AWS Solution Architect Final Project

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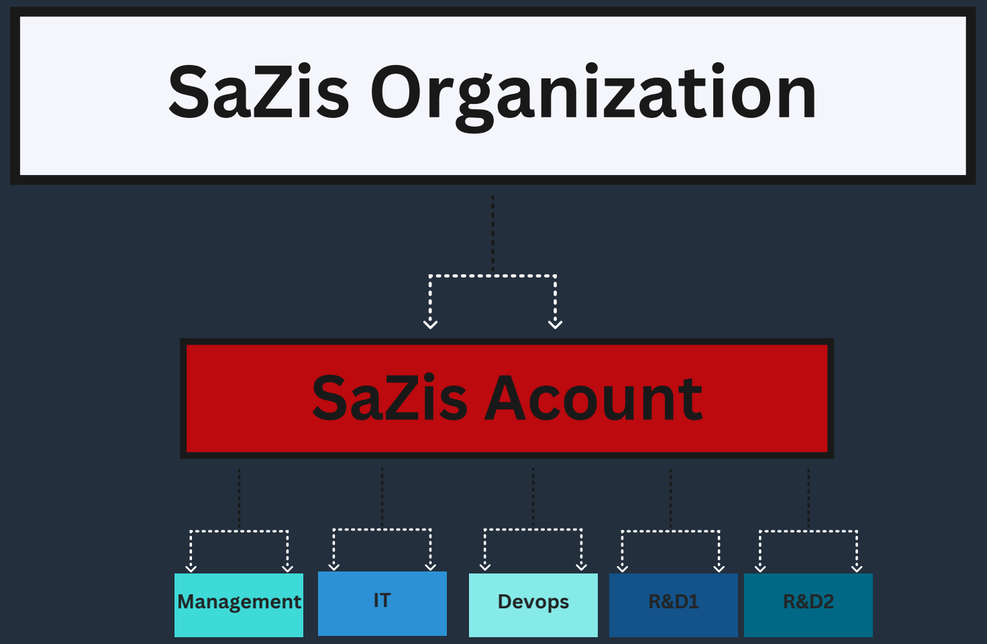
2023, Or Sade & Yoav Zis

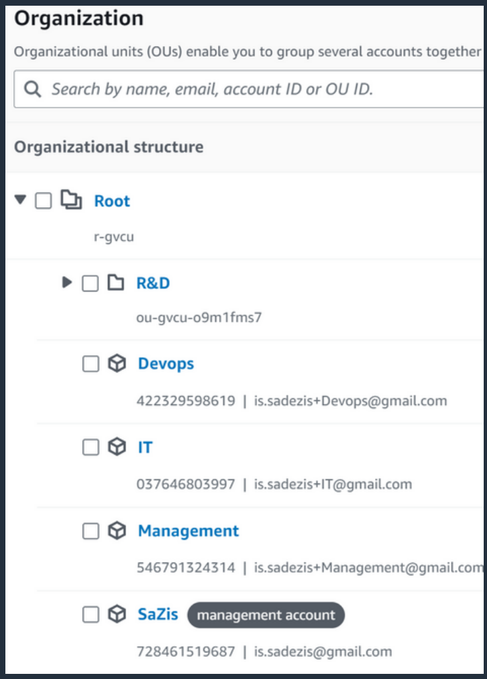
Project Overview:

We implemented a robust, resilient, and scalable WordPress website and Emulator-Js for web gaming on the AWS Services Platform. Deployed across two strategic regions, Ireland and Ohio, the project capitalizes on key AWS services, including EC2, RDS, EFS, Route 53, ALB , ACM, Lambda, and more. The project is designed for a game development company called “SaZis”

AWS Organization

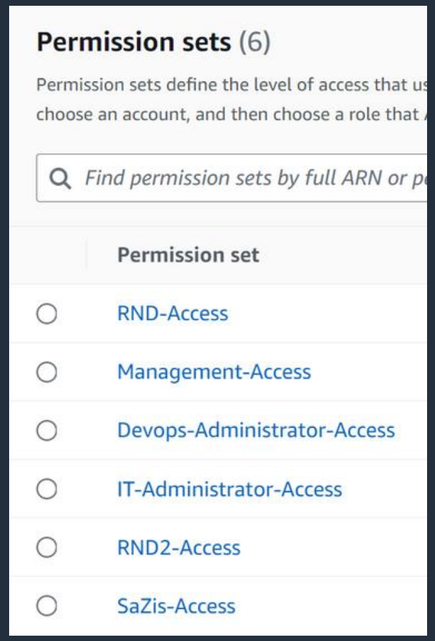
We implemented and desgined “SaZis” Organization With 6 AWS accounts, and assigned each account to an OU.

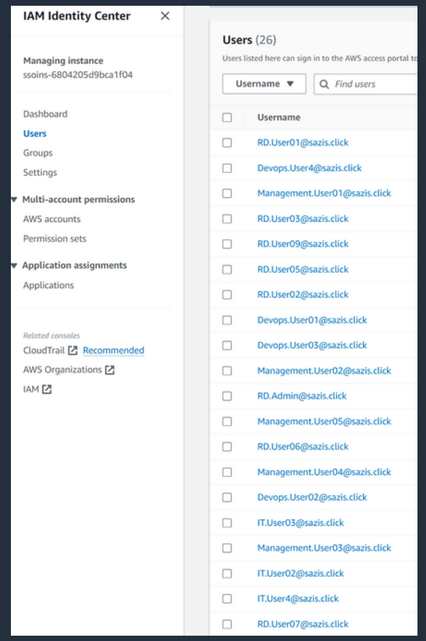


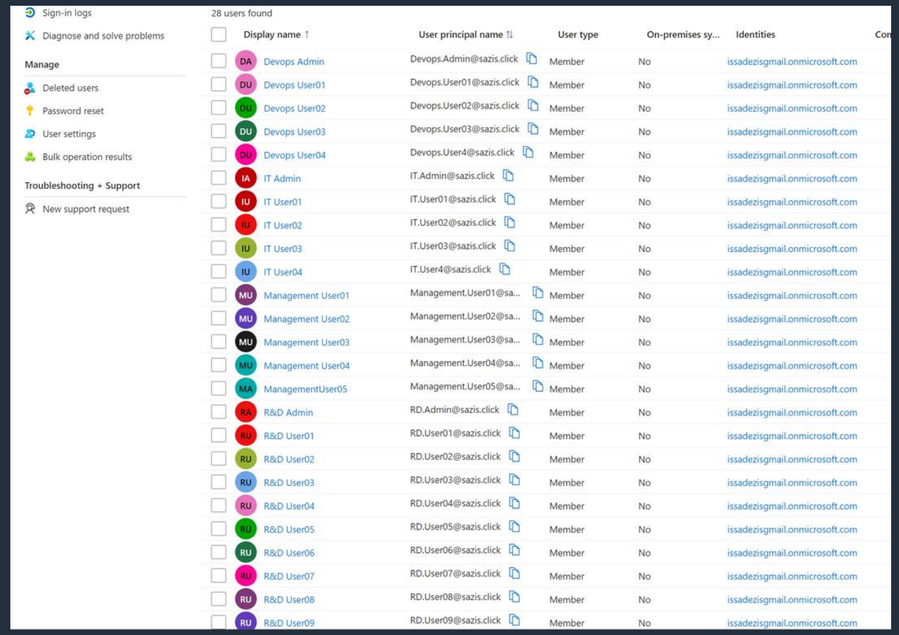


Microsoft Entra SSO integration with AWS IAM Identity Center

We created users in Microsoft Entra ID and auto provisioning them via SSO with AWS IAM Identity Center.
Each users group was been assainged to AWS Account and granted the nessecry premissions via AWS Premission Set.







Lambda - Cost saving as a code

This Code stop instances in DevOps VPC's (Ireland & Ohio) at the end of each day.

lambda_function × Environment Vari ×

```python
import boto3
region = 'us-east-2'
instances = ['i-0fc0521f6b9213a89']
ec2 = boto3.client('ec2', region_name=region)

def lambda_handler(event, context):
    ec2.stop_instances(InstanceIds=instances)
    print('stopped your instances: ' + str(instances))
```

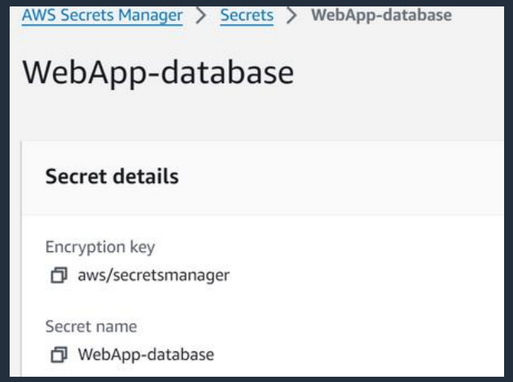
lambda_function × Environment Vari ×

```python
import boto3
region = 'eu-west-1'
instances = ['i-07224f9f1fe9301bd']
ec2 = boto3.client('ec2', region_name=region)

def lambda_handler(event, context):
    ec2.stop_instances(InstanceIds=instances)
    print('stopped your instances: ' + str(instances))
```

AWS Secrets Manager

This code take retrieves database credentials from AWS Secrets Manager, enhancing security by avoiding hardcoding sensitive information in the wp-config.php file.

```php
<?php
if(file_exists(__DIR__ . '/vendor/autoload.php')) {
require_once __DIR__ . '/vendor/autoload.php';
$dotenv = Dotenv\Dotenv::createImmutable(__DIR__);
$dotenv->load();
}
if(file_exists(dirname(__DIR__) . '/vendor/autoload.php')
require_once dirname(__DIR__) . '/vendor/autoload.php';
$dotenv = Dotenv\Dotenv::createImmutable(__DIR__);
$dotenv->load();
}
```

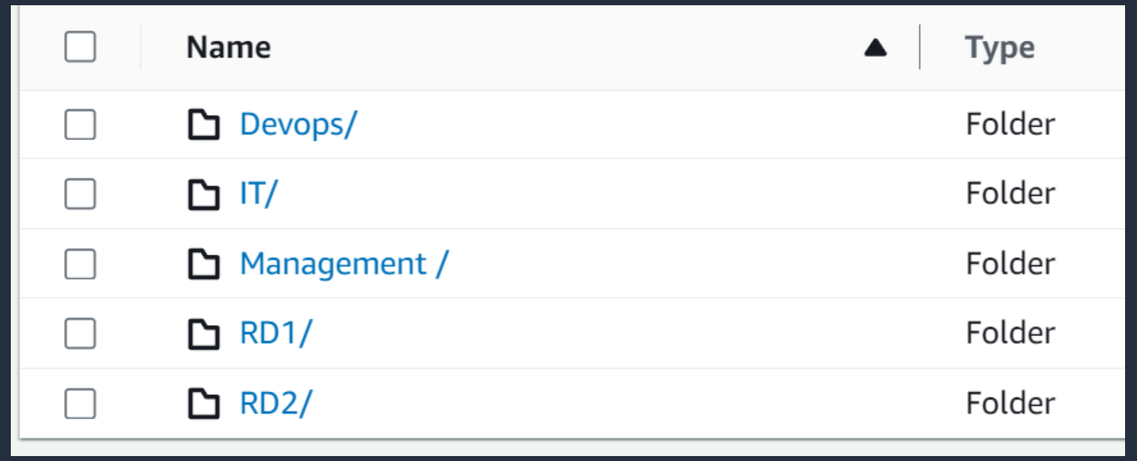



```php
// ** Database settings - You can get this info from your web host ** //
/** The name of the database for WordPress */
define( 'DB_NAME', getenv('dbname'));

/** Database username */
define( 'DB_USER', getenv('username'));

/** Database password */
define( 'DB_PASSWORD', getenv('password'));

/** Database hostname */
define( 'DB_HOST', getenv('host'));

/** Database charset to use in creating database tables. */
define( 'DB_CHARSET', 'utf8' );

/** The database collate type. Don't change this if in doubt. */
define( 'DB_COLLATE', '' );
```

S3 Bucket

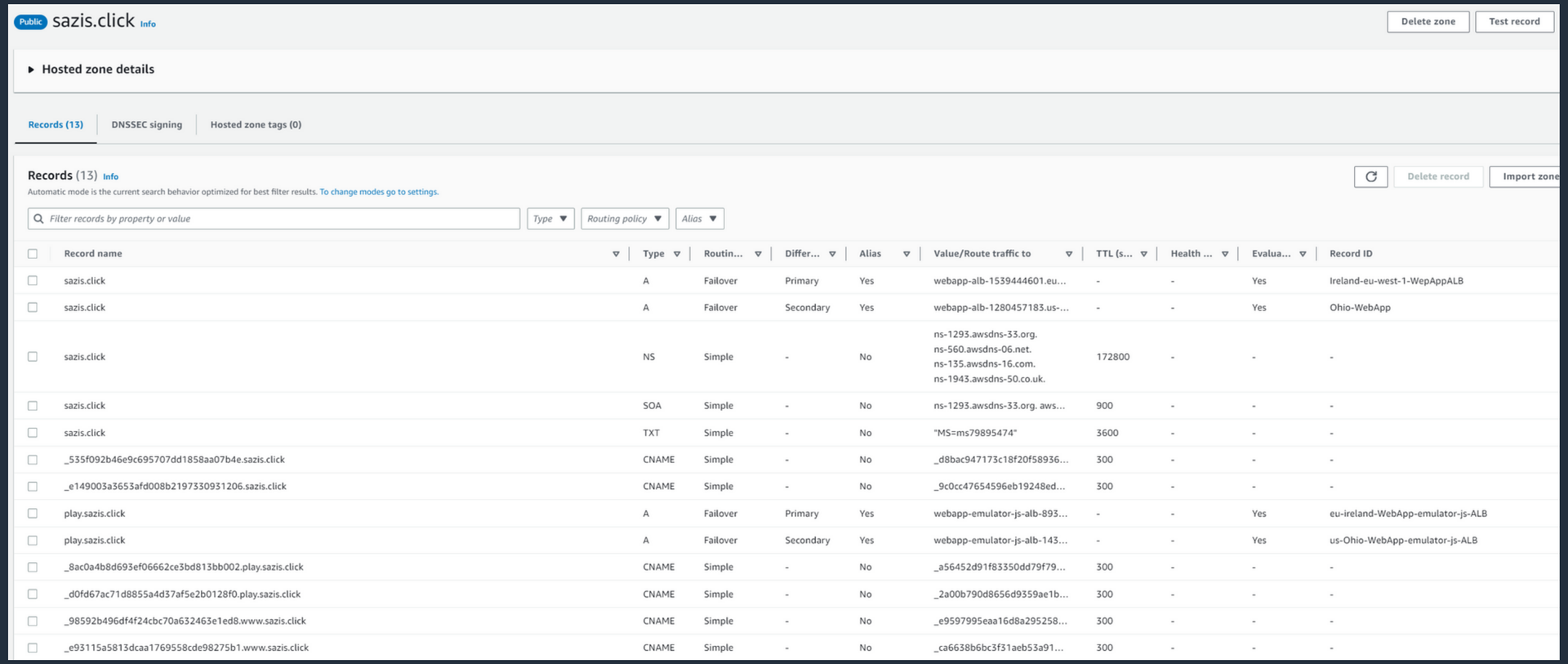
We created S3 bucket in Ireland region saved in standard mode.
Each Account Have Access only to his folder. achieved by Role Policy.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "s3:ListAllMyBuckets",
                "s3:GetBucketLocation"
            ],
            "Resource": "*"
        },
        {
            "Effect": "Allow",
            "Action": [
                "s3:ListBucket",
                "s3:GetObject"
            ],
            "Resource": [
                "arn:aws:s3:::sazis.click",
                "arn:aws:s3:::sazis.click/Devops",
                "arn:aws:s3:::sazis.click/Devops/*"
            ]
        },
        {
            "Effect": "Allow",
            "Action": [
                "s3:PutObject",
                "s3:GetObject"
            ],
            "Resource": "arn:aws:s3:::sazis.click/Devops/*"
        }
    ]
}
```



Route 53

We implament Ireland site as main site sets with failover mode with https support.



Public sazis.click Info

Delete zone | Test record

▸ Hosted zone details

Records (13) | DNSSEC signing | Hosted zone tags (0)

Records (13) Info

Automatic mode is the current search behavior optimized for best filter results. To change modes go to settings.

Delete record | Import zone

Filter records by property or value | Type | Routing policy | Alias

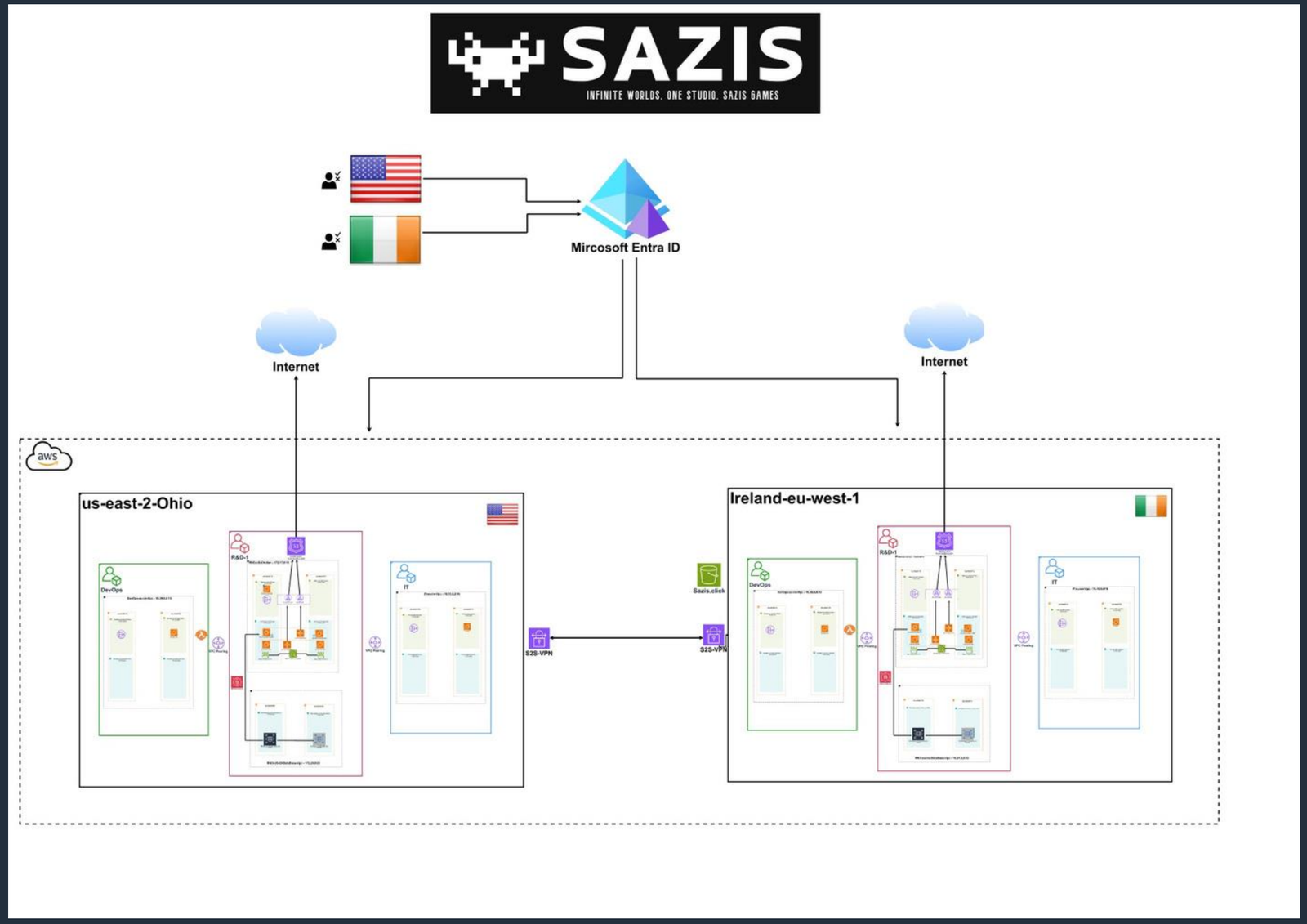
Record name	Type	Routin...	Differ...	Alias	Value/Route traffic to	TTL (s...	Health ...	Evalua...	Record ID
sazis.click	A	Failover	Primary	Yes	webapp-alb-1539444601.eu...	-	-	Yes	Ireland-eu-west-1-WepAppALB
sazis.click	A	Failover	Secondary	Yes	webapp-alb-1280457183.us-...	-	-	Yes	Ohio-WebApp
sazis.click	NS	Simple	-	No	ns-1293.awsdns-33.org. ns-560.awsdns-06.net. ns-135.awsdns-16.com. ns-1943.awsdns-50.co.uk.	172800	-	-	-
sazis.click	SOA	Simple	-	No	ns-1293.awsdns-33.org. aws...	900	-	-	-
sazis.click	TXT	Simple	-	No	"MS=ms79895474"	3600	-	-	-
_535f092b46e9c695707dd1858aa07b4e.sazis.click	CNAME	Simple	-	No	_d8bac947173c18f20f58936...	300	-	-	-
_e149003a3653afd008b2197330931206.sazis.click	CNAME	Simple	-	No	_9c0cc47654596eb19248ed...	300	-	-	-
play.sazis.click	A	Failover	Primary	Yes	webapp-emulator-js-alb-893...	-	-	Yes	eu-ireland-WebApp-emulator-js-ALB
play.sazis.click	A	Failover	Secondary	Yes	webapp-emulator-js-alb-143...	-	-	Yes	us-Ohio-WebApp-emulator-js-ALB
_8ac0a4b8d693ef06662ce3bd813bb002.play.sazis.click	CNAME	Simple	-	No	_a56452d91f83350dd79f79...	300	-	-	-
_d0fd67ac71d8855a4d37af5e2b0128f0.play.sazis.click	CNAME	Simple	-	No	_2a00b790d8656d9359ae1b...	300	-	-	-
_98592b496df4f24cbc70a632463e1ed8.www.sazis.click	CNAME	Simple	-	No	_e9597995eaa16d8a295258...	300	-	-	-
_e93115a5813dcaa1769558cde98275b1.www.sazis.click	CNAME	Simple	-	No	_ca6638b6bc3f31aeb53a91...	300	-	-	-

EmulatorJS

For our Retro Gaming Web App, we have choose to deploy "EmulatorJS" using Docker

```
root@ip-10-20-4-222:~# sudo docker ps
CONTAINER ID   IMAGE
d0c1b7ad6700   linuxserver/emulatorjs:latest
```

Project LLD


SAZIS
INFINITE WORLDS, ONE STUDIO. SAZIS GAMES
Mircosoft Entra ID
Internet
Internet
aws
us-east-2-Ohio
Ireland-eu-west-1
DevOps
R&D-1
IT
S2S-VPN
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Thank you