busbase.py

AUTHORS

JAY CONVERTINO

DATES

2025/03/11

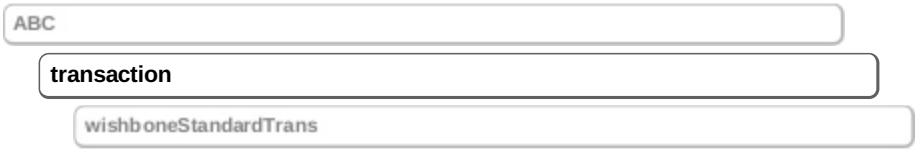
INFORMATION

Brief

classic bus define for packages

License MIT

transaction



Abstract class for transaction types

noSignal

noSignal

Class to use when a signal does not exist

busbase

busbase

wishboneStandardBase

A busbase to transmit test routine.

FUNCTIONS

__init__

```
def __init__(
self,
entity
:
SimHandleBase,
name
:
Optional[str],
clock
:
SimHandleBase,
*
args
:
Any,
**
kwargs
:
Any
)
```

Initialize the object

VARIABLES

wqueue

```
self.wqueue
```

Queue to store write requests

qqueue

```
self.qqueue
```

Queue to store read requests

rqueue

```
self.rqueue
```

Queue to store result of read requests

self._idle

```
self._idle
```

Event trigger for cocotb

self._run_cr

```
self._run_cr
```

Thread instance of _run method

FUNCTIONS

_restart

```
def _restart(
self
)
```

kill and restart _run thread.

write_count

```
def write_count(
self
)
```

How many items in the write queue

read_count

```
def read_count(
self
)
```

How many items in the read queue

write_empty

```
def write_empty(
self
)
```

Is the quene empty?

read_empty

```
def read_empty(
self
)
```

Is the quene empty?

write_clear

```
def write_clear(
self
)
```

Remove all write items from queue

read_clear

```
def read_clear(
self
)
```

Remove all read items from queue

wait

```
async def wait(
self
)
```

Wait for the run thread to become idle.

idle

```
def idle(
self
)
```

Are all the queues empty and the _run is not active processing data.

write_trans

```
async def write_trans(
self,
trans
:
transaction
)
```

Write transaction to send to write queue

read_trans

```
async def read_trans(
self,
trans
:
transaction
)
```

Read bus and output and tranaction.

_write

```
async def _write(
self,
trans
:
transaction
)
```

Write data one element at a time

_queue_read

```
async def _queue_read(
self,
trans
:
transaction
)
```

Setup queue for read requests

_read

```
async def _read(
self,
trans
:
transaction
)
```

Read dat one element at a time

_check_type

```
def _check_type(
self,
trans
)
```

Check and make sure we are only sending the correct transaction type

_run

```
async def _run(
self
)
```

Virtual method for _run thread that deals with read and write queues.