



Getting Started

Installation

Ensure you have Erlang, Elixir, Node.js, and PostgreSQL installed.

```
# Install Phoenix
mix local.hex
mix archive.install
https://github.com/phoenixframework/archives/raw/master/phx_new.ez
```

Project Creation

Create a new Phoenix project:

```
mix phx.new hello
cd hello
mix ecto.create
mix phx.server
```

This generates a basic Phoenix application. Follow the instructions to set up the database and start the server.

Directory Structure

Key Directories

<code>_build/</code>	Compiled Elixir code.
<code>assets/</code>	CSS, JavaScript, and static files.
<code>config/</code>	Application configuration files.
<code>deps/</code>	Project dependencies.
<code>lib/</code>	Source code for the application, including contexts, schemas, and web-related files.
<code>priv/</code>	Database migrations and static assets.
<code>test/</code>	Tests for the application.

Routing

Basic Routing

Define routes in `lib/hello_web/router.ex`.

```
get "/", PageController, :index
```

Resource Routing

Generate routes for a resource:

```
resources "/users", UserController do
  resources "/posts", PostController
end
```

Path Helpers

Use path helpers to generate URLs:

```
user_post_path(conn, :index, 17) # →
/users/17/posts
user_post_path(conn, :show, 17, 12) # →
/users/17/posts/12
```

Controllers and Conn

Accessing Request Data

Access request data through the `conn`:

```
conn.host      # → "example.com"
conn.method    # → "GET"
conn.path_info # → ["posts", "1"]
conn.request_path # → "/posts/1"
```

Modifying the Conn

Use `conn` functions to modify the response:

```
conn
|> put_status(202)
|> html("<html><head>...")
|> json(%{ message: "Hello" })
|> text("Hello")
|> redirect(to: "/foo")
|> render("index.html")
|> render("index.html", hello: "world")
|> render(MyApp.ErrorView, "404.html")
```

Ecto Migrations

Generating Migrations

Generate a migration file:

```
mix ecto.gen.migration update_posts_table
```

Migration Example

Example migration:

```
def change do
  create table(:documents) do
    add :title, :string
    add :title, :string, default: "Hello"
    add :body, :text
    add :age, :integer
    add :price, :float, precision: 10, scale: 2
    timestamps()
  end
end
```

Generating HTML

Generating HTML Resources

Generate HTML resources using `phx.gen.html`:

```
mix phx.gen.html \
  Accounts \
  Profile \
  profiles \
  email:string \
  age:integer
```

Replace `Accounts`, `Profile`, `profiles`, `email`, `age` with your domain, schema, table name, and attributes respectively.