tr>
<tr>
<td>Price/Unit</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ride Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Rate</td>
</tr>
<tr>
<td>Deluxe Rate</td>
</tr>
<tr>
<td>Senior Rate</td>
</tr>
<tr>
<td>Child Rate</td>
</tr>
<tr>
<td>Price/Unit</td>
</tr>
<tr>
<td>Price/Unit</td>
</tr>
<tr>
<td>Price/Unit</td>
</tr>
</tbody>
</table>
17.3.2 - Resources can be assigned to the same activity more than once

- This is useful if it is required to assign a resource at the beginning of an activity and later at the end of an activity with a lag.
- For example, one may want to assign a crane on the first day of the activity to assist in erecting and one the last day to assist in dismantling. This check box needs to be checked for a resource to be assigned twice to an activity.
- **NOTE:** The Web Client does not allow the assignment of a resource lag, but resources may be set up here for use in the Windows Client.

17.3.3 - Understanding Resource Option to Drive Activity Dates By Default

- A resource has the following fields:
  - **Planned Duration.** The duration that a resource is working,
  - **Start.** The date the resource starts work, and
  - **Finish.** This date is calculated by the addition of the Activity Start Date + the Planned Duration.
- When the Drive Activity Dates option is switched off it is possible for a resource to calculate outside the activity duration:

17.3.4 - Price/Unit

- This rate is also used to calculate the resource costs when an activity is not assigned roles or resources but is assigned a quantity in the Activities lower pane, General tab:

17.3.5 - Activity Types

There are six Activity Types assigned in the General tab in the Activities Window:

- **Task** – Ignores Resource Calendars
- **Start Milestone** – MAY NOT BE ASSIGNED RESOURCES
- **Finish Milestone** – MAY NOT BE ASSIGNED RESOURCES
- **Resource Dependent** – Acknowledges Resources calendars
- **Level of Effort (LOE)**
- **WBS Summary Activity**

**NOTE:** All activity types may be assigned Expenses.

**Activity Types continued**

- **Start Milestone** in the Windows Client have a blank Finish Date,
- **Finish Milestone** in the Windows Client have a blank Start Date:

**Activity Types continued**

- **Level of Effort (LOE)** may have several relationship types:
  - **WBS Summary Activity**, spans activities in a WBS
17 - ASSIGNING ROLES, RESOURCES AND EXPENSES - SUMMARY

- 17.10 - Resource Planning Window
- 17.11 - Expenses
- 17.12 - Suggested Setup for Creating a Resourced Schedule.

17.13 - Workshop 14 – Assigning Resources and Expenses to Activities

- The Resources must now be assigned to their specific activities.

18 - RESOURCE OPTIMIZATION

- 18.1 - Reviewing Resource Loading
- 18.2 - Methods of Resolving Resource Peaks and Conflicts
- 18.3 - Workshop 15 – Resources Optimization

18.1 - Reviewing Resource Loading

- There are a number of facilities for reviewing resource loading which consist of either displaying a View or running a report. The Timescale interval affects the displays. Views will not be covered in detail, as they are self-explanatory,
- It is important that the data to be reviewed is Summarized before any resource analysis is undertaken by setting a Projects, Project Scheduled Service or by running the Projects, EPS, Summarize Projects,
- The instructor will lead you through the:
  - Resource Usage Window
  - Resource Analysis Window.

18.2 - Methods of Resolving Resource Peaks and Conflicts

Methods of resolving resource overload problems are:
- Revising the Project Plan,
- Duration Change,
- Resource Substitution,
- Increase Working Time,
- Split an activity around peaks in demand,
- Leveling the schedule,
- Resource Curves.

18 - RESOURCE OPTIMIZATION - SUMMARY

- 18.1 - Reviewing Resource Loading
- 18.2 - Methods of Resolving Resource Peaks and Conflicts
20 - OTHER METHODS OF ORGANIZING PROJECT DATA

20.1 - Understanding Project Breakdown Structures
The Work Breakdown Structure – WBS function was discussed earlier as a method of organizing projects and activities under hierarchical structures. There are alternative features available in Primavera for grouping, sorting and filtering activities, resources, and project information:

- Activity Codes
- User Defined Fields (UDF)
- WBS Categories – not covered
- Resource Codes – not covered
- Cost Accounts – not covered.

20.2 - Activity Codes
Activity Codes may be used to Group, Sort, and Filter activities from one or more open projects,

- **Activity Codes**, such as Phases, Trades, or Disciplines, are often defined in the Activity Codes Definition form,
- **Activity Code Values** are defined in the Administer, Enterprise Data, Activities, Activity Codes tabs, such as:
  - Phases of Design, Procure, Install and Test,
  - Trades of Brickwork, Plumbing and Electrical, and Disciplines of Concrete, Mechanical, Pipework,
- **Activity Codes** are assigned from the Activities Window using the Codes tab in the lower pane or displaying the appropriate Activity Code column, The instructor will demonstrate.

20.3 - User Defined Fields
User Defined Fields are similar to Custom Data Items in P3 or Custom Fields in Microsoft Project and provide the ability to assign additional information to database records,

- They may be used for recording information about the data field as an alternative to Activity Codes and other predefined Primavera fields,
- The type of data that may be assigned to User Defined Fields would be equipment number, order number, variation or scope number; road, railway or pipeline changes; address and additional costs data, continued...

User Defined Fields
Activity data may be filtered, grouped, and sorted using these User Defined Fields in a similar way to Activity Codes,

- Data may be imported into the fields and, unlike Activity Codes, the data item does not have to exist in the database before importing,
- There are a number of predefined fields that may be renamed and new ones may be created,
- The instructor will demonstrate UDFs.

20 - OTHER METHODS OF ORGANIZING PROJECT DATA - SUMMARY

- 20.1 - Understanding Project Breakdown Structures
- 20.2 - Activity Codes
- 20.3 - User Defined Fields.
20.4 - Workshop 17 – Activity Codes and User Defined Fields (UDF)

- This workshop will look at creating an Activity Code and some UDFs.
- We will create an activity code to represent the departments’ responsibilities for the Project.

Review Expectations

- Any questions,
- Complete Feedback Sheet,
- Have we met your expectations?

Database Cleanup at end of course, if required:

Please could you delete all:

- User Filters
- User Layouts
- The resources created but NOT your Resource node
- Your projects.

Thank you for attending