

API & Automation

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REST API Overview

The CMS exposes a REST API that mirrors all major platform functions, allowing administrators, partners, and developers to automate operations.

API Design Principles

- **Standards-Based:** JSON over HTTPS, aligned with REST conventions.
- **Role-Aware:** All calls are scoped to the authenticated user's role (Platform, Distributor, Partner, Tenant).
- **Secure by Default:** Requires bearer tokens obtained through login or federation flows.
- **Consistent Resources:** Entities in the API (Distributors, Partners, Tenants, Subscriptions, Usage, Billing, Commissions) align directly with portal objects.

Authentication

- **Login Flow:** Obtain a token via the `/api/v1/auth/login` endpoint.
- **Federated Tokens:** Forward Microsoft Entra or Google tokens for verification at `/api/v1/auth/federated`.
- **Token Lifetime:** Tokens are time-bound; refresh before expiry to avoid failures.

Core Endpoints

- **Distributors & Partners**
 - `/api/v1/distributors` – create, list, and manage distributors
 - `/api/v1/partners` – create, list, and manage partners
- **Tenants & Subscriptions**
 - `/api/v1/tenants` – onboard tenants, assign admins
 - `/api/v1/subscriptions` – create and manage subscriptions
- **Plans & Pricing**
 - `/api/v1/plans` – publish and update plans
 - `/api/v1/pricing` – define SKUs, rates, and thresholds
- **Usage & Billing**
 - `/api/v1/usage` – ingest usage data
 - `/api/v1/billing/summary` – generate subscription and tenant billing summaries
- **Commissions**
 - `/api/v1/commissions/summary` – calculate and retrieve commissions for partners and distributors
- **System & Identity**
 - `/api/v1/settings` – update branding, licensing, and identity configs
 - `/api/v1/roles` – assign or update user roles

Typical Automation Scenarios

- **Tenant Onboarding**

Automate tenant creation, subscription assignment, and role setup via API.

- **Usage Ingestion**

Post usage records into `/api/v1/usage` on a scheduled job (e.g., nightly processing per region).

- **Billing Automation**

Trigger invoice generation and retrieve billing summaries at end-of-month.

- **Commission Reconciliation**

Automate pulling `/commissions/summary` for financial reporting and payouts.

- **Integration with External Systems**

- Connect billing output to finance/ERP systems.
- Forward alerts or health checks to monitoring solutions.
- Sync user identity with corporate directories.

Developer Notes

- Full Swagger documentation is bundled with the CMS at `/swagger`.
- API clients can be generated automatically from the provided `swagger.json`.
- Rate limits apply to protect system performance; batch operations where possible.

API Examples

PowerShell

Below is an example of how to authenticate and work with the CMS Api.

Note: Make sure the user you are using is permitted to perform CMS Authentication.

```
#####
# Variables
#####
# Modify for your endpoint
$BaseUrl      = 'https://api.cloudaxis.cloud/api/v1/'
# This user is permitted to do CMS Auth
$EmailAddress = 'sample@api.connection'
$Password     = 'D!dYouRe@llyTh1nkItW0uldB3Th4t3@sy'
#####
# Functions
#####
# Get a Token
function Get-CmsBearerToken
{
    [CmdletBinding(DefaultParameterSetName="Initial")]
    param([Parameter(Mandatory=$true, ParameterSetName="Initial")]
        [string]$EmailAddress,
        [Parameter(Mandatory=$true, ParameterSetName="Initial")]
        [string]$Password,
        [Parameter(Mandatory=$true, ParameterSetName="Refresh")]
        [string]$RefreshToken,
        [Parameter(Mandatory=$true)]
        [string]$BaseUrl)
    end
    {
        New-CmsLogMessage -T Info "Retrieving $($PSCmdlet.ParameterSetName) CMS bearer token."

        switch ($PSCmdlet.ParameterSetName)
        {
            'Initial' {
```

```

        $Url = "$($BaseUrl.Trim('/'))/auth/token"
        $Body = @{
            EmailAddress = $EmailAddress
            Password = $Password
        } | ConvertTo-Json
    }
    'Refresh' {
        $Url = "$($BaseUrl.Trim('/'))/auth/token-refresh"
        $Body = @{
            RefreshToken = $RefreshToken
        } | ConvertTo-Json
    }
}

$headers = New-Object "System.Collections.Generic.Dictionary[[String],[String]]"
$headers.Add("Content-Type", "application/json")

try {
    $Response = Invoke-RestMethod $Url -Method 'POST' -Headers $headers -Body $Body
} catch {
    New-CmsLogMessage -T Error "Token request failed. $($_.Exception.Message)"
    throw
}

return [CMS.Domain.Models.AuthResponse]$Response
}

}

#####

function New-CmsApiCall
{
    param([Parameter(Mandatory=$true)]
        [string]$BearerToken,
        [Parameter(Mandatory=$true)]
        [string]$BaseUrl,
        [Parameter(Mandatory=$true)]
        [string]$Uri,
        [psobject]$Body,
        [Parameter(Mandatory=$true)]
        [ValidateSet("GET", "POST", "PUT", "DELETE")]
        [string]$Method,
        [bool]$ExpectNotFound=$false)

```

```

end
{
    $Url = ("($BaseUrl.Trim('/'))/($Uri.TrimStart('/'))").ToLower()
    New-CmsLogMessage -T Info "Processing Api call - $($Method) $($Url)."

    switch ($Method)
    {
        'PUT' {
            if ($null -eq $Body) {
                New-CmsLogMessage -T Error "Api call using $($Method) cannot have an empty
Body parameter."
            } else {
                $Body = $Body | ConvertTo-Json
            }
        }
        'POST' {
            if ($null -eq $Body) {
                New-CmsLogMessage -T Error "Api call using $($Method) cannot have an empty
Body parameter."
            } else {
                $Body = $Body | ConvertTo-Json
            }
        }
    }

    $Headers = New-Object "System.Collections.Generic.Dictionary[[String],[String]]"
    $Headers.Add("Authorization", "Bearer $($BearerToken)")
    $Headers.Add("Content-Type", "application/json")

    try {
        $Response = Invoke-RestMethod $Url -Method $Method -Headers $Headers -Body $Body
        return $Response
    } catch {
        if (!$ExpectNotFound) {
            New-CmsLogMessage -T Error "Api call failed. $($_.Exception.Message)"
            return $Response
        }
    }
}
}

```

```
#####  
# Make Calls  
#####  
# Get Token for the Api  
$Token = Get-CmsBearerToken -EmailAddress $EmailAddress -Password $Password -BaseUrl  
$ApiEndpoint  
if (!$Token) {  
    Write-Host "No token could be retrieved."  
    exit 1  
}  
# Get Subscriptions  
$ApiResponse = New-CmsApiCall -BearerToken $Token.Token -BaseUrl $ApiEndpoint -Uri  
"/subscriptions/" -Method GET  
if ($ApiResponse.Code -ne 200) {  
    Write-Host "Error retrieving subscriptions $($ApiResponse.Errors)."  
    exit 1  
} else {  
    Write-Verbose "Loaded Subscriptions."  
    $Subscriptions = $ApiResponse.Data  
}
```