

# SoC Tapeout: Environment Setup & Tool Installation

Section	Key Points
<b>Objective</b>	Set up environment, install EDA tools, enable collaboration, prepare engineers for SoC tapeout.
<b>Environment Setup</b>	<p>Linux OS, RAM <math>\geq 32</math>GB, multi-core CPU, SSD storage.</p> <p>Install Perl, Python, TCL, C/C++ libs.</p> <p>Set <code>\$PATH</code>, <code>\$LM_LICENSE_FILE</code>, <code>\$TOOL_HOME</code>.</p> <p>Check file permissions and network access.</p>
<b>Tool Installation</b>	<ol style="list-style-type: none"><li>1. Obtain licenses.</li><li>2. Run installer (<code>./install.sh</code>).</li><li>3. Configure environment (<code>\$PATH</code>, source scripts).</li><li>4. Verify with demo projects and tool version.</li></ol>
<b>Common Tools</b>	<p>RTL/Simulation: VCS, Xcelium, Questa.</p> <p>Synthesis: Design Compiler, Genus.</p> <p>P&amp;R: IC Compiler II, Innovus.</p> <p>Timing: PrimeTime, Tempus.</p> <p>Verification: JasperGold, Formality.</p> <p>Power: PrimePower, Voltus.</p> <p>DFT: Tessent, DFT Compiler.</p>
<b>Learning Path</b>	<p>Linux &amp; scripting → RTL &amp; digital design → EDA tools → Mini-projects</p> <p>→ Advanced: Power, DFT, tapeout readiness.</p>
<b>Collaboration</b>	Shared scripts, version-controlled docs (Git), standardized folders, license/library access.
<b>Industry Relevance</b>	Supports multi-team workflows, scalable designs, and prepares engineers for industrial SoC tapeout projects.
<b>Best Practices</b>	Standardize setup, maintain logs, update tools/licenses, use version control.