SB Works

Freelancing Platform

SDLC Phase 6

DEPLOYMENT & CONFIGURATION REPORT

Project Name	SB Works — Online Freelancing Platform
Phase	Phase 6: Deployment and Configuration
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1. Introduction to Deployment

1.1 What is Deployment?

Deployment is Phase 6 of the SDLC — the phase where working software is made available for actual use. Until this point, the software only ran on the developer's own computer. Deployment means setting up the environment so that real users on real computers can access the application.

For SB Works, the deployment process covers two environments: the local development environment (running on your own Windows PC for testing and demonstration) and the production environment (where the app would run for real users, using cloud services like MongoDB Atlas). This report documents both.

> ■ SB Works Deployment Target: Windows 10/11 PC for development and demonstration. The cloud component is MongoDB Atlas (free tier) for the database. The application runs two processes: Backend (Node.js on port 5000) and Frontend (Vite on port 3000).

1.2 Pre-Deployment Checklist

Checklist Item	Status	Notes
All 10 bugs from testing phase fixed	DONE	See Phase 5 bug report
MongoDB Atlas account created and configured	DONE	Free M0 cluster on cloud.mongodb.com
Database user created with correct permissions	DONE	User: sbadmin, simple password
Network access set to allow connections from anywhere	DONE	0.0.0.0/0 in Atlas Network Access
.env file configured with correct MONGO_URI	DONE	Atlas connection string with /sbworks
Seed script tested and working	DONE	Creates 10 categories + admin account
Frontend proxy configured correctly in vite.config.js	DONE	Proxies /api and /uploads to port 5000
All npm dependencies listed in package.json	DONE	Both backend and frontend
File upload directory (uploads/) exists	DONE	Created automatically on first upload
Windows environment tested from scratch	DONE	Tested on fresh Windows 10 install

2. Step-by-Step Setup Guide

2.1 Setting Up MongoDB Atlas (Cloud Database)

1. Open a web browser and go to https://cloud.mongodb.com. Click "Sign Up" and create a free account using your email address.

2. After verifying your email and logging in, click "Build a Database". Choose the FREE M0 tier (it says "Free Forever"). Select any cloud region and click Create.

3. You will be asked to create a database user. Enter a simple username (e.g., sbadmin) and a simple password with only letters and numbers — avoid special characters like @, #, $, or / as they break connection strings.

4. On the next screen, click "Add My Current IP Address" OR type 0.0.0.0/0 to allow connections from any IP address (useful for development).

5. Click "Finish and Close". Your cluster will take 1-3 minutes to set up.

6. Click "Connect" on your cluster, then choose "Drivers". Copy the connection string that looks like: mongodb+srv://sbadmin:PASSWORD@cluster0.xxxxx.mongodb.net/

7. Add /sbworks at the end to specify the database name: mongodb+srv://sbadmin:PASSWORD@cluster0.xxxxx.mongodb.net/sbworks

2.2 Backend Setup and Configuration

Step	Command / Action	Expected Output
1. Open Command Prompt	Press Win+R, type cmd, press Enter	Black command prompt window opens
2. Navigate to backend	cd C:\path\to\SBWorks-Fixed\backend	Prompt shows backend directory
3. Configure .env	Open .env in Notepad, paste Atlas URI	MONGO_URI= shows Atlas connection string
4. Install dependencies	npm install	202 packages installed, 0 vulnerabilities
5. Seed the database	npm run seed	10 categories + admin created messages
6. Start backend server	npm run server	Server running on port 5000 + MongoDB Connected

2.3 Frontend Setup and Launch

Step	Command / Action	Expected Output
1. Open new terminal	Open second Command Prompt window	Second black window opens
2. Navigate to frontend	cd C:\path\to\SBWorks-Fixed\frontend	Prompt shows frontend directory

3. Install dependencies	npm install	Packages installed successfully
4. Start frontend	npm run dev	Local: http://localhost:3000/ shown
5. Open in browser	Visit http://localhost:3000	SB Works landing page appears

3. Environment Configuration

3.1 Complete .env File Reference

The .env file contains all secret configuration. It must never be shared publicly or uploaded to GitHub. Here is the complete reference:

Variable	Example Value	Description
PORT	5000	Port the Express server listens on
MONGO_URI	mongodb+srv://sbadmin:pass @cluster.net/sbworks	MongoDB connection string
ACCESS_TOKEN_SECRET_ KEY	sbworks_access_secret_2024	Secret for signing JWT access tokens — must be long and random
REFRESH_TOKEN_SECRET _KEY	sbworks_refresh_secret_2024	Secret for signing JWT refresh tokens — must be different from above
COOKIE_PARSER_SECRET _KEY	sbworks_cookie_secret_2024	Secret for signing cookie values
NODE_ENV	development	Set to "production" when deploying to a live server
DOMAIN	localhost	Cookie domain — use your domain name in production
SERVER_URL	http://localhost:5000	Full server URL used for links in notifications
TWILIO_ACCOUNT_SID	your_twilio_sid	Optional — leave as-is to use dev mode OTP
TWILIO_AUTH_TOKEN	your_twilio_token	Optional — leave as-is to use dev mode OTP
TWILIO_PHONE_NUMBER	your_twilio_number	Optional — Twilio sending phone number

3.2 Vite Proxy Configuration

The frontend Vite dev server is configured to forward all /api requests to the backend on port 5000. This is why the frontend never needs to hardcode the backend URL — it just calls /api/... and Vite handles the rest:

Proxy Rule	What It Does
/api → http://localhost:5000	All REST API calls forwarded to Express backend
/uploads → http://localhost:5000	File download requests forwarded to backend /uploads folder
/socket.io → http://localhost:5000 (ws)	Socket.io WebSocket connection forwarded to backend

3.3 First Login After Deployment

Step	Action	Detail

1	Open http://localhost:3000	SB Works home page loads
2	Click Login button	Auth page opens with phone input
3	Enter +10000000000 (admin phone)	Pre-seeded admin account
4	Click Send OTP	OTP appears in backend terminal
5	Enter OTP: 123456	Permanent admin OTP from seed.js
6	Login succeeds	Redirected to /admin/dashboard
7	Navigate to Users	See all registered users
8	Approve new users	Change status from Pending to Approved

■ Deployment Outcome: SB Works was successfully deployed and running on Windows 10 with MongoDB Atlas as the cloud database. The complete setup takes approximately 15 minutes from downloading the zip to logging in for the first time. All features work as expected in the deployed environment.

4. Deployment Troubleshooting

4.1 Common Deployment Issues and Solutions

Error Message	Cause	Solution
ECONNREFUSED 127.0.0.1:27017	Local MongoDB not running	Use MongoDB Atlas instead — update MONGO_URI in .env
bad auth: Authentication failed	Wrong username or password in Atlas URI	Reset password in Atlas → Database Access → Edit User
URI cannot have port number	Added :27017 to Atlas SRV connection string	Remove :27017 — Atlas SRV URIs resolve port automatically
MongoParseError: missing credentials	Forgot to replace in Atlas string	Replace the literal text with your actual password
npm is not recognized	Node.js not installed or not in PATH	Download and install Node.js from nodejs.org, restart terminal
running scripts is disabled (PowerShell)	PowerShell execution policy blocking npm	Use cmd.exe instead of PowerShell
Port 5000 already in use	Another app using port 5000	Kill the other process: taskkill /F /IM node.exe
Cannot find module 'express'	npm install not run in backend folder	cd to backend folder and run npm install