

busbase.py

AUTHORS

JAY CONVERTINO

DATES

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INFORMATION

Brief

classic bus define for packages

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busbase

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apb3Base

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 queue empty?

`read_empty`

```
def read_empty(  
    self  
)
```

Is the queue empty? `self.bus.penable.value`

`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 transaction.

_write

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

Write data one element at a time

_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.