Cheat Sheet for comprehensive Oracle Cloud Infrastructure 2021 Certified Architect Professional

Identity and Access Management (IAM)

Key Concepts

- **Compartments**: Logical containers for organizing resources.

- **Policies**: Define who can access what resources.

- Example: `Allow group Administrators to manage all-resources in compartment Development`

- **Users, Groups, and Roles**:

  - **Users**: Individual accounts.

  - **Groups**: Collections of users.

  - **Roles**: Define a set of permissions.

Best Practices
- Use least privilege principle.
- Regularly review and update policies.
- Use dynamic groups for automated access.

Compute

Instance Types

- **Standard**: General-purpose.

- **DenseIO**: High I/O performance.

- **GPU**: Optimized for machine learning and high-performance computing.

Instance Configurations

- **Flexible Shapes**: Custom CPU and memory configurations.

- **Dedicated VM Hosts**: Isolate instances on dedicated hardware.

Tips

- Use **Instance Pools** for scaling and high availability.

- **Instance Metadata**: Access metadata via `http://169.254.169.254/`.

Networking

Virtual Cloud Networks (VCNs)

- **Subnets**: Public and private subnets.

- **Route Tables**: Define traffic routes.

- **Security Lists**: Stateful firewall rules.

Load Balancing

- **Layer 7**: Application Load Balancer (ALB).

- **Layer 4**: Network Load Balancer (NLB).

Tips

- Use **NAT Gateway** for outbound internet access from private subnets.

- **Service Gateways** for private access to Oracle services.

Storage

Block Volume

- **Persistent Storage**: Attach to instances.

- **Backup**: Create backups using **Volume Groups**.

Object Storage

- **Standard**: Frequently accessed data.

- **Archive**: Infrequently accessed data.

File Storage

- **NFS**: Network File System.

- **Mount Targets**: Endpoint for file systems.

Tips

- Use **Lifecycle Policies** for Object Storage.

- **Replication Policies** for disaster recovery.

Database

Database Types

- **Autonomous Database**: Fully managed.

- **Exadata**: High-performance database platform.

Backup and Recovery

- **Automatic Backups**: Enabled by default.

- **Point-in-Time Recovery**: Restore to a specific time.

Tips

- Use **Data Guard** for high availability.

- **GoldenGate** for real-time data replication.

Security

Key Management

- **Vault**: Centralized key management.

- **Keys**: Encrypt data at rest.

Monitoring and Logging

- **Cloud Guard**: Detect and remediate security issues.

- **Logging**: Centralized logging for resources.

Tips

- Use **Vulnerability Scanning** for regular security checks.

- **Web Application Firewall (WAF)** for protecting web applications.

Cost Management

Budgets and Alerts

- **Budgets**: Set spending limits.

- **Alerts**: Notify when approaching budget limits.

Reservations

- **Reserved Instances**: Save on long-term compute costs.

- **Flexible Reservations**: Adjust instance configurations.

Tips

- Use **Cost Analysis** to monitor and optimize spending.

- **Tagging**: Organize resources for better cost tracking.

Monitoring and Management

Oracle Cloud Advisor

- **Recommendations**: Optimize performance and cost.

- **Best Practices**: Follow Oracle's recommendations.

Notifications

- **Event Rules**: Trigger actions based on events.

- **Notifications**: Send alerts via email, SMS, etc.

Tips

- Use **Resource Manager** for infrastructure as code.

- **Service Limits** to monitor and request quota increases.

Integration and API Management

API Gateway

- **RESTful APIs**: Expose and manage APIs.

- **Authentication**: Secure API access.

Integration

- **Oracle Integration Cloud (OIC)**: Integrate applications.

- **Process Automation**: Automate business processes.

Tips

- Use **Functions** for serverless computing.

- **Streaming** for real-time data processing.

Examples and Shortcuts

Quick Commands

- **List Instances**: `oci compute instance list --compartment-id <compartment-id>`

- **Create Bucket**: `oci os bucket create --name <bucket-name> --compartment-id <compartment-id>`

Configuration Files

- **OCI CLI**: Configure using `oci setup config`.

- **Terraform**: Use `.tf` files for infrastructure as code.

- **Autoscaling**: Automatically scale resources based on demand.

- **Custom Images**: Create and use custom images for instances.

Conclusion

- **Regular Audits**: Review IAM policies, network configurations, and security settings.

- **Continuous Learning**: Stay updated with Oracle Cloud Infrastructure updates and best practices.

This cheat sheet provides a comprehensive overview of essential features, shortcuts, tips, and tricks for Oracle Cloud Infrastructure 2021 Certified Architect Professional. Use it as a quick reference to navigate and optimize your cloud environment effectively.

By Ahmed Baheeg Khorshid

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