Praktikum 2:
JSON Encode & Decode
MySQL to JSON – JSON to PHP Array/Object

A. JSON Encode & Decode

PHP json_encode() Function

The json_encode() digunakan untuk menyandikan nilai ke format JSON.

Contoh json Object:
```php
<?php
$age = array("Peter"=>35, "Ben"=>37, "Joe"=>43);

echo json_encode($age);
?>
```

Output:
```
{"Peter":35,"Ben":37,"Joe":43}
```

Contoh json Array:
```php
<?php
$cars = array("Volvo", "BMW", "Toyota");

echo json_encode($cars);
?>
```

Output:
```
["Volvo","BMW","Toyota"]
```

PHP json_decode() Function

The json_decode() digunakan untuk mendekode atau mengubah objek JSON menjadi objek PHP.

Contoh json Object:
```php
<?php
$jsonobj = '{"Peter":35,"Ben":37,"Joe":43}';

$obj = json_decode($jsonobj);

// mengakses nilai object
echo $obj->Peter;
echo $obj->Ben;
echo $obj->Joe;
?>
```

Output:
353743

```php
<?php
$jsonobj = '{"Peter":35,"Ben":37,"Joe":43}';

$arr = json_decode($jsonobj, true);

// mengakses nilai array
echo $arr["Peter"];
echo $arr["Ben"];
echo $arr["Joe"];
?>
```

Output:
353743

Latihan (2.A.1):

1. Buat sebuah variabel array, lalu encode ke format JSON.
2. Buat sebuah variabel yang berisi json, lalu decode variabel tersebut ke dalam bentuk PHP Object dan PHP Array, kemudian akses nilai pada variabel hasil decode tersebut masing-masing.

B. MySQL to JSON – JSON to PHP Array/Object

  id_wisata = primary_key & Auto Increment

isi tabel:

KOTA	LANDMARK	TARIF
SEMARANG	LAWANG SEWU	20000
YOGYAKARTA	PRAMBANAN	35000
MAGELANG	BOROBUDUR	45000
SURAKARTA	PGS	GRATIS

Skrip dibawah ini berfungsi untuk mengambil data dari MySQL tabel lalu di encode ke format JSON.

Skrip getWisata.php;

```php
<?php
$connect = mysqli_connect("localhost", "root", "root", "json");
$sql = "SELECT * FROM wisata";
$result = mysqli_query($connect, $sql);
$json_array = array();
while($row = mysqli_fetch_assoc($result))
{
  $json_array[] = $row;
}
echo json_encode($json_array);
?>
```

Output:
[{"id_wisata":"1","kota":"SEMARANG","landmark":"LAWANG SEWU","tarif":"20000"},
{"id_wisata":"2","kota":"YOGYAKARTA","landmark":"PRAMBANAN","tarif":"35000"},
{"id_wisata":"3","kota":"MAGELANG","landmark":"BOROBUDUR","tarif":"45000"},
{"id_wisata":"4","kota":"SURAKARTA","landmark":"PGS","tarif":"GRATIS"}]

Skrip dibawah ini berfungsi untuk mengambil data JSON lalu di decode ke format PHP Object/Array menggunakan fungsi curl.

```php
<?php
function curl($url){
    $ch = curl_init();
    curl_setopt($ch, CURLOPT_URL, $url);
    curl_setopt($ch, CURLOPT_RETURNTRANSFER, 1);
    $output = curl_exec($ch);
    curl_close($ch);
    return $output;
}

// alamat localhost untuk file getWisata.php, ambil hasil export JSON
$send = curl("http://localhost/json/getWisata.php");

// mengubah JSON menjadi array
$data = json_decode($send, TRUE);

foreach($data as $row){
  echo $row["id_wisata"]."<br/>";
  echo $row["kota"]."<br/>";
  echo $row["landmark"]."<br/>";
  echo $row["tarif"]."<br/><hr/>";
}
?>
```

Output:

```
1
SEMARANG
LAWANG SEWU
20000
_____

2
YOGYAKARTA
PRAMBANAN
35000
_____

3
MAGELANG
BOROBUDUR
45000
_____

4
SURAKARTA
PGS
GRATIS
_____
```

Hasil decode data JSON diatas tampilkan ke dalam bentuk HTML Tabel seperti berikut:

KOTA	LANDMARK	TARIF
SEMARANG	LAWANG SEWU	20000
YOGYAKARTA	PRAMBANAN	35000
MAGELANG	BOROBUDUR	45000
SURAKARTA	PGS	GRATIS