

# msaSDK Module

## `.models.service`

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## Classes

### MSAServiceDefinition

Bases: `MSAAppSettings`

MSAApp Settings (Service Definitions)

This class enables the configuration of your MSAApp instance through the use of environment variables.

Any of the instance attributes can be overridden upon instantiation by either passing the desired value to the initializer, or by setting the corresponding environment variable.

Attribute `xxx_yyy` corresponds to environment variable `API_XXX_YYY`. So, for example, to override `openapi_prefix`, you would set the environment variable `API_OPENAPI_PREFIX`.

Note that assignments to variables are also validated, ensuring that even if you make runtime-modifications to the config, they should have the correct types.

#### Attributes

`abstract_fs` class-attribute

```
abstract_fs: bool = True
```

Enables internal Abstract Filesystem.

`abstract_fs_url` class-attribute

```
abstract_fs_url: str = '.'
```

Set's Filesystem URL

`allow_credentials` class-attribute

```
allow_credentials: bool = True
```

CORSMiddleware. Bool. Allow (True) Credentials (Authorization headers, Cookies, etc).

allow\_headers class-attribute

```
allow_headers: List[str] = ['*']
```

CORSMiddleware. List[str]. Specific HTTP headers or all of them with the wildcard `*`.

allow\_methods class-attribute

```
allow_methods: List[str] = ['*']
```

CORSMiddleware. List[str]. Specific HTTP methods (POST, PUT) or all of them with the wildcard `*`.

allow\_origins class-attribute

```
allow_origins: List[str] = ['*']
```

CORSMiddleware. List[str]. List of allowed origins (as strings) or all of them with the wildcard `*`.

context class-attribute

```
context: bool = False
```

Enable Context Middleware.

CORS class-attribute

```
cors: bool = True
```

Enable CORS Middleware.

csrf class-attribute

```
csrf: bool = True
```

Enable CSRF Forms Protection Middleware.

graphql class-attribute

```
graphql: bool = False
```

Enable initiation of Strawberry GraphQLRouter (/graphql).

gzip class-attribute

```
gzip: bool = False
```

Enable GZIP Middleware.

healthdefinition class-attribute

```
healthdefinition: MSAHealthDefinition = (  
    MSAHealthDefinition()  
)
```

Healthdefinition Instance.

host class-attribute

```
host: str = '127.0.0.1'
```

Host/IP which the service runs on.

httpception class-attribute

```
httpception: bool = True
```

Enable the HTTP Exception Handler, which provides HTML Error Pages instead of JSONResponse.

httpception\_exclude class-attribute

```
httpception_exclude: List[int] = [307]
```

List of HTTP Exception Codes which are excluded and just forwarded by the HTTP Exception Handler.

httpsredirect class-attribute

```
httpsredirect: bool = False
```

Enable HTTPS Redirect Middleware.

## instrument class-attribute

```
instrument: bool = True
```

Enable Prometheus Instrumentation for the instance.

## json\_db class-attribute

```
json_db: bool = True
```

Enables internal NoSQL/TinyDB DB.

## json\_db\_memory\_only class-attribute

```
json_db_memory_only: bool = False
```

JSON DB only in memory, don't store to file/db url

## json\_db\_url class-attribute

```
json_db_url: str = './msa_sdk.json'
```

Set's DB URL, compatibility with async and SQLAlchemy is required.

## language class-attribute

```
language: str = ''
```

Set's internal Admin Dashboard language ( `zh_CN` or `en_US` =default if empty).

## limiter class-attribute

```
limiter: bool = False
```

Enables Rate Limiter (slowapi).

## msgpack class-attribute

```
msgpack: bool = False
```

Enable Messagepack Negotiation Middleware.

## name class-attribute

```
name: str = 'msaSDK Service'
```

Service Name, also used as Title.

pages class-attribute

```
pages: bool = True
```

Enable the Pages Routes (/profiler, /testpage), if site is Off also (/ , /monitor, /monitor\_inline).

pagination class-attribute

```
pagination: bool = False
```

Enable FastAPI Pagination.

port class-attribute

```
port: int = 8090
```

Port which the service binds to.

profiler class-attribute

```
profiler: bool = False
```

Enable Profiler Middleware.

profiler\_output\_type class-attribute

```
profiler_output_type: str = 'html'
```

Set the Profiler Output Type, should be html or text, html is needed if you want to use the profiler on the Admin Site.

profiler\_single\_calls class-attribute

```
profiler_single_calls: bool = True
```

Enable to Track each Request by the Profiler.

profiler\_url class-attribute

```
profiler_url: str = '/profiler'
```

Set the URL to reach the profiler result html, /profiler.

root\_path class-attribute

```
root_path: str = '/admin'
```

Set's internal Admin Dashboard Root Path, normally /admin.

scheduler class-attribute

```
scheduler: bool = True
```

Enables MSA Scheduler Engine.

scheduler\_debug class-attribute

```
scheduler_debug: bool = False
```

Enables MSA Scheduler debug messages.

servicerouter class-attribute

```
servicerouter: bool = True
```

Enable the Service Routes defined by the MSAApp (/scheduler, /status, /defintion, /settings, /schema, /info, ...).

session class-attribute

```
session: bool = False
```

Enable Session Middleware.

signal\_middleware class-attribute

```
signal_middleware: bool = False
```

Enable MSASignal Middleware.

site class-attribute

```
site: bool = True
```

Enables internal Admin Site Dashboard.

site\_auth class-attribute

```
site_auth: bool = False
```

Extends internal Admin Dashboard with Auth.

site\_copyright class-attribute

```
site_copyright: str = 'Copyright © 2022 by u2d.ai'
```

Set's internal Admin Dashboard copyright information.

site\_icon class-attribute

```
site_icon: str = '/msastatic/img/favicon.png'
```

Set's internal Admin Dashboard Favicon.

site\_title class-attribute

```
site_title: str = 'Admin'
```

Set's internal Admin Dashboard Titel.

site\_url class-attribute

```
site_url: str = ''
```

Set's internal Admin Dashboard Site URL, normally empty.

sqlite\_db class-attribute

```
sqlite_db: bool = True
```

Enables internal Asynchron SQLite DB.

sqlite\_db\_crud class-attribute

```
sqlite_db_crud: bool = True
```

Enables CRUD API creation of the provided SQLModels.

sqlite\_db\_debug class-attribute

```
sqlite_db_debug: bool = False
```

Enables internal DB Debug output.

sqlite\_db\_meta\_create class-attribute

```
sqlite_db_meta_create: bool = True
```

Enables internal DB Metadata creation from defined SQLModels at Startup.

sqlite\_db\_meta\_drop class-attribute

```
sqlite_db_meta_drop: bool = False
```

If True, all existing Data and Schemas in internal DB get's deleted at Startup.

sqlite\_db\_url class-attribute

```
sqlite_db_url: str = "sqlite+aiosqlite:///msa_sdk.sqlite_db?check_same_thread=True"
```

Set's DB URL, compatibility with async and SQLAlchemy is required.

starception class-attribute

```
starception: bool = True
```

Enable Starception Middleware.

static class-attribute

```
static: bool = True
```

Enable the internal Static Folder (`msastatic`) and Mount to instance.

sysrouter class-attribute

```
sysrouter: bool = True
```



Enable the System Routes defined by router.system module (/sysinfo, /sysgpuinfo, /syserror, ...).

tags class-attribute

```
tags: List[str] = []
```

Optional Metadata: Use this to carry some variables through the service instance.

task\_middleware class-attribute

```
task_middleware: bool = False
```

Enable MSATask Middleware.

templates class-attribute

```
templates: bool = True
```

Enable the internal Templates and mount the directory.

templates\_dir class-attribute

```
templates_dir: List[str] = [
    "msatemplates",
    "msatemplates/errors",
]
```

Set the List of Directories for the MSAUITemplate Engine to look for the requested template.

timing class-attribute

```
timing: bool = False
```

Enables Timing Middleware, reports timing data at the granularity of individual endpoint calls.

ui\_justpy class-attribute

```
ui_justpy: bool = True
```

Enables internal justpy mounting.

ui\_justpy\_demos class-attribute

```
ui_justpy_demos: bool = True
```

Enables justpy demos

uvloop class-attribute

```
uvloop: bool = True
```

Use UVLoop instead of asyncio loop.

validationception class-attribute

```
validationception: bool = True
```

Enable Validation Exception Handler.

version class-attribute

```
version: str = '0.0.0'
```

Version of the Service.

## Functions

valid\_url

```
valid_url(url: str)
```

Internal Validator for `root_path` and `site_url` to remove ending `/`.

## MSAServiceStatus

Bases: `SQLModel`

**MSAServiceStatus** Pydantic Response Class

### Attributes

healthy class-attribute

```
healthy: Optional[str] = 'None'
```

Health status

message class-attribute

```
message: Optional[str] = 'None'
```

Optional Message Text

name class-attribute

```
name: Optional[str] = 'msaSDK Service'
```

Service Name.

## Functions

**get\_msa\_app\_settings** cached

```
get_msa_app_settings() -> MSAServiceDefinition
```

This function returns a cached instance of the MSAServiceDefinition object.



### Note



Caching is used to prevent re-reading the environment every time the API settings are used in an endpoint.

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