

## Documentation

# SD: Super-Dome

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## What is this script?

**SD** is an *Arma 3* script that's a smart protection for players, vehicles, and AI when at base(s) against damage.

**Creation concept:** turn specific game zones into safe places for players, areas proof against their enemies and themselves.

## Works for multiplayer?

Yes, SD was mainly built for multiplayer missions such as PvP, Coop/PvE, and TvT.

## Works on Hosted and Dedicated servers?

Yes, the script was built for both server types.

## Works for single-player?

Yes.

## Compatible with ACE, RHS, or CUP?

Yes! You can use SD with any mod.

## If you need an SQF editor

Sure, I'm using *Visual Studio Code* with this customs specific for *Arma 3*:

<https://forums.bohemia.net/forums/topic/239960-vs-code-tutorial-how-to-config-vs-code-for-arma-3-2023/>

If you need something simpler:

<https://notepad-plus-plus.org/>, install it and, when you open some script file, go to Notepad++ main menu, "Language" and select "C" as file language. That's it.

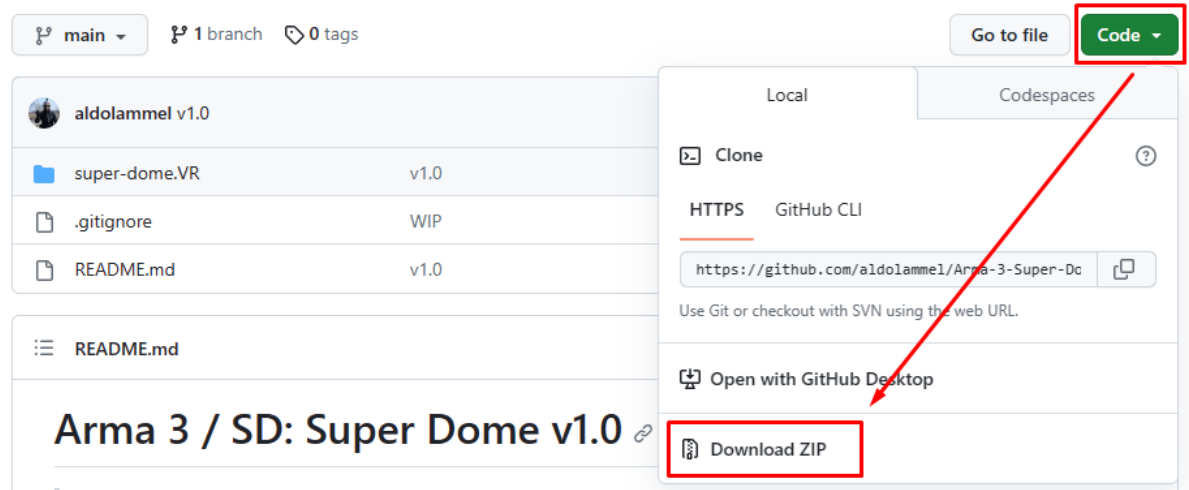
## How to just run the script for a first look

1. Go to: <https://steamcommunity.com/sharedfiles/filedetails/?id=3068011817>
2. Subscribe and wait for Steam to download it;
3. Open *Arma 3*, go to Multiplayer > Server browser > Host server > click Host Server button;
4. Select "Virtual Reality" map and, after that, select "SUPER-DOME";
5. Play.

**Important:** if you want to apply this script in your own missions, [check this out](#).

## Install the script in my own mission ★★

1. Go to: <https://github.com/aldolammel/Arma-3-Super-Dome-Script>
2. Download the zip and open it;



3. In zip, find the folder “superDome” and copy it to your mission folder root:  
DRIVE:\Users\you\Documents\Arma 3\your\_profile\missions\your\_mission\_folder\
4. Return to the zip, and find the “*description.ext*” file. In the mission folder root, if you don't have it, create the file and add the code down below:

```
class CfgFunctions {  
  
    // SUPER DOME:  
    #include "superDome\THY_SD_functions.hpp"  
  
};
```

DRIVE:\Users\you\Documents\Arma 3\your\_profile\missions\your\_mission\_folder\description.ext

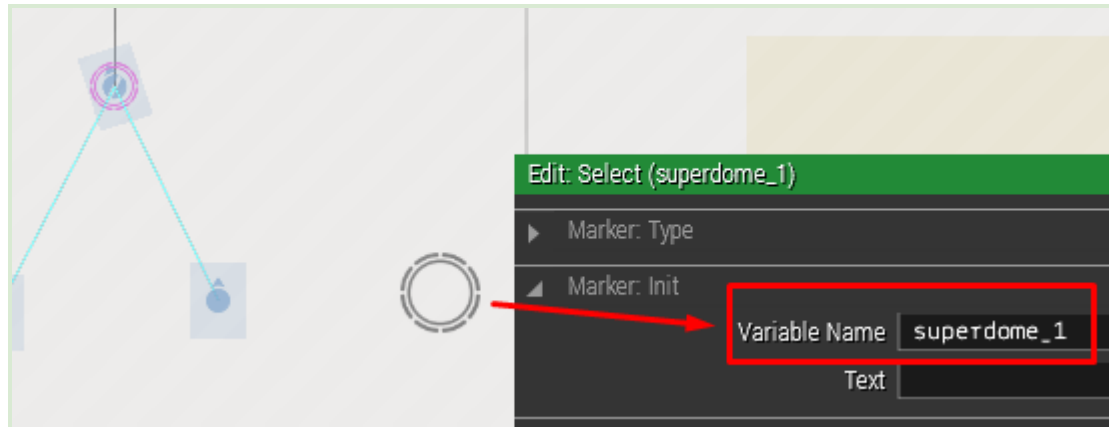
5. Again in zip, and find the “*initPlayerLocal.sqf*” file. In the mission folder root, if you don't have it too, create the file and add the code down below:

```
// SUPER DOME:  
[player] execVM "superDome\fn_SD_clientSide.sqf";
```

DRIVE:\Users\you\Documents\Arma 3\your\_profile\missions\your\_mission\_folder\initPlayerLocal.sqf

6. In Eden Editor, create a marker (Assets menu = F6), name it, for example, “**superdome\_1**” and set the range of the protection in the “*fn\_SD\_management.sqf*” file.

DRIVE:\Users\you\Documents\Arma 3\yourProfile\missions\missionFolder\superDome\fn\_SD\_management.sqf



```
fn_SD_management.sqf X
22
23 // PROTECTED ZONES
24 // Define each protected zones you are running. Leave the _protectedMkrXX empty. (~
25
26 private _protectedMkr01 = "superdome_1"; .....// Protected zone marker 1 name.
27 private _mkrDisRange01 = 50; .....// in meters, the protection range of
28 private _mkrSide01 ..... = BLUFOR; .....// Options: BLUFOR, OPFOR, INDEPEND
29
```

7. Play!

## How Super-Dome logic works

*SD* has smart behaviors for different situations. Basically, it will protect a specific zone (or zones) making players, vehicles, static weapons, or AI units, or all of them, immortal while inside the pre-defined zone range. All protected zones are linked with some side. One side can have one or more protected zones meanwhile another side can have no even one. It's up to the mission editor.

### For players and AI units

Players and AI units will be protected by all protected zones of their side, regardless of whether the player and AI spawned in-game inside a protected zone or not.

### For vehicles and static weapons

Speaking about empty vehicles and empty static weapons, their side will be linked with the side of the protected zone where they spawned in-game. If a vehicle or static weapon was spawned out of any protected zone, this equipment would never be protected by any side. On the other hand, if any vehicle or static weapon (it doesn't matter what faction the equipment belongs to originally) spawned inside a protected zone, the equipment will be protected inside of each protected zone from the same side of its original start point in the game.

### When the protection is canceled for each player:

- When they exceed the speed limit inside the zone;
- When they leave the protected zone range;
- When they died inside the protected zone (somehow, e.g, crashing at high speed);

### Super-Dome precaution:

- If a vehicle or a static weapon rollover in a protected zone from its side, it will be deleted after a countdown;
- If a vehicle or a static weapon blows up in a protected zone from its side, it wreck will be deleted;

## Setting your Super Dome

```
fn_SD_management.sqf M X
// EDITOR'S OPTIONS //////////////////////////////////////
// Define where are your protected zones and stuff:

SD_isOnSuperDome ..... = true; ..... // true =
// Debugging:
SD_isOnDebugGlobal ..... = true; ..... // true =
SD_isOnZeusWhenDebug ..... = true; ..... // true =
// Protections:
SD_isProtectedPlayer ..... = true; ..... // true =
SD_isProtectedVehicle ..... = true; ..... // true =
SD_isProtectedAI ..... = true; ..... // WIP //
// Customs:
SD_isOnShowMarkers ..... = true; ..... // true =
SD_isOnAlerts ..... = true; ..... // true =

// PROTECTED ZONES
// Define each protected zones you are running.

private _protectedMkr01 = "superdome_1";
private _mkrDisRange01 = 50;
private _mkrSide01 ..... = BLUFOR;

private _protectedMkr02 = "superdome_2";
private _mkrDisRange02 = 50;
private _mkrSide02 ..... = BLUFOR;

private _protectedMkr03 = "superdome_3";
private _mkrDisRange03 = 50;
private _mkrSide03 ..... = OPFOR;

private _protectedMkr04 = "";
private _mkrDisRange04 = 100;
private _mkrSide04 ..... = BLUFOR;
```

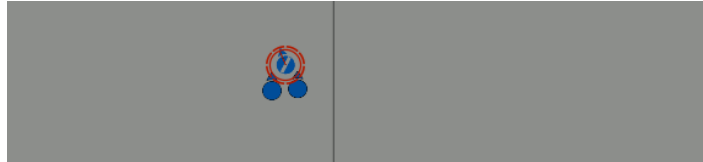
You decide! With a parameter config, you can make some easy changes for the script to fit better with you. Check the `fn_SD_management.sqf` file in your `superDome` folder:

**Important:** vehicles and AI unit only will be protected if they are inside the protected zone range when the mission get started.

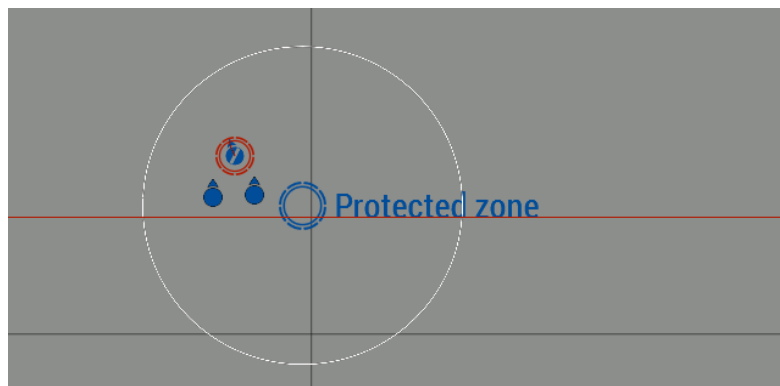


## Visible Protection Zones on the map

Super-Dome protection is an invisible sphere around each marker placed by the mission editor. That said, sometimes the editor wants to flag on the player's map where is each protected zone, something they don't. So, let's check each option brought by SD nowadays:



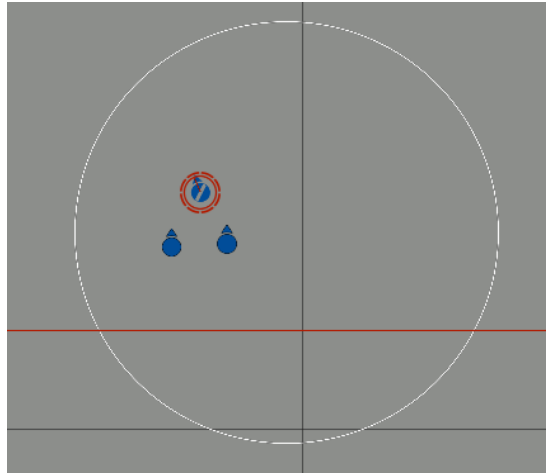
Above, when `SD_isOnDebugGlobal` is `false` and `SD_isOnShowMarkers` is `false`, no one will see any marker of the Super-Dome script.



Above, when `SD_isOnDebugGlobal` is `false` and `SD_isOnShowMarkers` is `true`, only units/players that belong to the marker side will see the protection zone position and its protection area range (white border always in a circle shape).



Above, when `SD_isOnDebugGlobal` is `true`, all players (regardless of the side) will see this.



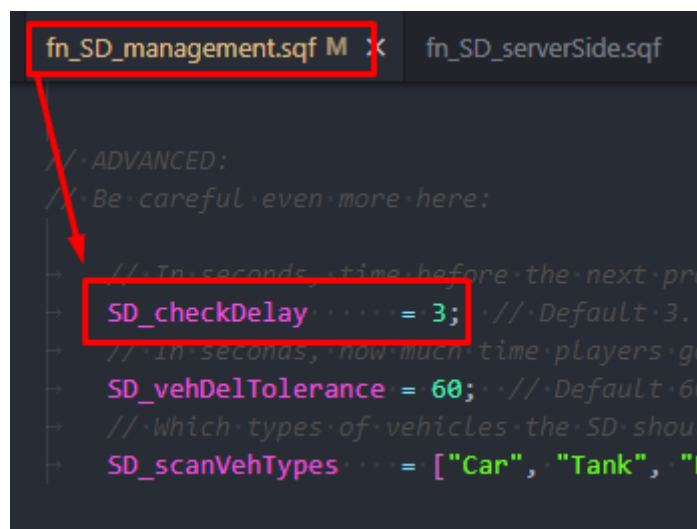
Above, to force SD to show the protection range but not the marker position, use the marker type called “Empty” on Eden Editor.

## To make SD even lighter

Super-Dome script is light itself, but there are ways to make it even more light. So open your `fn_SD_management.sqf` file and let's do it:

### Checking time cycles

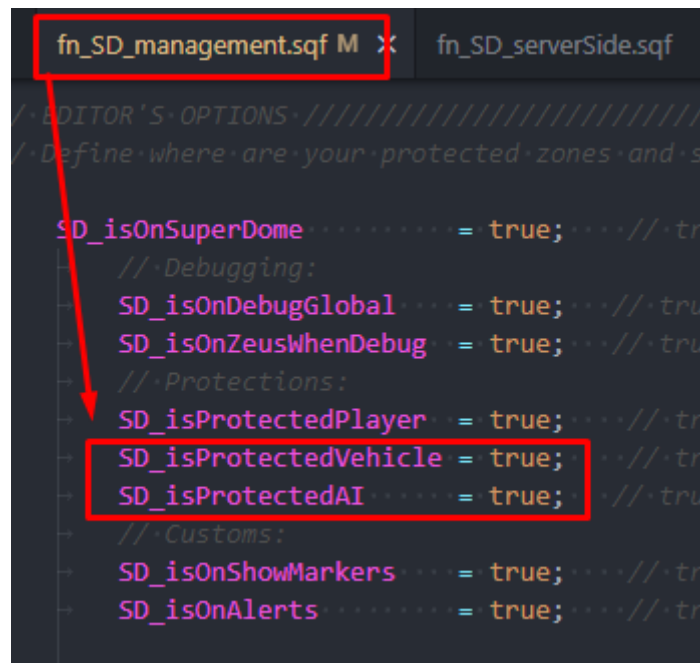
You can customize the SD cycle time to check its functions. By default, `SD_checkDelay` is configured to work every 3 seconds on server-side and client-side. For any reason you think it's ok to increase that number to, for example, 5 seconds, you can grab a good performance saving for clients and server, but more than that you are taking a risk to compromise the reliability of the script, making it lose agility to protect players, vehicles and AI units in their protected zone edges.



**Important:** don't set `SD_checkDelay` less than 2 to not force the server CPU in complex missions with a lot of actions, mods, and other scripts running at the same time.

### Disabling secondary checkings

On missions with lots of things happening like Antistasi or some like that, you're probably hunting things to turn off. Try these ones that impact only server performance:



```
fn_SD_management.sqf M x  fn_SD_serverSide.sqf

// EDITOR'S OPTIONS //////////////////////////////////////
// Define where are your protected zones and s

SD_isOnSuperDome .....= true; .....//tr
// Debugging:
SD_isOnDebugGlobal ....= true; .....//tru
SD_isOnZeusWhenDebug ..= true; .....//tru
// Protections:
SD_isProtectedPlayer ..= true; .....//tr
SD_isProtectedVehicle ..= true; .....//tr
SD_isProtectedAI .....= true; .....//tru
// Customs:
SD_isOnShowMarkers ....= true; .....//tr
SD_isOnAlerts .....= true; .....//tr
```

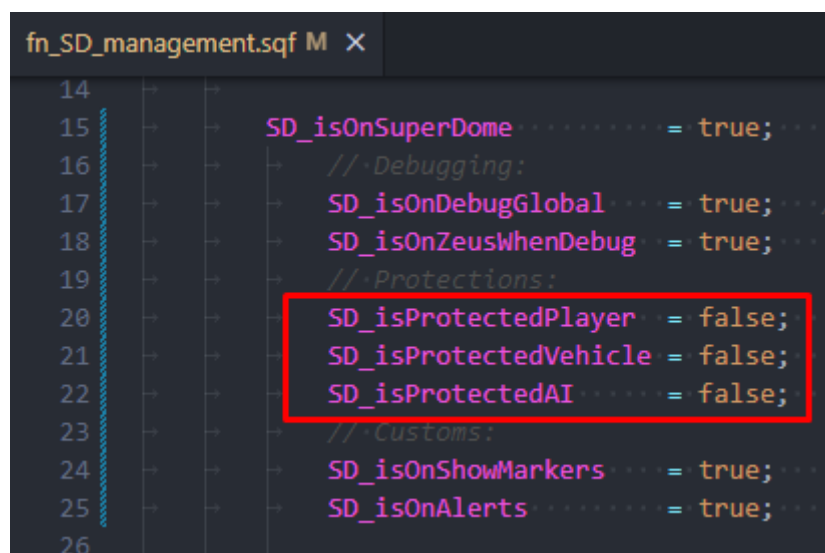
## Debugging: SD is not running

Check some messages that you can face using the Super-Dome script:

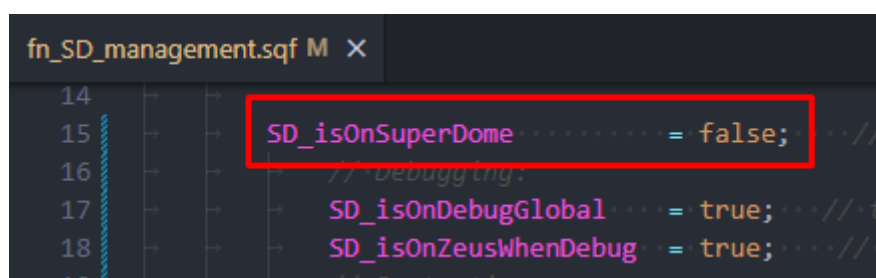
### Message: Super-Dome was shut down



It's because you turn to false all protection functions of Super-Dome, making the script unuseful:



Or literally, turn the script off:



Message: Server-side status is OFF

```
SD DEBUG > Using 3 valid protected zone(s).  
SD DEBUG > Server-side status: ... OFF  
SD DEBUG > Client-side status: ... ON (thy)  
SD DEBUG > Your side (WEST) has 2 protected zones.
```

It's because you turn to false all protections managed by the server. It's ok this if you don't want to protect vehicles and AI units, for example:

```
fn_SD_management.sqf M X  
14  
15 SD_isOnSuperDome ..... = true; .....  
16 //·Debugging:  
17 SD_isOnDebugGlobal ..... = true; .....  
18 SD_isOnZeusWhenDebug ..... = true; .....  
19 //·Protections:  
20 SD_isProtectedPlayer ..... = true; .....  
21 SD_isProtectedVehicle = false; .....  
22 SD_isProtectedAI ..... = false; .....  
23 //·Customs:
```

## Debugging: Vehicles and AI units are vulnerable

This will happen right after the mission gets started, depending on how many things (except players) the protected zones must protect. The script needs a few seconds to cover all the things.

That said, if you need a little more agility around the protection (for some reason your mission gets started in the middle of the chaos and you want to protect stuff) make sure you are working with the minimal value for the `SD_wait` variable in the advanced session at the “fn\_SD\_management.sqf” file.

## Contribute to SD script

### Discussion on Bohemia Forums:

<https://forums.bohemia.net/forums/topic/244082-release-sd-super-dome-script-protecting-bases-and-zones/>

### Changelog on GitHub:

<https://github.com/aldolammel/Arma-3-Super-Dome-Script#changelog>

## Author

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thy [@aldolammel](#)

### If you care

Paypal:

[https://www.paypal.com/donate/?business=ZMHJNZMZEWKLO&no\\_recurring=1&item\\_name=Creating+free+content+on+the+internet+just+for+love+to+create+and+make+people+happy+through+simple+things.&currency\\_code=USD](https://www.paypal.com/donate/?business=ZMHJNZMZEWKLO&no_recurring=1&item_name=Creating+free+content+on+the+internet+just+for+love+to+create+and+make+people+happy+through+simple+things.&currency_code=USD)

PIX (Brazil):

[aldolammel@gmail.com](mailto:aldolammel@gmail.com)

Or just gimme a like on Workshop:

<https://steamcommunity.com/sharedfiles/filedetails/?id=3068011817>