Cheatsheet | RAILS MIGRATIONS 1.2.3

methods

add_column

Creates a new column on the specified table.

`add_column :table_name, :column_name, :column_type, options ↓`

`:null => true` or `false` - if `false`, the underlying column has a `not null` constraint added by the database engine

`:limit => size` - set a limit on the size of the field

`:default => value` - set a default value for the column

add_index

Creates an index for the specified table.

`add_index :table_name, :column_name, :unique => true`

change_column

Change the data type of the specified column

`change_column :table_name, :column_name, :new_type, options as add_column ↑`

create_table

Creates a table on the database. Creates a table called `:table_name` and makes the table object available to a block that can then add columns to it, following the same format as `add_column`.

```
create_table :table_name, options↓ do |t|
  t.column :column_name, :column_type, :options
end
```

`:force => true` - forces drop of an existing table of the same name before creation the new one

`:temporary => true` - creates a temporary table, one that goes away when the application disconnects from the database

`:id => false` - defines a table with no primary key, for example when you need to define a join table

`:primary_key => :new_primary_key_name` - overrides the default name of `:id` for the primary column, use this to specify the name of the column in the database that Rails will use to store the primary key

`:options => ""` - lets you specify options to your underlying database, e.g. `auto_increment = 10000` will lose default `ENGINE=InnoDB` statement

execute

Takes a single string identifying a valid SQL command to execute directly

```
execute "alter table line_items add constraint fk_line_item_
products foreign key (product_id) references products(id)
```

IrreversibleMigration

Use in the `down` method of a migration file to raise an exception when the `up` methods of the same migration file can not be reversed, e.g. changing a column type from `:integer` to `:string.`

`raise ActiveRecord::IrreversibleMigration`

rename_table

Renames the specified table.

`rename_table :new_table_name, :old_table_name`

rename_column

Renames the specified column.

`rename_table :old_column_name, :new_column_name`

remove_index

Remove an index for the specified table.

`remove_index :table_name, :column_name`

directory

```
db
 |-- schema.rb
 |-- migrate
      |-- 001_create_products.rb
      |-- 002_add_data.rb
      |-- 003_alter_products.rb
```

rake tasks

Generate migration
`ruby script/generate migration your_chosen_migration_name`

run all unapplied migrations
`rake db:migrate`

migrate database to specific version
`rake db:migrate VERSION=18`

use migrations to recreate tables in the testing or production databases
`rake db:migrate RAILS_ENV=production`

Create a `db/schema.rb` file that can be portably used against any database supported by ActiveRecord
`rake db:schema:dump`

Load a schema.rb file into the database
`rake db:schema:load`

Dump database structure to SQL file
`rake db:structure:dump`

Load fixtures from `test/fixtures` into the current environment's database
`rake db:fixtures:load`

Create a sessions table for use with `CGI::Sessions::ActiveRecordStore`
`rake db:sessions:create`

Clear the sessions table
`rake db:sessions:clear`

clone your database structure into the test database
`rake db:test:prepare`

Empty the test database
`rake db:test:purge`

fixtures

Fixtures contain data which can be loaded into your database using migrations. For example, to load data into a table named `customers`

1. Create a directory, `db/migrate/data`
2. Create a file, `customers.yml`, inside `db/migrate/data`

customers.yml

```
melissa:
  name: Melissa Jayne
  age: 18
david:
  name: David Woodford
  age: 23
```

3. Generate a new migration file: `ruby script/generate migration load_customers_data`
4. Edit it to load data from the `customers.yml` file into your `customers` table

xxx_load_customer_data.rb

```
require 'active_record/fixtures'
class LoadCustomerData
 def self.up
  down
  directory = File.join(File.
dirname(__FILE__), "data")
  Fixtures.create_fixtures(directory,
"customers")
 end
 def self.down
  Customer.delete_all
 end
end
```

db/migrate/example_001.rb

```
class CreateCustomers < ActiveRecord::Migration

  def self.up
    # Create "Customers" table
    create_table :customers, :primary_key => :customer_id, :options =>
"auto_increment = 10000" do |t|
      # Add columns to "Customers" table
      t.column :customer_id, :integer
      t.column :name,        :string,     :limit => 30, :null => false
      t.column :age,         :integer
      t.column :premium,     :boolean,    :default => 0
      t.column :photo,       :binary,     :limit => 2.megabytes
      t.column :thumbnail,   :binary,     :limit => 256.kilobytes
      t.column :dob,         :date,       :null => false
      t.column :created_at,  :timestamp
      t.column :notes,       :text,       :default => "No notes recorded"
    end
    # Add "surname" column to "Customers" table
    add_column :customers, :surname,   :string,   :limit => 50
    # Add "price" column to "Orders" table
    add_column :orders,    :price,     :decimal,  :precision => 8,
:scale => 2
    # Create a record on the "Customers" table
    Customer.create :name => "David", :surname => "Smith", :age => "32",
:premium => "1", :notes => "One of our top customers!"
  end

  def self.down
    # Delete the "Customers" table
    drop_table :customers
  end
end
```

Mapping

	db2	mysql	openbase	Oracle	postgresql	sqlite	sqlserver	Sybase
:binary	blob(32768)	blob	object	blob	bytea	blob	image	image
:boolean	decimal(1)	tinyint(1)	boolean	number(1)	boolean	boolean	bit	bit
:date	date	date	date	date	date	date	datetime	datetime
:datetime	timestamp	datetime	datetime	date	timestamp	datetime	datetime	datetime
:decimal	decimal	decimal	decimal	decimal	decimal	decimal	decimal	decimal
:float	float	float	float	number	float	float	float(8)	float(8)
:integer	int	int(11)	integer	number(38)	integer	integer	int	int
:string	varchar(255)	varchar(255)	char(4096)	varchar2(255)	*	varchar(255)	varchar(255)	varchar(255)
:text	clob(32768)	text	text	clob	text	text	text	text
:time	time	time	time	date	time	datetime	datetime	time
:timestamp	timestamp	datetime	timestamp	date	timestamp	datetime	datetime	timestamp

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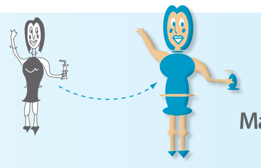

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