

ColdFusion Project: EMS App - Development and Migration Guide

Section 1: Creating a ColdFusion Project (EMS App) from Scratch

Step 1: Install ColdFusion and Set Up the Development Environment

1. Download Adobe ColdFusion

- Visit the [Adobe ColdFusion Download page](#).
- Choose the appropriate version and install it.

2. Install a Database (MySQL)

- Download and install [MySQL](#).
- Use **MySQL Workbench** or **phpMyAdmin** to manage your database.

3. Set Up a ColdFusion Server

- Open **ColdFusion Administrator** (<http://127.0.0.1:8500/CFIDE/administrator/index.cfm>).
 - Configure a **datasource** (e.g., [employeedb](#)).
 - Connect it to your MySQL database.
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Step 2: Set Up the ColdFusion Project Structure

Inside your workspace (e.g., [C:\ColdFusion2023](#)), create a folder **EMS App** and organize it like this:

```
EMS App/
|— config/
|   |— dbConfig.cfc
|— controllers/
|   |— EmployeeController.cfc
|— models/
|   |— EmployeeModel.cfc
|— services/
|   |— EmailService.cfc
|   |— OfferLetterService.cfc
|— views/
```

```
| |— addEmployee.cfm
| |— employees.cfm
|— pdfs/
|— Application.cfc
|— index.cfm
```

Step 3: Configure the ColdFusion Application

Create `Application.cfc` to define application settings:

```
<cfcomponent>
  <cfset this.name = "EMSApp">
  <cfset this.applicationTimeout = createTimeSpan(0, 2, 0, 0)>
  <cfset this.sessionManagement = true>
  <cfset this.sessionTimeout = createTimeSpan(0, 0, 30, 0)>
  <cfset this.datasource = "employeedb">
</cfcomponent>
```

Step 4: Database Configuration

Inside the `config/` folder, create `dbConfig.cfc` to manage database connections.

```
<cfcomponent>
  <cffunction name="getConnection" returntype="any">
    <cfreturn "employeedb">
  </cffunction>
</cfcomponent>
```

Step 5: Create the Employee Model

Inside `models/EmployeeModel.cfc`, define the database functions.

```
<cfcomponent>
  <cffunction name="getEmployees" returntype="query">
    <cfquery name="qEmployees" datasource="employeedb">
      SELECT * FROM employees;
    </cfquery>
    <cfreturn qEmployees>
  </cffunction>
```

```
<cffunction name="addEmployee" returntype="void">
  <cfargument name="name">
  <cfargument name="email">
  <cfargument name="role">

  <cfquery datasource="employeeedb">
    INSERT INTO employees (name, email, role)
    VALUES (<cfqueryparam value="#arguments.name#" cfsqltype="cf_sql_varchar">,
      <cfqueryparam value="#arguments.email#" cfsqltype="cf_sql_varchar">,
      <cfqueryparam value="#arguments.role#" cfsqltype="cf_sql_varchar">);
  </cfquery>
</cffunction>
</cfcomponent>
```

Step 6: Create the Employee Controller

Inside `controllers/EmployeeController.cfc`, handle requests.

```
<cfcomponent>
  <cfset variables.model = new models.EmployeeModel(>

  <cffunction name="listEmployees">
    <cfset employees = variables.model.getEmployees(>
    <cfreturn employees>
  </cffunction>

  <cffunction name="createEmployee">
    <cfargument name="name">
    <cfargument name="email">
    <cfargument name="role">

    <cfset variables.model.addEmployee(arguments.name, arguments.email, arguments.role)>
  </cffunction>
</cfcomponent>
```

Step 7: Implement PDF and Email Services

1. **Generate an Offer Letter PDF (servePDF.cfm)**

```
<cfdocument format="PDF" filename="pdfs/OfferLetter.pdf">
  <h1>Offer Letter</h1>
  <p>Welcome to the company, #URL.name#.</p>
</cfdocument>
```

2. Send Email with Offer Letter (EmailService.cfc)

```
<cfcomponent>
  <cffunction name="sendOfferLetter">
    <cfargument name="email">
    <cfargument name="pdfPath">

    <cfmail to="#arguments.email#" from="admin@company.com" subject="Your Offer Letter">
      <cfmailparam file="#arguments.pdfPath#" disposition="attachment">
        Please find your offer letter attached.
    </cfmail>
  </cffunction>
</cfcomponent>
```

Section 2: Migrating to Lucee

Step 1: Install Lucee

- Download **Lucee Server** from [Lucee.org](https://lucee.org).
- Install and configure the Lucee server.

Step 2: Copy ColdFusion Project to Lucee Directory

- Copy the entire **EMS App** folder into Lucee's web root directory (e.g., `C:\lucee\wwwroot\EMS App`).

Step 3: Update Configuration

- Modify `Application.cfc` and update the datasource for Lucee.

```
<cfset this.datasource = "employeedb_lucee">
```

Step 4: Setting Up Lucee with CommandBox

1. Download **CommandBox** from Ortus Solutions.

2. Install it by following the instructions for your operating system.
3. Open a terminal and navigate to **EMS App**:

```
cd path/to/EMS App
```

Step 4: Test Compatibility

- Lucee supports most ColdFusion features, but test email, PDF generation, and database functions.

Step 5: Update Email Function (if needed)

- If SMTP settings are missing, configure them in **lucee-server.xml**.

```
<mailserver host="smtp.example.com" username="user" password="pass"/>
```

Step 6: Run and Debug

- Start the Lucee server

```
box server start cfengine=lucee@5
```
- Configure the data source in
<http://127.0.0.1:8888/lucee/admin.cfm>.
- Open **http://127.0.0.1:8888/index.cfm** to test the application.

This guide provides clear steps for developing a ColdFusion project and migrating it to Lucee using CommandBox. 🚀