

What are migrations?

...and why do you need them?

Schema

- Blueprint for how data fits in the database
- When we want to change the data we're saving, we need to change the schema

Ideas

Name	Description	Picture
Animatronic Nic Cage	Life-size. Favorite catch phrases. Interchangeable hair-dos.	howd-it-get-burned.jpg
Keurig for grilled cheese	 +  = 	cheese.png
Roomba Fighting	Like BattleBots, but less savage	roombacat.gif

Migrations update the schema

```
1 ActiveRecord::Schema.define(version: 20160220020748) do
2
3   create_table "ideas", force: :cascade do |t|
4     t.string   "name"
5     t.text     "description"
6     t.string   "picture"
7     t.datetime "created_at", null: false
8     t.datetime "updated_at", null: false
9   end
10
```

Migrations

- Incremental changes to the database schema
- Performed on a database whenever it is necessary to update that database's schema
- Reversible

Rails Migrations

- Generated
 - ``rails generate migration Idea name:string ...``
- Named after current date and time
 - `20160219202090_create_ideas.rb`

Migrations can create tables

```
1 class CreateIdeas < ActiveRecord::Migration
2   def change
3     create_table :ideas do |t|
4       t.string :name
5       t.text :description
6       t.string :picture
7
8       t.timestamps null: false
9     end
10  end
11 end
```

Migrations can add attributes

```
1 class AddCategoryToIdea < ActiveRecord::Migration
2   def change
3     change_table :ideas do |t|
4       t.string :category
5     end
6   end
7 end
```

```
1 class AddCategoryToIdea < ActiveRecord::Migration
2   def change
3     add_column :ideas, :category, :string
4   end
5 end
```


Migrations can remove attributes

```
1 class RemoveCategoryFromIdea < ActiveRecord::Migration
2   def change
3     change_table :ideas do |t|
4       t.remove :category, :string
5     end
6   end
7 end
```

```
1 class RemoveCategoryFromIdea < ActiveRecord::Migration
2   def change
3     remove_column :ideas, :category, :string
4   end
5 end
```

Migrations can drop entire tables

```
1 class DropIdeasTable < ActiveRecord::Migration
2   def change
3     drop_table :ideas
4   end
5 end
```

