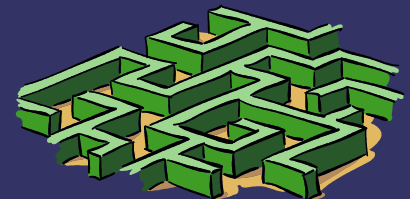


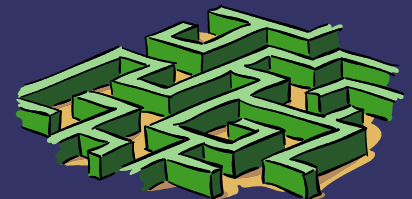
Web services

- ⇒ SOAP, XML-RPC, Axis, ...
- ⇒ Côté serveur:
 - php 4 => librairie nuSOAP
 - php 5 => classes SOAP natives
- ⇒ Côté client:
 - php, perl, C, Java, Tcl/Tk, Python, ...



Web services

- ⇒ Lire la requête SOAP
- ⇒ Analyser la requête
- ⇒ Vérifier et valider les paramètres envoyés
- ⇒ Effectuer l'opération attendue
- ⇒ Envoyer une réponse SOAP



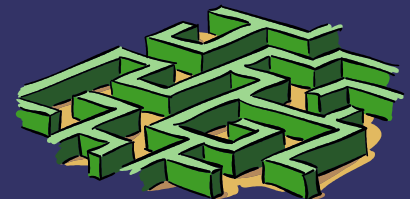
Serveur PHP web service

```
// --- Chargement de la librairie NUSOAP
require_once("nusoap.php");

// --- Creation d'une instance de soap_server
$server = new soap_server;

// --- Namespace
$namespace =
    "http://www.imcce.fr/webservices/skybot";

// --- Configure WSDL
$server->configureWSDL('SkyBoT', $namespace);
$server->wsdl->schemaTargetNamespace = $namespace;
```



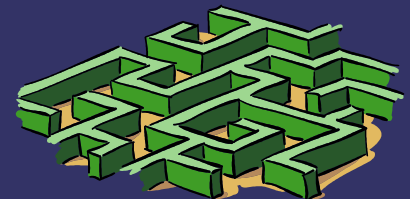
Serveur PHP web service

```
// --- Types de donnees d'entree de la methode
$server->wsdl->addComplexType(
    'skybotresolverRequest',
    'complexType',
    'struct',
    'all',
    '',
    array(
        'epoch'      => array('name'=>'epoch',
                               'type'=>'xsd:double'),
        'name'       => array('name'=>'name',
                               'type'=>'xsd:string'),
        'mime'       => array('name'=>'mime',
                               'type'=>'xsd:string'),
        'output'     => array('name'=>'output',
                               'type'=>'xsd:string'),
        'observer'   => array('name'=>'observer',
                               'type'=>'xsd:string')
    )
);
```



Serveur PHP web service

```
// --- Types de donnees de la sortie de la methode
$server->wsdl->addComplexType(
    'skybotResponse',
    'complexType',
    'struct',
    'all',
    '',
    array(
        'flag' => array('name'=>'flag',
                       'type'=>'xsd:int'),
        'ticket'=> array('name'=>'ticket',
                        'type'=>'xsd:int'),
        'result'=> array('name'=>'result',
                        'type'=>'xsd:string')
    )
);
```



Serveur PHP web service

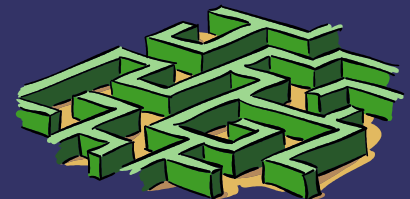
```
// --- Informe l'instance du nom des methodes
      permises a l'utilisateur
$server->register(
    'skybotresolver',
    array('inputArray'=>'tns:skybotresolverRequest'),
    array('result'=>'tns:skybotResponse'),
    $namespace,
    $namespace.'#skybotresolver',
    'rpc',
    'encoded',
    'Provide the coordinates of a solar system
      object from its name.'
);
```



Serveur PHP web service

```
// --- Definitions de la methode
include ('method_skybotresolver.php');

// --- Execution du RPC: initiation de la transac-
      tion et envoie de la reponse
$http_raw_post_data = isset($http_raw_post_data) ?
      $http_raw_post_data : '';
$server->service($http_raw_post_data);
```

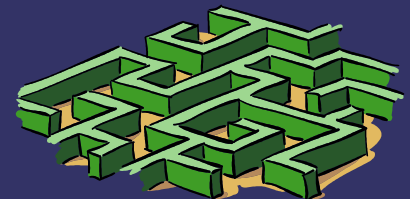


Client PHP web service

```
/* Load the 'NUSOAP' lib */
require_once("nusoap.php");

/* web service namespace and wsdl */
$namespace = "http://www.imcce.fr/webservices/skybot";
$mywsdl = "http://www.imcce.fr/webservices/skybot/
    skybot.php?wsdl";

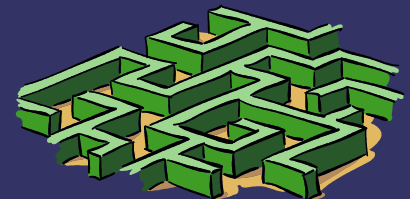
/* Create the soapclient instance */
$client = new soapclient($mywsdl, $wsdl=true);
```



Client PHP web service

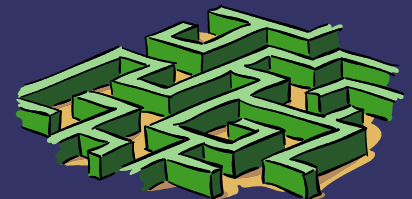
```
/* Check for an error */
$error = $client -> getError();
if ($error) { echo 'Constructor error: ' . $error; }

/* Input parameters */
$params = array('epoch'      => 2453657.9215,
                'name'       => 'a:pallas',
                'mime'       => 'text',
                'out'        => 'basic',
                'observer'   => '500');
```

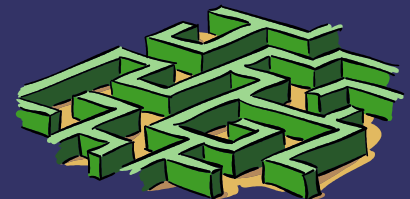


Client PHP web service

```
/* Call the SOAP method */  
$response =  
    $client->call('skybotresolver',  
                 array('inputArray'=>$param),  
                 $namespace);
```



```
/* Check for a fault or print the response */
if ($client->fault)
{
    echo 'Fault: ';
    print_r ($response);
}
else
{
    /* Check for errors */
    $err = $client->getError();
    if ($err)
    {
        echo 'Error: '.$err ;
    }
    else
    {
        echo $response['result']."\n";
    }
}
}
```



XSLT : XML vers XML

- ⇒ XSLT : transformateur de XML en
 - XML
 - (x)HTML
 - text
 - ...
- ⇒ Fonctionne en ligne de commande
 - `xsltproc [options] stylesheet file`
- ⇒ ou à la volée
 - `<?xml-stylesheet type='text/xsl' href='http://www.imcce.fr/webservices/VOTable.xsl'?>`

