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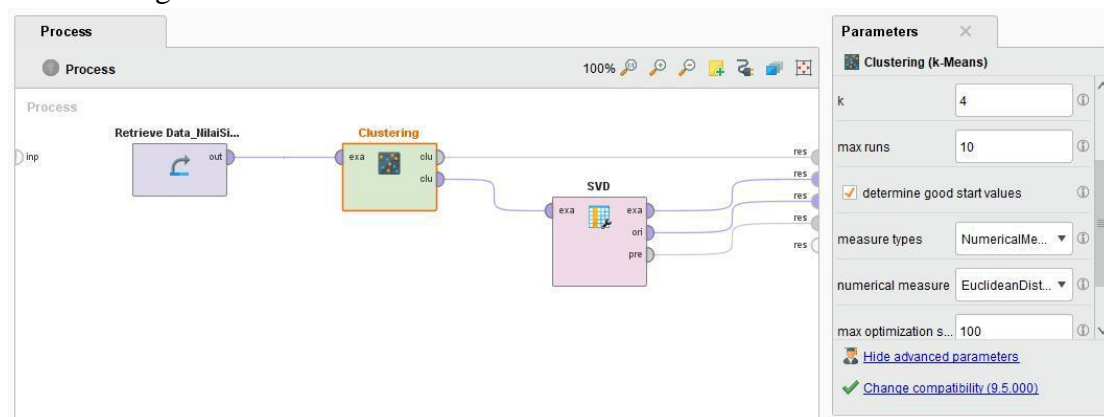
## Laporan Tugas Praktikum DWDM Modul 10 (Clustering : K-Means)

- Tabel data nilai siswa

	NAMA <i>polynomial id</i>	B.IND <i>real</i>	B.ING <i>real</i>	MTK <i>real</i>	IPA <i>real</i>
1	JOKO	8.900	6.852	8.605	6.887
2	AGUS	5.498	8.557	8.480	6.810
3	SUSI	5.483	5.072	5.767	6.173
4	DYAH	8.663	6.160	9.301	5.023
5	WATI	6.937	9.437	5.735	9.007
6	IKA	8.390	7.450	8.234	8.494
7	EKO	6.082	5.341	7.973	7.357
8	YANTO	7.413	5.219	8.108	7.984
9	WAWAN	9.885	5.871	7.991	6.502
10	MAHMUD	5.580	5.222	6.844	9.192
11	BUDI	9.656	7.772	9.391	8.375
12	SANTI	9.382	8.575	7.977	7.154
13	DIAN	9.922	9.640	8.555	9.675

no problems.

- Area Design Process



Hasil proses Clustering dengan Algoritma k-Means

a. SVD (Singular Value

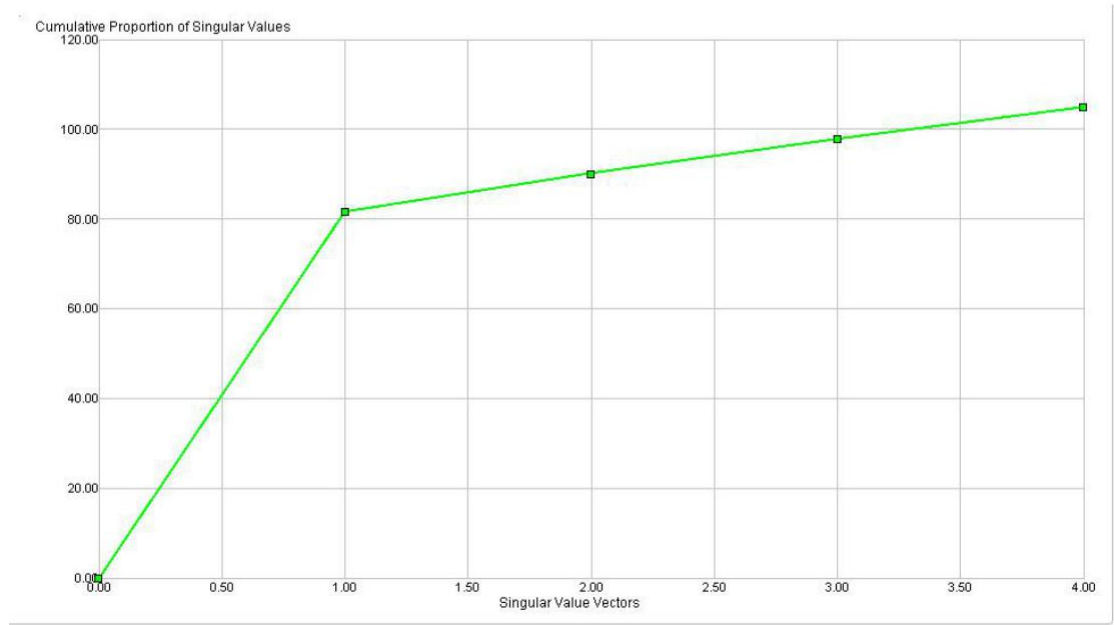
Decomposition) i. Nilai Eigenvalue

Component	Singular Value	Proportion of Singular Values	Cumulative Singular Values	Cumulative Proportion of Sin...
SVD 1	81.661	0.778	81.661	0.778
SVD 2	8.538	0.081	90.199	0.859
SVD 3	7.708	0.073	97.906	0.933
SVD 4	7.081	0.067	104.987	1.000

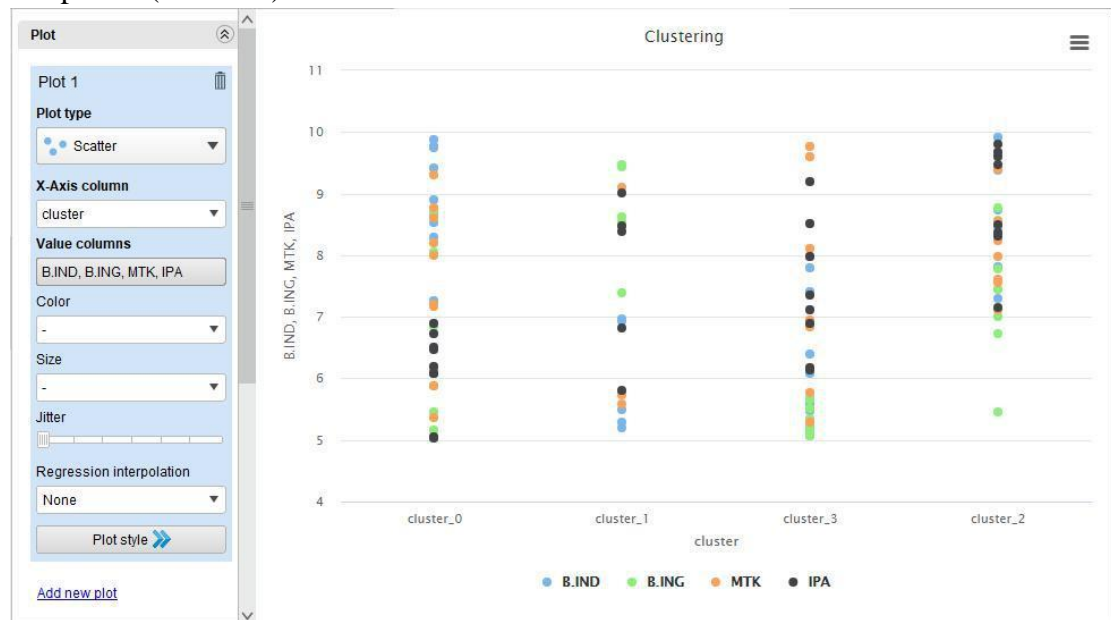
## ii. Nilai SVD Vectors

Attribute	SVD Vector 1	SVD Vector 2	SVD Vector 3
B.IND	0.518	-0.552	0.587
B.ING	0.467	0.412	0.322
MTK	0.512	-0.406	-0.723
IPA	0.502	0.600	-0.170

## iii. Nilai Cumulative Variance



## b. ExampleSet (k-Means)



c. ExampleSet (SVD)

Row No.	NAMA	cluster ↑	svd_1
1	JOKO	cluster_0	0.192
4	DYAH	cluster_0	0.179
9	WAWAN	cluster_0	0.186
15	AHMAD	cluster_0	0.178
17	RISA	cluster_0	0.176
19	YANI	cluster_0	0.162
22	JONO	cluster_0	0.193
23	SARAH	cluster_0	0.174
24	RAMA	cluster_0	0.176
2	AGUS	cluster_1	0.179
5	WATI	cluster_1	0.189
14	DANI	cluster_1	0.175
20	RATIH	cluster_1	0.174
30	TONI	cluster_1	0.175

Row No.	NAMA	cluster ↑	svd_1
6	IKA	cluster_2	0.200
11	BUDI	cluster_2	0.216
12	SANTI	cluster_2	0.202
13	DIAN	cluster_2	0.231
16	BAYU	cluster_2	0.190
21	INDAH	cluster_2	0.191
25	BAMBANG	cluster_2	0.194
28	FEBRI	cluster_2	0.211
3	SUSI	cluster_3	0.138
7	EKO	cluster_3	0.164
8	YANTO	cluster_3	0.177
10	MAHMUD	cluster_3	0.165
18	RANI	cluster_3	0.174
26	HADI	cluster_3	0.171
27	NANA	cluster_3	0.152
29	DENI	cluster_3	0.164

d. Cluster Model (Clustering)

i. Description

## Cluster Model

Cluster 0: 9 items

Cluster 1: 5 items

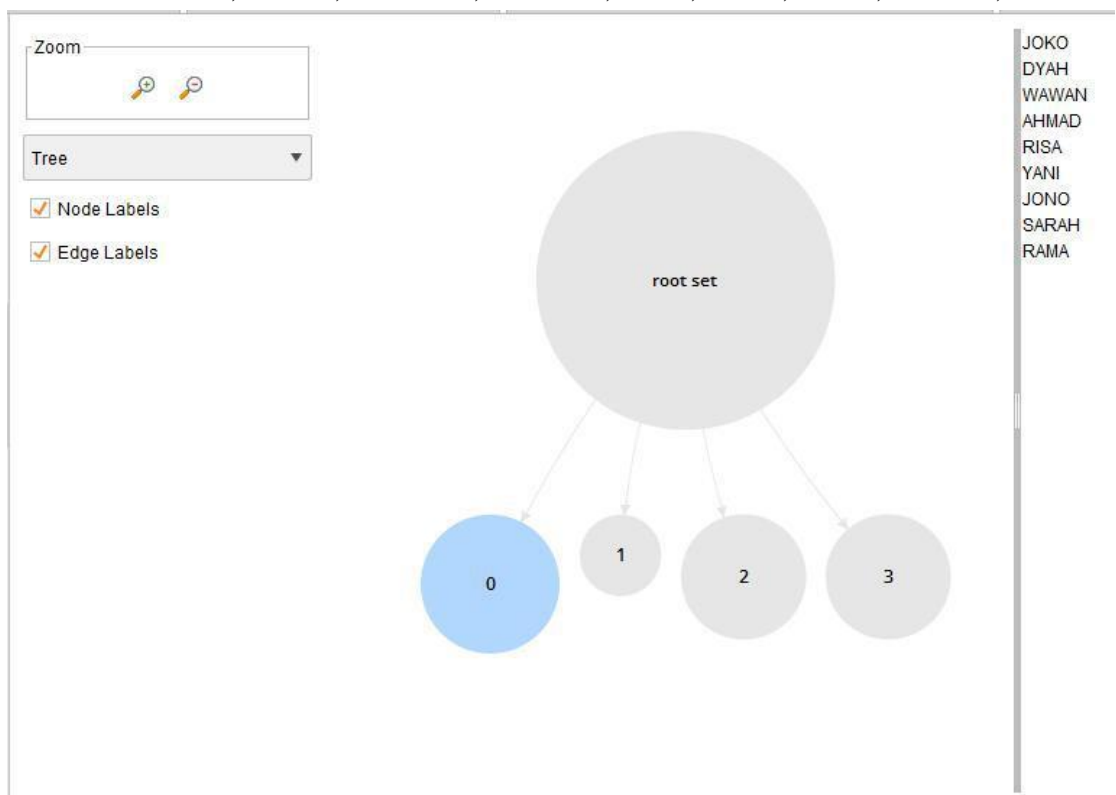
Cluster 2: 8 items

Cluster 3: 8 items

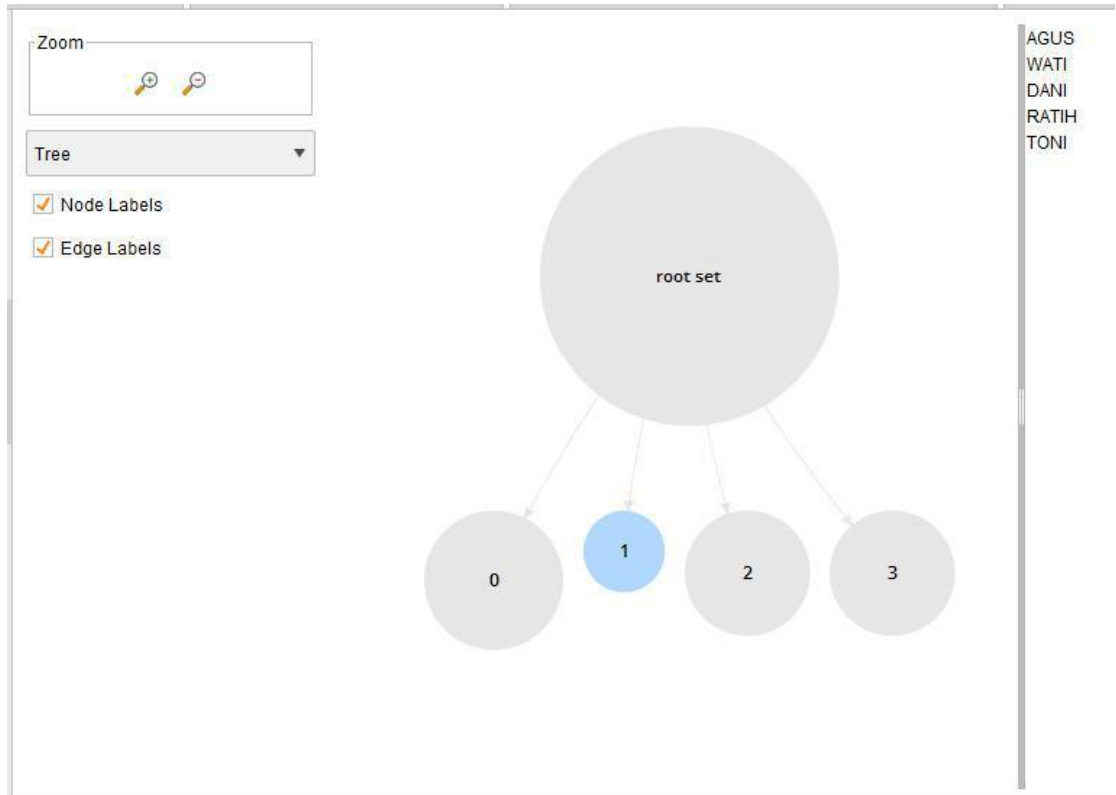
Total number of items: 30

ii. Graph

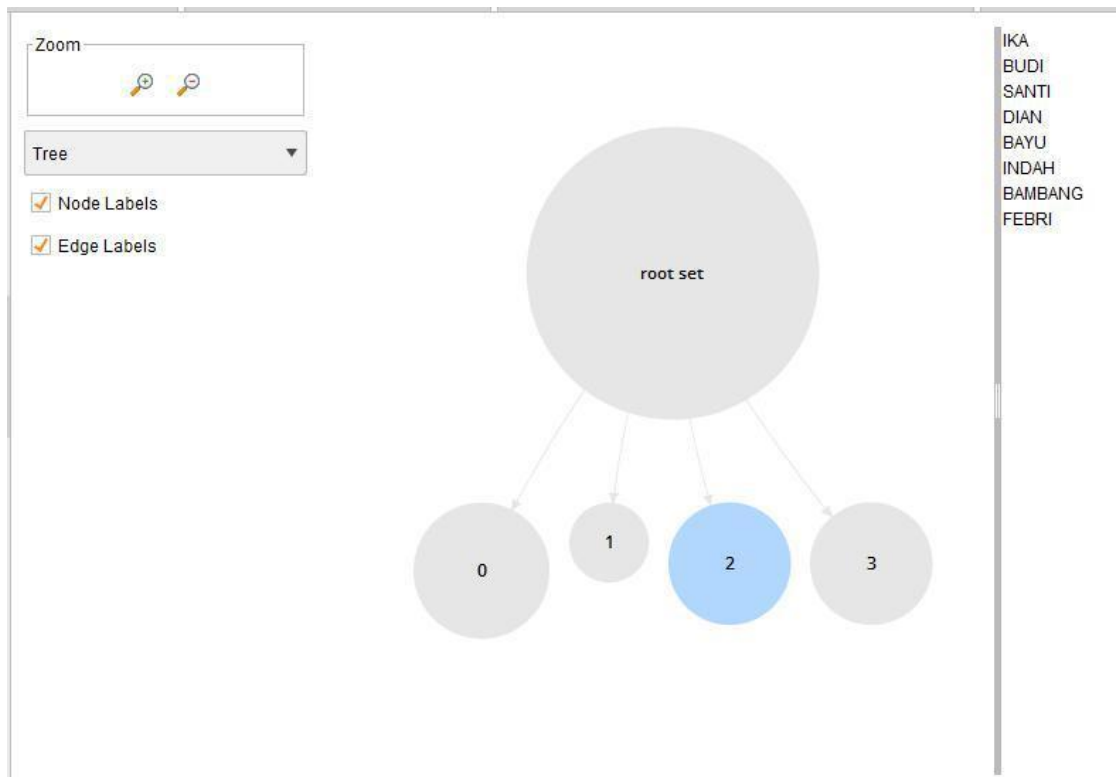
**Cluster 0** : JOKO, DYAH, WAWAN, AHMAD, RISA, YANI, JONO, SARAH, RAMA



### Cluster 1 : AGUS, WATI, DANI, RATIH, TONI



### Cluster 2 : IKA, BUDI, SANTI, DIAN, BAYU, INDAH, BAMBANG, FEBRI



**Cluster 3 : SUSI, EKO, YANTO, MAHMUD, RANI, HADI, NANA, DENI**

