



链滴

# Introduction to Operating System

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原文链接: <https://ld246.com/article/1559888047652>

来源网站: 链滴

许可协议: [署名-相同方式共享 4.0 国际 \(CC BY-SA 4.0\)](#)

<h2 id="Concept">Concept</h2>

<h2 id="OS-Elements">OS Elements</h2>

<ul>

<li>Abstractions

<ul>

<li>process</li>

<li>thread</li>

<li>file</li>

<li>socket</li>

<li>memory</li>

<li>page</li>

</ul>

</li>

<li>Mechanisms

<ul>

<li>create</li>

<li>schedule</li>

<li>open</li>

<li>write</li>

<li>allocate(分配)</li>

</ul>

</li>

<li>Policies(策略)

<ul>

<li>least-recently used(LRU)</li>

<li>earliest deadline first (EDF)</li>

</ul>

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</ul>

<p>关于 Mechanisms 和 Polices 的区别我其实迷惑了很久。</p>

<p>其实总结出来很简单 Mechanisms 机制 指的是 what to do</p>

<p>Polices 指的是 how to do</p>

<p>也可以这样理解机制是策略的更高层抽象，策略是指具体如何实现的方式，机制则是我需要这功能，但是不关注实现。</p>

<p>举个例子就是 Linux 内核的调度器 (scheduler) ，提供了任务调度需要的原语操作和结构，并实现了多种调度算法。</p>

<h2 id="Process">Process</h2>

<p>what is a <strong>Process</strong> : state of a program when executing loaded in me ory. (active entity)</p>

<ul>

<li>instance of an executing program</li>

<li>Synonymous with "task" or "job"</li>

</ul>

<p>A process is like an order of toys</p>

<ul>

<li>

<p>State of execution</p>

<ul>

<li>program counter</li>

<li>stack</li>

</ul>

</li>

<li>

<p>parts & temporary holding area</p>

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<ul>
<li>data. register state, occupies state in memory</li>
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</li>
<li>
<p>may require special hardware</p>
<ul>
<li>I/O devices</li>
</ul>
</li>
</ul>
<p>what does process look like ? </p>
<p></p>
<h2 id="Process-Control-Block">Process Control Block</h2>
<p></p>
<ul>
<li>PCB created when process is created.</li>
<li>certain fields are update when process state changes</li>
<li>other fields changed too frequently</li>
</ul>
<h2 id="Context-Switch-上下文切换-">Context Switch(上下文切换)</h2>
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