

Client:

```
my_request() ->
  Request = {dostuff, 10},
  Server = ?MODULE,
  Response = gen_server:call(Server, Request).
```

from gen_server:
start_link()

```
handle_call({dostuff, Val}, ClientPid, State) ->
  %%Do something with Val, State
  Response = {result, 45},
  NewState = ...,
  {Response, NewState}.
```

```
-module(gen_server).
-export([call/2,...]).
```

```
call(Server, Request) ->
  Server ! {request, Request, call, self(), Module}
  receive
    {reply, Response, Server} ->
      Response
  end.
```

Mailbox

{reply, Response, Server}

Server:

Mailbox

{request, Request, call, ClientPid, Module}

```
loop(State) ->
  receive
    {request, Request, call, ClientPid, Module} ->
      {Response, NewState} = Module:handle_call(Request, ClientPid, State)
      ClientPid ! {reply, Response, self()},
      loop(NewState);
    {request, Request, cast, ClientPid, Module} ->
      NewState = Module:handle_cast(Request, State),
      loop(NewState);
    ...
  end.
```

To Client