

## WebX Lab CA - Prerequisites Document

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### ➤ TITLE : Event Registration System

### ➤ INTRODUCTION

This Event Registration System allows users to register for events with a smooth and secure process. After registration, users receive an authentication email with OTP verification to confirm their identity. A dynamic leaderboard displays participant rankings, and users can also check their registration and participation status. The system ensures a complete event flow from signup to engagement..

### ➤ SYSTEM REQUIREMENTS

#### 1. Hardware Requirements

- **Processor:** Intel Core i5 or higher
- **RAM:** Minimum 8GB (Recommended: 16GB for smooth performance)
- **Storage:** At least 10GB free disk space
- **Operating System:** Windows 10/11, macOS, or Linux

#### 2. Software Requirements

- **Node.js** (v18.16.1 or later) - Required for running the React frontend
- **npm** (v9.5.1 or later) - For managing frontend dependencies
- **Python** (3.11.9 or later) - Required for Flask backend
- **MongoDB Atlas** - Cloud-based NoSQL database
- **VS Code** - Recommended IDE for both frontend and backend development
- **Postman** - For API testing

## ➤ TECHNOLOGY STACK

### 1. Frontend

- **React.js** (JavaScript library for building UI)
- **TypeScript** (Strongly typed JavaScript)
- **Tailwind CSS** (Utility-first CSS framework for styling)

### 2. Backend

- **Flask** (Python-based web framework)
- **Flask-CORS** (To handle cross-origin requests)
- **PyMongo** (For MongoDB connection)

### 3. Database

- **MongoDB Atlas OR MongoDB Compass** (Cloud-based NoSQL database for storing product details)

## ➤ SETUP INSTRUCTIONS

### 1. Install Node.js and NPM

Download and install Node.js from [Node.js Official Website](#).

Verify installation:

```
node -v  
npm -v
```

### 2. Install Python and Flask

Download and install Python from the [Python Official Website](#).

Verify installation:

```
python --version  
pip --version
```

Install Flask and required dependencies:

```
pip install flask flask-cors pymongo
```

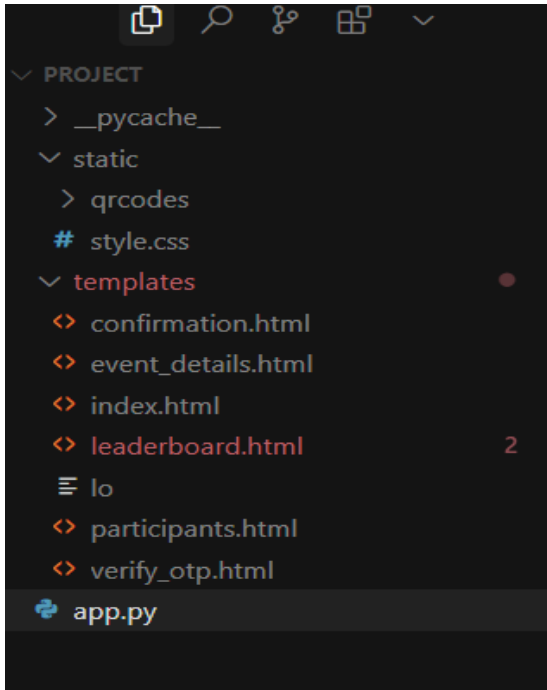
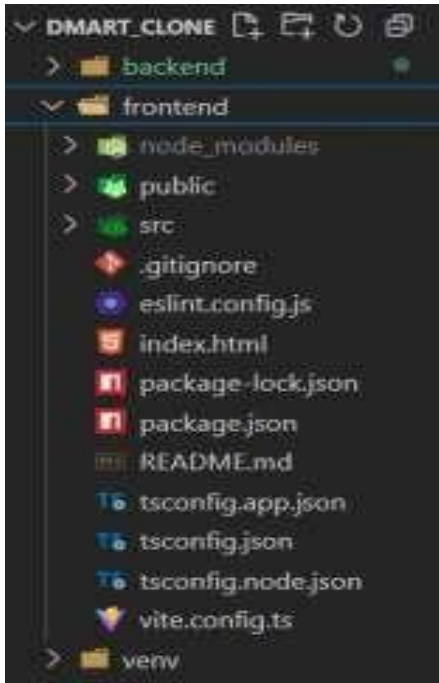
### 3. Setup MongoDB

Use **MongoDB Atlas** for cloud storage or install **MongoDB locally** from [MongoDB Official Website](#).

If using a local setup, start MongoDB using:

```
mongod --dbpath /path/to/data
```

## ➤ PROJECT STRUCTURE

Backend	Frontend
	

## ➤ CONCLUSION

Event Registration System provides a user-friendly and secure way to manage event signups with email authentication and OTP verification. Features like participant status checking and a real-time leaderboard enhance user engagement and transparency. Overall, the system ensures efficient event management and an interactive experience for all participants.