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Designing a Data Storage Structure Using Block Chain in the Twenty-Four Hours of the Prophet's Sunnah as an Effort to Improve Self-Discipline

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***Abstract*— The Sunnah of the Prophet when applied in daily life will have a positive impact both in terms of human health, improving personal performance, responsibility, discipline, and so on, all of which can affect success and happiness. So it is very important to provide information about the 24-hour knowledge of the Prophet's sunnah.**
This research aims to find a data storage structure for the 24-hour Sunnah of the Apostle content needs, so that it can be used for desktop, web, and mobile-based applications.
The research method includes analyzing data requirements for 24-hour sunnah Rasul content by exploring primary sources sourced from the Qur'an and hadith, and secondary sources. The results of this exploration are described in a 24-hour block chain of a Muslim's life. The block chain serves to facilitate the analysis of data needs, which can then be continued with the data modeling stage at the concept level. After modeling at the concept level is complete, proceed with the data modeling stage at the physical level. The results of data modeling at the physical level are used to create Data Definition Language scripts using SQL Language. The result of this research is a data storage structure to display twenty-four hours of the Prophet's sunnah represented.
Keywords— Alqur'an, Hadith, Sunnah, Muslim, ER Diagram, ER Schema, DDL, SQL

I. INTRODUCTION

Every human being who wants to be successful must live his life with a disciplined, orderly lifestyle, and keep trying to improve his potential[1]. A disciplined and regular lifestyle in increasing self-potential must be done from an early age so that it becomes a habit that does not feel heavy. The importance of spurring self-potential will greatly affect one's success in the future [2], in any field, especially the field of entrepreneurship that requires entrepreneurship [3]. Various strategies and efforts are certainly carried out by parents and schools to strive for a child to have a disciplined and regular habit in all things for the success of his life in the future. However, self-discipline and awareness of responsibility are the best things [2][4]. Awareness of self-discipline will be able to increase success in learning [5] and career. As a Muslim, daily behavior that can improve disciplined and regular patterns can be obtained if you really follow the sunnah of the Prophet. One of the important benefits of the Sunnah of the Prophet is to improve student achievement [6]. The Sunnah of the Apostle besides being able to teach a sense of discipline also teaches a healthy lifestyle model [7][8] it can even be a health therapy [9][10][11], a healthy lifestyle will have an impact on a successful and happy life [12]. Based on this, applying the Sunnah of the Prophet every day for 24 hours is very important. To apply the Sunnah of the Prophet within 24 hours of every day, it is necessary to know what and how to apply the Sunnah of the Prophet.
In this digital era, many people use laptops, smartphones, and so on as literacy media [13][14] which they use to search for various information [15], for example information on self-potential development, health sciences [16], religious studies [17], and so on [18]. Along with the digital era, pouring knowledge about the 24-hour sunnah of the Prophet into digital media becomes very important, because many parents and students today are never separated from gadgets, especially smartphones [19][20]. Due to the controversy about the bad influence [21][22][23][24][25] and the good influence [26] due to smartphones [27][28], making a computerized system with religious knowledge content about the 24 hours of the Prophet's Sunnah is an effort to increase the good

II. LITERATURE REVIEW

Building a computerized system with religious knowledge content, especially the 24-hour sunnah content of the Prophet into digital media, can be done in various ways. Information on the contents of the 24-hour Sunnah of the Prophet can be displayed on desktop [29][30], web-based [31][32][33], and mobile-based [34][35][36][37]. Techniques for displaying the contents of the Sunnah of the Prophet 24 hours can also be done in various ways, for example using

text, multimedia [38][39][40], augmented reality [41], virtual reality [42], and immediately. Whatever the method and technique that will be used, basically all 24-hour sunnah Rasul content requires storage media to store data related to 24-hour Sunnah Rasul content. In order for the storage media to be in harmony with data transactions and data transactions can be carried out effectively and efficiently, it is necessary to design a data storage structure that meets the principles of effectiveness and efficiency [43].

III. MATERIALS AND METHODS

The necessary way to design a data storage structure that meets the rules of effectiveness and efficiency is to build a database. In accordance with the principle of the software development life cycle which is commonly abbreviated as SDLC [44][45][46][47][48], the steps required in building a database [49][50] are:

i. Analyze and Determine Data Requirement
ii. Designing Entity Relationship Diagrams
iii. Transforming From Entity Relationship Diagram To Entity Relationship Schema
iv. Creating Data Definition Language Scripts

Analyze and Determine Data Requirement

The stage of determining data requirements means an exploration of the system, namely the place or domain where data transactions will be carried out. If the system exploration has been carried out, it can be described using system modeling [51][52]. System modeling can use structured methods [53] or object-oriented methods [54][55]. In this study, the exploration of the real system was carried out by literacy, using the primary references sourced from the Qur'an [56][57][58] and Hadith [59][60][61]. Some additional references are taken from several books written by scholars and writers [62] which focus on discussing the twenty-four-hour sunnah of the Prophet [63][64][65][66]. The results obtained at this stage are:

i. Entity for 24 Hours Sunnah Rasul content data
ii. Attributes owned by each entity

Designing Entity Relationship Diagrams

Entity relationship diagram which is often abbreviated as ER This diagram serves to describe the results of data modeling at the concept level [67]. In the E-R diagram, researchers will be able to describe several entities obtained from the results of exploring real systems in analyzing and determining data requirements [68]. In data modeling at the concept level, it is possible to define:

i. Relationships between existing entities[69][70].
ii. The cardinality of each relation has been determined [71][72].
iii. Data types and data lengths for all attributes owned by each entity that must be matched to the SQL data type [73].
iv. Primary key for attributes on each entity

Transforming From Entity Relationship Diagram To Entity Relationship Schema

Entity relationship schema, which is often abbreviated as ER schema, serves to describe the results of data modeling at the physical level. The ER Schema is obtained from the transformation result, namely the transformation from the ER Diagram to the ER Schematic form [74]. The transformations carried out are:

i. Transform an entity into a table
ii. Transform an attribute into a field
iii. Transform a relationship into a referential
iv. Adding a primary key to a table to become a foreign key

Creating Data Definition Language Scripts

Data definition language scripts or commonly abbreviated as DDL are used and applied to the database engine. The DDL script was obtained from the translation of the E-R Schema [75] which had been normalized [76]. The DDL script uses the SQL language [77][78]. All database engines basically use the SQL language [79][80], the only difference is the syntax. Because there is a difference in syntax, so, in making a DDL script, even though it uses SQL language, the DDL script must still refer to the syntax of the database engine that will be used when creating applications later. In this research some DDL scripts [81] that must be made are related to:

i. Checking the existence of the table, if the table already exists, the table is dropped from the database engine.
ii. Creating a table based on all the tables contained in the E-R Schema.
iii. Setting the primary key on the attribute that has been set as the primary key contained in the E-R Schema.
iv. Setting foreign keys on attributes that have been set as foreign keys described in the E-R Schema

v. Determine the constraint variable as described in the E-R Schema
vi. Determine the direction of the reference flow from an entity to another entity by using a constraint variable that has been created previously.

IV. Result and Discussion

Based on the SDLC, the results of the research that has been carried out will be discussed based on each stage of the SDLC.

The Results Of Data Requirement Analysis

Determining the data requirement of the 24-hour for prophet sunnah begins by describing globally the life of a Muslim for 24 hours. **Figure 1** explains the block chain about the life of a Muslim for 24 hours

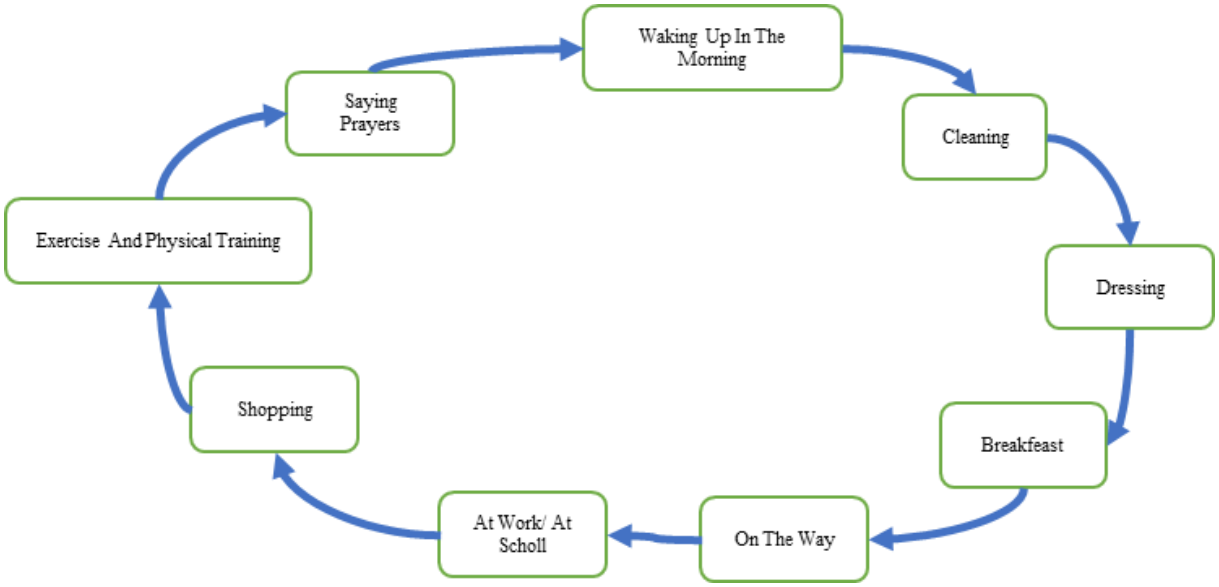

Figure 1. Block chain 24 hours in the life of a muslim

From the analysis of the global picture of the 24-hour block chain of Muslim life as shown in **Figure 1**, the categories of data requirement used in the 24-hour for prophet sunnah include:

i. Evidences and laws that are sourced from the Al-Qur'an
ii. Evidences and laws that are sourced from the Hadith
iii. Obligatory worship
iv. Sunnah worship
v. Dhikrullah
vi. The activities carried out referring to the Sunnah of the Prophet

Finding The Entity Requirement

Based on the results of the 24-hour block chain analysis of Muslim life as shown in **Figure 1**, it can be found that all entities from the system of 24-hour for Prophet sunnah are as shown in **Table 1**.

Table 1. entities from the system of 24-hour for Prophet sunnah

Entitas	Description
Activity	Daily sunnah activities
AlquranAyah	The ayah of Al-Qur'an
AlquranJuz	The juz of Al-Qur'an
AlquranSurah	The surah of Al-Qur'an
BookOfHadits	Hadith Book
Dzikir	Daily dhikr sunnah
FardhuPrayer	Daily obligatory worship
Hadits	Hadith
Language	Language

Entitas	Description
Number Hadits	Hadith Number
SunnahOfActivity	Sunnah activities
SunnahPrayer	Sunnah worship
Time	Time
TranslateAlquran	Translation of the Al-Qur'an
TranslateHadits	Translation of the Hadith
Zona	Zona

Finding The Attribute Requirement

After all entities have been found, the next step is to determine the attributes possessed by all of each entity, as shown in Table 2.

Table 2. Atribut Pada Entitas Activity 24 jam sunnah Rasul

Atribut	Description
Alqur'anSurah	Surah of the Al-Qur'an
Arabic	Arabic writing on the surah of the Qur'an
ArabicAyatFardhuPrayer	Arabic writing in the ayah of the Al-Qur'an related to obligatory worship
ArabicHadits	Arabic writing on hadith
ContentOfAlqur'anAyah	The contents of ayah of Al-Qur'an
ContentOfHadits	Contents of Hadith
ContentOfTranslateHadits	The contents of the hadith translation
ContentTranslateAlqur'an	Contents of the translation of the Al-Qur'an
EndOfTime	End time
IdActivity	Primary key of entity activity
IdBook	Primary key of the hadith book entity
IdDzikir	Primary key of the dzikir entity
IdFardhuPrayer	Primary key of FardhuPrayer entity
IdHadits	Primary key of the Hadith entity
IdLanguage	Primary key of entity language
IdSunnahOfActivity	Primary key of sunnah activity entity
IdSunnahPrayer	The primary key of the sunnah worship entity
IdTime	Primary key of entity time
IdZona	Primary key of the zone entity
LatinAyatFardhuPrayer	Latin writing of an ayah of worship fardhu
NameDzikir	Name of dhikr
NameFardhuPrayer	Name of obligatory worship
NameHadits	Name from hadith

Atribut	Description
NameOfActivity	Name of activity
NameOfBook	Name of the book
NameOfLanguage	Name of Language
NameOfSunnahActivity	The name of the Sunnah activity
NameOfSurah	Name of the Surah
NameOfTime	Name of time
NameOfZona	Name of the zone
NameSunnahPrayer	Name of Sunnah worship
NumberAyatFardhuPrayer	The name of the obligatory worship verse
NumberOfAlqur'anAyah	The name of the father of the Qur'an
NumberOfAlqur'anJuz	Name of the juz of Al-Qur'an
NumberOfHadits	Name from hadith
StartOfTime	Start time

The Results Of Entity Relationship Diagram Design

If the data requirements analysis stage has been completed and the data requirements generated from the 24 hour for Prophet sunnah are in the form of entities and attributes, then the next stage is data modeling. Data modeling at the concept level is illustrated by the E-R Diagram as shown in Figure 2. Based on Figure 2, it can be seen that there are 23 relationships generated at the concept level data modeling. The cardinality details for each relationship are as shown in Table 3.

Table 3. List of relationship system 24 hours Sunnah Rasulullah

Name	Entity 2	Entity 1	Entity 1 -> Entity 2 Role Cardinality	Entity 2 -> Entity 1 Role Cardinality
ActivitySunnahOfActivity	SunnahOfActivity	Activity	0,n	0,1
Alqur'anJuz AlquranAyah	AlquranAyah	AlquranJuz	0,n	0,1
Alqur'anSurah AlquranJuz	AlquranJuz	AlquranSurah	0,n	0,n
AlquranAyah Translate	TranslateAlquran	AlquranAyah	0,n	0,1
AlquranSurah AlquranAyah	AlquranAyah	AlquranSurah	0,n	0,1
Dzikir AlquranAyah	AlquranAyah	Dzikir	0,n	0,n
Dzikir Hadits	Hadits	Dzikir	0,n	0,n
FardhuPrayer AlquranAyah	AlquranAyah	FardhuPrayer	0,n	0,n
FardhuPrayer Hadits	Hadits	FardhuPrayer	0,n	0,n
Hadits NumberHadits	Number Hadits	Hadits	0,n	0,1
Hadits TranslateHadits	TranslateHadits	Hadits	0,n	0,1
NumberHadits BookHadits	Number Hadits	BookOfHadits	0,n	0,1
SunnahOfActivity AlquranAyah	AlquranAyah	SunnahOfActivity	0,n	0,n
SunnahOfActivity Hadits	Hadits	SunnahOfActivity	0,n	0,n
SunnahPrayer AlquranAyah	AlquranAyah	SunnahPrayer	0,n	0,n
SunnahPrayer Hadits	Hadits	SunnahPrayer	0,n	0,n

Name	Entity 2	Entity 1	Entity 1 -> Entity 2 Role Cardinality	Entity 2 -> Entity 1 Role Cardinality
Time Activity	Activity	Time	0,n	0,1
Time Dzikir	Dzikir	Time	0,n	0,1
Time SunnahPrayer	SunnahPrayer	Time	0,n	0,1
TimeFardhuPrayer	FardhuPrayer	Time	0,n	0,1
TranslateAlqur'an Language	TranslateAlquran	Language	0,n	0,1
TranslateHadits Language	TranslateHadits	Language	0,n	0,1
ZonaTime	Time	Zona	0,n	0,1

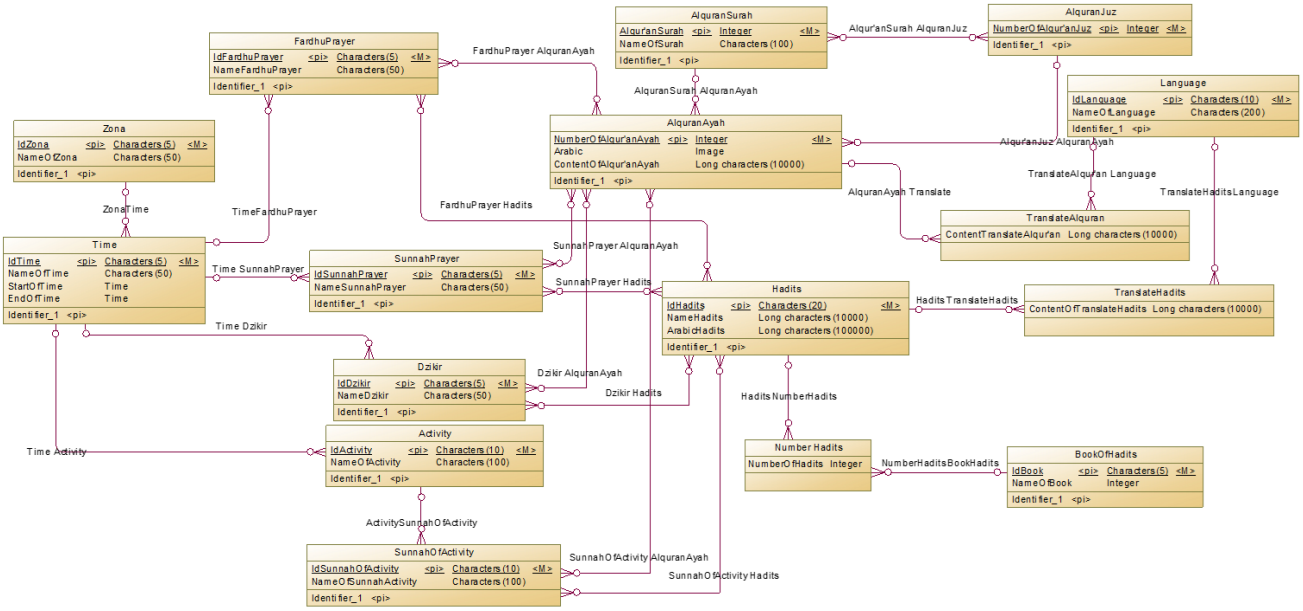

Figure 2. E-R Diagram 24 hours Sunnah of the Prophet

The Results Of Entity Relationship Schema Design

After the data modeling at the concept level has been completed, then the data modeling at the physical level can be carried out. Data modeling at the physical level is done by transforming the E-R Diagram into an E-R Schema. The details of the transformation changes from E-R Diagram to E-R Schema are as shown in Table 4. The E-R Schema diagram is shown in Figure 3.

Table 4. The transformation process of E-R diagram into E-R schema

E-R Diagram	Amount	E-R Schema	Amount
Entity	16	Table	25
Relationship	23	Referential	32
Atribut	36	Field	64
Primary Key	13	Primary Key	13
		Foreign Key	32
Strong Entity	13		
Weak Entity	3		

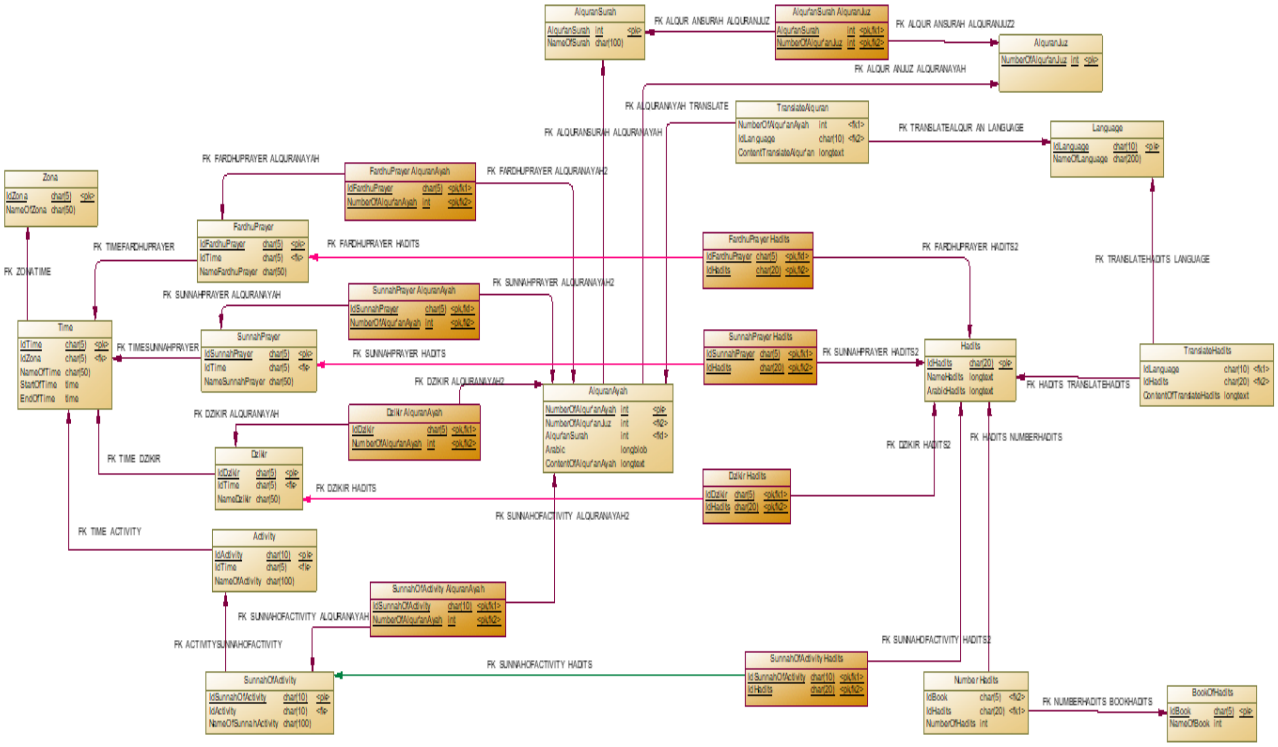

Figure 3. E-R Diagram 24 hours Sunnah of the Prophet

The details of the tables generated at the physical level data modeling are 25 tables as shown in Table 5.

Table 5. List of tables to be built on the database engine

Name	Code
Activity	ACTIVITY
Alqur'anSurah AlquranJuz	ALQUR_ANSURAH_ALQURANJUZ
AlquranAyah	ALQURANAYAH
AlquranJuz	ALQURANJUZ
AlquranSurah	ALQURANSURAH
BookOfHadits	BOOKOFHADITS
Dzikir	DZIKIR
Dzikir AlquranAyah	DZIKIR_ALQURANAYAH
Dzikir Hadits	DZIKIR_HADITS
FardhuPrayer	FARDHUPRAYER
FardhuPrayer AlquranAyah	FARDHUPRAYER_ALQURANAYAH
FardhuPrayer Hadits	FARDHUPRAYER_HADITS
Hadits	HADITS
Language	LANGUAGE
Number Hadits	NUMBER_HADITS
SunnahOfActivity	SUNNAHOFACTIVITY
SunnahOfActivity AlquranAyah	SUNNAHOFACTIVITY_ALQURANAYAH
SunnahOfActivity Hadits	SUNNAHOFACTIVITY_HADITS
SunnahPrayer	SUNNAHPRAYER

Name	Code
SunnahPrayer AlquranAyah	SUNNAHPRAYER_ALQURANAYAH
SunnahPrayer Hadits	SUNNAHPRAYER_HADITS
Time	TIME
TranslateAlquran	TRANSLATEALQURAN
TranslateHadits	TRANSLATEHADITS
Zona	ZONA

Referential is modeling at the physical level which is the result of the transformation of the relationship at the concept level modeling. The resulting referential details are shown in Table 6.

Table 6. The list of referential

Name	Code	Parent Table	Child Table
ActivitySunnahOfActivity	ACTIVITYSUNNAHOFACTIVITY	Activity	SunnahOfActivity
Alqur'anJuz AlquranAyah	ALQUR_ANJUZ_ALQURANAYAH	AlquranJuz	AlquranAyah
Alqur'anSurah AlquranJuz	ALQUR_ANSURAH_ALQURANJUZ2	AlquranJuz	Alqur'anSurah AlquranJuz
Alqur'anSurah AlquranJuz	ALQUR_ANSURAH_ALQURANJUZ	AlquranSurah	Alqur'anSurah AlquranJuz
AlquranAyah Translate	ALQURANAYAH_TRANSLATE	AlquranAyah	TranslateAlquran
AlquranSurah AlquranAyah	ALQURANSURAH_ALQURANAYAH	AlquranSurah	AlquranAyah
Dzikir AlquranAyah	DZIKIR_ALQURANAYAH	Dzikir	Dzikir AlquranAyah
Dzikir AlquranAyah	DZIKIR_ALQURANAYAH2	AlquranAyah	Dzikir AlquranAyah
Dzikir Hadits	DZIKIR_HADITS	Dzikir	Dzikir Hadits
Dzikir Hadits	DZIKIR_HADITS2	Hadits	Dzikir Hadits
FardhuPrayer AlquranAyah	FARDHUPRAYER_ALQURANAYAH	FardhuPrayer	FardhuPrayer AlquranAyah
FardhuPrayer AlquranAyah	FARDHUPRAYER_ALQURANAYAH2	AlquranAyah	FardhuPrayer AlquranAyah
FardhuPrayer Hadits	FARDHUPRAYER_HADITS	FardhuPrayer	FardhuPrayer Hadits
FardhuPrayer Hadits	FARDHUPRAYER_HADITS2	Hadits	FardhuPrayer Hadits
Hadits NumberHadits	HADITS_NUMBERHADITS	Hadits	Number Hadits
Hadits TranslateHadits	HADITS_TRANSLATEHADITS	Hadits	TranslateHadits
NumberHadits BookHadits	NUMBERHADITS_BOOKHADITS	BookOfHadits	Number Hadits
SunnahOfActivity AlquranAyah	SUNNAHOFACTIVITY_ALQURANAYAH	SunnahOfActivity	SunnahOfActivity AlquranAyah
SunnahOfActivity AlquranAyah	SUNNAHOFACTIVITY_ALQURANAYAH2	AlquranAyah	SunnahOfActivity AlquranAyah
SunnahOfActivity Hadits	SUNNAHOFACTIVITY_HADITS	SunnahOfActivity	SunnahOfActivity Hadits
SunnahOfActivity Hadits	SUNNAHOFACTIVITY_HADITS2	Hadits	SunnahOfActivity Hadits
SunnahPrayer AlquranAyah	SUNNAHPRAYER_ALQURANAYAH	SunnahPrayer	SunnahPrayer AlquranAyah
SunnahPrayer AlquranAyah	SUNNAHPRAYER_ALQURANAYAH2	AlquranAyah	SunnahPrayer AlquranAyah
SunnahPrayer Hadits	SUNNAHPRAYER_HADITS2	Hadits	SunnahPrayer Hadits
SunnahPrayer Hadits	SUNNAHPRAYER_HADITS	SunnahPrayer	SunnahPrayer Hadits
Time Activity	TIME_ACTIVITY	Time	Activity
Time Dzikir	TIME_DZIKIR	Time	Dzikir
Time SunnahPrayer	TIMESUNNAHPRAYER	Time	SunnahPrayer
TimeFardhuPrayer	TIMEFARDHUPRAYER	Time	FardhuPrayer
TranslateAlqur'an Language	TRANSLATEALQUR_AN_LANGUAGE	Language	TranslateAlquran
TranslateHadits Language	TRANSLATEHADITS_LANGUAGE	Language	TranslateHadits
ZonaTime	ZONATIME	Zona	Time

Script Of Data Definition Language

After the data modeling stage has been completed, the next step is to create a Data Definition Language (DDL) script using the SQL language. The DDL scripts that must be defined include:

i. DDL script to create table
ii. DDL script to determine primary key
iii. DDL script to determine referential
iv. DDL script to determine foreign key

Here are some DDL scripts used to build tables in the database engine. In the script to build a table, it must also be declared, which field will be used as the primary key.

DDL Script To Create Table

Some of the DDL scripts used to create tables on the database engine are as follows:

i. DLL script to build the table of activity

```
create table ACTIVITY
(
  IDACTIVITY          char(10) not null,
  IDTIME              char(5),
  NAMEOFACTIVITY      char(100),
  primary key (IDACTIVITY)
);
```

ii. DLL script to build the table of alquranayah

```
create table ALQURANAYAH
(
  NUMBEROFALQUR_ANAYAH int not null,
  NUMBEROFALQUR_ANJUZ  int,
  ALQUR_ANSURAH        int,
  ARABIC               longblob,
  CONTENTOFALQUR_ANAYAH longtext,
  primary key (NUMBEROFALQUR_ANAYAH)
);
```

iii. DLL script to build the table of alquranjuz

```
create table ALQURANJUZ
(
  NUMBEROFALQUR_ANJUZ  int not null,
  primary key (NUMBEROFALQUR_ANJUZ)
);
```

iv. DLL script to build the table of alquransurah

```
create table ALQURANSURAH
(
  ALQUR_ANSURAH        int not null,
  NAMEOFSURAH          char(100),
  primary key (ALQUR_ANSURAH)
);
```

v. DLL script to build the table of alqur_ansurah_alquranjuz

```
create table ALQUR_ANSURAH_ALQURANJUZ
(
  ALQUR_ANSURAH        int not null,
  NUMBEROFALQUR_ANJUZ  int not null,
  primary key (ALQUR_ANSURAH, NUMBEROFALQUR_ANJUZ)
);
```

vi. DLL script to build the table of bookofhadits

```
create table BOOKOFHADITS
(
  IDBOOK               char(5) not null,
  NAMEOFBOOK           int,
  primary key (IDBOOK)
```

```
);
```

vii. DLL script to build the table of dzikir

```
create table DZIKIR
(
   IDDZIKIR            char(5) not null,
   IDTIME              char(5),
   NAMEDZIKIR          char(50),
   primary key (IDDZIKIR)
);
```

viii. DLL script to build the table of dzikir_alquranayah

```
create table DZIKIR_ALQURANAYAH
(
   IDDZIKIR            char(5) not null,
   NUMBEROFALQUR_ANAYAH int not null,
   primary key (IDDZIKIR, NUMBEROFALQUR_ANAYAH)
);
```

ix. DLL script to build the table of dzikir_hadits

```
create table DZIKIR_HADITS
(
   IDDZIKIR            char(5) not null,
   IDHADITS            char(20) not null,
   primary key (IDDZIKIR, IDHADITS)
);
```

x. DLL script to build the table of fardhuprayer

```
create table FARDHUPRAYER
(
   IDFARDHUPRAYER      char(5) not null,
   IDTIME              char(5),
   NAMEFARDHUPRAYER    char(50),
   primary key (IDFARDHUPRAYER)
);
```

xi. DLL script to build the table of fardhuprayer_alquanayah

```
create table FARDHUPRAYER_ALQURANAYAH
(
   IDFARDHUPRAYER      char(5) not null,
   NUMBEROFALQUR_ANAYAH int not null,
   primary key (IDFARDHUPRAYER, NUMBEROFALQUR_ANAYAH)
);
```

xii. DLL script to build the table of fardhuprayer_hadits

```
create table FARDHUPRAYER_HADITS
(
   IDFARDHUPRAYER      char(5) not null,
   IDHADITS            char(20) not null,
   primary key (IDFARDHUPRAYER, IDHADITS)
);
```

xiii. DLL script to build the table of hadits

```
create table HADITS
(
   IDHADITS            char(20) not null,
   NAMEHADITS          longtext,
   ARABICHADITS        longtext,
   primary key (IDHADITS)
);
```

xiv. DLL script to build the table of language

```
create table LANGUAGE
(
   IDLANGUAGE          char(10) not null,
   NAMEOFLANGUAGE      char(200),
   primary key (IDLANGUAGE)
);
```

xv. DLL script to build the table of number_hadits

```
create table NUMBER_HADITS
(
   IDBOOK              char(5),
   IDHADITS            char(20),
   NUMBEROFHADITS      int
);
```

xvi. DLL script to build the table of sunnahofactivity

```
create table SUNNAHOFACTIVITY
(
   IDSUNNAHOFACTIVITY   char(10) not null,
   IDACTIVITY           char(10),
   NAMEOFSUNNAHACTIVITY char(100),
   primary key (IDSUNNAHOFACTIVITY)
);
```

xvii. DLL script to build the table of sunnahofactivity_alquranayah

```
create table SUNNAHOFACTIVITY_ALQURANAYAH
(
   IDSUNNAHOFACTIVITY   char(10) not null,
   NUMBEROFALQUR_ANAYAH int not null,
   primary key (IDSUNNAHOFACTIVITY, NUMBEROFALQUR_ANAYAH)
);
```

xviii. DLL script to build the table of sunnahofactivity_hadits

```
create table SUNNAHOFACTIVITY_HADITS
(
   IDSUNNAHOFACTIVITY   char(10) not null,
   IDHADITS             char(20) not null,
   primary key (IDSUNNAHOFACTIVITY, IDHADITS)
);
```

xix. DLL script to build the table of sunnahprayer

```
create table SUNNAHPRAYER
(
   IDSUNNAHPRAYER       char(5) not null,
   IDTIME               char(5),
   NAMESUNNAHPRAYER     char(50),
   primary key (IDSUNNAHPRAYER)
);
```

xx. DLL script to build the table of alquranjuz

Membangun tabel sunnahprayer_alquranayah

```
create table SUNNAHPRAYER_ALQURANAYAH
(
   IDSUNNAHPRAYER       char(5) not null,
   NUMBEROFALQUR_ANAYAH int not null,
   primary key (IDSUNNAHPRAYER, NUMBEROFALQUR_ANAYAH)
);
```

xxi. DLL script to build the table of sunnahprayer_hadits

```
create table SUNNAHPRAYER_HADITS
(
   IDSUNNAHPRAYER       char(5) not null,
   IDHADITS             char(20) not null,
```

```
  primary key (IDSUNNAHPRAYER, IDHADITS)
);
```

xxii. DLL script to build the table of time

```
create table TIME
(
  IDTIME              char(5) not null,
  IDZONA              char(5),
  NAMEOFTIME          char(50),
  STARTOFTIME         time,
  ENDOFTIME           time,
  primary key (IDTIME)
);
```

xxiii. DLL script to build the table of translatealquran

```
create table TRANSLATEALQURAN
(
  NUMBEROFALQUR_ANAYAH int,
  IDLANGUAGE          char(10),
  CONTENTTRANSLATEALQUR_AN longtext
);
```

xxiv. DLL script to build the table of translatehadits

```
create table TRANSLATEHADITS
(
  IDLANGUAGE          char(10),
  IDHADITS            char(20),
  CONTENTOFTRANSLATEHADITS longtext
);
```

xxv.DLL script to build the table of zona

```
create table ZONA
(
  IDZONA              char(5) not null,
  NAMEOFZONA          char(50),
  primary key (IDZONA)
);
```

DDL Script To Create Table

When create a referential script, you must also declare which fields will be used as foreign keys. Here is a DDL script for 32 referentials according to the design of the ER Schema. Some of the DDL scripts used to create referential on the database engine are as follows:

Referential 1

```
alter table ACTIVITY add constraint FK_TIME_ACTIVITY foreign key (IDTIME)
    references TIME (IDTIME) on delete restrict on update restrict;
```

Referential 2

```
alter table ALQURANAYAH add constraint FK_ALQURANSURAH_ALQURANAYAH foreign key (ALQUR_ANSURAH)
    references ALQURANSURAH (ALQUR_ANSURAH) on delete restrict on update restrict;
```

Referential 3

```
alter table ALQURANAYAH add constraint FK_ALQUR_ANJUZ_ALQURANAYAH foreign key (NUMBEROFALQUR_ANJUZ)
    references ALQURANJUZ (NUMBEROFALQUR_ANJUZ) on delete restrict on update restrict;
```

Referential 4

```
alter table ALQUR_ANSURAH_ALQURANJUZ add constraint FK_ALQUR_ANSURAH_ALQURANJUZ foreign key (ALQUR_ANSURAH)
    references ALQURANSURAH (ALQUR_ANSURAH) on delete restrict on update restrict;
```

Referential 5
```
alter table ALQUR_ANSURAH_ALQURANJUZ add constraint FK_ALQUR_ANSURAH_ALQURANJUZ2 foreign key (NUMBEROFALQUR_ANJUZ)
    references ALQURANJUZ (NUMBEROFALQUR_ANJUZ) on delete restrict on update restrict;
```

Referential 6
```
alter table DZIKIR add constraint FK_TIME_DZIKIR foreign key (IDTIME)
    references TIME (IDTIME) on delete restrict on update restrict;
```

Referential 7
```
alter table DZIKIR_ALQURANAYAH add constraint FK_DZIKIR_ALQURANAYAH foreign key (IDDZIKIR)
    references DZIKIR (IDDZIKIR) on delete restrict on update restrict;
```

Referential 8
```
alter table DZIKIR_ALQURANAYAH add constraint FK_DZIKIR_ALQURANAYAH2 foreign key (NUMBEROFALQUR_ANAYAH)
    references ALQURANAYAH (NUMBEROFALQUR_ANAYAH) on delete restrict on update restrict;
```

Referential 9
```
alter table DZIKIR_HADITS add constraint FK_DZIKIR_HADITS foreign key (IDDZIKIR)
    references DZIKIR (IDDZIKIR) on delete restrict on update restrict;
```

Referential 10
```
alter table DZIKIR_HADITS add constraint FK_DZIKIR_HADITS2 foreign key (IDHADITS)
    references HADITS (IDHADITS) on delete restrict on update restrict;
```

Referential 11
```
alter table FARDHUPRAYER add constraint FK_TIMEFARDHUPRAYER foreign key (IDTIME)
    references TIME (IDTIME) on delete restrict on update restrict;
```

Referential 12
```
alter table FARDHUPRAYER_ALQURANAYAH add constraint FK_FARDHUPRAYER_ALQURANAYAH foreign key (IDFARDHUPRAYER)
    references FARDHUPRAYER (IDFARDHUPRAYER) on delete restrict on update restrict;
```

Referential 13
```
alter table FARDHUPRAYER_ALQURANAYAH add constraint FK_FARDHUPRAYER_ALQURANAYAH2 foreign key (NUMBEROFALQUR_ANAYAH)
    references ALQURANAYAH (NUMBEROFALQUR_ANAYAH) on delete restrict on update restrict;
```

Referential 14
```
alter table FARDHUPRAYER_HADITS add constraint FK_FARDHUPRAYER_HADITS foreign key (IDFARDHUPRAYER)
    references FARDHUPRAYER (IDFARDHUPRAYER) on delete restrict on update restrict;
```

Referential 15
```
alter table FARDHUPRAYER_HADITS add constraint FK_FARDHUPRAYER_HADITS2 foreign key (IDHADITS)
    references HADITS (IDHADITS) on delete restrict on update restrict;
```

Referential 16
```
alter table NUMBER_HADITS add constraint FK_HADITS_NUMBERHADITS foreign key (IDHADITS)
    references HADITS (IDHADITS) on delete restrict on update restrict;
```

Referential 17
```
alter table NUMBER_HADITS add constraint FK_NUMBERHADITS_BOOKHADITS foreign key (IDBOOK)
    references BOOKOFHADITS (IDBOOK) on delete restrict on update restrict;
```

Referential 18
```
alter table SUNNAHOFACTIVITY add constraint FK_ACTIVITYSUNNAHOFACTIVITY foreign key (IDACTIVITY)
    references ACTIVITY (IDACTIVITY) on delete restrict on update restrict;
```

Referential 19
```
alter table SUNNAHOFACTIVITY_ALQURANAYAH add constraint FK_SUNNAHOFACTIVITY_ALQURANAYAH foreign key (IDSUNNAHOFACTIVITY)
```

```
    references SUNNAHOFACTIVITY (IDSUNNAHOFACTIVITY) on delete restrict on update restrict;
```

Referential 20

```
alter table SUNNAHOFACTIVITY_ALQURANAYAH add constraint FK_SUNNAHOFACTIVITY_ALQURANAYAH2 foreign key (NUMBEROFALQUR_ANAYAH)
    references ALQURANAYAH (NUMBEROFALQUR_ANAYAH) on delete restrict on update restrict;
```

Referential 21

```
alter table SUNNAHOFACTIVITY_HADITS add constraint FK_SUNNAHOFACTIVITY_HADITS foreign key (IDSUNNAHOFACTIVITY)
    references SUNNAHOFACTIVITY (IDSUNNAHOFACTIVITY) on delete restrict on update restrict;
```

Referential 22

```
alter table SUNNAHOFACTIVITY_HADITS add constraint FK_SUNNAHOFACTIVITY_HADITS2 foreign key (IDHADITS)
    references HADITS (IDHADITS) on delete restrict on update restrict;
```

Referential 23

```
alter table SUNNAHPRAYER add constraint FK_TIMESUNNAHPRAYER foreign key (IDTIME)
    references TIME (IDTIME) on delete restrict on update restrict;
```

Referential 24

```
alter table SUNNAHPRAYER_ALQURANAYAH add constraint FK_SUNNAHPRAYER_ALQURANAYAH foreign key (IDSUNNAHPRAYER)
    references SUNNAHPRAYER (IDSUNNAHPRAYER) on delete restrict on update restrict;
```

Referential 25

```
alter table SUNNAHPRAYER_ALQURANAYAH add constraint FK_SUNNAHPRAYER_ALQURANAYAH2 foreign key (NUMBEROFALQUR_ANAYAH)
    references ALQURANAYAH (NUMBEROFALQUR_ANAYAH) on delete restrict on update restrict;
```

Referential 26

```
alter table SUNNAHPRAYER_HADITS add constraint FK_SUNNAHPRAYER_HADITS foreign key (IDSUNNAHPRAYER)
    references SUNNAHPRAYER (IDSUNNAHPRAYER) on delete restrict on update restrict;
```

Referential 27

```
alter table SUNNAHPRAYER_HADITS add constraint FK_SUNNAHPRAYER_HADITS2 foreign key (IDHADITS)
    references HADITS (IDHADITS) on delete restrict on update restrict;
```

Referential 28

```
alter table TIME add constraint FK_ZONATIME foreign key (IDZONA)
    references ZONA (IDZONA) on delete restrict on update restrict;
```

Referential 29

```
alter table TRANSLATEALQURAN add constraint FK_ALQURANAYAH_TRANSLATE foreign key (NUMBEROFALQUR_ANAYAH)
    references ALQURANAYAH (NUMBEROFALQUR_ANAYAH) on delete restrict on update restrict;
```

Referential 30

```
alter table TRANSLATEALQURAN add constraint FK_TRANSLATEALQUR_AN_LANGUAGE foreign key (IDLANGUAGE)
    references LANGUAGE (IDLANGUAGE) on delete restrict on update restrict;
```

Referential 31

```
alter table TRANSLATEHADITS add constraint FK_HADITS_TRANSLATEHADITS foreign key (IDHADITS)
    references HADITS (IDHADITS) on delete restrict on update restrict;
```

Referential 32

```
alter table TRANSLATEHADITS add constraint FK_TRANSLATEHADITS_LANGUAGE foreign key (IDLANGUAGE)
    references LANGUAGE (IDLANGUAGE) on delete restrict on update restrict;
```

V. CONCLUSION

From the results of the research that has been done, several conclusions can be drawn, including the block chain of the 24-hour for prophet sunnah that has been created is very useful and makes it easier to determine the categories of data requirement that will produce entities and attributes. The 24-hour of prophet sunnah data modeling at the concept level is carried out based on the results of the category of data requirement based on entities and attributes by determining the relationship between entities and their cardinality. The result of the transformation from concept level data modeling to physical level will produce a number of tables based on the cardinality of the relationship. Entity relationship schema will make it easier for database developers to build SQL scripts according to the database engine used.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Tjatursari Widiartin contributed to perform analysis Designing a Data Storage Structure Using Block Chain and wrote the articles for around 70 percent. Maslihah contributes to design data storage and wrote the articles for around 30 percent.

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