# Adding Data to the Database

## Using Migrations

We can add data to a table one at a time using the New link produced by the scaffold command. However this is pretty slow if you have a lot of data. One solution is a migration to add data. For a database table called books, with fields isbn, author and title, we can create a migration. The command would be

 **rails generate migration add\_data**

class AddData < ActiveRecord::Migration

 def self.up

 Book.create(

 :isbn => '4567-8901',

 :author => 'Chekov',

 :title => 'The Cherry Orchard'

 )

 Book.create(

 :isbn => ‘3412-4598’,

 :author => ‘Hemmingway’,

 :title => ‘The Sun Also Rises’

)

 **…**

 end

 def self.down

 Book.delete\_all

 end

end

Inserting a row into a database is one the least pleasant SQL statements. The first one above would look like:

 insert into books values ('4567-8901', 'Checkov', 'The Cherry Orchard')

If this is done with parameters for the data it is even worse.

 insert into books values ("**'**" + isbn + "**'**, **'**" + author + "**'**, **'**" + title + "**'**")

The single and double quotes are tricky, particularly because string data require them and other data types, such as integers, do not.

When the migration has been filled out with data, use

 **rake db:migrate**

to run it. When you check the database again, you should see the new data.

## Using Seeds

Data can also be added by modifying seeds.rb in the db folder. The format is almost the same. It just leaves out some of the parts of the migration. The data is also presented in a hash. An example that loads the data into the database is below. It is run by typing

 **rake seed**

# This file should contain all the record creation needed to seed the database with its default values.

# The data can then be loaded with the rake db:seed (or created alongside the db with db:setup).

#

# Examples:

#

# cities = City.create([{ :name => 'Chicago' }, { :name => 'Copenhagen' }])

# Mayor.create(:name => 'Daley', :city => cities.first)

books = Book.create([

 {:isbn => '4567-8901', :author => 'Chekov', :title => 'The Cherry Orchard'},

 {:isbn => '3412-4598', :author => 'Hemmingway', :title => 'The Sun Also Rises'},

 {:isbn => '1357-2468', :author => 'Steinback', :title => 'The Grapes of Wrath'}

])