

FOLDER 3

- **Activity Sequencing**

MICROSOFT PROJECT

PERANCANGAN AKTIVITI KERJA - *Activity Sequencing*



Activity Sequencing

Identifying and documenting interactivity dependencies.

- 📌 Dependency/relationship
 - shows the sequencing of project activities or tasks



Bagaimana Menentukan Susunan Cara Kerja??..



Menentukan Susunan Cara Kerja

1. Method statements
2. Predecessor
3. Successor
4. Link type
5. Lead time
6. Lag time
7. Task constraint
8. Network diagram

1 : Method Statement



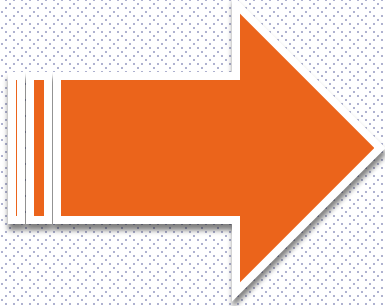
Method of Construction



Shop Drawing



Work Procedures



2 & 3 : Predecessor & Successor

Predecessor

Kerja mesti mula @ siap sebelum kerja seterusnya bermula @ siap

Successor

Kerja dimana bermula @ siapnya bergantung kepada mula @ siap kerja yang sebelumnya

3 : Link (Hubungan)



2.1 FS - Finish To Start

Akt. B Tidak Boleh Mula Sehingga Akt. A Siap.

Cth: Siap Bina Tiang, Baru Boleh Bina Dinding

2.2 SS - Start to Start

Akt. B tidak boleh mula sehingga Akt. A mula.

Cth : a. Vibration mula bila pouring concrete dah mula

b. Pemasangan conduit utk M&E mula apabila pemasangan rebar mula

3 : Link (Hubungan)



- 2.3 **FF – Finish to Finish**
Akt. B perlu siap bila Akt. A siap.
Cth: pembinaan dinding 2 mesti siap bersama dinding 1

- 2.4 **SF - Start to Finish**
Akt. B tidak boleh siap sebelum Akt. A mula.
* sesuai untuk 4M (bahan, pekerja, mesin, sumber)
Cth: pembelian batu bata tidak boleh dibuat jika tiada tmpt penstoran

- ➡ Procurement
- ➡ Purchase
- ➡ Testing of materials
- ➡ Appoint sub-con

5 & 6 : Lead & lag

- **Lead Time** – awalkan kerja (cth: kerja struktur awal 5 hari)

FS – 5d

- **Lag Time** – lewatkan kerja (cth: kerja struktur lewat 5 hari)

FS + 5d

7 : Task Constraint



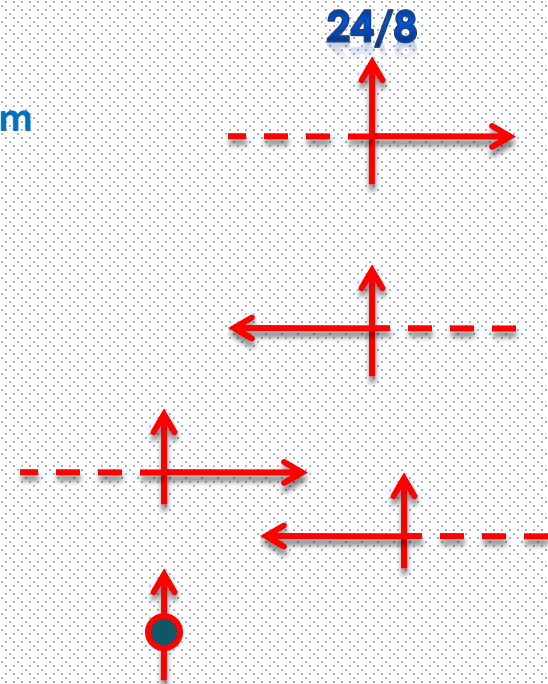
- i. **ASAP** : A Soon As Possible (Kaedah penjadualan)
Schedule method base on Project Start Date
Forward Pass

- i. **ALAP** : As Late As Possible (Kaedah penjadualan)
Schedule method based on Project Finish Date
Backward Pass

- i. **SNET** : Start Not Earlier Than
cth: kerja boleh mula pd 24/8 tetapi sebelum
24/8 tidak boleh buat

- ii. **SNLT** : Start Not Late Than
cth: kerja boleh mula pd 24/8 tetapi
selepas 24/8 tidak boleh buat

- iii. **FNET** : Finish Not Earlier Than
- iv. **FNLT** : Finish Not Late Than
- v. **MSO** : Must Start On
- vi. **MFO** : Must Finish On



8 : Network Diagram

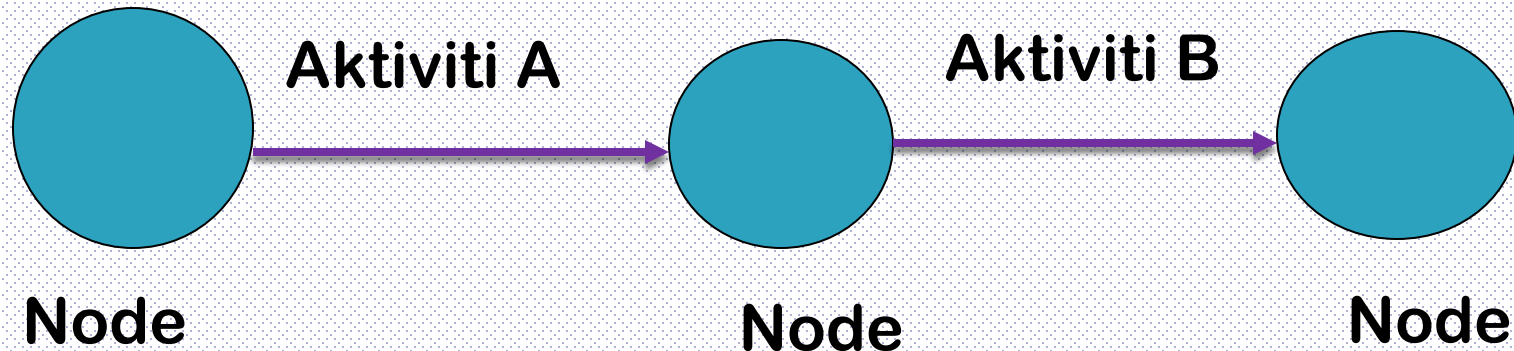


5.1 **ADM (AOA)** : Activity On Arrow

5.2 **PDM (AON)** : Activity On Node

8 : Network Diagram

Activity On Arrow (AOA)



Hubungan Finish to Start sahaja

8 : Network Diagram

Activity On Node (AON)



4 Jenis Hubungan

1. Finish to Start (FS)
2. Start to Start (SS)
3. Finish to Finish (FF)
4. Start to Finish (SF)

MICROSOFT PROJECT

Hands-On



Menambahbaik 'Link Line'

The screenshot displays the Microsoft Project interface. The 'Layout' dialog box is open, showing options for Gantt Chart Style. The 'Links' section has three radio buttons, with the middle one selected. The 'Bars' section has a date format of '28 01' and a bar height of '12'. The 'Other' section has 'Show drawings' checked. The background shows a Gantt chart with task bars and a task list table.

Task	Resource	Project	View	Add-Ins	Acrobat	Format
1						
1.1						
1.2						
1.2.1						
1.2.2						
1.2.3						
1.2.4						
1.2.5						
1.3						
1.3.1						
1.3.2						
1.3.3						
1.3.4						
1.3.5						
1.4						
1.4.1						
1.4.2						
1.4.3						
1.4.4						
1.4.5						

Menentukan Kaitan Diantara Kerja Di 'Predecessor Column'

	Task	Resource	Project	View	Add-Ins	Acrobat	Format	
1	Projek Membina bangunan serbaguna Dan Pondok Pengawal JKR							
2	Project Start							
3	Preliminaries							
4	Performance Bonds & Insurance						2	
5	Site Office						4	
6	Setting Out						4	
7	Progress Report							
28	CCC							
29	External Works							
30	Earthworks							
31	Drain							
32	Road							
33	Turfing							
34	Fence							
35	bangunan Serbaguna							
36	Frame							
37	Wall							
38	Roof							
	Finnishes & Furniture							

Susunan Tatacara Kerja~ Predecessor

	i	Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors
1			1	Projek Membina Bangunan Serbaguna Dan Pondok Pengawal di Bachok, Kelantan	196 days	Tue 1/3/12	Tue 10/2/12	
2			1.1	Projek Start	0 days	Tue 1/3/12	Tue 1/3/12	
3			1.2	Preliminaries	196 days	Tue 1/3/12	Tue 10/2/12	
4			1.2.1	Performance Bond and Insurances	1 day	Tue 1/3/12	Tue 1/3/12	
5			1.2.2	Site Office	1 day	Wed 1/4/12	Wed 1/4/12	
6			1.2.3	Setting Out	1 day	Wed 1/4/12	Wed 1/4/12	
7			1.2.4	Progress Report	192 days	Mon 1/9/12	Tue 10/2/12	
28			1.2.5	Certificate of Fitness for Building	1 day	Mon 1/16/12	Mon 1/16/12	6,34,33,5
29			1.3	External Works	7 days	Thu 1/5/12	Fri 1/13/12	
30			1.3.1	Earthworks	1 day	Thu 1/5/12	Thu 1/5/12	
31			1.3.2	Drain	1 day	Wed 1/11/12	Wed 1/11/12	8,53
32			1.3.3	Road	1 day	Thu 1/12/12	Thu 1/12/12	31
33			1.3.4	Turfing	1 day	Fri 1/13/12	Fri 1/13/12	32
34			1.3.5	Fencing	1 day	Fri 1/13/12	Fri 1/13/12	32
35			1.4	Bangunan Serbaguna	5 days	Fri 1/6/12	Thu 1/12/12	
36			1.4.1	Frame	1 day	Fri 1/6/12	Fri 1/6/12	30
37			1.4.2	Wall	1 day	Mon 1/9/12	Mon 1/9/12	36
38			1.4.3	Roof	1 day	Tue 1/10/12	Tue 1/10/12	37
39			1.4.4	Finishes & Furniture	1 day	Wed 1/11/12	Wed 1/11/12	38
40			1.4.5	Door & Windows	1 day	Wed 1/11/12	Wed 1/11/12	39SS
41			1.4.6	Sanitary and Plumbing Powerpoints	1 day	Tue 1/10/12	Tue 1/10/12	37
45			1.4.7.3	Fittings	1 day	Thu 1/12/12	Thu 1/12/12	39,40,43
46			1.4.8	Mechanical Works	1 day	Thu 1/12/12	Thu 1/12/12	
47			1.4.8.1	Air Conditional & Ventilation Works	1 day	Thu 1/12/12	Thu 1/12/12	38,40,43
48			1.4.8.2	Fire Protection Works	1 day	Thu 1/12/12	Thu 1/12/12	38,40,43
49			1.5	Pondok Pengawal	6 days	Tue 1/3/12	Tue 1/10/12	
50			1.5.1	Land Acqicition	0 days	Tue 1/3/12	Tue 1/3/12	
51			1.5.2	Frame	1 day	Fri 1/6/12	Fri 1/6/12	30,50
52			1.5.3	Wall	1 day	Mon 1/9/12	Mon 1/9/12	51
53			1.5.4	Roof	1 day	Mon 1/9/12	Mon 1/9/12	51
54			1.5.5	Door, Windows and Finishes	1 day	Tue 1/10/12	Tue 1/10/12	53,52
55			1.5.6	Minor Electrical & Mechanical Works	1 day	Mon 1/9/12	Mon 1/9/12	52SS,53SS
			1.6	T & C	1 day	Fri 1/13/12	Fri 1/13/12	55,47,48,44,45,41
			1.7	Project Finish	0 days	Mon 1/16/12	Mon 1/16/12	58

