



DCGI

KATEDRA POČÍTAČOVÉ GRAFIKY A INTERAKCE

Soubory a data

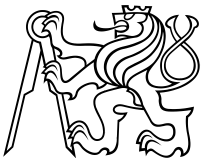
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Ukládání dat do souborů

- Náhradní způsob ukládání dat
- Hlavní je databáze

- Data v paměti -> serializace -> zápis do souboru

- Data v souboru -> deserializace -> data v paměti



Operace se soubory

- Mnoho funkcí, viz

<http://php.net/manual/en/ref.filesystem.php>

- Vybereme jen základní

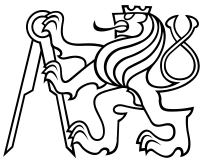
```
resource fopen ( string $filename , string $mode [, bool $use_include_path = false [, resource $context ] ] )
```

ukázka

```
$handle = fopen("c:\\folder\\resource.txt", "r"); // otevření souboru pro čtení
```

```
$handle = fopen("c:\\folder\\resource.txt", "w+"); // otevření souboru pro čtení i zápis
```

```
$handle = fopen("c:\\folder\\resource.txt", "x+"); // vytvoření souboru a následně  
jeho otevření pro čtení i zápis
```



Módy otevření souboru

mode	Description
'r'	Open for reading only; place the file pointer at the beginning of the file.
'r+'	Open for reading and writing; place the file pointer at the beginning of the file.
'w'	Open for writing only; place the file pointer at the beginning of the file and truncate the file to zero length. If the file does not exist, attempt to create it.
'w+'	Open for reading and writing; place the file pointer at the beginning of the file and truncate the file to zero length. If the file does not exist, attempt to create it.
'a'	Open for writing only; place the file pointer at the end of the file. If the file does not exist, attempt to create it. In this mode, fseek() has no effect, writes are always appended.
'a+'	Open for reading and writing; place the file pointer at the end of the file. If the file does not exist, attempt to create it. In this mode, fseek() only affects the reading position, writes are always appended.
'x'	Create and open for writing only; place the file pointer at the beginning of the file. If the file already exists, the <code>fopen()</code> call will fail by returning <code>FALSE</code> and generating an error of level <code>E_WARNING</code> . If the file does not exist, attempt to create it. This is equivalent to specifying <code>O_EXCL O_CREAT</code> flags for the underlying <code>open(2)</code> system call.
'x+'	Create and open for reading and writing; otherwise it has the same behavior as 'x'.
'c'	Open the file for writing only. If the file does not exist, it is created. If it exists, it is neither truncated (as opposed to 'w'), nor the call to this function fails (as is the case with 'x'). The file pointer is positioned on the beginning of the file. This may be useful if it's desired to get an advisory lock (see flock()) before attempting to modify the file, as using 'w' could truncate the file before the lock was obtained (if truncation is desired, ftruncate() can be used after the lock is requested).
'c+'	Open the file for reading and writing; otherwise it has the same behavior as 'c'.



Čtení souboru, zavření souboru

string fread (resource \$handle , int \$length)

```
<?php
```

```
// get contents of a file into a string
```

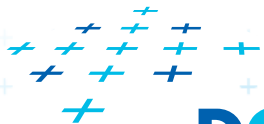
```
$filename = "/usr/local/something.txt";
```

```
$handle = fopen($filename, "r");
```

```
$contents = fread($handle, filesize($filename));
```

```
fclose($handle);
```

```
?>
```



Zápis do souboru

- Zapisovat se dá buď text nebo binární data
 - ...případně jiné struktury

```
int fwrite ( resource $handle , string $string [, int $length ] )
```

```
<?php
```

```
$fp = fopen('data.txt', 'w');
```

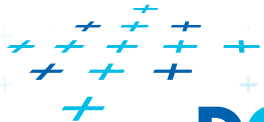
```
fwrite($fp, '1');
```

```
fwrite($fp, '23');
```

```
fclose($fp);
```

```
// the content of 'data.txt' is now 123 and not 23!
```

```
?>
```



Serializace nativní

- Proces převedení dat do binární (textové) podoby

`string` `serialize` (`mixed` `$value`)

`mixed` `unserialize` (`string` `$str` [, `array` `$options`])

```
<?php $a= array( '1' => 'elem 1', '2'=> 'elem 2', '3'=>' elem 3');  
print_r($a); echo ("  
<br></br>");  
$b=serialize($a);  
print_r($b); ?>
```

Výstup

```
Array ( [1] => elem 1 [2] => elem 2 [3] => elem 3 )
```

```
a:3:{i:1;s:6:"elem 1";i:2;s:6:"elem 2";i:3;s:7:" elem 3";
```



Serializace JSON

- Častěji používané, rozumí tomu ostatní

```
string json_encode ( mixed $value [, int $options = 0 [, int $depth = 512 ] ] )  
mixed json_decode ( string $json [, bool $assoc = false  
                    [, int $depth = 512 [, int $options = 0 ] ] ] )
```

```
<?php  
$arr = array('a' => 1, 'b' => 2, 'c' => 3, 'd' => 4, 'e' => 5);  
  
echo json_encode($arr);  
?>
```

Výstup

```
{"a":1,"b":2,"c":3,"d":4,"e":5}
```

