Initial Project Setup Options

1. React Native CLI (Bare Workflow)

```
npx react-native init ProjectName
```

- Creates a pure React Native project
- Full native code access (iOS/Android)
- Manual configuration required
- Direct native module integration
- Harder to set up, more flexible
- Can create standalone APK/IPA directly

2. Expo (Managed Workflow)

```
npx create-expo-app ProjectName --template #to choose JS or TS
cd ProjectName
```

- Uses Expo framework
- Easier to start with
- Limited native code access
- Pre-configured features
- Simpler deployment
- Uses EAS for builds

Development Commands

Start Development Server

Expo Projects

```
# Start Expo development server
npx expo start

# Platform-specific starts
npx expo start --android  # Android
npx expo start --ios      # iOS (Mac only)
npx expo start --web      # Web version

# Install packages needed from files
npx expo install packagename
```

React Native CLI Projects

```
# Start Metro bundler
npm start

# Run on specific platforms
npm run android
npm run ios        # Mac only
```

Building & Device Deployment

Android Deployment

Virtual Device

```
# For both Expo and RN CLI
npm run android

# Multiple emulator handling
adb devices
npx react-native run-android --deviceId=DEVICE_ID
```

Physical Device

```
npx react-native run-android
```

Converting Expo to Bare Workflow

```
# Option 1: Prebuild (recommended)
npx expo prebuild

# Clean prebuild (removes existing native folders)
npx expo prebuild --clean
```

Building APK/Release

Expo Projects

```
# Install EAS CLI
npm install -g eas-cli

# Login to Expo account
eas login
```

```
# Initialize EAS in project
eas init

# Create eas.json configuration (in case, create it manually)
{
  "build": {
    "preview": {
      "android": {
        "buildType": "apk"
      }
    },
    "preview2": {
      "android": {
        "gradleCommand": ":app:assembleRelease"
      }
    },
    "production": {}
  }
}


# Build APK
eas build -p android --profile preview
```

React Native CLI Projects

```
# Build APK
npx react-native build-android --mode=release
```

Key Differences

1. **React Native CLI (`react-native init`)**:
   - Full native code access
   - More complex setup
   - Direct native module integration
   - Better for apps requiring native customization
   - Can build APK directly using Gradle

2. **Expo (`create-expo-app`)**:
   - Simpler to start
   - Limited native functionality
   - Must use `prebuild` for native code access
   - Better for simpler apps
   - Uses EAS for building APKs
   - Can build locally after prebuild

Common Issues & Solutions

1. Missing Gradle configuration:
   - Check: [Gradle Project Configuration Issue](#)
2. SDK location not found:
   - Check: [SDK Location Issue](#)
3. EAS Build Issues:
   - Ensure you're logged in (`eas login`)
   - Verify `eas.json` configuration
   - Check Expo account status