STERLING GRANT

CIT 336-03

Text Data Types

FOR FIELDS

Numeric Types

- Numeric types have Integers & Decimals
  - Integers: Click on the links to lead to examples within this PDF
    - Smallint: These map and convert 2-byte integer values.
    - Integer: These map and convert 4-byte integer values.
    - Bigint: These map and convert 8-byte integer values.
  - Decimal Types
    - Decimal: These map and convert data with fixed-point precision. If you need an exact precision for numbers with fractions, you should consider using this type.
    - Float: These map and convert data with floating-point precision. If you only need an approximate precision for numbers with fractions, you should consider using this type.

String Types

- String types have Character Strings & Binary Strings
  - Character Strings
    - String: These map and convert strings data with a maximum length. Use this if you know the data to be stored will always fit into this specified length.
    - Text: These map and convert without a maximum length, unlike strings. Use this if you don't know the maximum length.
    - GUID: These map and convert "Globally Unique Identifier". Use this if you want to store a GUID.
  - Binary Strings
    - Binary: These should only be used to store binary strings with a specific max length.
    - Blob: A blob is the opposite of the binary, wherein there is no specific max length.

Bit Types

- Bit types only refer to Boolean
  - Boolean: Boolean will only convert boolean data. This is true or false. Values retrieved from the database are always converted to PHP's boolean type or null if no data is present.

As most of the database vendors do not have a native boolean type, this type silently falls back to the smallest possible integer or bit data type if necessary to ensure the least possible data storage requirements are met.

Date and Time Types

- Date and Time includes Date, Datetime, Datetimetz & Time types
  - Date: Use Date to refer to time and timezones if you know the time and timezones they are referring to.
  - Datetime: Maps and converts date and time data without timezone information. Use this if you know that the data to be stored always only needs to be a date with time but without timezone information.
  - Datetimetz: Use this if you know that the data to be stored always contains date, time and timezone information.
  - Time: If you know that the data to be stored only needs to be a time without date, time and timezone information, you should consider using this type.

Array Types

- Array types have Arrays, Simple_Arrays & Json_Arrays
  - Array: This is based on PHP Serialization. If you need to store an exact representation of your array data, you should consider using this type as it uses serialization to represent an exact copy of your array as string in the database.
  - Simple_Array: This is based on PHP comma delimited imploding and exploding. Use this if you know that the data to be stored always is a scalar value based one-dimensional array. Values retrieved from the database are always converted to PHP's array type using comma delimited explode() or null if no data is present.
  - Json_Array: This is based on PHP's JSON encoding functions. If you know that the data to be stored always is in a valid UTF-8 encoded JSON format string, you should consider using this type. Values retrieved from the database are always converted to PHP's array type using PHP's json_decode() function.

Object Types

- Object types only refer to object
  - Object: Maps and converts object data based on PHP serialization. If you need to store an exact representation of your object data, you should consider using this type as it uses serialization to represent an exact copy of your object as string in the database. Values retrieved from the database are always converted to PHP's object type using deserialization or null if no data is present.

This type will always be mapped to the database vendor's text type internally as there is no way of storing a PHP object representation natively in the database.

Mapping Matrix: smallint

.1

Doctrine	PHP	DB Vendor	V	TYPE
smallint	integer	MySQL	All	SMALLINT UNSIGNED AUTO_INCREMENT
		Drizzle	All	INT UNSIGNED AUTO_INCREMENT
		PostgreSQL	All	SMALLINT
		Oracle	All	NUMBER(5)
		SQL Server	All	SMALLINT IDENTITY
		SQL Anywhere	All	INTEGER
		SQLite	All	INT UNSIGNED AUTO_INCREMENT

Mapping Matrix: integer

.1

Doctrine	PHP	DB Vendor	V	TYPE
integer	integer	MySQL	All	INT UNSIGNED AUTO_INCREMENT
		Drizzle	All	INT UNSIGNED AUTO_INCREMENT
		PostgreSQL	All	INT SERIAL
		Oracle	All	NUMBER(10)
		SQL Server	All	INT IDENTITY
		SQL Anywhere	All	UNSIGNED INT IDENTITY
		SQLite	All	INTEGER

Mapping Matrix: bigint

.1

Doctrine	PHP	DB Vendor	V	TYPE
bigint	string	MySQL	All	BIGINT UNSIGNED AUTO_INCREMENT
		Drizzle	All	BIGINT UNSIGNED AUTO_INCREMENT
		PostgreSQL	All	BIGINT BIGSERIAL
		Oracle	All	NUMBER(20)
		SQL Server	All	BIGINT IDENTITY
		SQL Anywhere	All	UNSIGNED BIGINT IDENTITY
		SQLite	All	INTEGER

Mapping Matrix: decimal

.1

Doctrine	PHP	DB Vendor	V	TYPE
decimal	string	MySQL	All	NUMERIC(p, s)
		Drizzle	All	NUMERIC(p, s)
		PostgreSQL	All	NUMERIC(p, s)
		Oracle	All	NUMERIC(p, s)
		SQL Server	All	NUMERIC(p, s)
		SQL Anywhere	All	NUMERIC(p, s)
		SQLite	All	NUMERIC(p, s)

Mapping Matrix: float

.1

Doctrine	PHP	DB Vendor	V	TYPE
float	float	MySQL	All	DOUBLE PRECISION
		Drizzle	All	DOUBLE PRECISION
		PostgreSQL	All	DOUBLE PRECISION
		Oracle	All	DOUBLE PRECISION
		SQL Server	All	DOUBLE PRECISION
		SQL Anywhere	All	DOUBLE PRECISION
		SQLite	All	DOUBLE PRECISION

Mapping Matrix: string

Doctrine	PHP	DB Vendor	V	TYPE
string	string	MySQL	All	VARCHAR(n)
		Drizzle	All	VARCHAR(n)
		PostgreSQL	All	VARCHAR(n)
		Oracle	All	VARCHAR2(n)
		SQL Server	All	NVARCHAR(n) NVHAR(n)
		SQL Anywhere	All	CHAR(n)
		SQLite	All	CHAR(n)

Mapping Matrix: text

Doctrine	PHP	DB Vendor	V	TYPE
text	string	MySQL	All	TINYTEXT TEXT MEDIUMTEXT LONGTEXT
		Drizzle	All	TEXT
		PostgreSQL	All	TEXT
		Oracle	All	CLOB
		SQL Server	All	VARCHAR(MAX)
		SQL Anywhere	All	TEXT
		SQLite	All	CLOB

Mapping Matrix: guid

Doctrine	PHP	DB Vendor	V	TYPE
guid	string	MySQL	All	VARCHAR(255)
		Drizzle	All	VARCHAR(255)
		PostgreSQL	All	UUID
		Oracle	All	VARCHAR(255)
		SQL Server	All	UNIQEIDENTIFIER
		SQL Anywhere	All	UNIQEIDENTIFIER
		SQLite	All	VARCHAR(255)

Mapping Matrix: binary

Doctrine	PHP	DB Vendor	V	TYPE
binary	resource	MySQL	All	VARBINARY(n)
		Drizzle	All	VARBINARY(n)
		PostgreSQL	All	BYTEA
		Oracle	All	RAW(n)
		SQL Server	All	BINARY(n)
		SQL Anywhere	All	BINARY(n)
		SQLite	All	BLOB

Mapping Matrix: blob

Doctrine	PHP	DB Vendor	V	TYPE
blob	resource	MySQL	All	TINYBLOB BLOB MEDIUMBLOB LONGBLOB
		Drizzle	All	BLOB
		PostgreSQL	All	BYTEA
		Oracle	All	BLOB
		SQL Server	All	VARBINARY(MAX)
		SQL Anywhere	All	LONG BINARY
		SQLite	All	BLOB

Mapping Matrix: boolean

.3

Doctrine	PHP	DB Vendor	V	TYPE
boolean	boolean	MySQL	All	TINYINT(1)
		Drizzle	All	BOOLEAN
		PostgreSQL	All	BOOLEAN
		Oracle	All	NUMBER(1)
		SQL Server	All	BIT
		SQL Anywhere	All	BIT
		SQLite	All	BOOLEAN

Mapping Matrix: date

.4

Doctrine	PHP	DB Vendor	V	TYPE
date	\DateTime	MySQL	All	DATE
		Drizzle	All	DATE
		PostgreSQL	All	DATE
		Oracle	All	DATE
		SQL Server	>= 2008	N/A
			< 2008	DATETIMEOFFSET(6)
		SQL Anywhere	All	DATE
		SQLite	All	DATE

Mapping Matrix: datetime

.4

Doctrine	PHP	DB Vendor	V	TYPE
datetime	\DateTime	MySQL	All	DATETIME
		Drizzle	All	TIMESTAMP
		PostgreSQL	All	TIMESTAMP(0) WITHOUT TIME ZONE
		Oracle	All	TIMESTAMP(0)
		SQL Server	All	DATETIME
		SQL Anywhere	All	DATETIME
		SQLite	All	DATETIME

Mapping Matrix: datetimetz

.4

Doctrine	PHP	DB Vendor	V	TYPE
datetimetz	\DateTime	MySQL	All	TIME
		Drizzle	All	TIME
		PostgreSQL	All	TIME(0) WITHOUT TIME ZONE
		Oracle	All	DATE
		SQL Server	< 2008	DATETIME
			>= 2008	TIME(0)
		SQL Anywhere	All	TIME
		SQLite	All	TIME

Mapping Matrix: time

.4

Doctrine	PHP	DB Vendor	V	TYPE
time	\DateTime	MySQL	All	TIME
		Drizzle	All	TIME
		PostgreSQL	All	TIME(0) WITHOUT TIME ZONE
		Oracle	All	DATE
		SQL Server	< 2008	DATETIME
			>= 2008	TIME(0)
		SQL Anywhere	All	TIME
		SQLite	All	TIME

Mapping Matrix: array

.5

Doctrine	PHP	DB Vendor	V	TYPE
array	array	MySQL	All	TINYTEXT TEXT MEDIUM TEXT LONGTEXT
		Drizzle	All	TEXT
		PostgreSQL	All	TEXT
		Oracle	All	CLOB
		SQL Server	All	VARCHAR(MAX)
		SQL Anywhere	All	TEXT
		SQLite	All	CLOB

Mapping Matrix: simple_array

.5

Doctrine	PHP	DB Vendor	V	TYPE
simple_array	array	MySQL	All	TINYTEXT TEXT MEDIUM TEXT LONGTEXT
		Drizzle	All	TEXT
		PostgreSQL	All	TEXT
		Oracle	All	CLOB
		SQL Server	All	VARCHAR(MAX)
		SQL Anywhere	All	TEXT
		SQLite	All	CLOB

Mapping Matrix: json_array

.5

Doctrine	PHP	DB Vendor	V	TYPE
json_array	array	MySQL	All	TINYTEXT TEXT MEDIUMTEXT LONGTEXT
		Drizzle	All	TEXT
		PostgreSQL	< 9.2	TEXT
			>= 9.2	JSON
		Oracle	All	CLOB
		SQL Server	All	VARCHAR(MAX)
		SQL Anywhere	All	TEXT
		SQLite	All	CLOB

Mapping Matrix: object

.6

Doctrine	PHP	DB Vendor	V	TYPE
object	object	MySQL	All	TINYTEXT TEXT MEDIUMTEXT LONGTEXT
		Drizzle	All	TEXT
		PostgreSQL	All	TEXT
		Oracle	All	CLOB
		SQL Server	All	VARCHAR(MAX)
		SQL Anywhere	All	TEXT
		SQLite	All	CLOB

References

- I couldn't have done this beautifully rendered PDF without my trusty PowerPoint creator by Microsoft, or even remembered fully all the data and information in here without Doctrine.

- "8. Types — Doctrine DBAL 2.1.0 Documentation." *8. Types — Doctrine DBAL 2.1.0 Documentation*. Web. 5 Nov. 2014. <http://doctrine-dbal.readthedocs.org/en/latest/reference/types.html#datetime>.