Here’s a structured and professional way to document how you fixed the issue with adb and configured the environment. This documentation covers the problem, analysis, solution, and commands in detail.

## **Document: Fixing Environment Configuration and Setting up ADB Wi-Fi Connection**

### **1. Issue Description**

When setting up adb to connect to an Android device, the environment path included Chinese characters, which caused errors. Additionally, the process of connecting the device via Wi-Fi required proper configuration and understanding of specific adb commands.

### **2. Analysis**

* **Environment Path Issue**: Paths containing Chinese characters can lead to errors in command-line tools that are not fully compatible with Unicode. This affected the adb tool's ability to function correctly.
* **ADB Connection Setup**: Initially, adb was unable to connect to the phone over Wi-Fi. The process required configuring the phone to listen for adb connections via USB before switching to a Wi-Fi connection.

### **3. Solution**

#### **Step 1: Resolving the Environment Path Issue**

* Identified that paths with Chinese characters were causing errors.
* Changed the environment variable configuration:
  1. Moved adb and related tools to a directory with only English characters (e.g., C:\AndroidTools).
  2. Updated the PATH environment variable to include this directory.
  3. Restarted the terminal to apply the changes.

#### **Step 2: Preparing the Phone for ADB Connection**

* Enabled **Developer Options** on the phone:
  1. Opened **Settings > About Phone**.
  2. Tapped **Build Number** 7 times to enable Developer Options.
* Enabled **USB Debugging**:
  1. Opened **Settings > Developer Options**.
  2. Turned on **USB Debugging**.

#### **Step 3: Connecting the Phone via USB**

* Connected the phone to the PC using a USB cable.

Verified the connection with:  
 adb devices

Output:  
 List of devices attached

b27d11d2 device

#### **Step 4: Configuring Wi-Fi Connection**

**Switching the Phone to Listen on TCP/IP Mode**:  
  
 adb -s b27d11d2 tcpip 5555

Output:  
  
 restarting in TCP mode port: 5555

1. **Finding the Phone's IP Address**:  
   * Checked the IP address under **Settings > Wi-Fi** on the phone.
   * Noted the address: 192.168.1.122.
2. **Connecting the Phone via Wi-Fi**:

Ran the command:  
 adb connect 192.168.1.122:5555

Output:  
 connected to 192.168.1.122:5555

1. **Verifying the Connection**:

Verified that the phone was connected over Wi-Fi:  
 adb devices

Output:  
 List of devices attached

192.168.1.122:5555 device

### **4. Key Commands**

| **Command** | **Purpose** |
| --- | --- |
| adb devices | Lists connected devices or emulators. |
| adb -s <device\_id> tcpip 5555 | Switches the specified device to TCP/IP mode on port 5555. |
| adb connect <IP>:5555 | Connects to the device at the specified IP address and port over Wi-Fi. |

### **5. Lessons Learned**

* **Environment Configuration**: Avoid using paths with non-ASCII characters for command-line tools.
* **ADB Wi-Fi Setup**: Always start the setup via USB to enable Wi-Fi communication.
* **Commands and Debugging**: Explicitly specify devices when multiple are connected (-s <device\_id>).