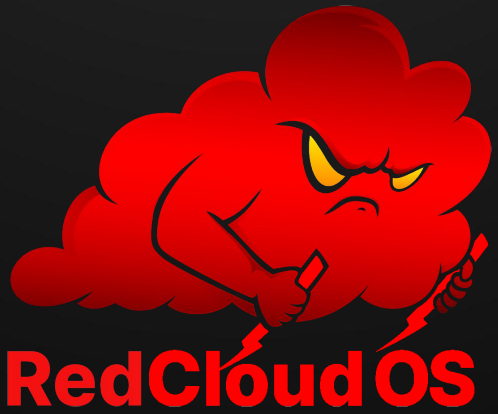
CWL
CyberWarFare Labs

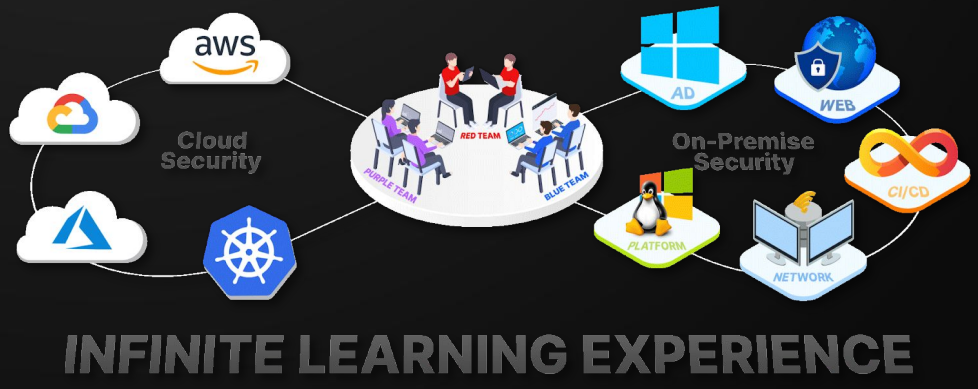
Attacking the cloud with RedCloud OS



About CyberWarFare Labs :

CW Labs is a renowned Infosec company specializing in cybersecurity practical learning. They provide on-demand educational services. The company has 3 primary divisions :

1. Learning Management System (LMS) Platform
2. CWL CyberSecurity Playground (CCSP) Platform
3. Infinity Learning Platform



About Speaker :

Abhijeet Kumar
(Security Researcher)

His research areas include Red Team Operations, Network Security, Cloud Infrastructure, and Linux Systems. Apart from this, he enjoys researching Adversarial TTPs and conducting experimenting in his homelab.

CLOUD 101

★ Compute resources which are globally distributed with high availability

CLOUD 101

- ★ Compute resources which are globally distributed with high availability
- ★ Ease of access & resource provisioning

CLOUD 101

- ★ Compute resources which are globally distributed with high availability
- ★ Ease of access & resource provisioning
- ★ Commonly used flavours include
  - Infrastructure as a Service (IaaS)
  - Platform as a Service (PaaS)
  - Software as a Service (SaaS)

CLOUD ACCESS 101

- Ways to access cloud services:
  - Through web-based console through browser

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  - With Command Line Interface (CLI)
    - E.g: AWS CLI, Azure CLI, Gcloud CLI

CLOUD ACCESS 101

★ Ways to access cloud services:

- Through web-based console through browser
- With Command Line Interface (CLI)
  - E.g: AWS CLI, Azure CLI, Gcloud CLI
- Programmatically through official Software Development Kits (SDKs) available in multiple languages
  - E.g: Boto3 (AWS), Azure SDK , Google Cloud SDK

CLOUD ACCESS 101

- Credentials types used to access cloud services:
  - Username + Password (web-based console)

CLOUD ACCESS 101

- ★ Credentials types used to access cloud services:
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  - Access Credentials:
    - Keys
    - Tokens
    - Service Accounts

CLOUD ACCESS 101

- ★ Credentials types used to access cloud services:
  - Username + Password (web-based console)
  - Access Credentials:
    - Keys
    - Tokens
    - Service Accounts
  - Federated Identities/Single Sign On (SSO)

REDCLOUD OS

★ Debian-based Cloud Adversary Simulation OS for Red Teams

REDCLOUD OS

- ★ Debian-based Cloud Adversary Simulation OS for Red Teams
- ★ Supports most of the Cloud Service Providers (CSPs)

REDCLOUD OS

- ★ Debian-based Cloud Adversary Simulation OS for Red Teams
- ★ Supports most of the Cloud Service Providers (CSPs)
- ★ Includes 50+ specialised tools for cloud security assessments

REDCLOUD OS

★ Available for x64 architecture

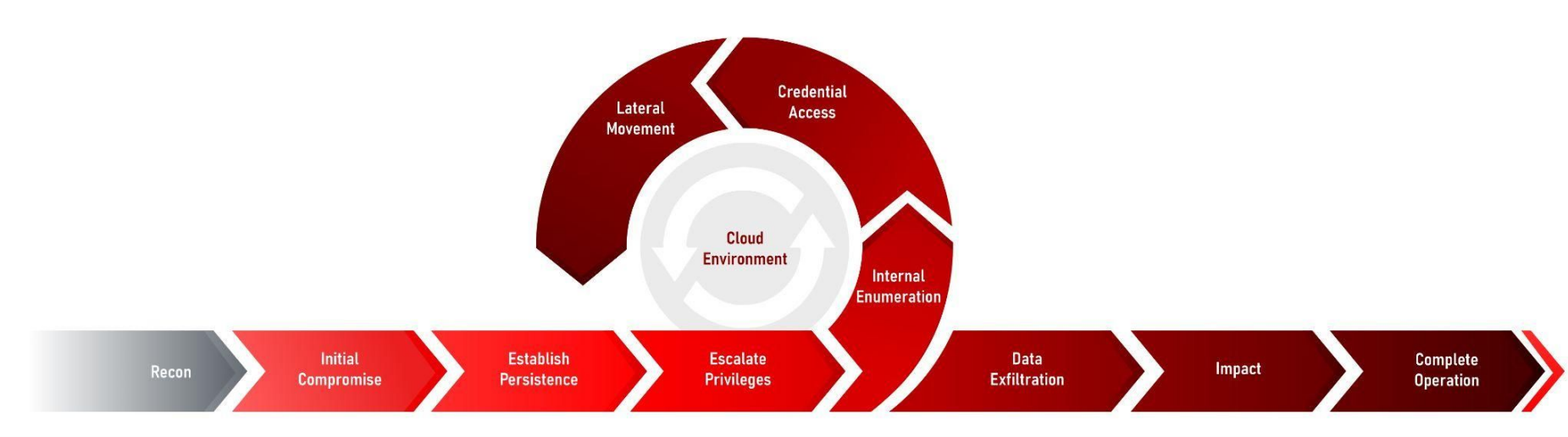
REDCLOUD OS

- ★ Available for x64 architecture
- ★ Future roadmap:
  - ○ Support for Apple Silicon architecture
  - ○ Automated tool updates via APT
  - ○ Inclusion of more tools

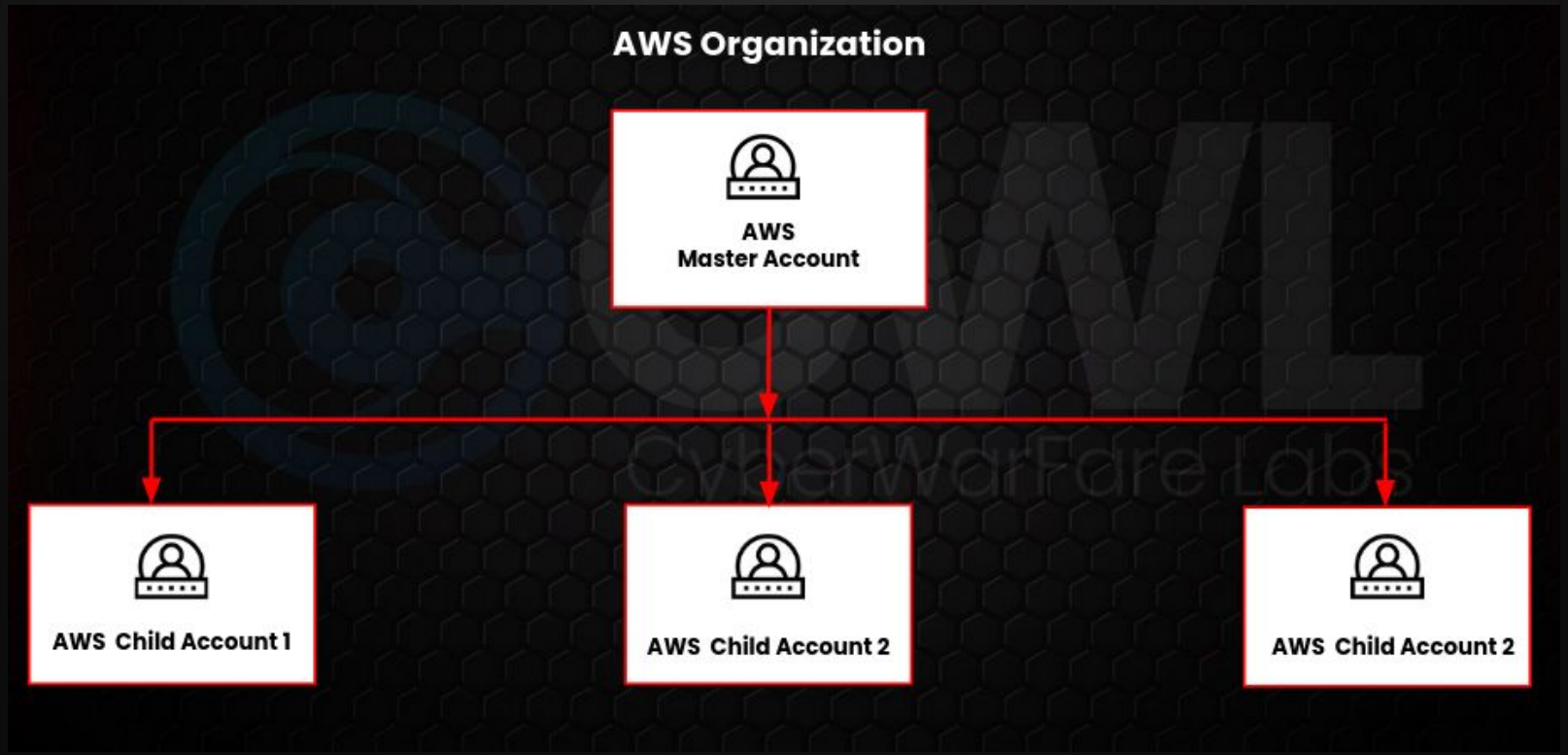
REDCLOUD OS

- ★ Available for x64 architecture
- ★ Future roadmap:
  - ○ Support for Apple Silicon architecture
  - ○ Automated tool updates via APT
  - ○ Inclusion of more tools
- ★ Link: *https://linktr.ee/redcloudos*

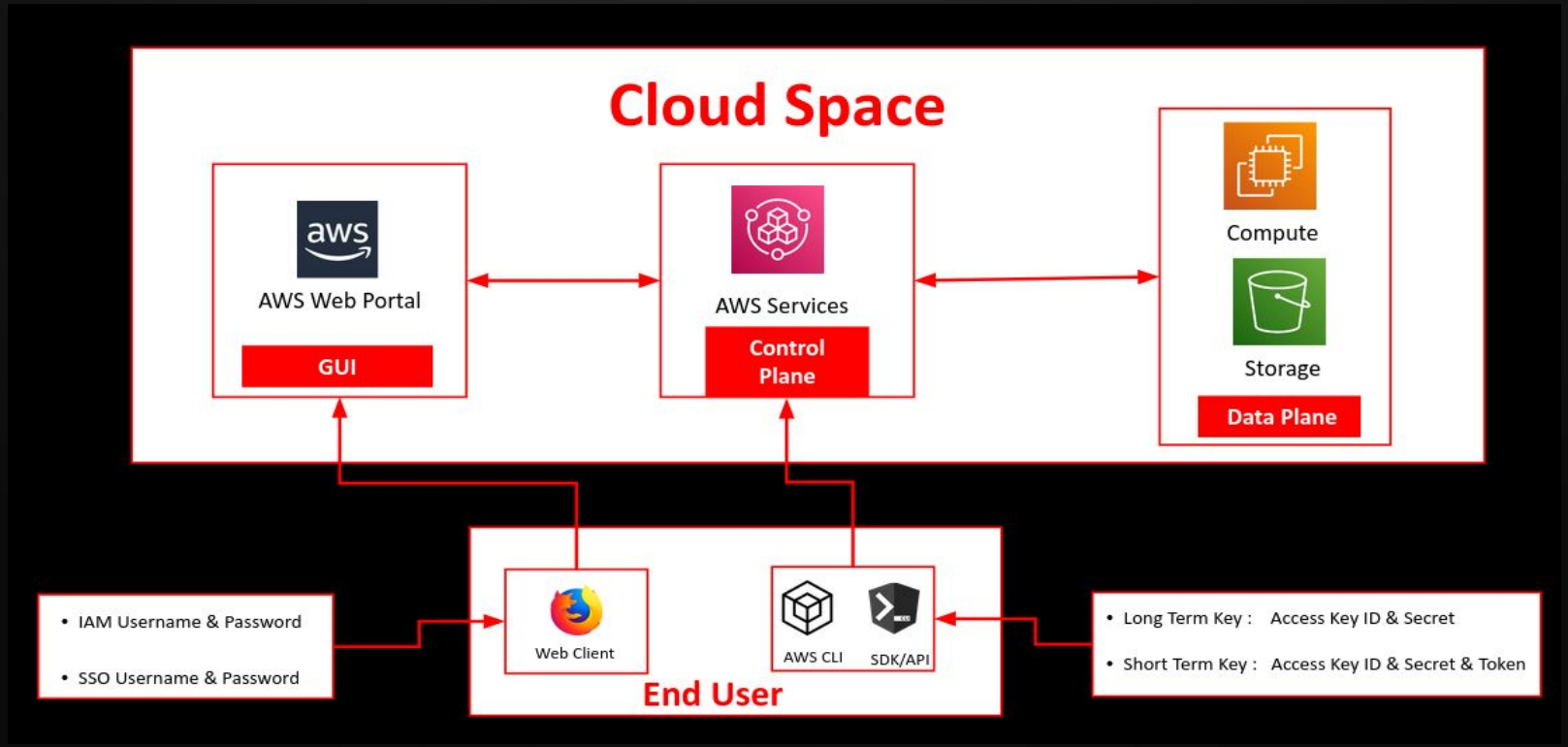
CLOUD ATTACK LIFECYCLE



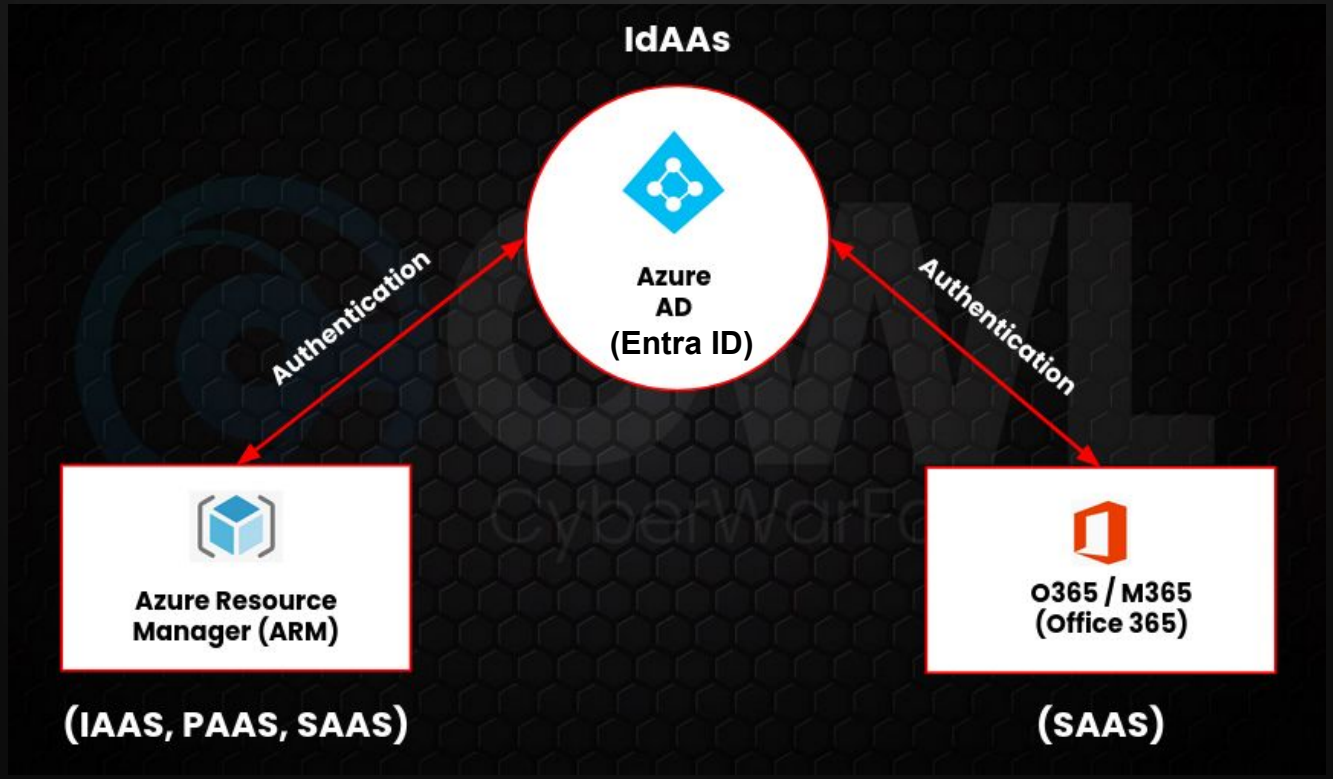
AWS MULTI ACCOUNTS HIERARCHY



AWS ARCHITECTURE



AZURE HIERARCHY



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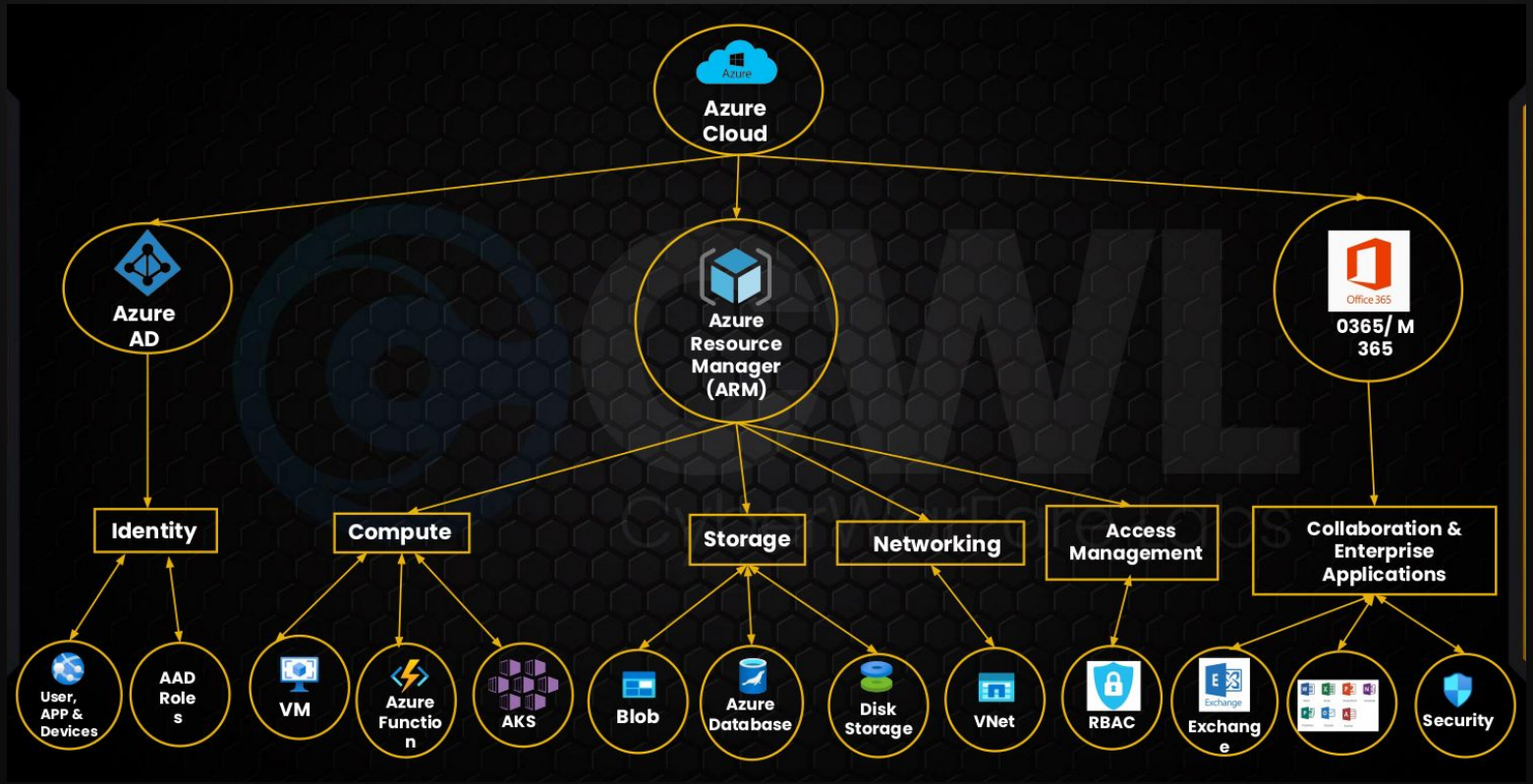

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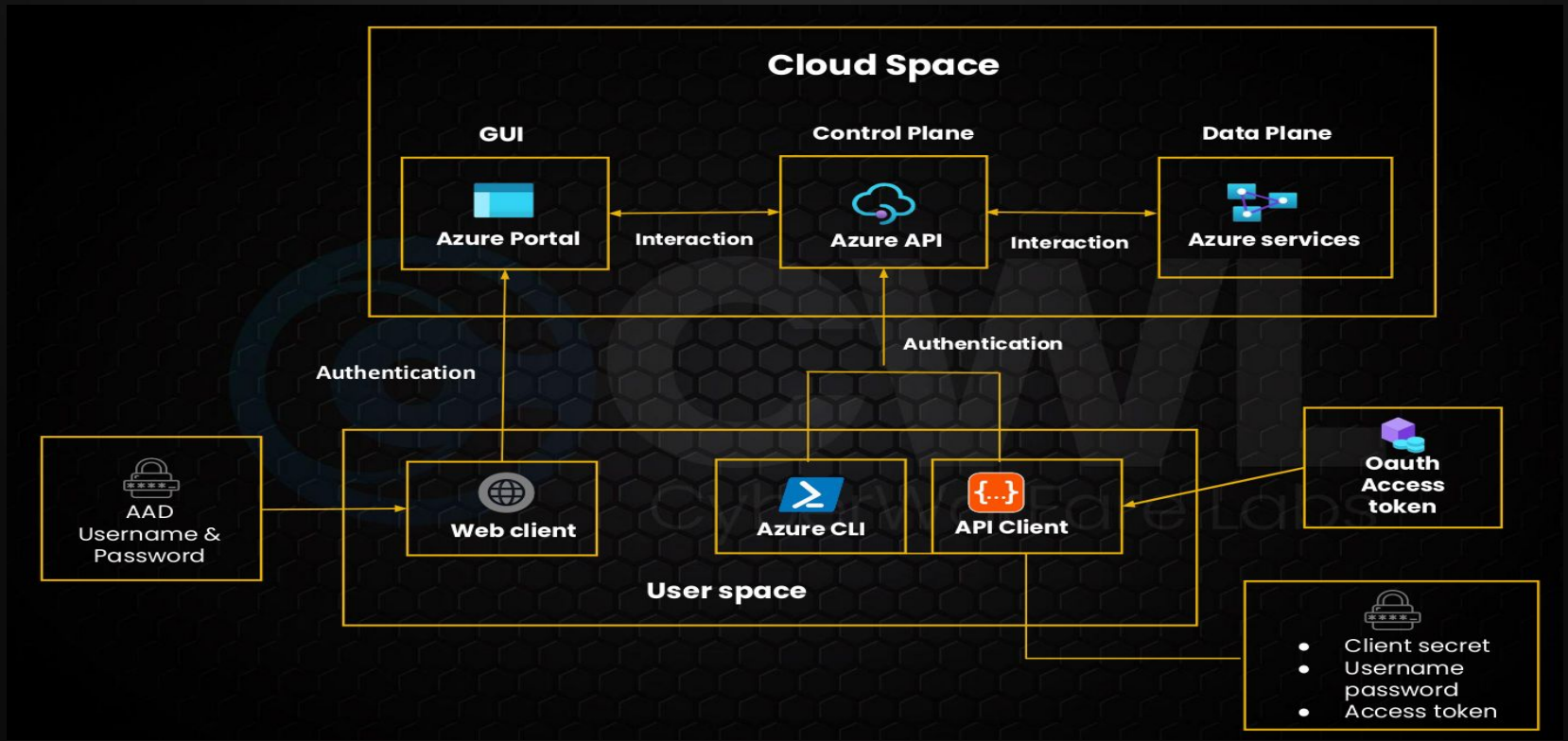

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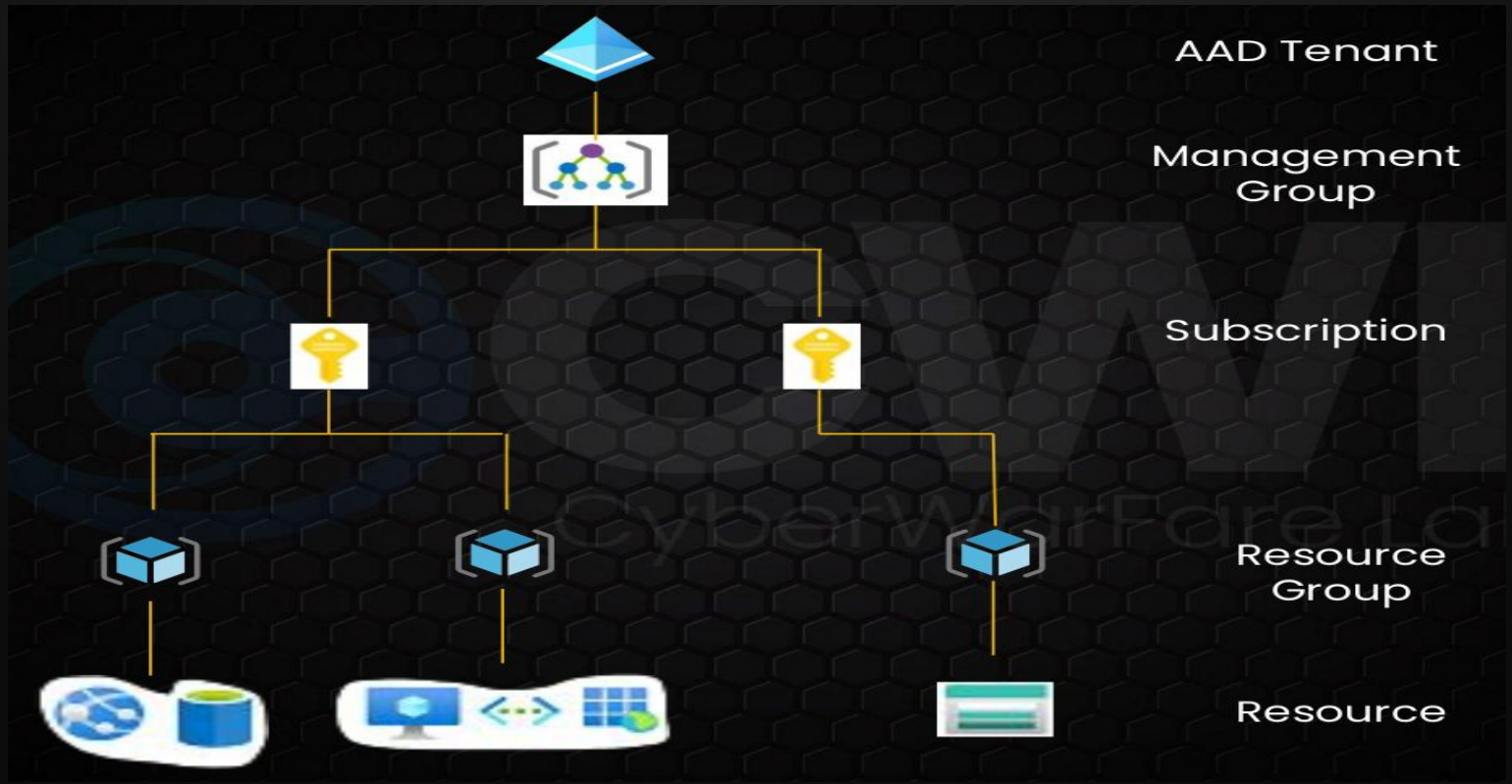
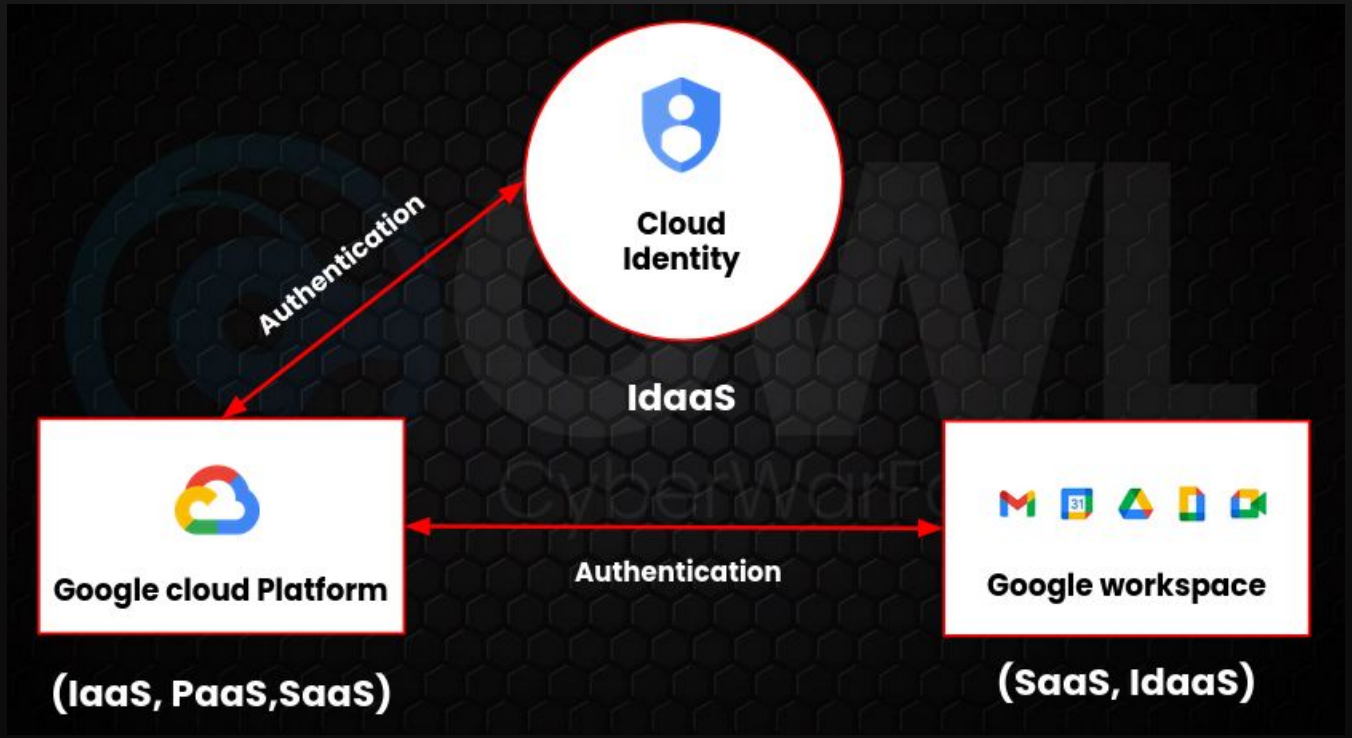
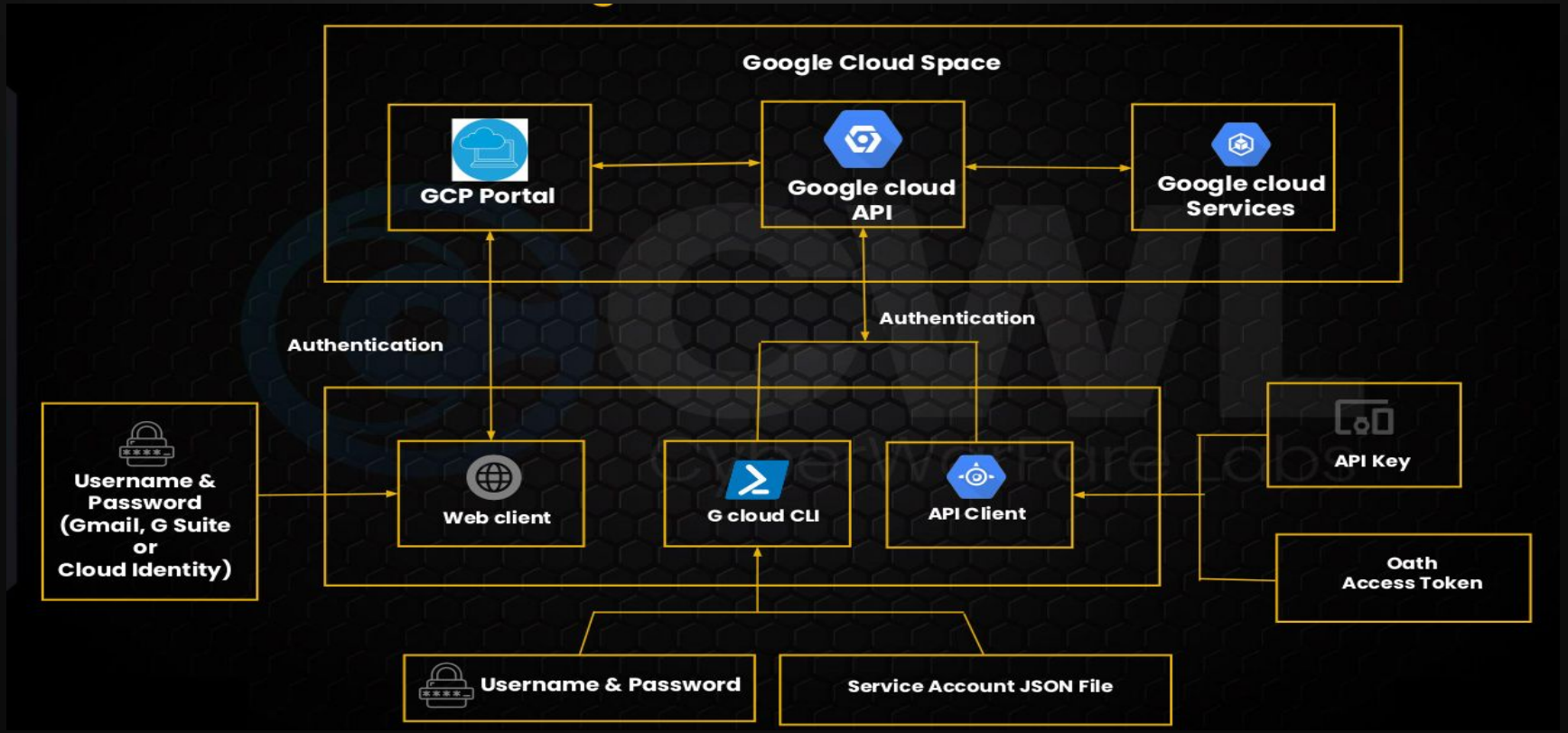


GCP HIERARCHY



GCP ARCHITECTURE



COMMON CLOUD MISCONFIGURATIONS

- ★ Misconfigurations include:
  - Compute:
    - Public snapshots
    - Open ports with 0.0.0.0/0 rules
    - Backend instances in Public subnets
    - Vulnerabilities leading to SSRF/RCE
    - Overly permissive IAM roles attached

COMMON CLOUD MISCONFIGURATIONS

- Identity:
  - Usage of root account for resource provisioning
  - Lack of MFA
  - Usage of wildcard (*) in IAM policies
  - Assigning overly permissive roles & policies
  - Insufficient logging & monitoring

COMMON CLOUD MISCONFIGURATIONS

- Storage:
  - Anonymous access to storage objects
  - Overly permissive IAM policies
    - List actions by anyone
    - Principal set to wildcard (*)

DEMO TIME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