

LAPORAN TUGAS

Pemrograman Berbasis Java

Database Wilayah Indonesia Berdasarkan Master File Desa

Badan Pusat Statistik (MFD BPS) Indonesia



Disusun oleh:

Dwi Putra Sudaryanto

12111075

PROGRAM STUDI TEKNIK INFORMATIKA

FAKULTAS TEKNOLOGI INFORMASI

UNIVERSITAS MERCUBUANA YOGYAKARTA

DAFTAR ISI

DAFTAR ISI	2
BAB I PENDAHULUAN	4
1.1. Latar Belakang	4
1.2. Alasan Pemilihan Masalah	4
BAB II DATABASE	5
2.1. Rancangan Tabel	5
2.1.1. Tabel	5
2.1.2. Trigger	5
2.1.3. Store Prosedure	7
2.1.4. View	8
2.2. Relasi Database	9
BAB III USER INTERFACE	10
3.1. Welcome	10
3.2. Provinsi	10
3.1.1. Insert	10
3.1.2. Update	10
3.1.3. View	10
3.3. Kabupaten / Kota	11
3.2.1. Insert	11
3.2.2. Update	11
3.2.3. View	12
3.4. Kecamatan	12
3.3.1. Insert	12
3.3.2. Update	13
3.3.3. View	13
3.5. Desa / Kelurahan	14
3.4.1. Insert	14
3.4.2. Update	14
3.4.3. View	15
BAB IV MENU, STRUCTURE DAN TESTING	16
4.1. Menu	16
4.2. Structure	17
4.3. Testing Aplikasi	18
BAB V PENUTUP	19

5.1.	Kesimpulan	19
5.2.	Kesulitan	19

BAB I

PENDAHULUAN

1.1. Latar Belakang

Dokumen ini merupakan diskripsi dari aplikasi Database Wilayah Indonesia Berdasarkan Master File Desa Badan Pusat Statistik (MFD BPS) Indonesia yang dikembangkan menggunakan bahasa pemograman berbasis java. Dokumen ini dibuat untuk memenuhi tugas mata kuliah Pemograman Berbasis Java.

1.2. Alasan Pemilihan Masalah

Master File Desa Badan Pusat Statistik (MFD BPS) Indonesia merupakan acuan dasar yang digunakan oleh pengembang aplikasi baik website, mobile maupun desktop jika ingin mengembangkan sebuah aplikasi yang memiliki basis data daerah Indonesia.

Aplikasi ini dikembangkan untuk mempermudah siapapun baik personal maupun organisasi untuk mengelola database wilayah Indonesia menggunakan konsep MFD online untuk selanjutnya dapat dikembangkan kembali.

BAB II

DATABASE

2.1. Rancangan Tabel

2.1.1. Tabel

Tabel	Colom
ommu_core_zone_province	`province_id` smallint(5), `publish` tinyint(1), `province` varchar(64), `mfdonline` char(2), `creation_date`, `modified_date`
ommu_core_zone_city	`city_id` int(11), `publish` tinyint(1), `province_id` smallint(5), `city` varchar(64) , `mfdonline` char(4), `creation_date`, `modified_date`
ommu_core_zone_districts	`district_id` int(11), `publish` tinyint(1), `city_id` int(11), `district_name` varchar(64), `mfdonline` char(7), `creation_date`, `modified_date`
ommu_core_zone_village	`village_id`, `publish`, `district_id`, `village_name`, `zipcode`, `mfdonline`, `creation_date`, `modified_date`

2.1.2. Trigger

Name	Deskripsi
coreBeforeInsertCity	<pre> DECLARE province_id_tr SMALLINT; /*CALL getOmmuZoneProvinceIdWithCityMfdonline(NEW.mfd online, province_id_tr);*/ SELECT `province_id` INTO province_id_tr FROM `ommu_core_zone_province` WHERE `mfdonline`=LEFT(NEW.mfdonline,2); IF (province_id_tr IS NOT NULL) THEN SET NEW.province_id = province_id_tr; END IF; SET NEW.city = TRIM(NEW.city); </pre>
coreBeforeUpdateCity	<pre> DECLARE province_id_tr SMALLINT; IF (NEW.mfdonline <> OLD.mfdonline) THEN /*CALL getOmmuZoneProvinceIdWithCityMfdonline(NEW.mfd online, province_id_tr);*/ SELECT `province_id` INTO province_id_tr FROM `ommu_core_zone_province` WHERE `mfdonline`=LEFT(NEW.mfdonline,2); IF (province_id_tr IS NOT NULL) THEN </pre>

	<pre> SET NEW.province_id = province_id_tr; END IF; END IF; SET NEW.city = TRIM(NEW.city); SET NEW.modified_date = NOW(); </pre>
coreBeforeInsertDistricts	<pre> DECLARE `city_id_tr` INT; /*CALL getOmmuZoneCityIdWithDistrictMfdonline(NEW.mfd online, city_id_tr);*/ SELECT `city_id` INTO city_id_tr FROM `ommu_core_zone_city` WHERE `mfdonline`=LEFT(NEW.mfdonline,4); IF (city_id_tr IS NOT NULL) THEN SET NEW.city_id = city_id_tr; END IF; SET NEW.district_name = TRIM(NEW.district_name); </pre>
coreBeforeUpdateDistricts	<pre> DECLARE `city_id_tr` INT; IF (NEW.mfdonline <> OLD.mfdonline) THEN /*CALL getOmmuZoneCityIdWithDistrictMfdonline(NEW.mfd online, city_id_tr);*/ SELECT `city_id` INTO city_id_tr FROM `ommu_core_zone_city` WHERE `mfdonline`=LEFT(NEW.mfdonline,4); IF (city_id_tr IS NOT NULL) THEN SET NEW.city_id = city_id_tr; END IF; END IF; SET NEW.district_name = TRIM(NEW.district_name); SET NEW.modified_date = NOW(); </pre>
coreBeforeInsertProvince	<pre> SET NEW.province = TRIM(NEW.province); </pre>
coreBeforeUpdateProvince	<pre> SET NEW.province = TRIM(NEW.province); SET NEW.modified_date = NOW(); </pre>
coreBeforeInsertVillage	<pre> DECLARE `district_id_tr` INT; /*CALL getOmmuZoneCityIdWithDistrictMfdonline(NEW.mfd online, city_id_tr);*/ SELECT `district_id` INTO district_id_tr FROM `ommu_core_zone_districts` WHERE `mfdonline`=LEFT(NEW.mfdonline,7); IF (district_id_tr IS NOT NULL) THEN SET NEW.district_id = district_id_tr; </pre>

	<pre> END IF; SET NEW.village_name = TRIM(NEW.village_name); SET NEW.zipcode = TRIM(NEW.zipcode); </pre>
coreBeforeUpdateVillage	<pre> DECLARE `district_id_tr` INT; IF (NEW.mfdonline <> OLD.mfdonline) THEN /*CALL getOmmuZoneCityIdWithDistrictMfdonline(NEW.mfd online, city_id_tr);*/ SELECT `district_id` INTO district_id_tr FROM `ommu_core_zone_districts` WHERE `mfdonline`=LEFT(NEW.mfdonline,7); IF (district_id_tr IS NOT NULL) THEN SET NEW.district_id = district_id_tr; END IF; END IF; SET NEW.village_name = TRIM(NEW.village_name); SET NEW.zipcode = TRIM(NEW.zipcode); SET NEW.modified_date = NOW(); </pre>

2.1.3. Store Prosedure

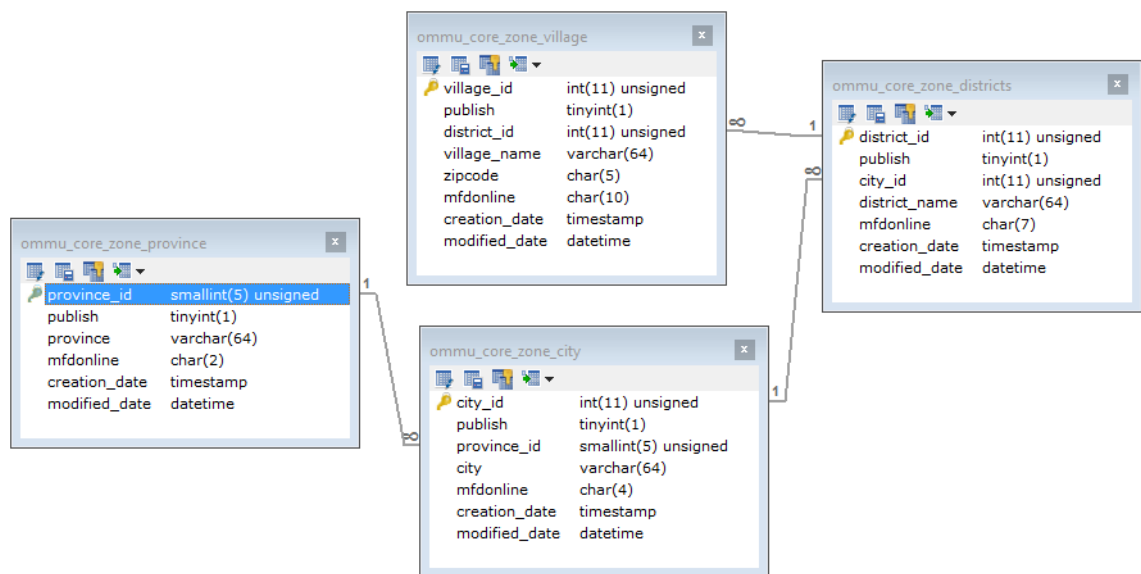
Prosedure
<pre> /*!50003 CREATE DEFINER=`root`@`localhost` PROCEDURE `getOmmuZoneCityIdWithDistrictMfdonline`(IN `mfdonline_sp` CHAR, OUT `city_id_sp` INT) BEGIN SELECT `city_id` INTO city_id_sp FROM `ommu_core_zone_city` WHERE `mfdonline`=LEFT(mfdonline_sp,4); END */\$\$ DELIMITER ; </pre>
<pre> /*!50003 CREATE DEFINER=`root`@`localhost` PROCEDURE `getOmmuZoneCountryId`(IN `province_id_sp` SMALLINT, OUT `country_id_sp` SMALLINT) BEGIN SELECT `country_id` INTO country_id_sp FROM `ommu_core_zone_province` WHERE `province_id`=province_id_sp; END */\$\$ DELIMITER ; </pre>
<pre> /*!50003 CREATE DEFINER=`root`@`localhost` PROCEDURE `getOmmuZoneProvinceId`(in `city_id_sp` INT, OUT `province_id_sp` SMALLINT) BEGIN SELECT `province_id` INTO province_id_sp FROM `ommu_core_zone_city` WHERE `city_id`=city_id_sp; </pre>

<pre> END */\$\$ DELIMITER ; </pre>
<pre> /*!50003 CREATE DEFINER=`root`@`localhost` PROCEDURE `getOmmuZoneProvinceIdWithCityMfdonline`(IN `mfdonline_sp` CHAR, OUT `province_id_sp` SMALLINT) BEGIN SELECT `province_id` INTO province_id_sp FROM `ommu_core_zone_province` WHERE `mfdonline`=LEFT(mfdonline_sp,2); /* CALL getOmmuZoneProvinceIdWithCityMfdonline(NEW.mfdonline, province_id_tr); SELECT `province_id` INTO province_id_tr FROM `ommu_core_zone_province` WHERE `mfdonline`=LEFT(NEW.mfdonline,2);*/ END */\$\$ DELIMITER ; </pre>

2.1.4. View

Name and View	Deskripsi
<pre> `_view_core_zone_city`(`city_id` int(11) unsigned , `city` varchar(64) , `province` varchar(64)) </pre>	<pre> select `a`.`city_id` AS `city_id`, `a`.`city` AS `city`, `b`.`province` AS `province` from (`ommu_core_zone_city` `a` left join `ommu_core_zone_province` `b` on((`a`.`province_id` = `b`.`province_id`))) </pre>
<pre> `_view_core_zone_districts`(`district_id` int(11) unsigned , `district_name` varchar(64) , `city` varchar(64) , `province` varchar(64)) </pre>	<pre> select `a`.`district_id` AS `district_id`, `a`.`district_name` AS `district_name`, `b`.`city` AS `city`, `b`.`province` AS `province` from (`ommu_core_zone_districts` `a` left join `_view_core_zone_city` `b` on((`a`.`city_id` = `b`.`city_id`))) </pre>
<pre> `_view_core_zone_village`(`village_id` int(11) unsigned , `village_name` varchar(64) , `district_name` varchar(64) , `city` varchar(64) , `province` varchar(64)) </pre>	<pre> select `a`.`village_id` AS `village_id`, `a`.`village_name` AS `village_name`, `b`.`district_name` AS `district_name`, `b`.`city` AS `city`, `b`.`province` AS `province` from (`ommu_core_zone_village` `a` left join `_view_core_zone_districts` `b` on((`a`.`district_id` = `b`.`district_id`))) </pre>

2.2. Relasi Database



BAB III

USER INTERFACE

3.1. Welcome

3.2. Provinsi

3.1.1. Insert

The screenshot shows the 'Add Province' form in the Ommu Platform. The left sidebar contains a menu with 'Dashboard', 'Province', 'City', 'District', and 'Village'. The 'Province' menu item is selected. The main content area is titled 'Province' and contains a sub-menu with 'Manage' and 'Add'. The 'Add' sub-menu item is selected. The 'Add Province' form has three input fields: 'MFD Online', 'Province', and 'Publish'. The 'MFD Online' field contains the value '11'. The 'Province' field contains the value 'Aceh'. The 'Publish' field contains the value '1'. A 'SUBMIT' button is located at the bottom right of the form.

Add Province	
MFD Online	11
Province	Aceh
Publish	1
<input type="button" value="SUBMIT"/>	

Copyright © 2016 Putra Sudaryanto | 12111075. All rights reserved. Powered by Ommu Platform

3.1.2. Update

The screenshot shows the 'Update Province' form in the Ommu Platform. The left sidebar contains a menu with 'Dashboard', 'Province', 'City', 'District', and 'Village'. The 'Province' menu item is selected. The main content area is titled 'Province' and contains a sub-menu with 'Manage' and 'Add'. The 'Manage' sub-menu item is selected. The 'Update Province' form has three input fields: 'MFD Online', 'Province', and 'Publish'. The 'MFD Online' field contains the value '11'. The 'Province' field contains the value 'Aceh'. The 'Publish' field contains the value '1'. A 'SUBMIT' button is located at the bottom right of the form.

Update Province	
MFD Online	11
Province	Aceh
Publish	1
<input type="button" value="SUBMIT"/>	

Copyright © 2016 Putra Sudaryanto | 12111075. All rights reserved. Powered by Ommu Platform

3.1.3. View

Dashboard

Province

City

District

Village

Province

Manage

Add

Manage Province

ID	PROVINCE	MFD ONLINE	PUBLISH	CREATIONDATE	MODIFIEDDATE	OPTION
1	Aceh	11	1	2015-12-09	2016-01-28	
2	Sumatera Utara	12	1	2015-12-09	2015-12-10	
3	Sumatera Barat	13	1	2015-12-09	2015-12-10	
4	Riau	14	1	2015-12-09	2015-12-10	
5	Jambi	15	1	2015-12-09	2015-12-10	
6	Sumatera Selatan	16	1	2015-12-09	2015-12-10	
7	Bengkulu	17	1	2015-12-09	2015-12-10	
8	Lampung	18	1	2015-12-09	2015-12-10	
9	Kepulauan Bangka Belitung	19	1	2015-12-09	2015-12-10	
10	Kepulauan Riau	21	1	2015-12-09	2015-12-10	

3.3. Kabupaten / Kota

3.2.1. Insert

Dashboard

Province

City

District

Village

City

Manage

Add

Add City

MFD Online

City

Publish

SUBMIT

Copyright © 2016 Putra Sudaryanto | 12111075. All rights reserved.

Powered by Ommu Platform

3.2.2. Update

Dashboard

Province

City

District

Village

City

Manage

Add

Update City

MFD Online1101

CityKabupaten Simeulue 1

Publish1

SUBMIT

Copyright © 2016 Putra Sudaryanto | 12111075. All rights reserved.

Powered by Ommu Platform

3.2.3. View

Dashboard

Province

City

District

Village

City

Manage

Add

Manage City

ID	CITY	PROVINCE ID	MFD ONLINE	PUBLISH	CREATIONDATE	MODIFIEDDATE	OPTION
1	Kabupaten Simeulue 1	1	1101	1	2015-12-09	2015-12-16	
2	Kabupaten Aceh Singkil	1	1102	1	2015-12-09	2015-12-10	
3	Kabupaten Aceh Selatan	1	1103	1	2015-12-09	2015-12-10	
4	Kabupaten Aceh Tenggara	1	1104	1	2015-12-09	2015-12-10	
5	Kabupaten Aceh Timur	1	1105	1	2015-12-09	2015-12-10	
6	Kabupaten Aceh Tengah	1	1106	1	2015-12-09	2015-12-10	
7	Kabupaten Aceh Barat	1	1107	1	2015-12-09	2015-12-10	
8	Kabupaten Aceh Besar	1	1108	1	2015-12-09	2015-12-10	
9	Kabupaten Pidie	1	1109	1	2015-12-09	2015-12-10	
10	Kabupaten Bireuen	1	1110	1	2015-12-09	2015-12-10	

3.4. Kecamatan

3.3.1. Insert

Dashboard

Province

City

District

Village

District

Manage

Add

Add District

MFD Online	<input type="text"/>
District	<input type="text"/>
Publish	<input type="text"/>
<input type="button" value="SUBMIT"/>	

Copyright © 2016 Putra Sudaryanto | 12111075. All rights reserved.

Powered by Ommu Platform

3.3.2. Update

Dashboard

Province

City

District

Village

District

Manage

Add

Update District

MFD Online	<input type="text" value="1101010"/>
District	<input type="text" value="Teupah Selatan"/>
Publish	<input type="text" value="1"/>
<input type="button" value="SUBMIT"/>	

Copyright © 2016 Putra Sudaryanto | 12111075. All rights reserved.

Powered by Ommu Platform

3.3.3. View

Dashboard

Province

City

District

Village

District

Manage

Add

Manage District

ID	DISTRICT	CITY ID	MFD ONLINE	PUBLISH	CREATIONDATE	MODIFIEDDATE	OPTION
1	Teupah Selatan	1	1101010	1	2015-12-09	2015-12-10	
2	Simeulue Timur	1	1101020	1	2015-12-09	2015-12-10	
3	Teupah Barat	1	1101021	1	2015-12-09	2015-12-10	
4	Teupah Tengah	1	1101022	1	2015-12-09	2015-12-10	
5	Simeulue Tengah	1	1101030	1	2015-12-09	2015-12-10	
6	Teluk Dalam	1	1101031	1	2015-12-09	2015-12-10	
7	Simeulue Cut	1	1101032	1	2015-12-09	2015-12-10	
8	Salang	1	1101040	1	2015-12-09	2015-12-10	
9	Simeulue Barat	1	1101050	1	2015-12-09	2015-12-10	
10	Alafan	1	1101051	1	2015-12-09	2015-12-10	

3.5. Desa / Kelurahan

3.4.1. Insert

Dashboard

Province

City

District

Village

Village

Manage

Add

Add Village

MFD Online

Village

Zipcode

Publish

SUBMIT

Copyright © 2016 Putra Sudaryanto | 12111075. All rights reserved.

Powered by Ommu Platform

3.4.2. Update

Dashboard

Province

City

District

Village

Village

Manage

Add

Update Village

MFD Online	1101010001
Village	Latiung
Zipcode	23891
Publish	1
SUBMIT	

Copyright © 2016 Putra Sudaryanto | 12111075. All rights reserved.

Powered by Ommu Platform

3.4.3. View

Dashboard

Province

City

District

Village

Village

Manage

Add

Manage Village

ID	VILLAGE	ZIPCODE	DISTRICT ID	MFD ONLINE	PUBLISH	CREATIONDATE	MODIFIEDDATE	OPTION
1	Latiung	23891	1	1101010001	1	2015-12-16	2015-12-16	
2	Labuhan Bajau	23891	1	1101010002	1	2015-12-16	2015-12-16	
3	Suak Lamatan	23891	1	1101010003	1	2015-12-16	2015-12-16	
4	Ana Ao	23891	1	1101010004	1	2015-12-16	2015-12-16	
5	Lataling	23891	1	1101010005	1	2015-12-16	2015-12-16	
6	Pulau Bengkalak	23891	1	1101010006	1	2015-12-16	2015-12-16	
7	Badegong	23891	1	1101010007	1	2015-12-16	2015-12-16	
8	Kebun Baru	23891	1	1101010008	1	2015-12-16	2015-12-16	
9	Ulul Mayang	23891	1	1101010009	1	2015-12-16	2015-12-16	
10	Pasir Tinggi	23891	1	1101010010	1	2015-12-16	2015-12-16	

BAB IV

MENU, STRUCTURE DAN TESTING

4.1. Menu

Mainmenu	Submenu	Content Menu
Dashboard	Manage	Update
		Delete
	Add	-
Province	Manage	Update
		Delete
	Add	-
City	Manage	Update
		Delete
	Add	-
District	Manage	Update
		Delete
	Add	-
Village	Manage	Update
		Delete
	Add	-

4.2. Structure

- Controller
 - ✓ City.java
 - ✓ District.java
 - ✓ Province.java
 - ✓ Village.java
 - ✓ Site.java
- Database
 - ✓ Database.java
- Model
 - ✓ CityModel.java
 - ✓ DistrictModel.java
 - ✓ ProvinceModel.java
 - ✓ VillageModel.java
- Page
 - ✓ CityPage.java
 - ✓ DistrictPage.java
 - ✓ ProvincePage.java
 - ✓ VillagePage.java
- View
 - ✓ City
 - admin_delete.jsp
 - admin_form.jsp
 - admin_manage.jsp
 - ✓ District
 - admin_delete.jsp
 - admin_form.jsp
 - admin_manage.jsp
 - ✓ Province
 - admin_delete.jsp
 - admin_form.jsp
 - admin_manage.jsp
 - ✓ Site
 - admin_delete.jsp
 - admin_form.jsp
 - admin_manage.jsp
 - ✓ Village

- admin_delete.jsp
 - admin_form.jsp
 - admin_manage.jsp
- ✓ web.xml

4.3. Testing Aplikasi

Mainmenu	Function Menu	Result	
		Yes	No
Dashboard	Manage	√	
	Add	√	
	Update	√	
	Delete	√	
Province	Manage	√	
	Add	√	
	Update	√	
	Delete	√	
City	Manage	√	
	Add	√	
	Update	√	
	Delete	√	
District	Manage	√	
	Add	√	
	Update	√	
	Delete	√	
Village	Manage	√	
	Add	√	
	Update	√	
	Delete	√	

BAB V

PENUTUP

5.1. Kesimpulan

Aplikasi yang dikembangkan dengan bahasa pemrograman Java tidak hanya selalu berupa aplikasi desktop tapi juga bisa berupa aplikasi berbasis website. Dengan bantuan JDBC kita bisa mengembangkan sebuah aplikasi berbasis website dengan bahasa pemrograman java yang bersifat dinamis dan terhubung dengan dengan basis data.

5.2. Kesulitan

Kesulitan yang saya alami dalam mengembangkan aplikasi berbasis website dengan Bahasa pemrograman java dan fitur JDBC, diantaranya:

1. Model, untuk memasukkan sebuah value hasil dari relation database harus mendefinisikan variable yang akan dimasukkan. Sering terjadi kesalahan dan kelupaan nama variable karena netbean tidak ada suggestion nama variable.
2. Berbeda dengan nama variable yang dapat digunakan, untuk java _ (underscore) tidak bisa digunakan dengan error *properly*, ini yang menjadikan java tidak terlalu familiar dibandingkan bahasa pemrograman yang lain.
3. Dropdown, Autosuggest, Checkbox and Radio Condition (Validation), terlalu manual
4. Dalam kesulitan-kesulitan lainnya.. 😊 😊