

## Variable rewrite with boolean and GMP Type Confusion

To build exploit for PHP Type Confusion bug we need to find in code:

- 1) Class that implements Serializable interface
- 2) Code line executed from \_\_destruct method to rewrite object property
- 3) Find an object to rewrite props

Symfony package “symfony/dependency-injection” was taken for analysis.

This class has small number of \_\_destruct methods. And it has code line to write property field into another property field, reachable from \_\_destruct.

But project has line:

```
$this->removedBindingIds[(int) $bindingId] = true;
```

in removeBindings method.

It is enough to rewrite handle of GMP object. In the finish of GMP deserialization we rewrite Composer object props, because it has handle = 0x1.

Exploit build process is very similar with exploitation discussed in previous advisory.

File symfony/dependency-injection/Loader/Configurator/ServiceConfigurator.php

```
58     public function __destruct()
59     {
60         parent::__destruct();
61
62         $this->container->removeBindings($this->id);
63
64         if (!$this->definition instanceof ChildDefinition) {
65             $this->container->setDefinition($this->id, $this->definition->setInstan
66         } else {
67             $this->container->setDefinition($this->id, $this->definition);
68         }
69     }
```

File symfony/dependency-injection/ContainerBuilder.php

```
1533     public function removeBindings($id)
1534     {
1535         if ($this->hasDefinition($id)) {
1536             foreach ($this->getDefinition($id)->getBindings() as $key => $binding) {
1537                 list(, $bindingId) = $binding->getValues();
1538                 $this->removedBindingIds[(int) $bindingId] = true;
1539             }
1540         }
1541     }
```