

# Google Cloud Associate Cloud Engineer Pricing & Governance

High-yield rules for billing, labels/tags, IAM scope, budgets, quotas, and operational cost control in Google Cloud.

<b>Best for</b> cost-aware operations	<b>Focus</b> billing control + governance decisions	<b>Use with</b> service map for service selection
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## 1. Billing and spend visibility

<b>Billing account</b>	Projects link to a billing account; charges roll up there for reporting and payment.
<b>Budgets and alerts</b>	Use to notify before or when spend thresholds are crossed; alerts do not automatically stop resources.
<b>Billing export</b>	Send billing data to BigQuery for detailed cost analysis and reporting.
<b>Recommender</b>	Surface rightsizing and savings suggestions, but review impact before acting.

## 2. Discount and pricing patterns

<b>Sustained use discounts</b>	Automatic savings for eligible Compute Engine use that runs a large part of the month.
<b>Committed use discounts</b>	Lower price in exchange for a usage commitment; best for steady, predictable workloads.
<b>Preemptible / Spot style capacity</b>	Use for interruptible batch or fault-tolerant jobs where low cost matters more than continuity.
<b>Storage class choice</b>	Match retrieval pattern to Standard, Nearline, Coldline, or Archive to avoid paying for the wrong access model.

## 3. Governance controls

<b>Folders and projects</b>	Separate environments or teams cleanly, then apply IAM and policy at the right level.
<b>Organization Policy</b>	Enforce guardrails such as location restrictions or allowed resource behavior across many projects.
<b>Labels</b>	Use for cost allocation, filtering, automation, and reporting on resources.
<b>Tags</b>	Use policy-oriented metadata where conditional access or governance targeting is needed.

## 4. Access and operational discipline

<b>Least privilege</b>	Grant only the role needed for the task and prefer service-specific predefined roles.
<b>Quota awareness</b>	Many failures are quota or API limit problems, not service outages.
<b>Separate prod and non-prod</b>	Reduces blast radius and improves cost visibility, IAM clarity, and policy control.
<b>Logs for accountability</b>	Audit logs and admin activity help explain who changed what and when.

## 5. If / then rules

<b>If workload is steady</b>	Then evaluate committed use discounts before defaulting to on-demand pricing.
<b>If access needs differ by team</b>	Then split by folders/projects and bind IAM at the narrowest practical scope.
<b>If cost ownership is unclear</b>	Then require labels and billing export before scaling usage.
<b>If instance does not need public IP</b>	Then use private IP plus Cloud NAT instead of exposing the VM directly.