Jaswindder
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11 Ways (Not) to Get Hacked.

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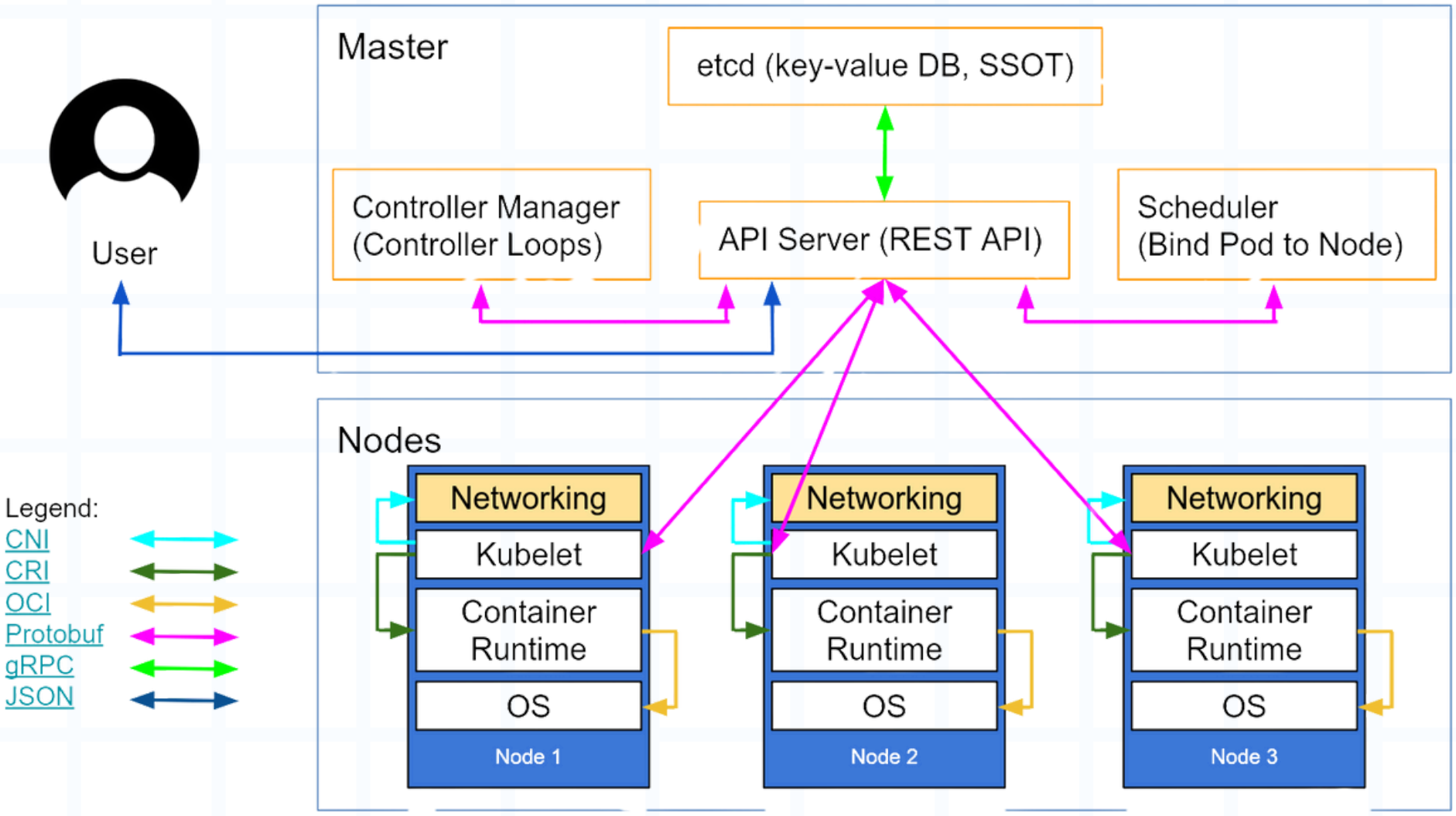
1. Use TLS Everywhere



- Encrypt all the traffic between Kubernetes components.
- Imagine if every room in your house had a locked door no one could secretly overhear or tamper with conversations.
- This keeps hackers from “listening in” or faking communication inside your system.

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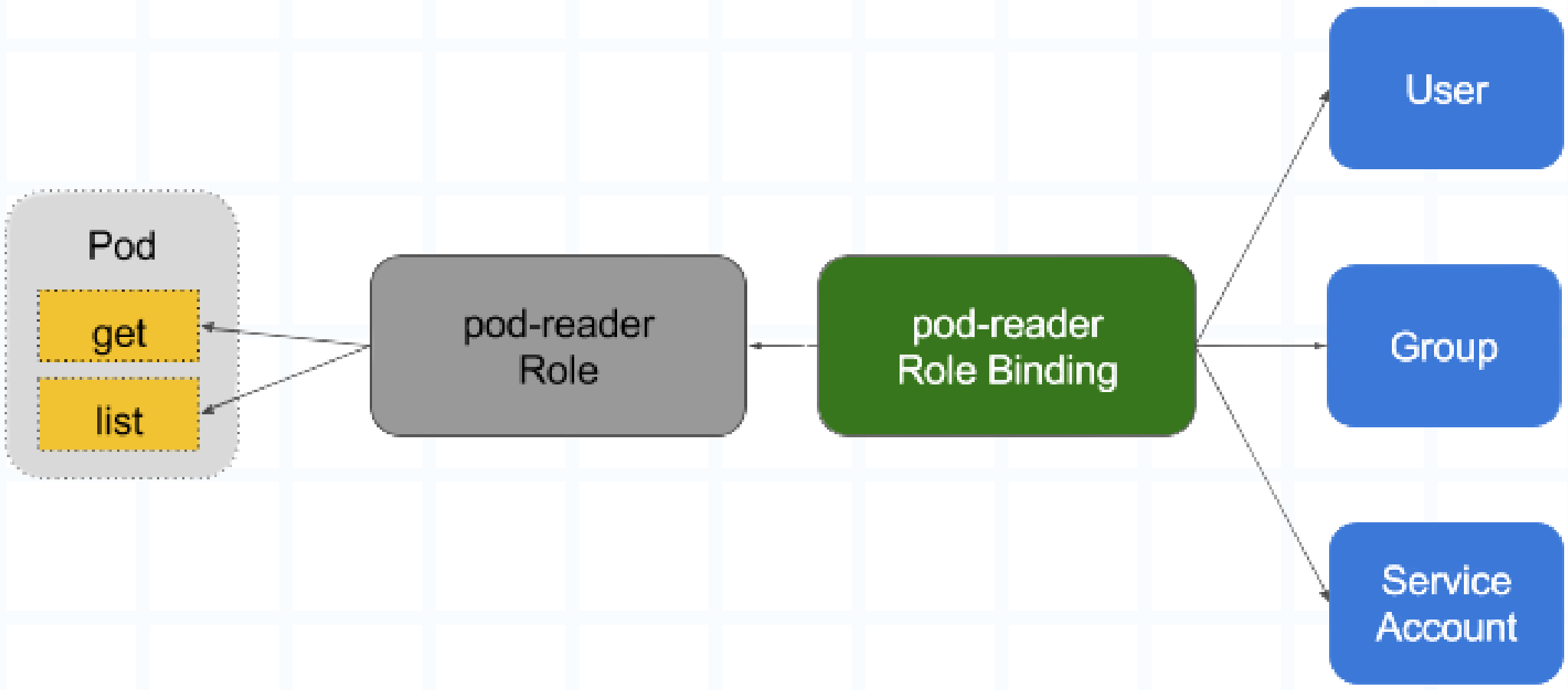
2. Enable RBAC, Disable BAC, and Monitor Logs



- RBAC = Role-Based Access Control → give people only the permissions they truly need.
- Stop using outdated ABAC, which is too broad and risky.
- Always ship logs to an external system and monitor them think of it like 24/7 CCTV footage for your cluster.

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3. Use Third-Party Authentication for the API Server

- Don’t reinvent the wheel with custom login systems.
- Plug into trusted platforms (Google, GitHub, Active Directory, etc.) to safely verify user identities.
- Centralized authentication means less risk of weak or fake accounts slipping in.

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4. Separate and Firewall Your etcd Cluster

- etcd is the memory and brain of Kubernetes—it stores all the important state.
- If attackers get into etcd, they own your cluster.
- Keep it isolated on its own servers, protect it with TLS, and add firewall rules to block unwanted access.

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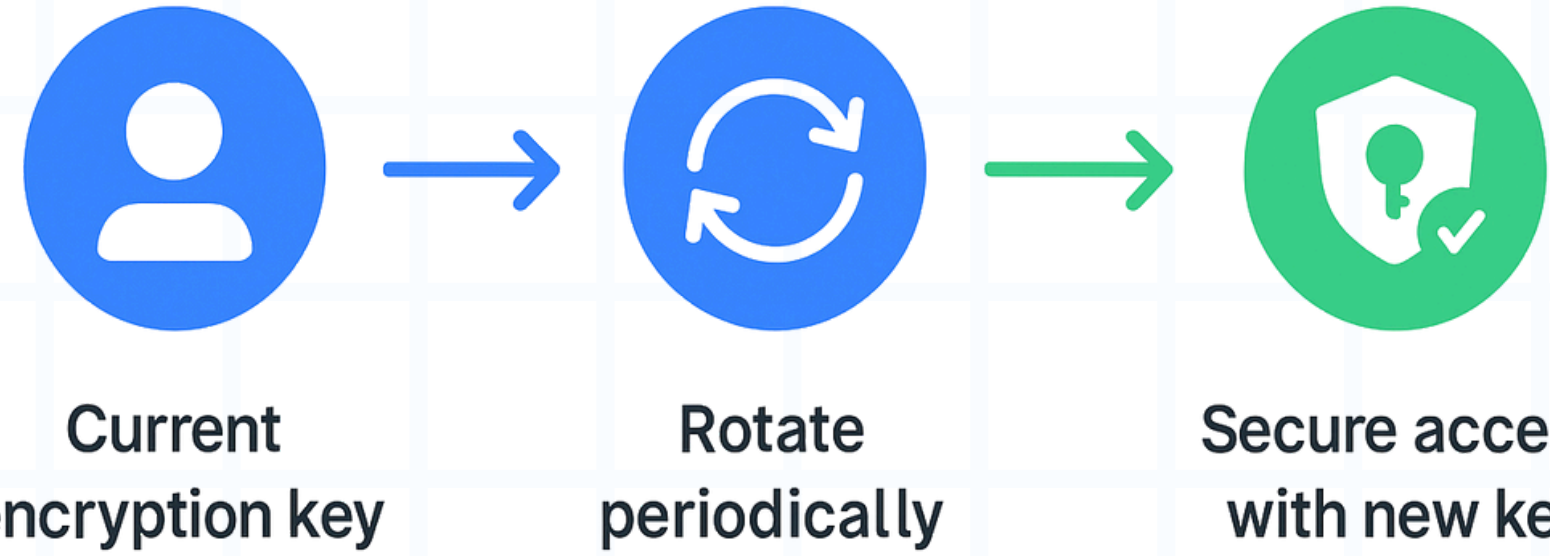
5. Rotate Encryption Keys Regularly



- Encryption keys = house keys to your cluster.
- If a key gets leaked, an attacker can walk right in.
- Rotate keys and certificates often, so stolen ones become useless quickly.

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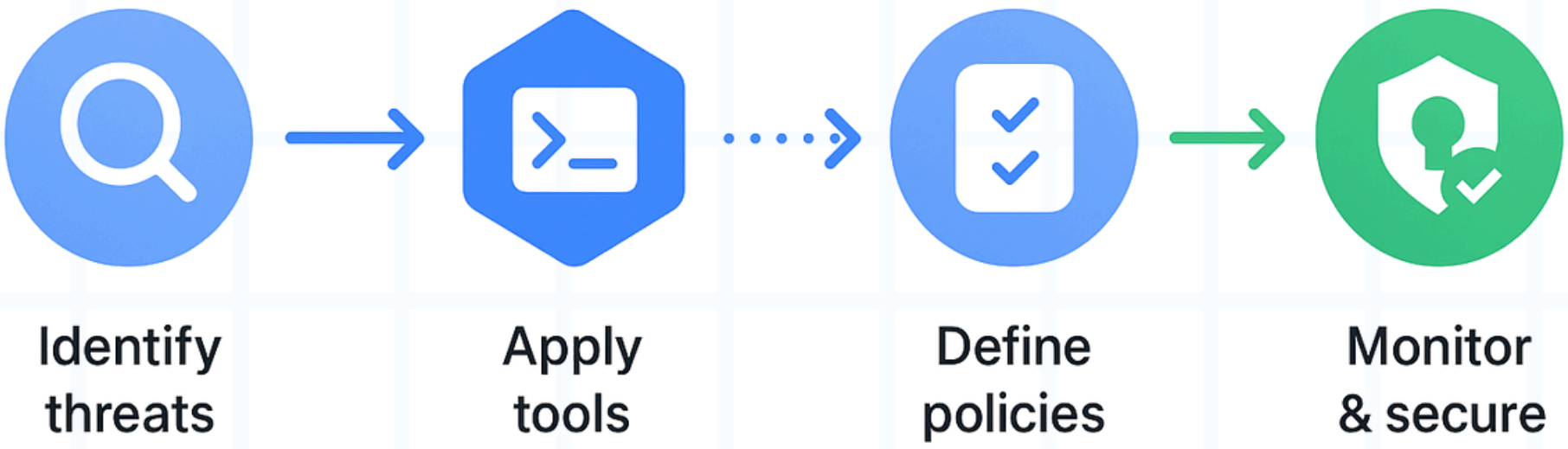
6. Use Linux Security Tools and Pod Security Policies



- Add multiple “locks” at the container level.
- Tools like SELinux, AppArmor, and seccomp limit what a container can do.
- Even if hackers get in, their movements and actions are tightly restricted.

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7. Statically Analyze YAML Files

- YAML files tell Kubernetes how to run your apps.
- One wrong config can expose secrets or give more power than intended.
- Use tools that scan YAML before deployment catching mistakes before hackers can exploit them.

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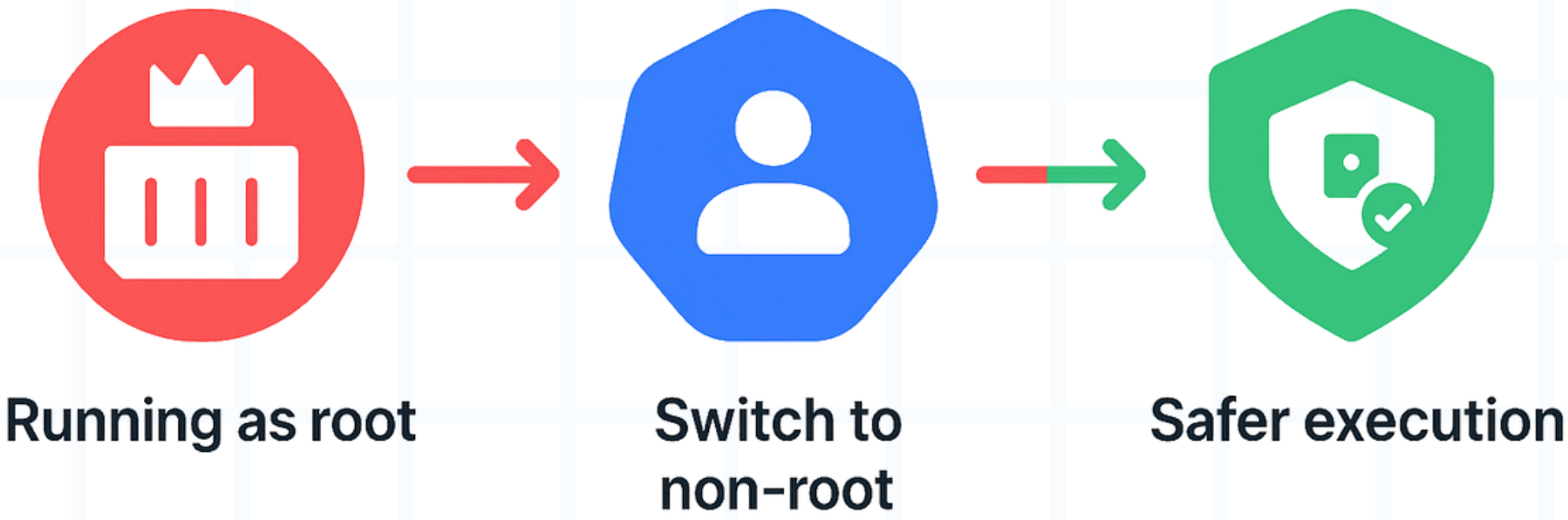
8. Run Containers as Non-Root Users



- Containers often run as “root” (admin), which is dangerous.
- Make them run as regular users instead.
- That way, if one container is hacked, it can’t spread damage across the whole cluster.

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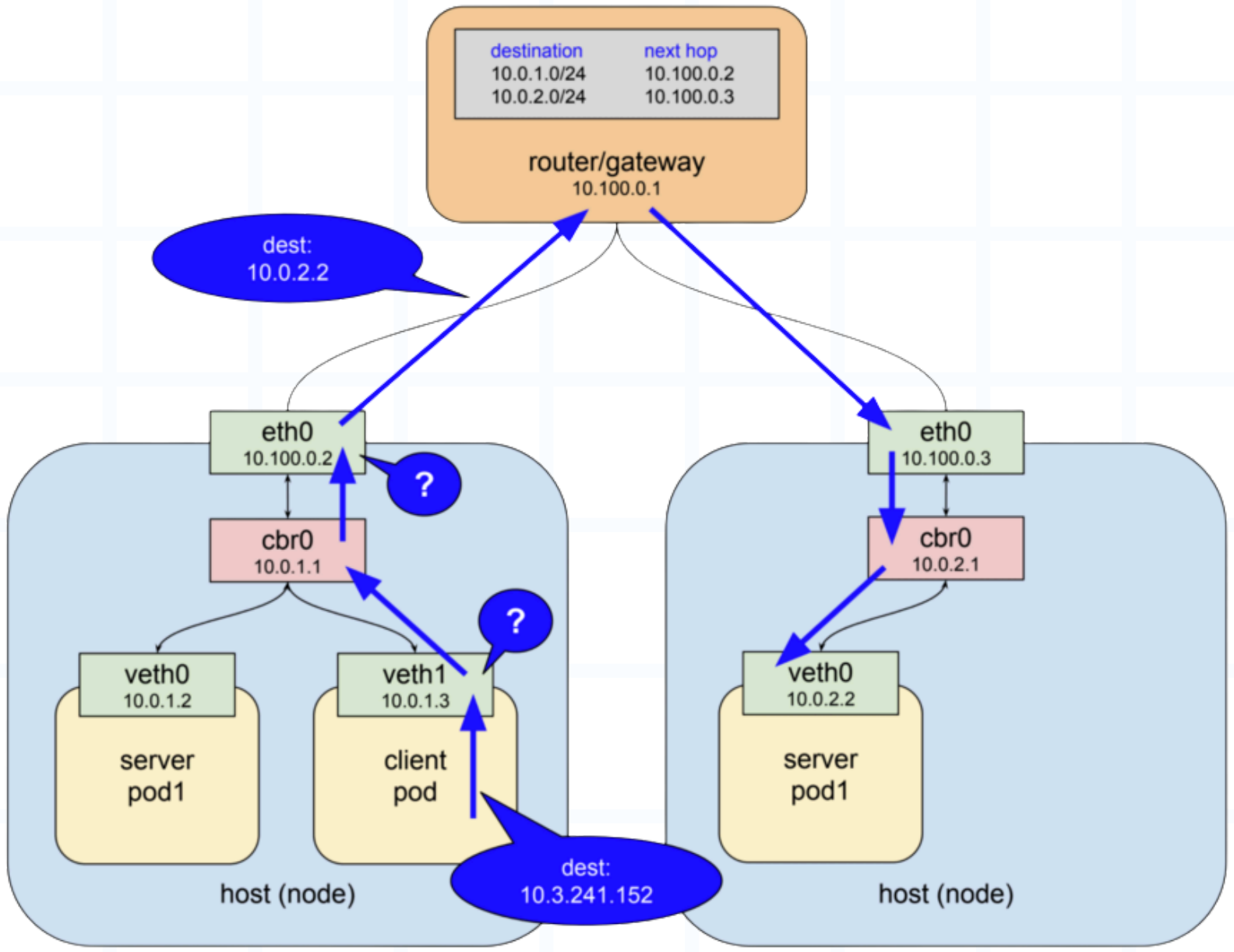
9. Use Network Policies



- Think of it like building walls and doors inside your house.
- By default, pods can talk to each other freely—that's risky.
- Network Policies let you decide who can talk to whom, stopping attackers from moving sideways across the system.

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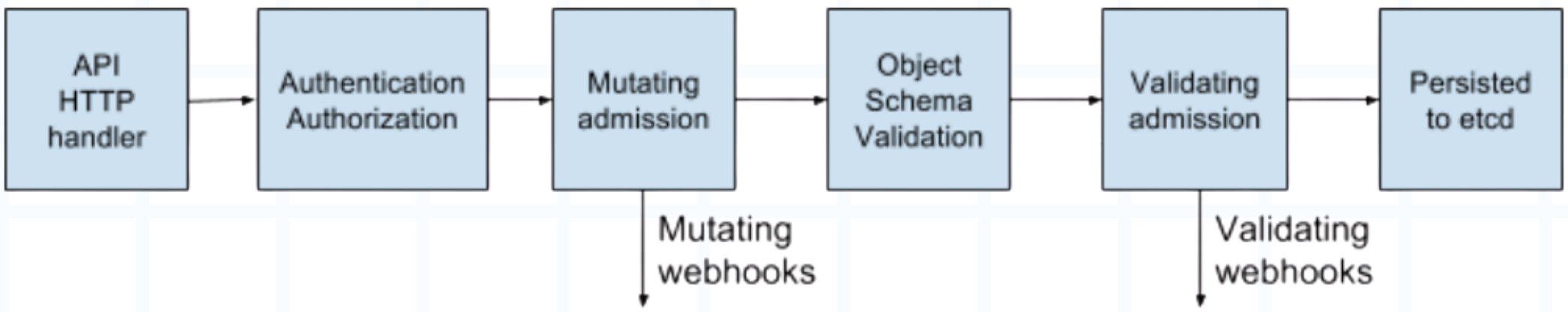
10. Scan Images and Use Intrusion Detection



- Container images can hide malware or outdated software.
- Regularly scan them before running.
- Add intrusion detection systems (IDS) that raise alarms when something suspicious happens—like an antivirus for your cluster.

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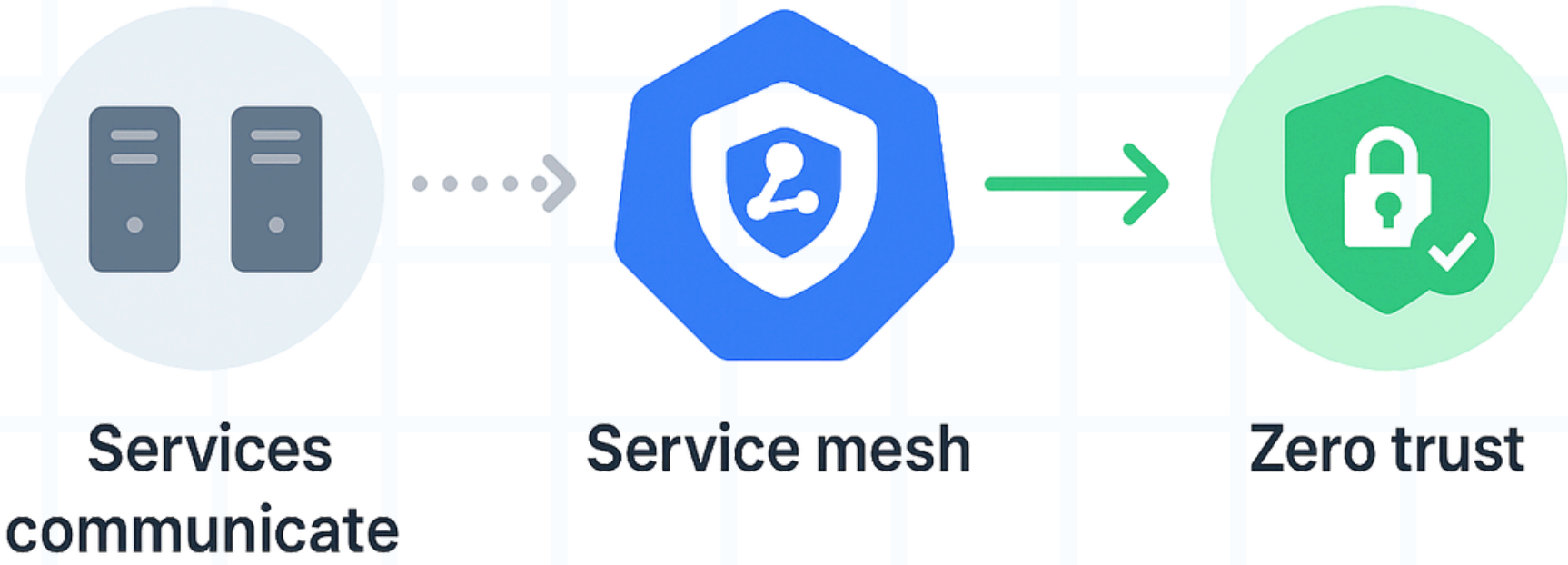
11. Run a Service Mesh



- Tools like Istio or Linkerd add an extra security guard between services.
- They automatically encrypt traffic, enforce rules, and provide visibility.
- This creates a “zero trust” environment where no service is trusted by default.

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