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Class: 622-B

1 Project Structure

frontend/

```
|—— Dockerfile  
|—— package.json  
|—— package-lock.json  
└—— src/
```

2 Multi-Stage Dockerfile

```
# ----- Stage 1: Build React app -----  
FROM node:18-alpine AS builder  
  
# Set working directory  
WORKDIR /app  
  
# Copy dependencies first (for better caching)  
COPY package*.json ./  
  
# Install dependencies
```

```
RUN npm ci

# Copy rest of the source code
COPY ..

# Build the app for production
RUN npm run build

# ----- Stage 2: Serve with Nginx -----
FROM nginx:alpine

# Remove default nginx website
RUN rm -rf /usr/share/nginx/html/*

# Copy build files from the builder stage
COPY --from=builder /app/build /usr/share/nginx/html

# Expose port 80
EXPOSE 80

# Start nginx
CMD ["nginx", "-g", "daemon off;"]
```

Build & Run Commands

Build the image

```
docker build -t react-app-prod .
```

Run the container

```
docker run -d -p 80:80 react-app-prod
```

Output in Image Form :

