

Understanding Roles and Resources

Objectives

After completing this lesson, you should be able to:

- Describe roles.
- View the roles dictionary.
- Describe resources.
- Identify the differences between labor, nonlabor, and material resources.
- View the resource dictionary.

Roles and Resources

Role: A job title or skill needed to complete an activity.

Resource: The specific individual used to complete the activity.



Project Manager



John Brunner

Roles and Resources

- Both are enterprise data – available for use across all projects.
 - Both are usually defined by the application administrator.
- Roles are associated with resources according to their function.
 - Each resource can also be assigned one primary role, which defines the resource's core skill or responsibility in the organization.
- Roles can be placeholders in activity assignments until specific resources are assigned to do the work.

Resource Details



Resource: Susan Arnold

Roles: Business Analyst, System Architect

Primary Role: System Architect

Relationship Between Roles and Resources

★ PRIMARY ROLE ✓ ROLE	ROLES →	 Senior Software Engineer	 System Architect	 Business Analyst	 Database Administrator
	↓ RESOURCES				
	 Susan Arnold		★		
	 Ben Diamond			★	
	 Jennifer Boyle		★		

Resource Types

Labor (people)

- Resources and roles
- Measured in units of time.
- Generally re-used between activities/projects.
- Costs are recorded in terms of price/unit (for example, \$50/hour).



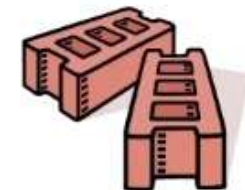
Nonlabor (equipment)

- Measured in units of time.
- Costs are recorded in terms of price/unit (for example, \$500/hour).



Material (consumables)

- Measured in units *other* than time (for example, \$5/sq.ft.).



Lesson Review

- A role is a job title or skill - for example, Trainer or Manager.
- A resource is a specific person or thing used to complete an activity.
- Roles can be assigned to resources to aid in resource management. Multiple roles, including a single primary role, can be assigned to each resource.
- Resources are divided into three categories: labor (people), nonlabor (equipment), and material (consumable items measured in units other than time, such as \$5.00/square foot).
- Resources and roles are defined in the Resources section, where you can use detail windows to view and edit information.

Review Questions

1. True or False: When resources are defined, they are assigned to a specific project and cannot be shared with other projects.
2. Which of the following is not a resource type?
 - a) Labor
 - b) Nonlabor
 - c) Equipment
 - d) a and b
 - e) a and b and c

Review Questions

4. What type of resource is not measured in units of time?
 - a) Labor
 - b) Nonlabor
 - c) Material
 - d) None of the above
5. True or False: A resource can have more than one primary role.

Assigning Roles and Resources

Objectives

After completing this lesson, you should be able to:

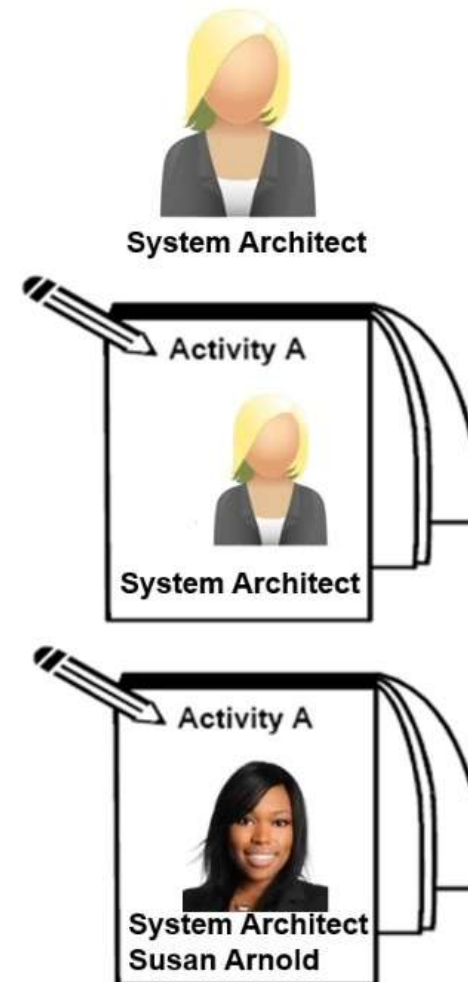
- Assign roles to an activity.
- Fill a role assignment.
- Assign a resource.
- Check resource availability.
- Send e-mails to assigned resources.

Assigning Roles

- Roles can be assigned to project activities when you know which skill sets are required but not which resources will perform the work.
- Roles are useful for long-range planning.

Assigning Roles

1. Define roles in the roles dictionary.
2. Assign role to activity.
3. Replace role with resource.



Assigning Resources

Assign by role:

- At least one role must be assigned to an activity.
- Replace role assignment with a specific resource.
- Replace single role assignments individually or multiple role assignments simultaneously.

Assign directly from the resource dictionary:

- Labor resources without role assignments.
- Required method when assigning nonlabor and material resources.

Assigning Resources

Assign by role:

- At least one role must be assigned to an activity.
- Replace role assignment with a specific resource.
- Replace single role assignments individually or multiple role assignments simultaneously.

Assign directly from the resource dictionary:

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- Required method when assigning nonlabor and material resources.

Steps for Resource Management

1. Define resource in the resource dictionary.
2. Assign resources to activities.
3. Analyze resources and costs.



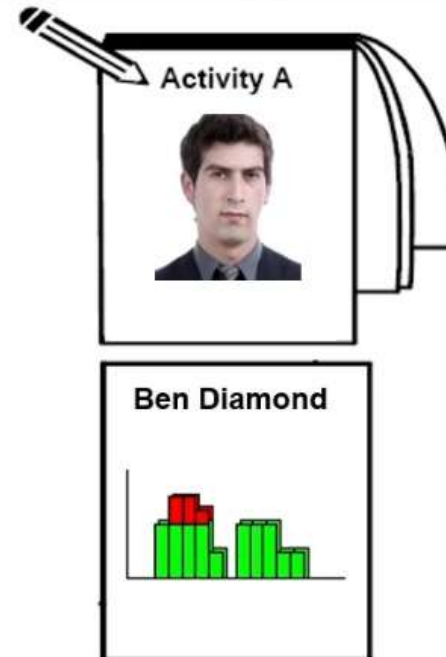
Resource: Ben Diamond

Roles: Business Analyst, Database Admin

Primary role: Business Analyst

Max Units/Time: 8h/d

Rates: Commercial \$32/h
GSA \$29/h
Internal \$26/h



Summarization

Resource usage data in P6 is based on summary data.

- Any changes made to assignments within a project are not reflected until the project is summarized.
- You can choose to summarize projects automatically after assigning resources.

Lesson Review

- Role assignments can be used as placeholders, replaced later with specific resources.
- Three steps in resource management are defining resources, assigning resources, and analyzing resources.
- P6 allows you to notify resources via e-mail when they are assigned to, or removed from, an activity.

Review Questions

1. True or False: Resources already assigned to a project are listed in a Project Resources filter in the Select Resource dialog box.
2. True or False: You can assign a role or resource to multiple activities simultaneously by using the Assignments detail window.
3. True or False: Remaining Units are the same as Actual Units.



Optimizing Project Plan

Objectives

After completing this lesson, you should be able to:

- Analyze schedule dates.
- Shorten a project schedule.
- Analyze resource availability.
- Resolve resource overallocation.
- Analyze project costs.

Project Constraints

Successful projects must balance multiple constraints:

- **Scope** – Everything that the project includes.
- **Schedule** – Timeliness of project deliverables.
- **Costs** – Staying within budget.
- **Quality** – Stakeholders' satisfaction with the project.
- **Resources** – Efficient use of the manpower and materials needed to complete the project.
- **Risk** – Dealing with uncertainty and disruptive events.

Optimizing the Project Plan

- **Analyze schedule dates** – Ensure that milestone dates and project dates are achieved.
- **Analyze resource allocation** – Ensure that resources are not overallocated.
- **Analyze the cost budget** – Ensure that projected At Completion costs are within the Original Budget.

Analyzing Schedule Dates

- Scheduled Finish date – Most important date in the schedule:
 - Compare the Scheduled Finish date to the Must Finish By date.
 - If the Scheduled Finish date is later than the Must Finish By date, the project must be shortened.
 - Scheduled Finish date is calculated; it cannot be edited.
- Project deliverables should also be scheduled to finish by the dates imposed by project sponsors.
 - Identify intermediate milestone dates and ensure that schedule meets them.

Shortening the Project

- Focus on critical activities.
- Refine duration estimates.
 - Break down long activities.
 - Assign additional resources to reduce duration.
- Use relationships to overlap activities.
- Apply/modify constraints.
- Change calendar assignments.
 - Put critical activities on a longer workweek.
 - Add exceptions to nonwork time.

Analyzing Resource Allocation

- Determine which resources are overallocated.
- Identify activities contributing to resource overallocation.
- Remove overallocation from appropriate resources.
 - Replace the overallocated resource with another available resource.
 - Increase the resource's workweek.
 - Increase the hours/day that the resource works.
 - Assign additional resources to the activity.

Analyzing the Budget

- Review budgeted costs for individual activities, WBS elements, and the entire project.
- Confirm that costs are within budget.

Importing and Exporting Projects

- Export a project after optimizing to create a backup of the project plan before executing it.
- You can import and export files in the following formats:
 - P6's XML Format
 - Microsoft Project XML 2007
 - Microsoft Project XML 2010
 - UN/CEFACT XML (export only)

Summary Data

- Used to enhance performance and scalability of P6.
- Eliminates need to open all projects to view project-level data.
- In some cases, summary data is displayed for an open project.
- Run summarizer to ensure data is current.
- Examples of summary data:
 - Resource usage
 - Some columns on the EPS page

Lesson Review

- Optimizing the project plan is the last step in planning your project. Ensure that the project plan meets its date, resource, and cost requirements.
- If the Scheduled Finish date of the project is beyond the Must Finish By date, the project should be shortened.
- You can use various methods to shorten the project, such as refining duration estimates, modifying relationships, and applying constraints. Focus your efforts on critical activities.
- View general resource allocation on the Team Usage page.
- Summarize the project after any resource assignment changes.
- Evaluate costs to ensure that the project can be completed within budget.

Review Questions

1. True or False: You can quickly determine whether the project will finish on time by comparing dates in the General detail window on the EPS page.
2. Which of the following is a method for removing resource overallocation?
 - a) Decrease the resource's workweek.
 - b) Assign the resource to more activities in the selected time frame.
 - c) Re-assign the work to a different resource.
 - d) All of the above
3. True or False: When trying to shorten a project, it is best to focus on critical activities.

Review Questions

4. Which of the following is a method for shortening the duration of a project?
- a) Use relationships to overlap activities.
 - b) Add resources to reduce durations.
 - c) Review long activities to determine if durations can be refined.
 - d) Change calendar assignments.
 - e) All of the above



Baselining the Project Plan

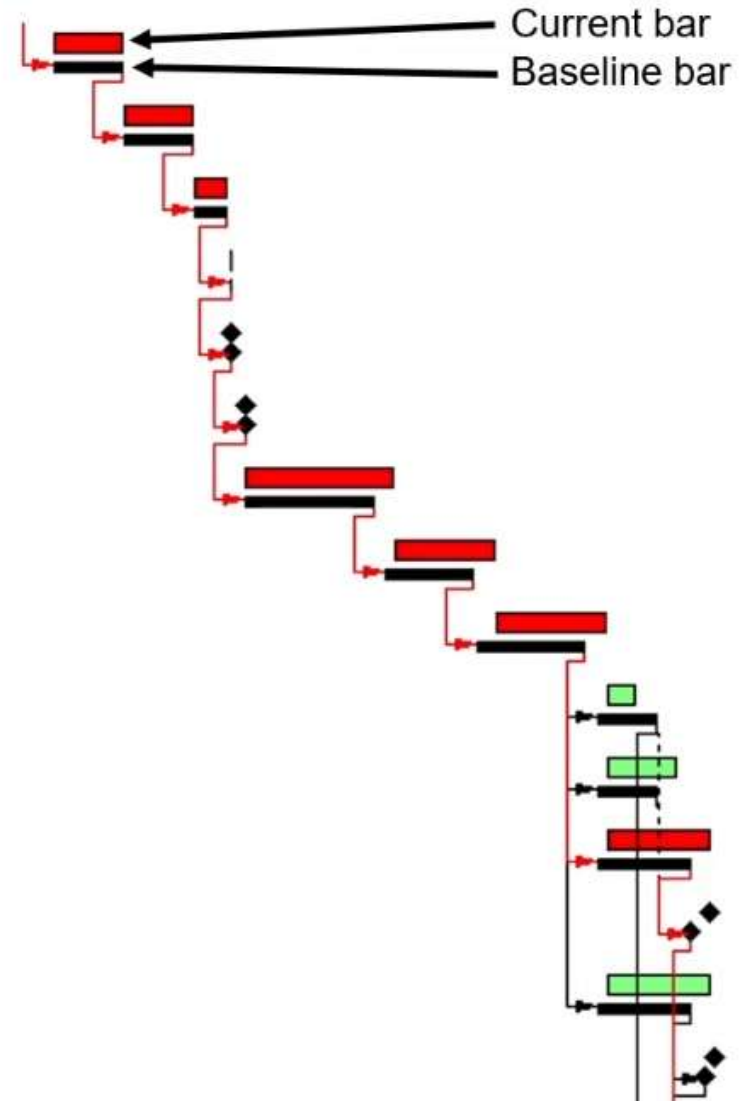
Objectives

After completing this lesson, you should be able to:

- Create a baseline plan.
- Display baseline bars on the Gantt chart.
- Modify display of bars on the Gantt chart.
- Convert a project to a baseline.
- Restore a baseline.

What is a Baseline?

- A copy of the project plan used as a basis for comparison when evaluating the progress of an updated project.
 - Create a baseline before updating a schedule for the first time.
- Provides a target against which a project's cost, schedule, and resource performance can be tracked.



Baseline Types

There are two different types of baselines in P6:

- **Project Baseline** – Each project can have only one project baseline. The project baseline will be the same for all users.
- **User's Primary Baseline** – For each project, each user can choose their own primary baseline to use for comparison.

Lesson Review

- A baseline is a copy of a project that is compared to the current project in order to evaluate progress. Create a baseline plan before actual work on the project begins.
- Assign a baseline type to categorize and standardize baselines across all projects.
- A project baseline is the baseline selected by the project manager for the project and is controlled by a security privilege. Each user can designate his or her own primary baseline.
- The Bars tab in the Customize Activity View dialog box allows you to modify the type, size, color, and shape of the baseline bars displayed in the Gantt chart.

Review Questions

1. True or False: You can assign multiple project baselines to a project.
2. True or False: Baseline bars are used to visually compare current project dates with baseline dates.
3. True or False: After converting a project into a baseline, it still exists as an editable project.

Methods of Applying Progress

Objectives

After completing this lesson, you should be able to:

- Understand different updating methods.

Preparing the Project for Updating

After the project is created and approved, set processes for:

- Scheduling
- Baselining
- Updating

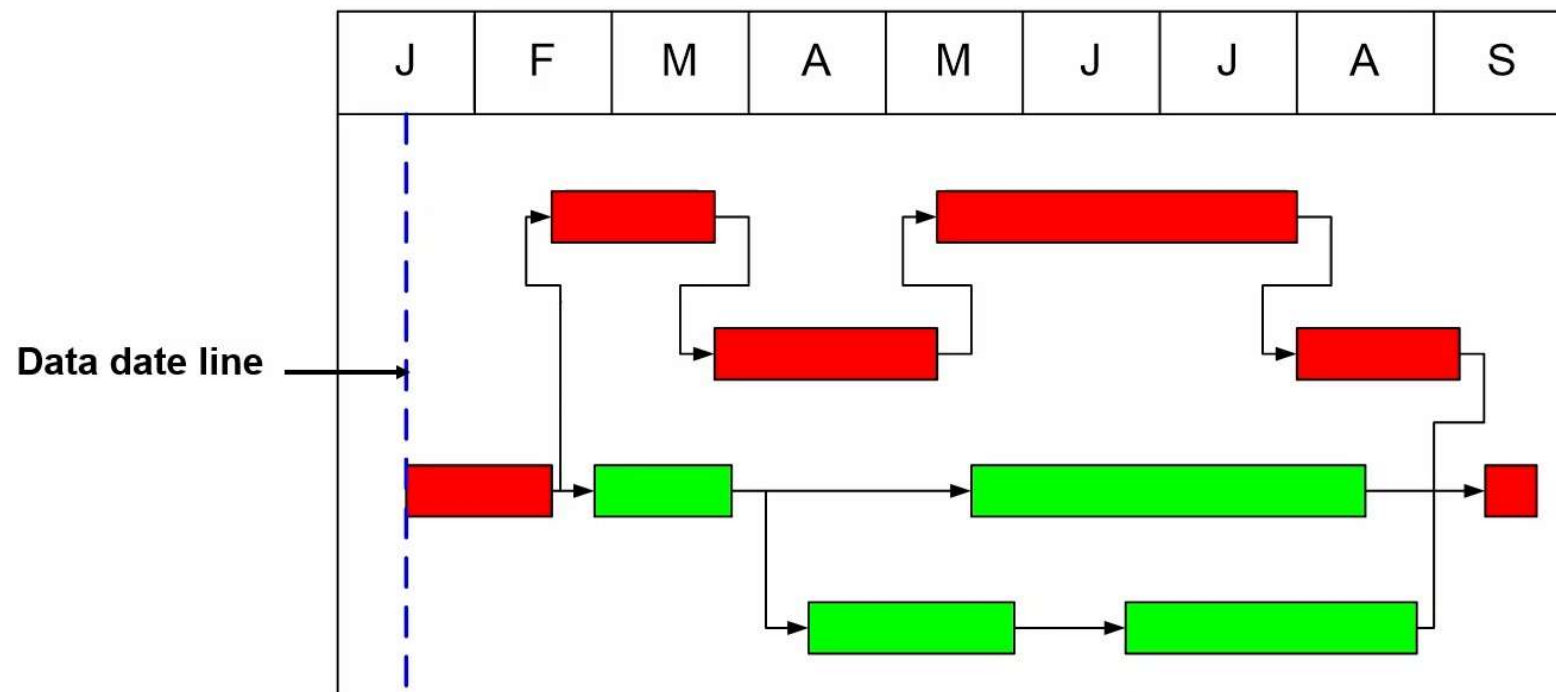
The organization should decide which processes are consistent across the enterprise and which are left to the discretion of the project manager.

Scheduling the Initial Project Plan

- After activities, resources, and relationships are established, run an initial schedule to determine the project's Scheduled Finish date.
- Compare Scheduled Finish to Must Finish By date, a project-level constraint, to determine if the project will finish on time to meet stakeholder needs.

Data Date

- Data date is the starting point for schedule calculations. It is used to schedule all remaining work.



Critical Path

- Determine organization-wide definition of critical activities:
 - Value of Total Float.
 - Longest path in the project network.
- Duration of the activities on the critical path controls the duration of the project.
 - A delay to any critical activity will delay the Finish date of the entire project.

Creating Baselines

- Determine whether project manager or program office creates a baseline after final project schedule is approved.
 - Baseline is a copy of the project plan that provides a target against which a project's cost, schedule, and resource performance can be tracked.
- Create baselines and assign baseline types for various purposes, such as:
 - Initial planning
 - What-if project
 - Mid-project status

Maintaining Baselines

Changes to the project may require changes to the baseline.

- Set a policy on handling changes to the baseline.
- Are baselines updated at set intervals during the project?

QUESTION

ANSWER

Executing Project Plan

Objectives

After completing this lesson, you should be able to:

- Use Progress Spotlight.
- Update the status of completed activities and activities in progress.
- Reschedule the project.

Updating a Project

Once a project has started, actual activity information should be updated at regular intervals.

- Schedule dates and durations



- Resource usage

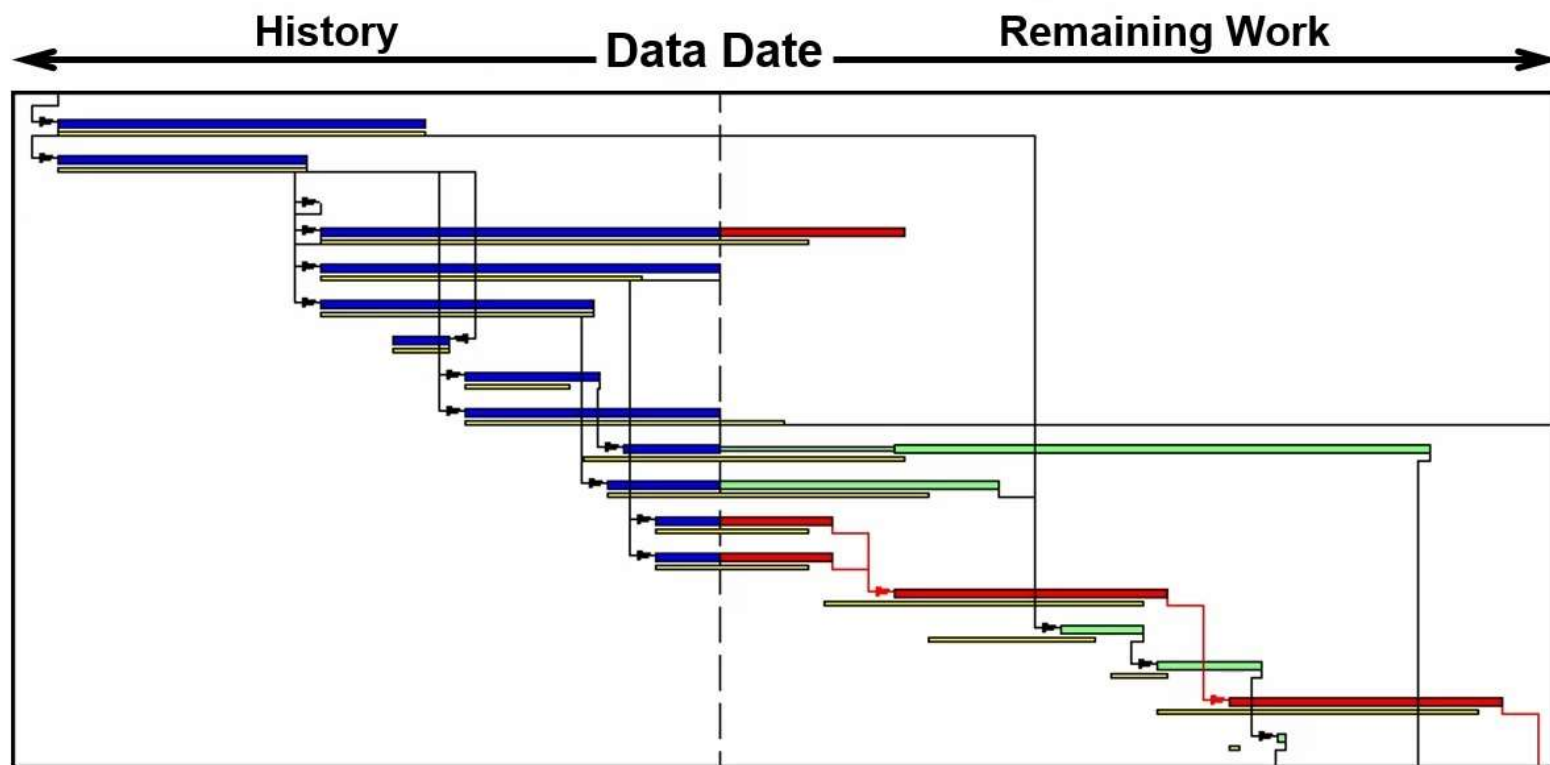


- Expenses



Data Date

The data date is the date up to which actual performance data is reported and the date from which future work is scheduled. The data date always starts at the beginning of the day.



The Updating Process

Standard project update procedures should be established, including how data is collected and how often it is updated.

- Create a baseline plan (optional).
- Identify the new data date.
- Enter activity progress.
- Report resource use and costs to date.
- Reschedule using the new data date.

Lesson Review

- Once a project has started, update actual schedule information and resource usage at regular intervals.
- Summarize project data if resource assignment information has changed.
- Use the Progress Spotlight to highlight activities on which progress should be reported.
- Reschedule the project and analyze the impact of actuals entered in the time period.



Review Questions

1. True or False: The data date is the date used as the starting point for schedule calculations.
2. True or False: You can drag the Progress Spotlight curtain in the Gantt chart.
3. Which Activity detail window enables you to enter resource assignment actuals?
 - a) Notebooks
 - b) Assignments
 - c) Activity Codes
 - d) Expenses