

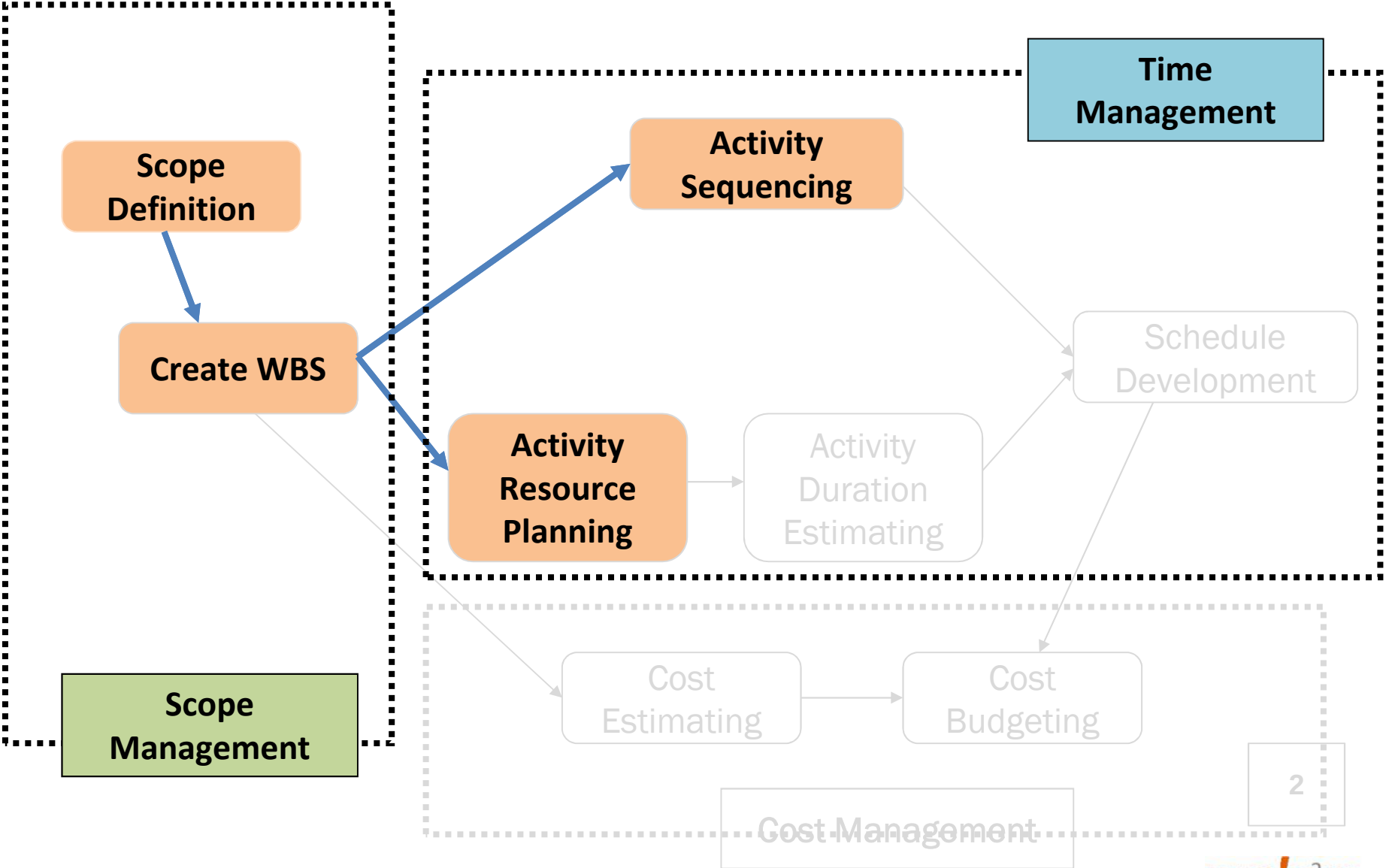
FOLDER 4

PENGURUSAN MASA

- Activity Resource Planning



Key Highlights



PERANCANGAN SUMBER

Kenapa perancangan sumber?

- ✖ Memastikan penggunaan sumber manusia yang paling berkesan dalam pelaksanaan projek
- ✖ Untuk menetapkan peranan & tanggungjawab pasukan projek
- ✖ Sebagai asas kepada penyediaan bajet projek



Apakah Sumber??

Manpower



Machine



Material



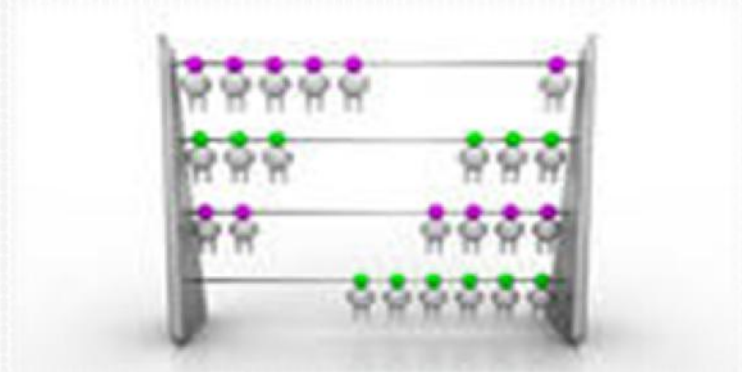
Money



Merancang Sumber (Resource Estimate)

× 5 steps :

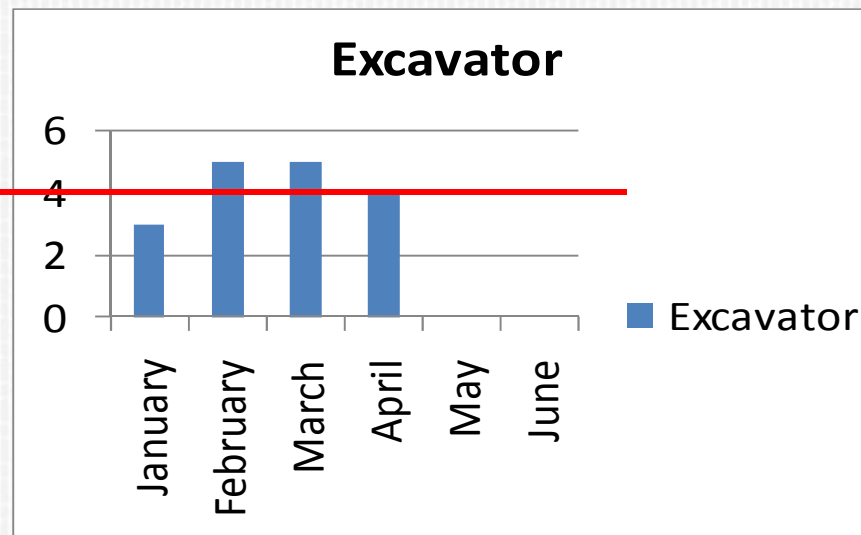
1. Resource planning
2. Resource allocation
3. Resource usage – create resource histogram to monitor usage of resources
4. Resource over/under allocation
5. Resource levelling



Resource Over / Under Allocated

Overallocated

Under allocated



Tujuan Merancang Sumber (Resource Estimate)

1. Role & Responsibility

Responsible Assign
Matrix (RAM)

Org b/down system (OBS)

Job Description

Manpower, machinery,
money etc.

2. Act. Duration Est. (ADE)

Effort driven Scheduling
(EDS)

$$D = Q/PR$$

Apply 4M (money,
machinery, manpower
and material -- increase
or decrease duration)

3. Act. Based Costing (ABC)

Actual Cost by contractor

Plan our resources

Financial

Budgeting

Show actual cost of 4M
(money, machinery,
manpower and material --
- to get actual profit

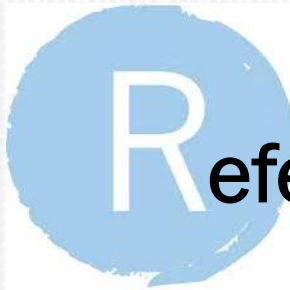
MICROSOFT PROJECT



Resource Information



A list of the resources required for the project needs to be prepared.



Refer to..

**Resource Availability and
Productivity Rate** and
**Resources Allocation &
Quantity Of Works** table
in Folder 1

Memasukkan Maklumat Sumber

The following table shows the resource data entered in the Resource Sheet view:

	Resource Name	Type	Material	Initials	Group	Max.	Std. R	Rate	Cost/Use	Accrue At	Base Calendar	Code
1	Earthwork Team	Work		ET		4	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	
2	Structure Team	Work		ST		4	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	
3	Architectural Team	Work		AT		3	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	
4	M&E Team	Work		MET		3	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	

Menyediakan Senarai Sumber

File Task Resource Project View **Format**

Calibri 11 0% 25% 50% 75% 100% Mark on Track Respect Links Inactivate Manually Schedule Auto Schedule Inspect Move Mode Task

Built-In

- Calendar
- Gantt Chart
- Network Diagram
- ☒ Resource Sheet
- Resource Usage
- Resource Form
- Resource Graph
- Task Usage
- Task Form
- Task Sheet
- Team Planner
- Timeline
- Tracking Gantt
- Reset to Default
- Save View...
- More Views...

	Resource Name	Type	Material	Initials	Group	Max.	Std. Rate	Ovt. Rate	Cost/Use	Accr
1	Earthwork team	Work		EWT		200%	RM0/hr	RM0/h		
2	Structure Team	Work		ST		400%	RM0/hr	RM0/h		
3	Architectural Team	Work		AT		200%	RM0/hr	RM0/h		
4	Mechanical Team	Work		MT		200%	RM0/hr	RM0/h		
5	Electrical Team	Work		ECT		200%	RM0/hr	RM0/h		
6	Premix Team	Work		PRT		100%	RM0/hr	RM0/h		

Menentukan Bilangan Maksima Sumber

Additional Resource Details

Double click

1

2

3

4

	Resource Name	Type	Material	Initials	Group	Max.	Std. Rate	Cvt. Rate	Cost/Use	Accrue At	Base Calendar	Code
1	Earthwork Team	Work		EW		4	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	
2	Structure Team	Work		SI		4	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	
3	Architectural Team	Work		AT		3	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	
4	Team	Work		MET		3	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	

Menentukan sumber yang ada dalam 1 gang

	Resource Name	Type	Material	Initials	Group	Max.	Std. Rate	Cvt. Rate	Cost/Use	Accrue At	Base Calendar	Code
1	Earthwork Team	Work		EW		4	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	
2	Structure Team	Work		SI		4	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	
3	Architectural Team	Work		AT		3	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	
4	Team	Work		MET		3	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	Standard	

Resource Allocation

1

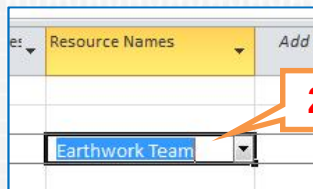
2

3

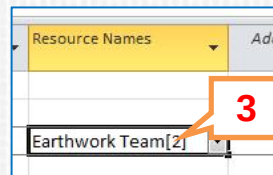
WBS	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1		Membina 2 Blok Bangunan	106 days?	Sat 1/6/13	Mon 28/10/13		
1.1		Projek Mula	0 days	Sat 1/6/13	Sat 1/6/13		
1.2		Preliminaries	106 days?	Mon 3/6/13	Mon 28/10/13		
1.2.1		Performance Bond	1 day?	Mon 3/6/13	Mon 3/6/13	2	
1.2.2		Est. & Remove S.O	8 days?	Tue 4/6/13	Thu 13/6/13		
1.2.2.1		Establish S.O	1 day?	Tue 4/6/13	Tue 4/6/13	4	
1.2.2.2		Removal S.O	1 day?	Thu 13/6/13	Thu 13/6/13	28	
1.2.3		Maintain S.O	1 day?	Wed 5/6/13	Wed 5/6/13	6	
1.2.4		Progress Report	90 days	Tue 25/6/13	Mon 28/10/13		
1.2.4.1		Progress Report 1	2 days	Tue 25/6/13	Wed 26/6/13		
1.2.4.2		Progress Report 2	2 days	Thu 25/7/13	Fri 26/7/13		
1.2.4.3		Progress Report 3	2 days	Mon 26/8/13	Tue 27/8/13		
1.2.4.4		Progress Report 4	2 days	Wed 25/9/13	Thu 26/9/13		
1.2.4.5		Progress Report 5	2 days	Fri 25/10/13	Mon 28/10/13		
1.3		Land Acquisition	0 days	Sat 1/6/13	Sat 1/6/13	2	
1.4		Services Relocation	0 days	Sat 1/6/13	Sat 1/6/13	2	
1.5		Blok A	3 days?	Tue 4/6/13	Thu 6/6/13		
1.5.1		Kerja Tanah	1 day?	Tue 4/6/13	Tue 4/6/13	4, 15	
1.5.2		Kerja Struktur	1 day?	Wed 5/6/13	Wed 5/6/13	18	
1.5.3		Kerja Arkitek	1 day?	Thu 6/6/13	Thu 6/6/13	19	
1.5.4		Kerja M&E	1 day?	Thu 6/6/13	Thu 6/6/13	19	
1.6		Blok B	3 days?	Tue 4/6/13	Thu 6/6/13		
1.6.1		Kerja Tanah	1 day?	Tue 4/6/13	Tue 4/6/13	4, 15, 16	
1.6.2		Kerja Struktur	1 day?	Wed 5/6/13	Wed 5/6/13	23	
1.6.3		Kerja Arkitek	1 day?	Thu 6/6/13	Thu 6/6/13	24	
1.6.4		Kerja M&E	1 day?	Thu 6/6/13	Thu 6/6/13	24	
1.7		Completion of Cable Laying by TNB	0 days	Tue 11/6/13	Tue 11/6/13	21FS+3 days, 26FS+3 days	
1.8		T&C	1 day?	Wed 12/6/13	Wed 12/6/13	27	
1.9		Projek Siap	0 days	Thu 13/6/13	Thu 13/6/13	28, 8, 25, 20, 7	

Resource Quantity Allocation

WBS	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
16	1.4	Services Relocation	0 days	Sat 1/6/13	Sat 1/6/13	2	
17	1.5	Blok A	3 days?	Tue 4/6/13	Thu 6/6/13		
18	1.5.1	Kerja Tanah	1 day?	Tue 4/6/13	Tue 4/6/13	4,15	Earthwork Team
19	1.5.2	Kerja Struktur	1 day?	Wed 5/6/13	Wed 5/6/13	18	Structure Team
20	1.5.3	Kerja Arkitek	1 day?	Thu 6/6/13	Thu 6/6/13	19	Architectural Team
21	1.5.4	Kerja M&E	1 day?	Thu 6/6/13	Thu 6/6/13	19	M&E Team
22	1.6	Blok B	3 days?	Tue 4/6/13	Thu 6/6/13		
23	1.6.1	Kerja Tanah	1 day?	Tue 4/6/13	Tue 4/6/13	4,15,16	Earthwork Team
24	1.6.2	Kerja Struktur	1 day?	Wed 5/6/13	Wed 5/6/13	23	Structure Team
25	1.6.3	Kerja Arkitek	1 day?	Thu 6/6/13	Thu 6/6/13	24	Architectural Team
26	1.6.4	Kerja M&E	1 day?	Thu 6/6/13	Thu 6/6/13	24	M&E Team
27	1.7	Completion of Cable Laying by TNB	0 days	Tue 11/6/13	Tue 11/6/13	21FS+3 days,26FS+3 days	
28	1.8	T&C	1 day?	Wed 12/6/13	Wed 12/6/13	27	
29	1.9	Projek Siap	0 days	Thu 13/6/13	Thu 13/6/13	28,8,25,20,7	



Press F2 on keyboard



Use [] square brackets. The use of () or { } are not acceptable

WBS	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
17	1.5	Blok A	1.33 days	Tue 4/6/13	Wed 5/6/13		
18	1.5.1	Kerja Tanah	0.5 days	Tue 4/6/13	Tue 4/6/13	4,15	Earthwork Team[2]
19	1.5.2	Kerja Struktur	0.33 days	Tue 4/6/13	Tue 4/6/13	18	Structure Team[3]
20	1.5.3	Kerja Arkitek	0.33 days	Tue 4/6/13	Wed 5/6/13	19	Architectural Team[3]
21	1.5.4	Kerja M&E	0.5 days	Tue 4/6/13	Wed 5/6/13	19	M&E Team[2]
22	1.6	Blok B	1.17 days	Tue 4/6/13	Wed 5/6/13		
23	1.6.1	Kerja Tanah	0.33 days	Tue 4/6/13	Tue 4/6/13	4,15,16	Earthwork Team[3]
24	1.6.2	Kerja Struktur	0.33 days	Tue 4/6/13	Tue 4/6/13	23	Structure Team[3]
25	1.6.3	Kerja Arkitek	0.5 days	Tue 4/6/13	Wed 5/6/13	24	Architectural Team[2]
26	1.6.4	Kerja M&E	0.5 days	Tue 4/6/13	Wed 5/6/13	24	M&E Team[2]

EDS – Effort Driven Scheduling

	WBS	Task Name	Duration	Start	Finish	Predecessors	Resource
1	1	Membina 2 Blok Bangunan					
2	1.1	Projek Mula					
3	1.2	Permulaan					
4	1.2.1	Performance Bond					
5	1.2.2	Establish & Remove					
6	1.2.2.1	Establish Site Office					
7	1.2.2.2	Removal Site Office					
8	1.2.3	Maintenance of site					
9	1.2.4	Laporan Kemajuan					
15	1.3	Land Acquisition (Blok A)					
16	1.4	Services Relocation (Blok A)					
17	1.5	Blok A					
18	1.5.1	Kerja Tanah					
19	1.5.2	Kerja Struktur					
20	1.5.3	Kerja Arkitek					
21	1.5.4	Kerja M&E					
22	1.6	Blok B					
23	1.6.1	Kerja Tanah					
24	1.6.2	Kerja Struktur	49 days	Tue 24 01 12	Fri 30 03 12	23	Struktur
25	1.6.3	Kerja Arkitek	60 days	Mon 02 04 12	Fri 22 06 12	24	Arkitek
26	1.6.4	Kerja M & E	55 days	Mon 02 04 12	Fri 15 06 12	24	M&E Te
27	1.7	Completion of cable lying by TNB	0 days	Wed 20 06 12	Wed 20 06 12	21FS+3 days;26FS+3 days	

Task Information

General | Predecessors | Resources | Advanced | Notes | Custom Fields

Name: Kerja Tanah
Duration: 55 days
☐ Estimated

Constrain task
Deadline: NA

Constraint type: As Soon As Possible
Constraint date: NA

Task type:

Fixed Units
Fixed Duration
Fixed Units
Fixed Work

☐ Effort driven

Calendar:

WBS code:

Earned value method: % Complete

☐ Mark task as milestone

Help OK Cancel

EDS – Effort Driven Scheduling

	WBS	Task Name	Duration	Start	Finish	Predecessors	Resource
1	1	Membina 2 Blok Bangunan					
2	1.1	Projek Mula					
3	1.2	Permulaan					
4	1.2.1	Performance Bond					
5	1.2.2	Establish & Remove					
6	1.2.2.1	Establish Site Office					
7	1.2.2.2						
8	1.2.3						
9	1.2.4						
15	1.3						
16	1.4	Services Relocation					
17	1.5	Blok A					
18	1.5.1	Kerja Tanah					
19	1.5.2	Kerja Struktur					
20	1.5.3	Kerja Arkitek					
21	1.5.4	Kerja M&E					
22	1.6	Blok B					
23	1.6.1	Kerja Tanah					
24	1.6.2	Kerja Struktur	49 days	Tue 24 01 12	Fri 30 03 12	23	Struktur
25	1.6.3	Kerja Arkitek	60 days	Mon 02 04 12	Fri 22 06 12	24	Arkitek
26	1.6.4	Kerja M & E	55 days	Mon 02 04 12	Fri 15 06 12	24	M&E Te
27	1.7	Completion of cable lying by TNB	0 days	Wed 20 06 12	Wed 20 06 12	21FS+3 days;26FS+3 days	

**Kenapa ada orang merah ?
Bagaimana untuk menyelesaikannya?**

Task Information

General | Predecessors | Resources | Advanced | Notes | Custom Fields

Name: Kerja Tanah Duration: 55 days ☐ Estimated

Constrain task

Deadline: NA

Constraint date: NA

☐ Effort driven

☐ Scheduling ignores resource calendars

Legend:

- Fixed Units
- Fixed Work

WBS code:

Earned value method: % Complete

☐ Mark task as milestone

Help OK Cancel