msaSDK Module

`.service`

Main Service Module for MSAApp.

Initialize with a MSAServiceDefintion Instance to control the features and functions of the MSAApp.

Attributes

password_helper `module-attribute`

```
password_helper = PasswordHelper(security_context)
```

> Password Helper Instance

security `module-attribute`

```
security = getMSASecurity()
```

> MSASecurity instance

security_context `module-attribute`

```
security_context = CryptContext(
    schemes=["bcrypt"], deprecated="auto"
)
```

> Security Context for Password Helper

Classes

MSAApp

> Bases: `MSAFastAPI`

Creates an application msaSDK instance.

> **Note**
>
> As with FastApi the MSAApp provides two events: `startup`: A list of callables to run on application startup. Startup handler callables do not take any arguments, and may be be either standard functions, or async functions. `shutdown`: A list of callables to run on application shutdown. Shutdown handler callables do not take any arguments, and may be be either standard functions, or async functions. Those are also used internally, which are triggered before the external events.
>
> Do not include the `self` parameter in the `Args` section.

PARAMETER	DESCRIPTION
`settings`	MSAServiceDefinition (Must be provided), instance of a service definition with all settings **TYPE:** `MSAServiceDefinition`
`sql_models`	List of SQLModel Default None, provide list of your SQLModel Classes and the instance can create CRUD API and if site is enabled also UI for CRUD **TYPE:** `List[SQLModel]` **DEFAULT:** `None`
`auto_mount_site`	Default True, if site is enabled in settings and this is true, mounts the site in internal startup event. **TYPE:** `bool` **DEFAULT:** `True`

ATTRIBUTE	DESCRIPTION
`logger`	loguru logger instance
`auto_mount_site`	bool auto_mount_site **TYPE:** `bool`
`settings`	MSAServiceDefinition settings instance.
`healthdefinition`	MSAHealthDefinition settings.healthdefinition **TYPE:** `MSAHealthDefinition`
`limiter`	Limiter = None **TYPE:** `Limiter`

ATTRIBUTE	DESCRIPTION
`db_engine`	AsyncEngine = Db Engine instance **TYPE:** `Limiter`
`sql_models`	List[SQLModel] = sql_models **TYPE:** `List[SQLModel]`
`sql_cruds`	List[MSASQLModelCrud] = [] **TYPE:** `List[MSASQLModelCrud]`
`scheduler`	MSAScheduler = None **TYPE:** `MSAScheduler`
`site`	AdminSite Admin/Auth Site instance.
`scheduler_task`	The Task instance that runs the Scheduler in the Background
`ROOTPATH`	str os.path.join(os.path.dirname(**file**))

Attributes

Base `instance-attribute`

```
Base: DeclarativeMeta = declarative_base()
```

ROOTPATH `instance-attribute`

```
ROOTPATH = os.path.join(os.path.dirname(__file__))
```

auto_mount_site `instance-attribute`

```
auto_mount_site: bool = auto_mount_site
```

graphql_app `instance-attribute`

```
graphql_app: GraphQLRouter = None
```

graphql_schema `instance-attribute`

```
graphql_schema: schema = None
```

healthcheck instance-attribute

```
healthcheck: health.MSAHealthCheck = None
```

healthdefinition instance-attribute

```
healthdefinition: MSAHealthDefinition = (
    self.settings.healthdefinition
)
```

json_db_engine instance-attribute

```
json_db_engine: TinyDB = None
```

limiter instance-attribute

```
limiter: Limiter = None
```

logger instance-attribute

```
logger = logger_gruru
```

scheduler instance-attribute

```
scheduler: MSAScheduler = None
```

settings instance-attribute

```
settings = settings
```

site instance-attribute

```
site = None
```

sql_cruds instance-attribute

```
sql_cruds: List[MSASQLModelCrud] = []
```

sql_models `instance-attribute`

```
sql_models: List[SQLModel] = sql_models
```

sqlite_db_engine `instance-attribute`

```
sqlite_db_engine: AsyncEngine = None
```

templates `instance-attribute`

```
templates = Jinja2Templates(
    directory=self.settings.templates_dir
)
```

Functions

__init__

```
__init__(
    settings: MSAServiceDefinition,
    sql_models: List[SQLModel] = None,
    auto_mount_site: bool = True,
    *args,
    **kwargs
) -> None
```

get_healthcheck `async`

```
get_healthcheck(request: Request) -> ORJSONResponse
```

> Get Healthcheck Status

get_scheduler_log `async`

```
get_scheduler_log(
    request: Request,
    optionClearLog: bool = False,
    optionFORCEClearLog: bool = False,
) -> MSASchedulerLog
```

> Get Service Scheduler Log

PARAMETER	DESCRIPTION

PARAMETER	DESCRIPTION
`request`	The input http request object **TYPE:** `Request`
`optionClearLog`	If True the Log gets cleared after the response was build **TYPE:** `bool` **DEFAULT:** `False`
`optionFORCEClearLog`	Forcing the clearing of the log before the response gets created **TYPE:** `bool` **DEFAULT:** `False`

RETURNS	DESCRIPTION
`sst`	MSASchedulerLog Pydantic Response Model **TYPE:** `MSASchedulerLog`

get_scheduler_status async

```
get_scheduler_status(
    request: Request,
) -> MSASchedulerStatus
```

Get Service Scheduler Status, with the registered Task's

PARAMETER	DESCRIPTION
`request`	The input http request object **TYPE:** `Request`

RETURNS	DESCRIPTION
`sst`	MSASchedulerStatus Pydantic Response Model **TYPE:** `MSASchedulerStatus`

get_services_definition

```
get_services_definition(
    request: Request,
) -> MSAServiceDefinition
```

Get Service Definition Info

PARAMETER	DESCRIPTION
`request`	The input http request object **TYPE:** `Request`

RETURNS	DESCRIPTION
`settings`	MSAServiceDefinition Pydantic Response Model **TYPE:** `MSAServiceDefinition`

get_services_openapi_info

```
get_services_openapi_info(
    request: Request,
) -> MSAOpenAPIInfo
```

Get Service OpenAPI Info

PARAMETER	DESCRIPTION
`request`	The input http request object **TYPE:** `Request`

RETURNS	DESCRIPTION
`oai`	MSAOpenAPIInfo Paydantic Response Model **TYPE:** `MSAOpenAPIInfo`

get_services_openapi_schema

```
get_services_openapi_schema(
    request: Request,
) -> ORJSONResponse
```

Get Service OpenAPI Schema

PARAMETER	DESCRIPTION

PARAMETER	DESCRIPTION
`request`	The input http request object **TYPE:** `Request`

RETURNS	DESCRIPTION
`openapi`	ORJSONResponse openapi schema **TYPE:** `ORJSONResponse`

get_services_settings

```
get_services_settings(request: Request) -> ORJSONResponse
```

Get Service OpenAPI Schema

PARAMETER	DESCRIPTION
`request`	The input http request object **TYPE:** `Request`

RETURNS	DESCRIPTION
`settings`	ORJSONResponse **TYPE:** `ORJSONResponse`

get_services_status async

```
get_services_status(request: Request) -> MSAServiceStatus
```

Get Service Status Info

PARAMETER	DESCRIPTION
`request`	The input http request object **TYPE:** `Request`

RETURNS	DESCRIPTION
`sst`	MSAServiceStatus Pydantic Response Model **TYPE:** `MSAServiceStatus`

index_page

```
index_page(request: Request) -> _TemplateResponse
```

Get Service Index.html Page

PARAMETER	DESCRIPTION
`request`	The input http request object **TYPE:** `Request`

monitor async

```
monitor(request: Request) -> _TemplateResponse
```

Simple Service Monitor Page. Only works if pages is enabled in MSAServiceDefinition

PARAMETER	DESCRIPTION
`request`	The input http request object **TYPE:** `Request`

monitor_inline async

```
monitor_inline(request: Request) -> _TemplateResponse
```

Simple Monitor Page as Inline without head and body tags. Only works if pages is enabled in MSAServiceDefinition

PARAMETER	DESCRIPTION
`request`	The input http request object **TYPE:** `Request`

mount_site

```
mount_site() -> None
```

msa_exception_handler async

```
msa_exception_handler(request: Request, exc: HTTPException)
```

Handles all HTTPExceptions if enabled with HTML Response or forward error if the code is in the exclude settings list.

PARAMETER	DESCRIPTION
`request`	The input http request object **TYPE:** `Request`
`exc`	The HTTPException instance

RETURNS	DESCRIPTION
	HTTPException or Template

msa_exception_handler_disabled async

```
msa_exception_handler_disabled(
    request: Request, exc: HTTPException
) -> JSONResponse
```

Handles all HTTPExceptions if Disabled with JSON Response.

PARAMETER	DESCRIPTION
`request`	The input http request object **TYPE:** `Request`

RETURNS	DESCRIPTION
`HTTPException`	as JSONResponse **TYPE:** `JSONResponse`

profiler

```
profiler(request: Request) -> _TemplateResponse
```

> Simple Profiler Page. Only works if pages is enabled in MSAServiceDefinition
>
> | PARAMETER | DESCRIPTION |
> |---|---|
> | `request` | The input http request object
TYPE: `Request` |

shutdown_event async

```
shutdown_event() -> None
```

startup_event async

```
startup_event() -> None
```

> :return: :rtype:

testpage

```
testpage(request: Request) -> _TemplateResponse
```

> Simple Testpage to see if the Micro Service is up and running. Only works if pages is enabled in MSAServiceDefinition
>
> | PARAMETER | DESCRIPTION |
> |---|---|
> | `request` | The input http request object
TYPE: `Request` |

validation_exception_handler async

```
validation_exception_handler(
    request: Request, exc: RequestValidationError
) -> JSONResponse
```

MSAOpenAPIInfo

Bases: `SQLModel`

MSAOpenAPIInfo Pydantic Response Class

Attributes

name `class-attribute`

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

> Service Name.

tags `class-attribute`

```
tags: Optional[List[str]] = None
```

> OpenAPI Tags.

url `class-attribute`

```
url: str = '/openapi.json'
```

> OpenAPI URL.

version `class-attribute`

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

> API Version.

MSASchedulerLog

Bases: `SQLModel`

MSASchedulerStatus Pydantic Response Class

Attributes

log `class-attribute`

```
log: Optional[List[MSASchedulerRepoLogRecord]] = []
```

> Optional MSASchedulerRepoLogRecord List

message `class-attribute`

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

> Optional Message Text

name `class-attribute`

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

> Service Name.

MSASchedulerRepoLogRecord

Bases: `SQLModel`

Attributes

action `class-attribute`

```
action: str
```

created `class-attribute`

```
created: Optional[datetime.datetime]
```

exc_text `class-attribute`

```
exc_text: Any
```

filename `class-attribute`

```
filename: str
```

formatted_message `class-attribute`

```
formatted_message: Any
```

funcName `class-attribute`

```
funcName: str
```

levelname `class-attribute`

```
levelname: Any
```

levelno `class-attribute`

```
levelno: int
```

lineno `class-attribute`

```
lineno: int
```

message `class-attribute`

```
message: Any
```

module `class-attribute`

```
module: str
```

msecs `class-attribute`

```
msecs: float
```

msg `class-attribute`

```
msg: str
```

name `class-attribute`

```
name: str
```

pathname `class-attribute`

```
pathname: str
```

process `class-attribute`

```
process: int
```

processName `class-attribute`

```
processName: str
```

relativeCreated `class-attribute`

```
relativeCreated: Optional[datetime.datetime]
```

task_name `class-attribute`

```
task_name: str
```

thread `class-attribute`

```
thread: int
```

threadName `class-attribute`

```
threadName: str
```

MSASchedulerStatus

Bases: `SQLModel`

MSASchedulerStatus Pydantic Response Class

Attributes

message `class-attribute`

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

> Optional Message Text

name `class-attribute`

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

> Service Name.

tasks `class-attribute`

```
tasks: Optional[List[MSASchedulerTaskStatus]] = []
```

> Optional MSASchedulerTaskStatus List

MSASchedulerTaskDetail

Bases: `SQLModel`

Attributes

cache `class-attribute`

```
cache: bool
```

daemon `class-attribute`

```
daemon: Any
```

description `class-attribute`

```
description: Any
```

disabled `class-attribute`

```
disabled: bool
```

end_cond `class-attribute`

```
end_cond: Any
```

execution `class-attribute`

```
execution: Any
```

fmt_log_message `class-attribute`

```
fmt_log_message: str
```

force_run class-attribute

```
force_run: bool
```

force_termination class-attribute

```
force_termination: bool
```

func class-attribute

```
func: Any
```

func_name class-attribute

```
func_name: str
```

last_crash class-attribute

```
last_crash: Optional[datetime.datetime]
```

last_fail class-attribute

```
last_fail: Optional[datetime.datetime]
```

last_inaction class-attribute

```
last_inaction: Optional[datetime.datetime]
```

last_run class-attribute

```
last_run: Optional[datetime.datetime]
```

last_success class-attribute

```
last_success: Optional[datetime.datetime]
```

last_terminate class-attribute

```
last_terminate: Optional[datetime.datetime]
```

logger_name class-attribute

```
logger_name: str
```

name class-attribute

```
name: str
```

on_shutdown class-attribute

```
on_shutdown: bool
```

on_startup class-attribute

```
on_startup: bool
```

parameters class-attribute

```
parameters: Any
```

path class-attribute

```
path: Any
```

permanent_task class-attribute

```
permanent_task: bool
```

priority class-attribute

```
priority: int
```

start_cond class-attribute

```
start_cond: Any
```

status class-attribute

```
status: str
```

> #### sys_paths `class-attribute`
>
> ```
> sys_paths: List
> ```
>
> #### timeout `class-attribute`
>
> ```
> timeout: Optional[Union[str, int, timedelta]]
> ```

MSASchedulerTaskStatus

> Bases: `SQLModel`
>
> **MSASchedulerTaskStatus** Pydantic Response Class
>
> **Attributes**
>
> #### detail `class-attribute`
>
> ```
> detail: Optional[MSASchedulerTaskDetail] = None
> ```
>
> > Task detail.
>
> #### name `class-attribute`
>
> ```
> name: Optional[str] = None
> ```
>
> > Task Name.

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

getSecretKey

```
getSecretKey()
```

Get Secret Key for Token creation from OS Environment Variable **SECRET_KEY_TOKEN**

RETURNS	DESCRIPTION
`key`	The SECRET_KEY_TOKEN.

getSecretKeyCSRF

```
getSecretKeyCSRF() -> str
```

Get Secret Key for CSRF Middleware from OS Environment Variable **SECRET_KEY_CSRF**

RETURNS	DESCRIPTION
`key`	The SECRET_KEY_CSRF. **TYPE:** `str`

getSecretKeySessions

```
getSecretKeySessions()
```

Get Secret Key for Session Middleware from OS Environment Variable **SECRET_KEY_SESSIONS**

RETURNS	DESCRIPTION
`key`	The SECRET_KEY_SESSIONS.

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