



FLY MY CLOUD LIMITED MIDDLEWARE PLATFORM

Quick Start Guide (Document Version: v2.3)

i Thank you for choosing the Middleware Platform) from Fly My Cloud Limited. Please note that this quick start guide is applicable for Middleware Platform version 4.3 and API version 3.2+

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Overview

The purpose of the document is to give the user an overview of the Middleware Platform from Fly My Cloud Limited. This guide will help the reader understand the main functions of the Middleware Platform.

Cost Vs Performance

Our Middleware Platform allows you to spend money wisely on scaling. Our proprietary platform allows you to set budgets, which can assist you with scaling your application based on your ROI calculations.

You can select from two options:

1. Scale based on resource usage (default); or
2. Scale based on resource usage and prediction (enable “predictive scaling option” on the settings page).

Languages Supported

The Middleware Platform supports the following languages:

- Java;
- Ruby;
- PHP;
- .Net; and
- Go.

The following additional languages are available if you have purchased our Enterprise plan (However you must contact us at middleware-api@flymycloud.com to activate support for these languages)

- Python
- NodeJS

Deployment Strategy

If you have purchased “Application Maintenance” add-on from us the Middleware Platform will automatically pull content on a regular basis from GIT repositories provided you have added our public key to the repository. Enterprise plan customers, will also need to purchase the “Application Maintenance” add-on separately in order to activate this feature. Depending on the language and framework used by the application, a “Build Service” add-on may also need to be purchased. Please see the Middleware Platform License Terms for more details.

If you have an active “Application Maintenance” add-on please add the ‘Public Key’ in the ‘Settings’ page of the Middleware Platform and add the GIT repository details in the `middleware.yaml` file.

If you do not have the “Application Maintenance” add-on please go the ‘Auto-scale Applications’ page and upload a new copy of the application in zip format.

YAML Config

A config file with the name ‘`middleware.yaml`’ (See Figure 1) should be placed in the root directory of the application. This file may contain the following details

Label	Description	Allowed Values
name	Name of the application	Any
description	Description of the application	Any
language	Default application language	php, go, java, net, go, python, ruby
server	Operating System	Ubuntu,ubuntu1610, Ubuntu 1704, centos and many more available under enterprise plans.
webserver	Web server	nginx, apache2, tomcat, glassfish and many more available under enterprise plans.
directory	Public directory name	any
framework	Framework used by the application	laravel54, wordpress, symphony and many more available under enterprise plans.
database	Databased used by the application	combi, sql, nosql
sql	SQL Engine	mysql, postgres, oracle, mariadb
nosql	NoSQL engine	redis, mongodb, dynamodb
backup	Data to be backed up (all data or Database only)	all, db
vendor	Cloud Host used by the application	aws, gcloud, azure
git	GIT repository details	
zone	Zone ID for your deployment	us-west01, eu-east-01, lon-01, asia-east-01 and many more available under enterprise plans.
config	Config file such as config.properties or .env	any

```

1  name: FMC
2  description: FMC
3  language: PHP
4  server: ubuntu1610
5  directory: public
6  framework: laravel54
7  database: combi
8      sql: mysql
9      nosql: redis
10 scale: yes
11 mode: combi
12 backup: all
13 vendor: gcloud
14 zone: eu2
15 config: env|

```

Figure 1: Sample yaml file

Middleware Platform Folder

Place the following files inside folder named “middleware” and place them in the root directory (See Figure 2).

- `commands.mw`: All the commands in the file gets executed on each server deployment
- `mysql.sql` : SQL dump that you wish to restore to a newly created database (and to be used by the application).

There are other files you can place in this folder if you are on our Enterprise plan. Please contact us at middleware-support@flymycloud.com if you wish to receive the full list.

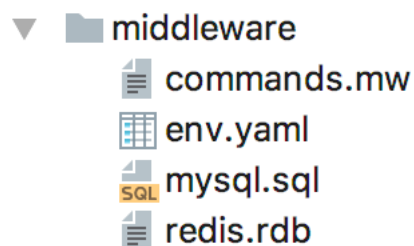


Figure 2: Sample middleware folder files

Middleware Platform Cli Access

All applications under the Enterprise plan or with managed add-ons will have access to the following provided they are using an Ubuntu, Rehat or Cent OS based instance.

Some of the most commonly used commands available are below (If you are on our Enterprise plan and wish to use this feature, please contact us for the complete list of commands)

Command	Description
<code>mw create-instance --zone "zone-id"</code>	Creates a new service instance in a given zone
<code>mw copy-instance-volume --instance "instance-id"</code>	Takes a snapshot of your instances
<code>mw auto-scale --prediction=false</code>	Disables (or Enables if set to 'True Prediction')
<code>mw create-db-slave --instance "instance-id"</code>	Creates a slave instance of the database
<code>mw notify --function "function-name" --app "app-id"</code>	Creates notifications for a function call
<code>mw backup -i --app "app-id"</code>	Provides information about current backup

Middleware Platform Internals

You can find some details about the Middleware Platform internal functions here*.

*As this is technology is the Intellectual Property of Fly My Cloud the full details of internal workings cannot be made public and are not disclosable.

If you are on our Enterprise plan (or wish to sign up for one), and would like to know more about the internals, please send a request to contact@flymycloud.com.



Figure 3: Core tables with sensitive column names removed

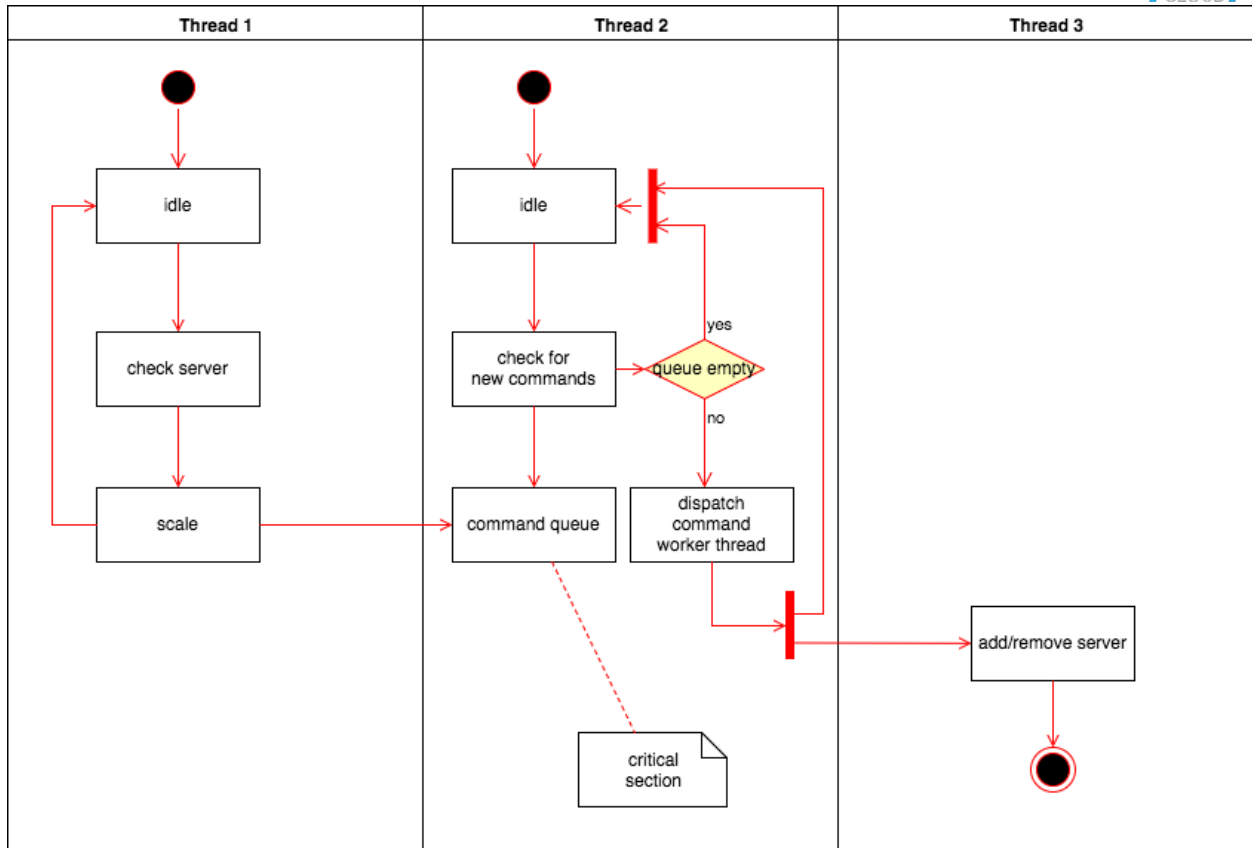


Figure 4: Simplified version of thread mechanism used by the on-demand scaling algorithm

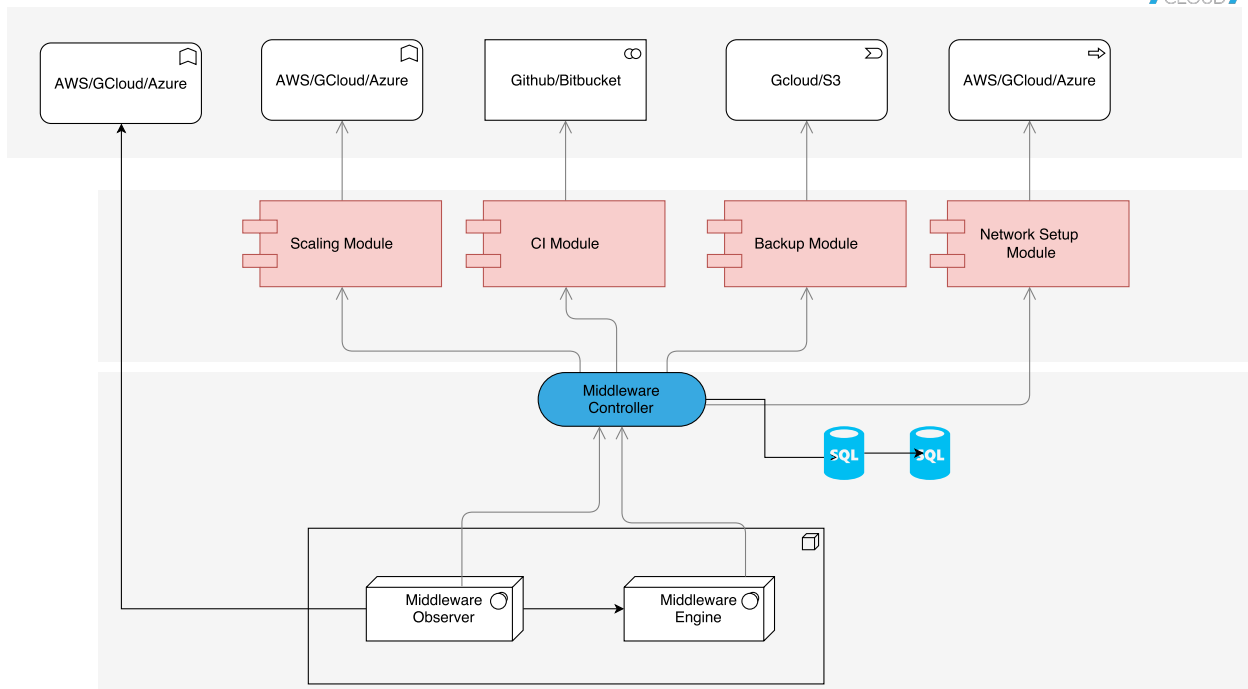


Figure 5: Simplified Version of the Platform

Middleware Platform Features

Continuous Integration (CI)

Our Middleware Platform allows you to focus on developing and improving your applications, and it will automatically deploy and update your applications when you push your code out to production. Our Platform can provide you with a GIT repository or use your own repository to push code.

Auto-scale

Scale your application on demand. With Predictive Scaling (if enabled), our Artificial Intelligence Powered system will estimate your demand by analysing visitor patterns and social media platforms.

Backup

Using our individual add-on modules you can backup all of your data – including code, server configurations, database servers etc.

Languages

A variety of programming languages are supported, including PHP, JAVA, RUBY, GO and ASP.NET.

Save Money

Our Middleware Platform is a multidisciplinary tool with the ability to supports with DevOps, network infrastructure and server maintenance, with the potential to help you reduce your overheads and resource requirements in the longer term.

CDN and DNS

Our Middleware Platform supports CDNs and these functions are included in the price you pay when you buy____. If your application is managed by Fly My Cloud, we use our own DNS system to protect your site/application against DoS attacks.

Performance SQLaaS

If you are running a business that require you push and pull large amounts of data to a database, then Performance SQLaaS is the solution for you. You can do up to 1000 operations a second. The Middleware Platform will manage the Oracle Real Application Clusters (Oracle RAC) and ensure that your data is secure and backed up. In order to use the performance SQLaaS service you will need your API key (which you can get from the Middleware Platform settings page) and connect to our RESTful API.

The SQLaaS API supports the following operations:

- Create new table;
- Add row;
- Search within table; and
- Delete row.

Update operation is something you cannot perform in one step. You will need to retrieve the data (using search), delete the row and add as a new row in order perform an operation similar to update.

More details of the service is available at <https://middleware.flymycloud.com/api-doc>

Products and Services without Auto-scaling

You can also buy some products and services without auto-scaling from the Middleware Platform portal:

Cloud Server

- If you wish have full control over the application environment, then you purchase a cloud server from the Middleware Platform (<https://middleware.flymycloud.com/cloud-servers>)
- You will need to create an SSK Key or import your public key at <https://middleware.flymycloud.com/cloud-ssh-keys> before creating any servers
- As it is a standalone server, you will need to configure the server and deploy any application yourself.
- The Middleware Platform can perform backup and switch you over to another datacentre if the datacentre where the server is deployed experience any serious technical difficulties that affects the performance of your server.
- Once the server is created select check host name to get the host name of the server.
- You need to have unused credits in your account to purchase servers. If the server creation process fails, please increase your budget under settings.

Create Cloud Server

1 1-vCPU instance with 1 GB RAM is included in your plan
Any additional resource will be billed according to the Middleware Platform Terms

Server Name

Operating System
Ubuntu

Instance Size
1 vCPU

Memory
1 GB

SSH Key Name

Cloud Database

If you wish to create a standalone cloud database with automated backups, you can get one from <https://middleware.flymycloud.com/cloud-databases>

- Once the server is created select check host name to get the host name of the server.
- You need to have unused credits in your account to purchase servers. If the server creation process fails, please increase your budget under settings.

Create Cloud Database

1 1-vCPU instance with 1 GB RAM is included in your plan
Any additional resource will be billed according to the Middleware Platform Terms

Database Name

Engine
MySQL

Instance Size
1 vCPU

Memory
1 GB

Database Username
jake_flymycloud

Database Password

Middleware Platform Portal

All Middleware Platform-related actions can be performed through the Middleware Platform Manager Portal. You will be able to set up the level of scaling and GIT repository using this Portal. Please note that if you are on a fully managed plan, Fly My Cloud will manage these functions for you.

URL	Description
https://middleware.flymycloud.com/dashboard	Dashboard
https://middleware.flymycloud.com/autoscale-applications	List of Applications (Scaling is managed by the Middleware Platform)
https://middleware.flymycloud.com/cloud-servers	No Scaling available for these cloud servers. However, our Middleware Platform can perform backups and switch automatically between providers (what providers).
https://middleware.flymycloud.com/cloud-databases	No Scaling available for these database servers. However, our Middleware Platform can perform backups and switch automatically between providers.
https://middleware.flymycloud.com/performance-sqlaas	Please use the Middleware Platform API to connect with Performance SQLaaS
https://middleware.flymycloud.com/cloud-apis	Manage your restful API through our platform. Available only for customers subscribed to the Enterprise plan with the Application Management add-on enabled.
https://middleware.flymycloud.com/settings	Settings Page
https://middleware.flymycloud.com/cloud-ssh-keys	Manage SSH Keys here

URLs

- Main Website: <https://www.flymycloud.com>
- Middleware Platform : <https://middleware.flymycloud.com>
- Middleware Platform Terms: <https://www.flymycloud.com/middleware-platform-terms>
- Middleware Platform Pricing: See Schedule 1 and 2 at <https://www.flymycloud.com/middleware-platform-terms>
- Middleware Platform SQLAAS API : <https://middleware.flymycloud.com/api-doc>
- Middleware Platform Enterprise API: Email us at enterprise-api@flymycloud.com
- Middleware Platform FAQs: <https://middleware.flymycloud.com/faqs>