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| Ergast Database User Guide |
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| Version: 1.0              |
| Date: 31 January 2021     |
| Author: Chris Newell      |
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| List of Tables      |       | General Notes                                              |
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|  circuits           |       | Dates, times and durations are in ISO 8601 format          |
|  constructorResults |       | Dates and times are UTC                                    |
|  constructorStandings |     | Strings use UTF-8 encoding                                 |
|  constructors       |       | Primary keys are for internal use only                     |
|  driverStandings    |       | Fields ending with "Ref" are unique identifiers for external use |
|  drivers            |       | A grid position of '0' is used for starting from the pitlane |
|  lapTimes           |       | Labels used in the positionText fields:                    |
|  pitStops           |       |   "D" - disqualified                                       |
|  qualifying         |       |   "E" - excluded                                           |
|  races              |       |   "F" - failed to qualify                                  |
|  results            |       |   "N" - not classified                                     |
|  seasons            |       |   "R" - retired                                            |
|  status             |       |   "W" - withdrew                                           |
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circuits table

Field	Type	Null	Key	Default	Extra	Description
circuitId	int(11)	NO	PRI	NULL	auto_increment	Primary key
circuitRef	varchar(255)	NO				Unique circuit identifier
name	varchar(255)	NO				Circuit name
location	varchar(255)	YES		NULL		Location name
country	varchar(255)	YES		NULL		Country name
lat	float	YES		NULL		Latitude
lng	float	YES		NULL		Longitude
alt	int(11)	YES		NULL		Altitude (metres)
url	varchar(255)	NO	UNI			Circuit Wikipedia page

constructor_results table

Field	Type	Null	Key	Default	Extra	Description
constructorResultsId	int(11)	NO	PRI	NULL	auto_increment	Primary key
raceId	int(11)	NO		0		Foreign key link to races table
constructorId	int(11)	NO		0		Foreign key link to constructors table
points	float	YES		NULL		Constructor points for race
status	varchar(255)	YES		NULL		"D" for disqualified (or null)

constructor_standings table

Field	Type	Null	Key	Default	Extra	Description
constructorStandingsId	int(11)	NO	PRI	NULL	auto_increment	Primary key
raceId	int(11)	NO		0		Foreign key link to races table
constructorId	int(11)	NO		0		Foreign key link to constructors table
points	float	NO		0		Constructor points for season
position	int(11)	YES		NULL		Constructor standings position (integer)
positionText	varchar(255)	YES		NULL		Constructor standings position (string)
wins	int(11)	NO		0		Season win count

constructors table

Field	Type	Null	Key	Default	Extra	Description
constructorId	int(11)	NO	PRI	NULL	auto_increment	Primary key
constructorRef	varchar(255)	NO				Unique constructor identifier
name	varchar(255)	NO	UNI			Constructor name
nationality	varchar(255)	YES		NULL		Constructor nationality
url	varchar(255)	NO				Constructor Wikipedia page

driver_standings table

Field	Type	Null	Key	Default	Extra	Description
driverStandingsId	int(11)	NO	PRI	NULL	auto_increment	Primary key
raceId	int(11)	NO		0		Foreign key link to races table
driverId	int(11)	NO		0		Foreign key link to drivers table
points	float	NO		0		Driver points for season
position	int(11)	YES		NULL		Driver standings position (integer)
positionText	varchar(255)	YES		NULL		Driver standings position (string)
wins	int(11)	NO		0		Season win count

drivers table

Field	Type	Null	Key	Default	Extra	Description
driverId	int(11)	NO	PRI	NULL	auto_increment	Primary key
driverRef	varchar(255)	NO				Unique driver identifier
number	int(11)	YES		NULL		Permanent driver number
code	varchar(3)	YES		NULL		Driver code e.g. "ALO"
forename	varchar(255)	NO				Driver forename
surname	varchar(255)	NO				Driver surname

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| dob          | date         | YES |     | NULL     |        | Driver date of birth   |
| nationality  | varchar(255) | YES |     | NULL     |        | Driver nationality     |
| url          | varchar(255) | NO  | UNI |          |        | Driver Wikipedia page  |
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lap_times table

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+--------------+--------------+-----+-----+----------+--------+---------------------------------+
| Field        | Type         | Null| Key | Default  | Extra  | Description                     |
+--------------+--------------+-----+-----+----------+--------+---------------------------------+
| raceId       | int(11)      | NO  | PRI | NULL     |        | Foreign key link to races table |
| driverId     | int(11)      | NO  | PRI | NULL     |        | Foreign key link to drivers table |
| lap          | int(11)      | NO  | PRI | NULL     |        | Lap number                      |
| position     | int(11)      | YES |     | NULL     |        | Driver race position            |
| time         | varchar(255) | YES |     | NULL     |        | Lap time e.g. "1:43.762"        |
| milliseconds | int(11)      | YES |     | NULL     |        | Lap time in milliseconds        |
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pit_stops table

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+--------------+--------------+-----+-----+----------+--------+---------------------------------+
| Field        | Type         | Null| Key | Default  | Extra  | Description                     |
+--------------+--------------+-----+-----+----------+--------+---------------------------------+
| raceId       | int(11)      | NO  | PRI | NULL     |        | Foreign key link to races table |
| driverId     | int(11)      | NO  | PRI | NULL     |        | Foreign key link to drivers table |
| stop         | int(11)      | NO  | PRI | NULL     |        | Stop number                     |
| lap          | int(11)      | NO  |     | NULL     |        | Lap number                      |
| time         | time         | NO  |     | NULL     |        | Time of stop e.g. "13:52:25"    |
| duration     | varchar(255) | YES |     | NULL     |        | Duration of stop e.g. "21.783"  |
| milliseconds | int(11)      | YES |     | NULL     |        | Duration of stop in milliseconds |
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qualifying table

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+--------------+--------------+-----+-----+----------+----------------+---------------------------------------+
| Field        | Type         | Null| Key | Default  | Extra          | Description                           |
+--------------+--------------+-----+-----+----------+----------------+---------------------------------------+
| qualifyId    | int(11)      | NO  | PRI | NULL     | auto_increment | Primary key                           |
| raceId       | int(11)      | NO  |     | 0        |                | Foreign key link to races table       |
| driverId     | int(11)      | NO  |     | 0        |                | Foreign key link to drivers table     |
| constructorId| int(11)      | NO  |     | 0        |                | Foreign key link to constructors table |
| number       | int(11)      | NO  |     | 0        |                | Driver number                         |
| position     | int(11)      | YES |     | NULL     |                | Qualifying position                   |
| q1           | varchar(255) | YES |     | NULL     |                | Q1 lap time e.g. "1:21.374"           |
| q2           | varchar(255) | YES |     | NULL     |                | Q2 lap time                           |
| q3           | varchar(255) | YES |     | NULL     |                | Q3 lap time                           |
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races table

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+--------------+--------------+-----+-----+------------+----------------+-----------------------------------+
| Field        | Type         | Null| Key | Default    | Extra          | Description                       |
+--------------+--------------+-----+-----+------------+----------------+-----------------------------------+
| raceId       | int(11)      | NO  | PRI | NULL       | auto_increment | Primary key                       |
| year         | int(11)      | NO  |     | 0          |                | Foreign key link to seasons table |
| round        | int(11)      | NO  |     | 0          |                | Round number                      |
| circuitId    | int(11)      | NO  |     | 0          |                | Foreign key link to circuits table |
| name         | varchar(255) | NO  |     |            |                | Race name                         |
| date         | date         | NO  |     | 0000-00-00 |                | Race date e.g. "1950-05-13"       |
| time         | time         | YES |     | NULL       |                | Race start time e.g."13:00:00"    |
| url          | varchar(255) | YES | UNI | NULL       |                | Race Wikipedia page               |
| fp1_date     | date         | YES |     | NULL       |                | FP1 date                          |
| fp1_time     | time         | YES |     | NULL       |                | FP1 start time                    |
| fp2_date     | date         | YES |     | NULL       |                | FP2 date                          |
| fp2_time     | time         | YES |     | NULL       |                | FP2 start time                    |
| fp3_date     | date         | YES |     | NULL       |                | FP3 date                          |
| fp3_time     | time         | YES |     | NULL       |                | FP3 start time                    |
| quali_date   | date         | YES |     | NULL       |                | Qualifying date                   |
| quali_time   | time         | YES |     | NULL       |                | Qualifying start time             |
| sprint_date  | date         | YES |     | NULL       |                | Sprint date                       |
| sprint_time  | time         | YES |     | NULL       |                | Sprint start time                 |
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results table

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+----------------+--------------+-----+-----+----------+----------------+------------------------------------------+
| Field          | Type         | Null| Key | Default  | Extra          | Description                              |
+----------------+--------------+-----+-----+----------+----------------+------------------------------------------+
| resultId       | int(11)      | NO  | PRI | NULL     | auto_increment | Primary key                              |
| raceId         | int(11)      | NO  |     | 0        |                | Foreign key link to races table          |
| driverId       | int(11)      | NO  |     | 0        |                | Foreign key link to drivers table        |
| constructorId  | int(11)      | NO  |     | 0        |                | Foreign key link to constructors table   |
| number         | int(11)      | YES |     | NULL     |                | Driver number                            |
| grid           | int(11)      | NO  |     | 0        |                | Starting grid position                   |
| position       | int(11)      | YES |     | NULL     |                | Official classification, if applicable   |
| positionText   | varchar(255) | NO  |     |          |                | Driver position string e.g. "1" or "R"   |
| positionOrder  | int(11)      | NO  |     | 0        |                | Driver position for ordering purposes    |
| points         | float        | NO  |     | 0        |                | Driver points for race                   |
| laps           | int(11)      | NO  |     | 0        |                | Number of completed laps                 |
| time           | varchar(255) | YES |     | NULL     |                | Finishing time or gap                    |
| milliseconds   | int(11)      | YES |     | NULL     |                | Finishing time in milliseconds           |
| fastestLap     | int(11)      | YES |     | NULL     |                | Lap number of fastest lap                |
| rank           | int(11)      | YES |     | 0        |                | Fastest lap rank, compared to other drivers |
| fastestLapTime | varchar(255) | YES |     | NULL     |                | Fastest lap time e.g. "1:27.453"         |
| fastestLapSpeed| varchar(255) | YES |     | NULL     |                | Fastest lap speed (km/h) e.g. "213.874"  |
| statusId       | int(11)      | NO  |     | 0        |                | Foreign key link to status table         |
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sprint_results table

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+----------------+--------------+-----+-----+----------+----------------+-----------------------------------+
| Field          | Type         | Null| Key | Default  | Extra          | Description                       |
+----------------+--------------+-----+-----+----------+----------------+-----------------------------------+
| sprintResultId | int(11)      | NO  | PRI | NULL     | auto_increment | Primary key                       |
| raceId         | int(11)      | NO  |     | 0        |                | Foreign key link to races table   |
| driverId       | int(11)      | NO  |     | 0        |                | Foreign key link to drivers table |
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| constructorId   | int(11)       | NO    |     | 0       |               | Foreign key link to constructors table     |
| number          | int(11)       | YES   |     | NULL    |               | Driver number                              |
| grid            | int(11)       | NO    |     | 0       |               | Starting grid position                     |
| position        | int(11)       | YES   |     | NULL    |               | Official classification, if applicable     |
| positionText    | varchar(255)  | NO    |     |         |               | Driver position string e.g. "1" or "R"     |
| positionOrder   | int(11)       | NO    |     | 0       |               | Driver position for ordering purposes      |
| points          | float         | NO    |     | 0       |               | Driver points for race                     |
| laps            | int(11)       | NO    |     | 0       |               | Number of completed laps                   |
| time            | varchar(255)  | YES   |     | NULL    |               | Finishing time or gap                      |
| milliseconds    | int(11)       | YES   |     | NULL    |               | Finishing time in milliseconds             |
| fastestLap      | int(11)       | YES   |     | NULL    |               | Lap number of fastest lap                  |
| fastestLapTime  | varchar(255)  | YES   |     | NULL    |               | Fastest lap time e.g. "1:27.453"           |
| statusId        | int(11)       | NO    |     | 0       |               | Foreign key link to status table           |
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seasons table
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+-------+---------------+------+-----+---------+-------+----------------------+
| Field | Type          | Null | Key | Default | Extra | Description          |
+-------+---------------+------+-----+---------+-------+----------------------+
| year  | int(11)       | NO   | PRI | 0       |       | Primary key e.g. 1950 |
| url   | varchar(255)  | NO   | UNI |         |       | Season Wikipedia page |
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status table
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+----------+---------------+------+-----+---------+----------------+-------------------------------+
| Field    | Type          | Null | Key | Default | Extra          | Description                   |
+----------+---------------+------+-----+---------+----------------+-------------------------------+
| statusId | int(11)       | NO   | PRI | NULL    | auto_increment | Primary key                   |
| status   | varchar(255)  | NO   |     |         |                | Finishing status e.g. "Retired" |
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