

# Rails from the Ground Up!

with Jared Richardson  
RoleModel Software

# Rails Database Migrations

# Did you Create a Template?

`rails generate model card_deck`



# What Happened?

```
invoke  active_record
       create db/migrate/
20120213203148_create_card_decks.rb
       create app/models/card_deck.rb
invoke  test_unit
       create test/unit/card_deck_test.rb
       create test/fixtures/card_decks.yml
```

# Database Migrations

Look in war/db/migrate/

```
class CreateCardDecks < ActiveRecord::Migration
  def change
    create_table :card_decks do |t|
      t.timestamps
    end
  end
end
```

# Migrations

Make incremental database change

Formerly had "up" and "down"

To Add and Drop

Now "change" does both

You can use either

# Common Operations

add\_column

add\_index

change\_column

change\_table

create\_table

drop\_table

remove\_column

remove\_index

rename\_column

# For Instance

```
def change

  create_table :products do |t|
    t.string :name
    t.text :description
    t.timestamps
  end
end
```

# Your Turn

Add a name attribute to your CardDeck

Edit the migration directly

NOTE: Don't do this to an applied  
migration!

# rake db:migrate

```
rake db:migrate VERSION=0
```

```
# edit the migration
```

```
rake db:migrate
```

# Another Way

```
jareds-MacBook:war jared$ rails generate model  
Usage:  
  rails generate model NAME [field:type field:type] [options]
```

# Remove the Model

```
rails destroy model Card_Deck
```

# Migrations for Free!

```
rails generate model
```

```
Card_Deck name:string
```

OR

```
Card_Deck name:string hands_played:integer
```

# Stand Alone Migrations

rails generate migration AddCardCountToCardDeck

Run this

What did you get?

# Better Stand Alone Migrations

rails generate migration

AddCardCountToCardDeck card\_count:integer

```
20120215165521_create_card_decks.rb *
```

```
1 class CreateCardDecks < ActiveRecord::Migration
2   def change
3     create_table :card_decks do |t|
4       t.string :name
5       t.integer :count
6
7       t.timestamps
8     end
9   end
10 end
```

```
20120215170048_add_card_count_to_card_deck.rb *
```

```
1 class AddCardCountToCardDeck < ActiveRecord::Migration
2   def change
3     add_column :card_decks, :card_count, :integer
4   end
5 end
6
```

# Or Removing . . .

```
rails generate migration
```

```
RemoveCardCountFromCardDeck card_count:integer
```

```
20120215170048_add_card_count_to_card_deck.rb *
```

```
1 class RemoveCardCountFromCardDeck < ActiveRecord::Migration
2   def up
3     remove_column :card_decks, :card_count
4   end
5
6   def down
7     add_column :card_decks, :card_count, :integer
8   end
9 end
10
```

# Migration Smarts

Add<column>To<table> <name>:<type>

Add<label>To<table> <n>:<t> <n>:<t> <n>:<t>

AddDetailsToCardDeck a:string b:integer

# change\_table

```
change_table :card_deck do |t|
  t.remove :description, :name
  t.string :first_name
  t.index :part_number
  t.rename :list_name, :last_name
end
```

# Magic Columns

"id" is always added

"t.timestamps" adds . . .

created\_at & updated\_at

t.references :card (card = model name)

adds "card\_id"

# Migrations w/SQL

```
def add_fk  
  
    #add a foreign key  
  
    execute <<-SQL  
  
        ALTER TABLE cards  
  
            ADD CONSTRAINT fk_cards_categories  
  
                FOREIGN KEY (category_id)  
  
                REFERENCES categories(id)  
  
        SQL  
  
end
```

# Final Thoughts

rake migrate db:rollback

rake migrate db:rollback STEP=3

rake migrate db:redo STEP=4

rake db:reset

db/schema.rb

# Next . . .

???