1. **Install the Latest Software**
   - Install the MPLAB® IDE software onto your PC using the MPLAB IDE CD-ROM or download the software from the MPLAB IDE page of the Microchip web site (www.microchip.com/MPLAB). Check the latest Release Notes for additional information.

2. **Configure PC USB Communications**
   - Connect the PICkit™ 3 development programmer/debugger to a PC USB port via a USB cable. PICkit 3 uses the standard HID USB Windows® driver.
   - **Note:** If a USB hub is used, the hub must be powered with its own power supply.

3. **Build Your Project**
   - 1. Launch MPLAB IDE.
     - 2. Load your project or use the Project Wizard to create a new one.
     - 3. Build your project based on your configurations and options.
     - 4. Select the PICkit 3 as either a debugger (Debugger> Select Tool> PICkit 3) or as a programmer (Programmer> Select Programmer> PICkit 3).

4. **Connect to Target and Power**
   - 1. Attach the PICkit 3 to the PC using the USB cable, if not already.
   - 2. Attach the communications cable between the debugger and target board.
   - 3. Connect power to the target board.

   **Typical Debugger System – Device With On-Board ICE Circuitry:**
   - **Power**
   - **PICkit 3 Internal Circuitry (simplified)**
   - **Target Application PC Board**
   - **Pin 1 Indicator**
   - **Pin 1 Signal**
   - **VDD (tVDD)**
   - **VSS**
   - **MCLR/VPP**
   - **ICSPDAT/PGD**
   - **ICSPCLK/PGC**
   - **LVP**

   **Note:** See the PICkit™ 3 User's Guide for more component and setting information.

5. **Program and Debug**
   - 1. Program your device.
     - 2. As a programmer, PICkit 3 will automatically run your code. As a debugger, you can run, halt, single step and set breakpoints in your code.
     - **Note:** For information on Reserved Resources used by the debugger, see the PICkit 3 online help.

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**Target Circuit Design Precautions**

- Do not use multiplexing on PCC/PGD – they are dedicated for communications to PICkit 3.
- Do not use pull-ups on PCC/PGD – this will divide the voltage levels since these lines have 4.7 kΩ pull-down resistors in PICkit 3.
- Do not use capacitors on PCC/PGD – this will prevent fast transitions of VPP.
- Do not use diodes on PCC/PGD – this will prevent bidirectional communication between PICkit 3 and the target PIC® MCU.

**Recommended Settings**

<table>
<thead>
<tr>
<th>COMPONENT SETTING</th>
<th>RECOMMENDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oscillator</td>
<td>OSC bits set properly</td>
</tr>
<tr>
<td>Power</td>
<td>Supplied by target</td>
</tr>
<tr>
<td>WDT</td>
<td>Disabled (device dependent)</td>
</tr>
<tr>
<td>Code Protect</td>
<td>Disabled</td>
</tr>
<tr>
<td>Table Read Protect</td>
<td>Disabled</td>
</tr>
<tr>
<td>LVP</td>
<td>Disabled</td>
</tr>
<tr>
<td>BOD</td>
<td>VDD &gt; BOD Vcc min</td>
</tr>
<tr>
<td>JTAG</td>
<td>Disabled</td>
</tr>
<tr>
<td>AVDD and AVSS</td>
<td>Must be connected</td>
</tr>
<tr>
<td>PICkit/PGDx</td>
<td>Proper channel selected, if applicable</td>
</tr>
<tr>
<td>Programming</td>
<td>Vcc voltage levels meet programming specs</td>
</tr>
</tbody>
</table>

**Note:** See the PICkit™ 3 User's Guide for more component and setting information.

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