



Information Technology Services

The Ultimate Guide To D2L Webservices & INGRESS Integration

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Information Technology Services
October 25, 2107

Summary:

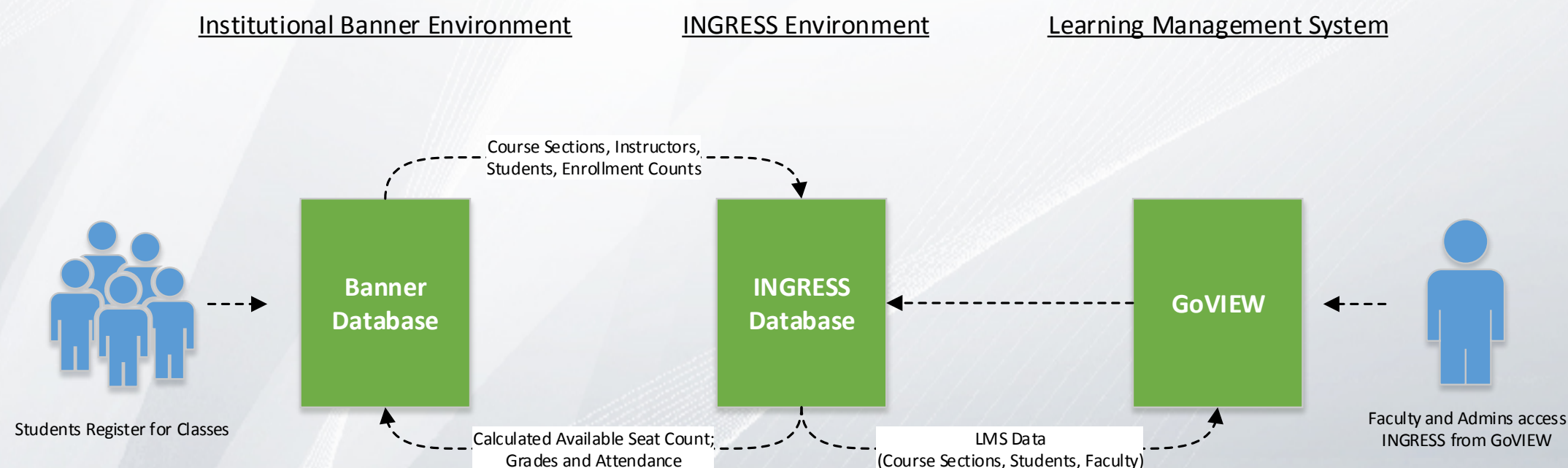
- INGRESS
- Webservices
- Brightspace by D2L Webservices
- Security
- Recommendations
- Common Mistakes and Errors
- Demo
- Question & Comments

Intra-Georgia Registration Sharing System (INGRESS)

INGRESS:

- INGRESS was developed by Information Technology Services
- Integrates with the Ellucian Banner student information system and the Brightspace by D2L learning management system (LMS)
- Processes cross-institutional registrations
- Supports centralized seat management
- Automates the creation of online courses & enrollments in LMS using XML & Webservices

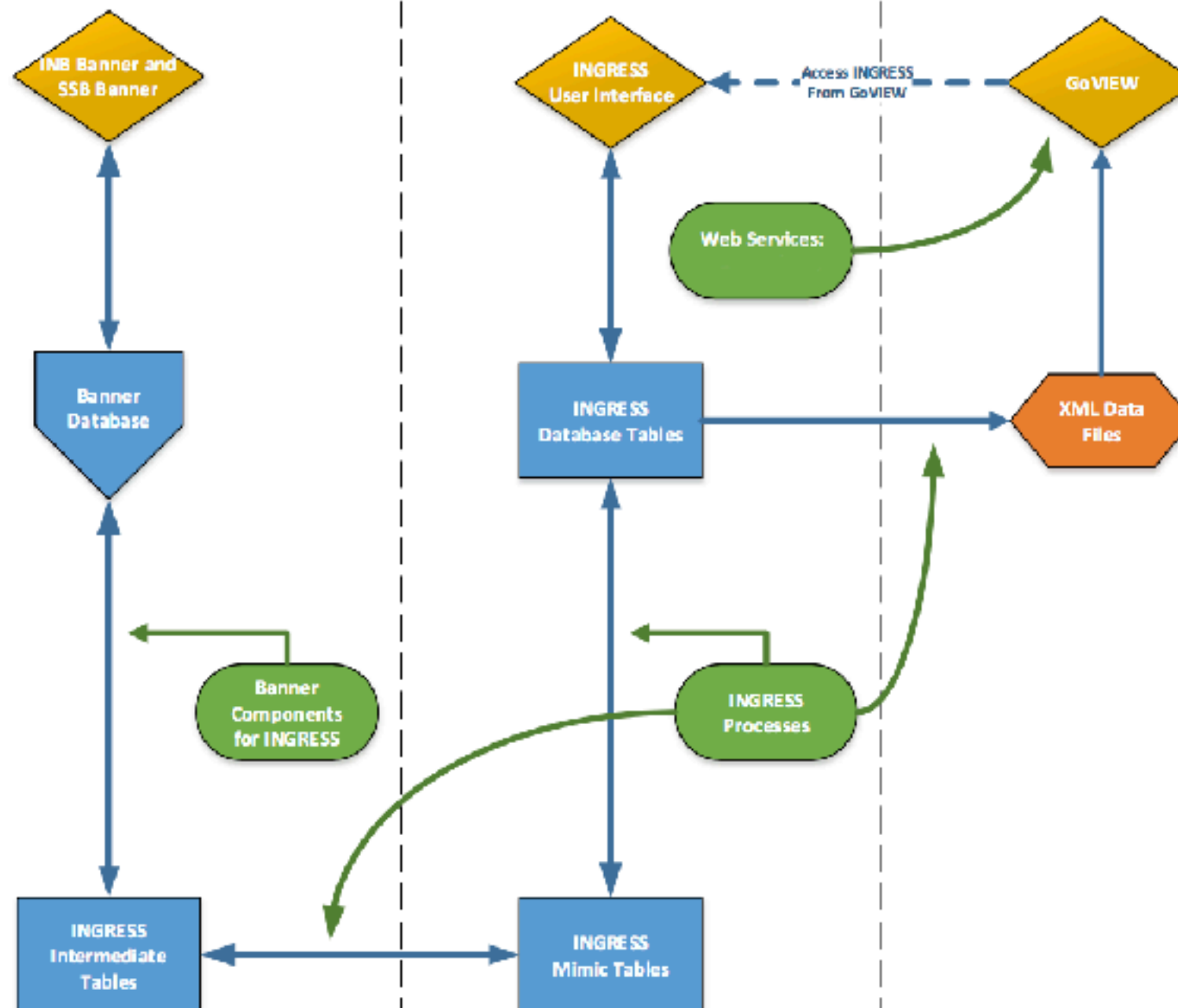
INGRESS: Concept/Data Flow



Institutional Banner Environment

INGRESS Environment

Learning Management System

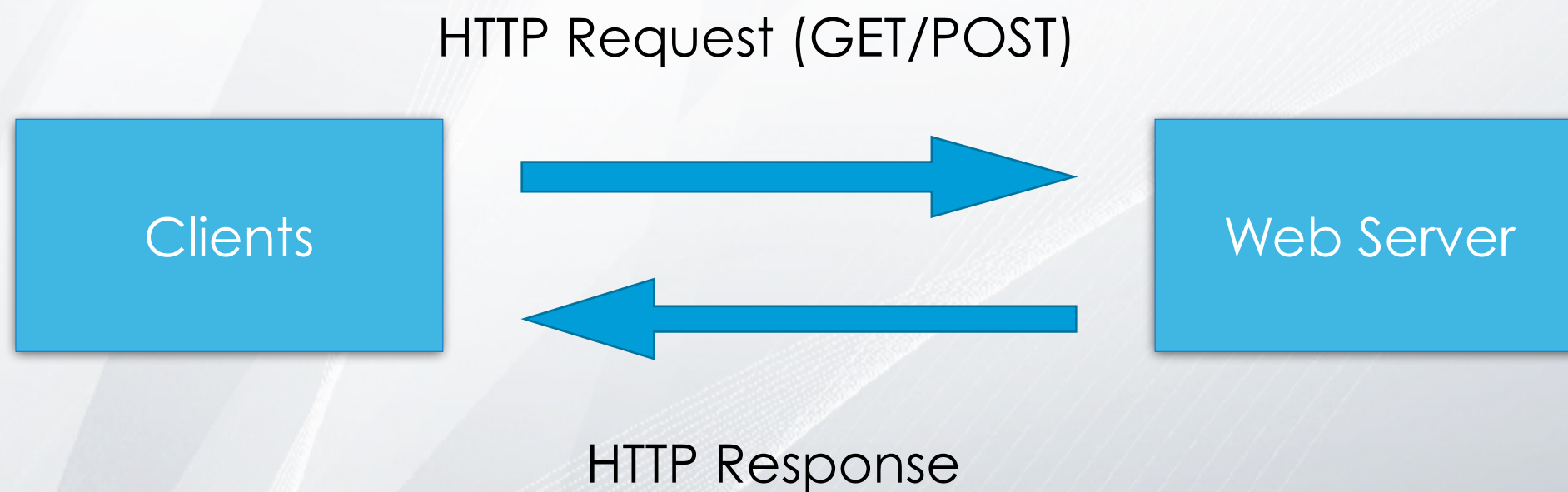




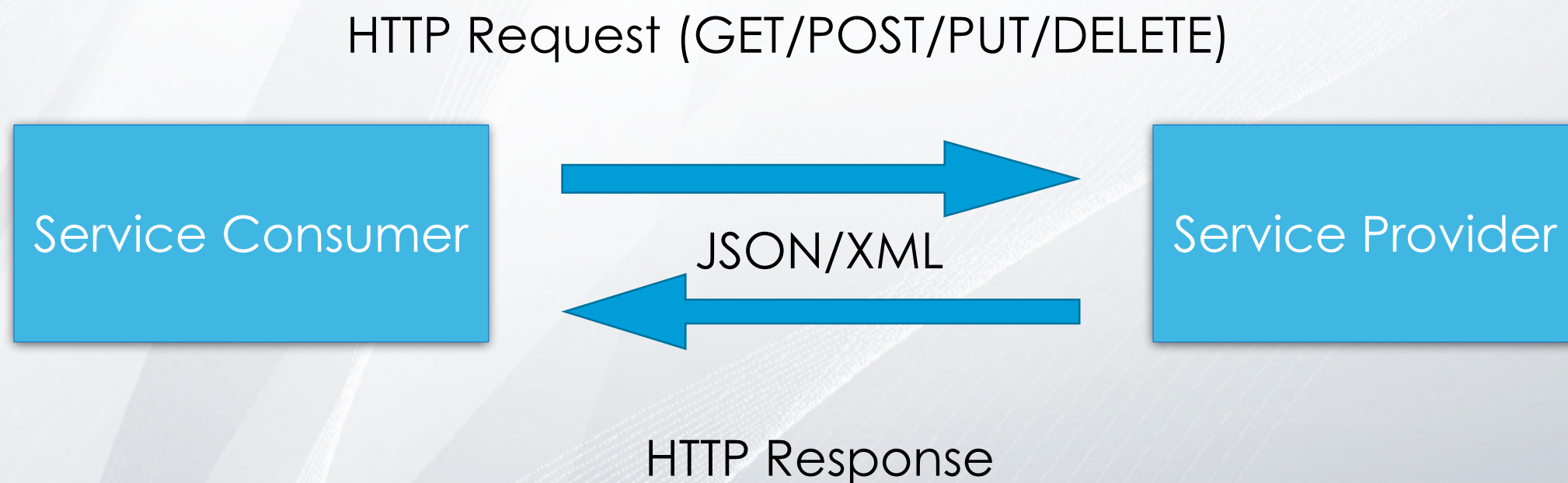
Webservices

Webservices are nothing more than a request & response mechanism that allows a client to remotely & securely access/modify data over http/https protocol.

HTTP Request/Response



RESTful Request/Response





Webservices: Request Methods

<i>Request Method Type</i>	<i>Action</i>
<i>GET</i>	<i>Access DATA</i>
<i>POST</i>	<i>Create DATA</i>
<i>PUT</i>	<i>Update DATA</i>
<i>DELETE</i>	<i>Delete DATA</i>

JSON: JavaScript Object Notation

```
{  
  "OrgDefinedId": <string>,  
  "FirstName": <string>,  
  "MiddleName": <string>,  
  "LastName": <string>,  
  "ExternalEmail": <string>|null,  
  "UserName": <string>,  
  "RoleId": <number>,  
  "IsActive": <boolean>,  
  "SendCreationEmail": <boolean>  
}
```




Brightspace by D2L Webservices

Brightspace by D2L Webservices:

- RESTful APIs (Representational State Transfer)
 - Uses XML or JSON to send and receive data
 - Simply calls services via URL path
 - Transfer is over HTTPS Protocol
- ID/Key Auth
 - Key Hashed Message Authentication Code (HMAC-SHA256)
 - Application ID / Key
 - User ID / Key
- JSON Data Structure (JavaScript Object Notation)
- Reference: <http://docs.valence.desire2learn.com/reference.html>
- HTTP URLs: <http://docs.valence.desire2learn.com/http-routingtable.html>

JSON: JavaScript Object Notation






















```
{  
  "OrgDefinedId": <string>,  
  "FirstName": <string>,  
  "MiddleName": <string>,  
  "LastName": <string>,  
  "ExternalEmail": <string>|null,  
  "UserName": <string>,  
  "RoleId": <number>,  
  "IsActive": <boolean>,  
  "SendCreationEmail": <boolean>  
}
```



Requirements:

- Developer :)
- Webserver (Apache, IIS etc.)
- Get Application ID / Key from D2L
 - Open Helpdesk Ticket with ITS
 - One ID / Key Per Application Per Environment
 - Make Sure Application Shows Up Under Extensibility Management Area and is Enabled
- Choose a Client Library & Download
 - C#, JAVA, Javascript, PHP, Python
 - Includes all the APIs and libraries (PHP, JAVA, JavaScript, C#) to create apps
 - Check version requirements. (e.g PHP 5.x is required)
 - <http://docs.valence.desire2learn.com/clients/index.html>

Requirements:

- Unzip and Copy Files to Webserver Root Directory
- Create User Account In D2L Org
- Set User Permissions in D2L Org
- Authenticate with D2L Org to Get User ID / Key
- Use port https protocol (Port 443)
- SSL Certificate for Webserver
- <http://127.0.0.1/rockeagle/php/samples/GettingStartedSample/index.php>
- <https://apitesttool.desire2learnvalence.com/>

- ▼  lib
 -  D2LAppContext.php
 -  D2LAppContextFactory.php
 -  D2LConstants.php
 -  D2LHostSpec.php
 -  D2LSigner.php
 -  D2LUserContext.php
 -  ID2LAppContext.php
 -  ID2LUserContext.php
 -  UserOpSecurityParameters.php
-  LICENSE
-  README.md
- ▼  samples
 - ▼  GettingStartedSample
 -  authenticateUser.php
 -  cacert.pem
 -  config.php
 -  doRequest.php
 -  index.php
 -  README.md
 -  sample.js

[Load Defaults](#)**Host:**  **Port:** ☒ **HTTPS****App ID:** **App Key:**

Note: to authenticate against the test server, you can use username "sampleapiuser" and password "Tisabiiiiif".

[Authenticate](#)[Manually set credentials](#)**Examples:** [Get Versions](#)[WhoAml](#)[Create User](#)**Method:** ☒ GET ☐ POST ☐ PUT ☐ DELETE**Action:** [Submit](#)


[My Home](#)
[Select a course...](#)

10/19/2015

SRS

GALILEO

Maintenance



KDEV Georgia Online Virtual Instruction Enterprise Wide


[Online Rooms](#)

News

▼

My Settings

▼



Welcome,

Mazhar Malik

Profile

Account Settings

Notifications

Email Address

Change Password

View my progress

Locker

My Courses

▼

Last 10 Accessed Courses

Rock Eagle 2015

ITS

Interesting English INGRESS #2 Section

Fall 2014, Abraham Baldwin Agricultural College

English Composition I Section 86C

Fall 2015, Georgia College & State University

Human Communications Section A

Summer 2015, Georgia College & State University

INGRESS ? Test & Course Level 1 Section 01

Spring 2014, Southern Polytechnic State University

Principles of Accounting I Section G

Spring 2015, Armstrong State University

User Related

Users

Organization Related

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[Manage Workflow Sessions](#)
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[Mobile Brand Administration](#)
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Organization Tools

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ePortfolio

[Tag Management](#)

SIS Integration

[Course Mappings](#)
[SIS Integration Log](#)







Security


[Roles and Permissions](#)

Product/Tool Administration



[View Product Versions](#)

[My Home](#) > [Select a course...](#)

  |   **Mazhar Malik**  




 **goview**
GEORGIA ONLINE
Virtual Instruction Enterprise Wide

KDEV Georgia Online Virtual Instruction Enterprise Wide

 [Online Rooms](#)  [Log Out](#)


Extensibility Management


This list contains Valence API applications registered by your institution and universal applications offered by Desire2Learn and its partners.


 [Enable](#)  [Disable](#)  [Refresh](#)


[All](#) [Enabled](#) [Disabled](#)


☐ 99 items shown.

☐  [Desire2Learn ePortfolio v1.0](#)
Desire2Learn Inc.

☐  [Profile Picture v1.0](#)
Desire2Learn Incorporated

☐  [Enterprise Roles Plug-in v1.0](#)
D2L Inc.

☐  [Desire2Learn Binder v1.0](#)
Desire2Learn Incorporated

☐  [Desire2Learn Capture Portal v7.7](#)
Desire2Learn

Generating HTTP Request:

- Host Name of Brightspace by D2L Org
- Port (https 443)
- Application ID / Key
- User ID / Key
- Webservices Call (Action/URL)
- Webservices Call Method
 - GET (Retrieve)
 - POST (Create)
 - PUT (Update)
 - DELETE (Delete)
- JSON Data (POST & PUT)
- <http://docs.valence.desire2learn.com/http-routingtable.html>
- <http://docs.valence.desire2learn.com/reference.html>

Generating HTTP Request:

```
require_once '../lib/D2LAppContextFactory.php';

$host = From the database;           //goqa.view.usg.edu
$port = From the database;           // 443
$scheme = From the database;         // https
$appId = From the database;          // Application ID provided by D2L
$appKey = From the database;         // Application Key provided by D2L
$userId = From the database;         // User ID generated by goqa.view.usg.edu
$userKey = From the database;        // User Key generated by goqa.view.usg.edu
$data = $_GET['data'];               // data to post
$apiMethod = $_GET['apiMethod'];     // GET | POST | PUT | DELETE

$authContextFactory = new D2LAppContextFactory();
$authContext = $authContextFactory->createSecurityContext($appId, $appKey);
$hostSpec = new D2LHostSpec($host, $port, $scheme);
$opContext = $authContext->createUserContextFromHostSpec($hostSpec, $userId, $userKey);
$url = $opContext->createAuthenticatedUri($_GET['apiRequest'], $_GET['apiMethod']);
```



```

// create curl resource
$ch = curl_init();

// Sets multiple options for a CURL session
$options = array(
    CURLOPT_RETURNTRANSFER => true,
    CURLOPT_CAINFO => getcwd().'/cacert.pem',
    CURLOPT_URL, $url,
);

curl_setopt_array($ch, $options);

switch($apiMethod) {
    case 'POST':
        curl_setopt($ch, CURLOPT_CUSTOMREQUEST, "POST");
        curl_setopt($ch, CURLOPT_HTTPHEADER, array(
            'Content-Type: application/json',
            'Content-Length: ' . strlen($data))
        );
        curl_setopt($ch, CURLOPT_POSTFIELDS, $data);
        break;
    case 'PUT':
        curl_setopt($ch, CURLOPT_CUSTOMREQUEST, "PUT");
        curl_setopt($ch, CURLOPT_HTTPHEADER, array(
            'Content-Type: application/json',
            'Content-Length: ' . strlen($data))
        );
        curl_setopt($ch, CURLOPT_POSTFIELDS, $data);
        break;
    case 'DELETE':
        curl_setopt($ch, CURLOPT_CUSTOMREQUEST, "DELETE");
        break;
    case 'GET':
        break;
}

// Execute the given CURL request $response contains the output string
$response = curl_exec($ch);
$httpCode = curl_getinfo($ch, CURLINFO_HTTP_CODE);
$contentType = curl_getinfo($ch, CURLINFO_CONTENT_TYPE);
$responseCode = $apiContext->handleResult($response, $httpCode, $contentType);

if ($responseCode == D2LUserContext::RESULT_OKAY) {
    // parse JSON data
} else {
    // do something with error
}

curl_close($ch);

```

//return the transfer as a string
//The name of a file holding one or more certificates for verification
// set the URL

// POST is used to create
// set custom request method
//An array of HTTP header fields to set

// data to post in a HTTP "POST" operation.

// PUT is used for updates
// set custom request method
//An array of HTTP header fields to set

// data to post in a HTTP "POST" operation.

// set custom request method

// GET is used to retrieve

// Last received HTTP code
// Type on content returned
// evaluate the response code



Information Technology Services

Security

Security:

- Always Start with DEV environment
- Application & User ID / Key (Keep it safe. DO NOT Share.)
- Always use SSL and https
- Regularly patch servers (webserver, database)
- Open server ports that are needed
- Always Create a Separate User Account
- Always Set Appropriate Permissions
- User ID / Key Expires After 180 days
- Revoke User Access
- Disable Application in D2L
- Application Review with GeorgiaVIEW

Revoke Application Access:

10/19/2015 | SRS | GALILEO | Maintenance | Locker | Support | Library | Wiggio

goview GEORGIA ONLINE Virtual Instruction Enterprise Wide
KDEV Georgia Online Virtual Instruction Enterprise Wide

Online Rooms Log Out

Users User Collections Bulk User Management Settings

New User Statistics

Search For: ingaditstest2 Show Search Options

1 Search Result Clear Search

☐ Email ☐ Page ☐ Print ☐ Enroll More actions

Last Name ▲, First Name	Username	Org Defin	Email	Last Login
<input checked="" type="checkbox"/> Testaccount2, INGRESSI	ingaditstest2	ingaditste	Testing2@usg.edu	Feb 28, 2014 4:06 PM

☐ Email ☐ Page ☐ Print ☐ Enroll More actions

- Add to Collection...
- Unlock Accounts
- Activate Users
- Deactivate Users
- Delete Users
- Revoke Application Access**

20 per page

Disable Application:

10/22/2017 | USG Technology Store | GALILEO | Maintenance | Locker | Support | Library

go view
GEORGIA ONLINE
Virtual Instruction Enterprise Wide

Customization Configuration [Log Out](#)

ID Key Authorization OAuth 2.0

This list contains Valence API applications registered by your institution and universal applications offered by D2L and its partners.

☒ Enable ☒ Disable [Refresh](#)

All Enabled Disabled

☐ 105 items shown.

- ☐ ☒ **Desire2Learn ePortfolio v1.0**
Desire2Learn Inc.
- ☐ ☒ **Profile Picture v1.0**
Desire2Learn Incorporated
- ☐ ☒ **Enterprise Roles Plug-In v1.0**
D2L Inc.
- ☐ ☒ **Desire2Learn Binder v1.0**
Desire2Learn Incorporated



Recommendations

Recommendations:

- Save following info in the Database
 - App & User ID/Key
 - Hostname, Port, Scheme
 - OrgUnit IDs for D2L Org, Course Offerings, Sections, Users, Semester, Template (Org Unit Editor)
 - Unique Role IDs (Roles and Permissions)
 - D2L Webservices API version
 - Date of User ID/Key Expiration (180 days)
 - TLS version to use



Recommendations:

Org Unit Editor

[New Org Unit](#)[Recycle Bin](#)[More Actions](#) ▼

▶ [Georgia Online Virtual Instruction Enterprise Wide \(6624\)](#)

Semester

[August 2015 \(313725\)](#)

[CPS Development \(7228\)](#)

▶ [CPS Testing \(7226\)](#)

▶ [Fall 2013 \(6668\)](#)

▶ [Fall 2014 \(7808\)](#)

▶ [Fall 2015 \(362394\)](#)

Fall 2013 (6668)

[Properties](#) ▼

[Jump To: Homepage](#) | [Course Admin](#)

Name: Fall 2013

Code: 20142

Type: Semester

Path: /content/20142/

Parent: [Georgia Online Virtual Instruction Enterprise Wide \(6624\)](#)
s:

Recommendations:

- Semester is set to displayed for CreateCourse under “Form Elements”

The screenshot displays the 'goview' system interface. The top navigation bar includes the 'goview' logo, a user profile for 'Mazhar Malik', and various utility icons. Below this, a secondary navigation bar lists links such as 'Online Rooms', 'Customization Configuration', '10/22/2017', 'USG Technology Store', 'GALILEO', 'Maintenance', 'Locker', 'Support', and 'More'. The main content area is titled 'CreateCourse' and shows the 'Form Description' as 'Creates a new course'. On the left, a sidebar lists 'Form Elements' with 'CreateCourse' selected. The 'Form Element Properties' table on the right lists various form items and their 'Is Displayed' status.

Form Item Name	Is Displayed
Course Template Code	✓
Course Template Name	✓
Course Offering Name	✓
Course Offering Code	✓
Department	✓
Semester	✓
Locale	✓
Force Locale	✓
Start Date	✓
End Date	✓
Course Offering Path	✓
Course Template Path	✓
Has Sections	✗
Registration	✗
Course Address Book	✗

Recommendations:

- Keep track of No. of Webservices Calls
- Keep track of failed calls and a mechanism to alert
- Time App takes to make a call & get a response
- Create a special user for making webservices Calls
- Mechanism to alert when User ID/Keys are about to expire
- Developer Tools
 - Firebug (<http://getfirebug.com/>)
 - Live HTTP Header (Firefox, Chrome)
 - Web Developer (Firefox, Chrome)

Recommendations:

- <https://community.brightspace.com/s/topic/0TO610000000JdlGAE/api>
- <https://stackoverflow.com/questions/tagged/valence>
- <http://docs.valence.desire2learn.com/reference.html>
- <http://docs.valence.desire2learn.com/http-routingtable.html>
- <http://docs.valence.desire2learn.com/clients/index.html>
- <https://apitesttool.desire2learnvalence.com/>

Common Mistakes & Errors

Common Mistakes

- Incorrect Action/URL
- Incorrect Host name
- Incorrect Method type, (GET, PUT, POST, DELETE)
- Malformed JSON Data
- Incorrect Server or Client Time
- Invalid Application ID/Key
- Expired User ID/Key
- Insufficient User Permissions
- Application Not Enabled in LMS under Manage Extensibility



Common Errors:

<i>Response Code</i>	<i>Definition</i>	<i>Cause & Solution</i>
200	Success	All good
302	Redirect	Check App and User ID/Key, Authentication
403	Forbidden	Check Permission
404	Not found	Check OrgUnitID, Action URL
400	Bad Request	Check JSON Format, Action, Method



Information Technology Services

Demo

Demo: List

1. Retrieve Latest & Supported Versions
2. Retrieve Org Information
3. Retrieve Org Structure
4. Retrieve Role List
5. Create New User
6. Retrieve User Data
7. Update User
8. Create New Template
9. Create Course Offering
10. User Enrollment in Course

<http://127.0.0.1/rockeagle/php/samples/GettingStartedSample/demo.php>

Demo 1: Retrieve Versions

- Host Name: goqaview.usg.edu
- Port: 443
- Application ID: *****
- Application Key: *****
- User ID: uNg-v0qO5TR4yrbk0FqpoR
- User Key: wbLLFBsIeKvxB3Twt-zxCY
- Action/URL (ref): /d2l/api/versions/
- Method: GET

Demo 1: Response

```
[
  {
    "ProductCode": "le",
    "LatestVersion": "1.4",
    "SupportedVersions": [
      "1.0",
      "1.1",
      "1.2",
      "1.3",
      "1.4"
    ]
  },
  {
    "ProductCode": "lp",
    "LatestVersion": "1.4",
    "SupportedVersions": [
      "1.0",
      "1.1",
      "1.2",
      "1.3",
      "1.4"
    ]
  },
  {
    "ProductCode": "lti",
    "LatestVersion": "1.1",
    "SupportedVersions": [
      "1.1"
    ]
  }
]
```


Demo 2: Retrieve Org Info.

- Host Name: goqaview.usg.edu
- Port: 443
- Application ID: *****
- Application Key: *****
- User ID: uNg-v0qO5TR4yrbk0FqpoR
- User Key: wbLLFBSleKvxB3Twt-zxCY
- Action/URL (ref): /d2l/api/lp/(version)/organization/info
- Learning Platform: 1.0
- Action/URL: /d2l/api/lp/1.0/organization/info
- Method: GET

Demo 2: Response

```
{  
  "Identifier": "6624",  
  "Name": "Georgia Online Virtual Instruction Enterprise Wide"  
}
```


Demo 3: Retrieve Org Structure

- Host Name: goqaview.usg.edu
- Port: 443
- Application ID: *****
- Application Key: *****
- User ID: uNg-v0qO5TR4yrbk0FqpoR
- User Key: wbLLFBSleKvxB3Twt-zxCY
- Action/URL (ref): /d2l/api/lp/(version)/orgstructure/
(orgUnitId)/children/
- Learning Platform: 1.0
- Action/URL: /d2l/api/lp/1.0/orgstructure/6624/children/
- Method: GET

Demo 3: Response

```
[
  {
    "Identifier": "6986",
    "Name": "ITS",
    "Code": "ITStest",
    "Type": {
      "Id": 119,
      "Code": "Department",
      "Name": "Department"
    }
  },
  {
    "Identifier": "7226",
    "Name": "CPS Testing",
    "Code": "cpstest",
    "Type": {
      "Id": 5,
      "Code": "Semester",
      "Name": "Semester"
    }
  }
]
```


Demo 4: Retrieve Role List

- Host Name: goqaview.usg.edu
- Port: 443
- Application ID: *****
- Application Key: *****
- User ID: uNg-v0qO5TR4yrbk0FqpoR
- User Key: wbLLFBSIeKvxB3Twt-zxCY
- Action/URL (ref): /d2l/api/lp/(version)/roles/
- Learning Platform: 1.0
- Action/URL: /d2l/api/lp/1.0/roles/
- Method: GET

Demo 4: Response

```
[
  {
    "Identifier": "156",
    "DisplayName": "Instructor",
    "Code": "Instructor"
  },
  {
    "Identifier": "157",
    "DisplayName": "Student",
    "Code": "Student"
  },
  {
    "Identifier": "240",
    "DisplayName": "Demo Student",
    "Code": null
  },
  {
    "Identifier": "481",
    "DisplayName": "Tutor",
    "Code": null
  },
  {
    "Identifier": "483",
    "DisplayName": "Teaching Assistant",
    "Code": null
  }
]
```


Demo 5: Create New User

- Host Name: goqaview.usg.edu
- Port: 443
- Application ID: *****
- Application Key: *****
- User ID: uNg-v0qO5TR4yrbk0FqpoR
- User Key: wbLLFBSIeKvxB3Twt-zxCY
- Action/URL (ref): /d2l/api/lp/(version)/users/
- Learning Platform: 1.0
- Action/URL: /d2l/api/lp/1.0/users/
- Method: POST
- JSON Data

Demo 5: Create New User

```
{  
  "OrgDefinedId": <string>,  
  "FirstName": <string>,  
  "MiddleName": <string>,  
  "LastName": <string>,  
  "ExternalEmail": <string>|null,  
  "UserName": <string>,  
  "RoleId": <number>,  
  "IsActive": <boolean>,  
  "SendCreationEmail": <boolean>  
}
```

```
{  
  "OrgDefinedId": "rockeagle",  
  "FirstName": "Rock",  
  "MiddleName": "",  
  "LastName": "Eagle",  
  "ExternalEmail": "mazhar.malik@usg.edu",  
  "UserName": "rockeagle",  
  "RoleId": "157",  
  "IsActive": "true",  
  "SendCreationEmail": "false"  
}
```

Demo 5: Response

```
{
  "OrgId": 6624,
  "UserId": 469948,
  "FirstName": "Rock",
  "MiddleName": "",
  "LastName": "Eagle",
  "UserName": "rockeagle",
  "ExternalEmail": "mazhar.malik@usg.edu",
  "OrgDefinedId": "rockeagle",
  "UniqueIdentifier": "rockeagle",
  "Activation": {
    "IsActive": true
  },
  "DisplayName": "Rock Eagle"
}
```




Demo 5: Result in LMS

[My Home](#) > [Select a course...](#)

10/20/2015

SRS

GALILEO


Maintenance

Locker

Support

Library

Wiggio



GEORGIA ONLINE
Virtual Instruction Enterprise Wide

KDEV Georgia Online Virtual Instruction Enterprise Wide

Online Rooms

Log Out

[Users](#)

[User Collections](#)

[Bulk User Management](#)

[Settings](#)

New User

Statistics

Search For:

rockeagle

Show Search Options

1 Search Result

Clear Search

☐

Email

Page

Print

Enroll

Reset Password

More actions

20 per page

Last Name ▲, First Name	Username	Org Defined ID	Role	Email	Last Login
<input type="checkbox"/> Eagle, Rock	rockeagle	rockeagle	Student	mazhar.malik@usg.edu	

☐

Email

Page

Print

Enroll

Reset Password

More actions

20 per page

Demo 6: Retrieve User

- Host Name: goqaview.usg.edu
- Port: 443
- Application ID: *****
- Application Key: *****
- User ID: uNg-v0qO5TR4yrbk0FqpoR
- User Key: wbLLFBSIeKvxB3Twt-zxCY
- Action/URL (ref): /d2l/api/lp/(version)/users/ (userId)
- Learning Platform: 1.0
- Action/URL: /d2l/api/lp/1.0/users/469948
- Method: GET

Demo 6: Response

```
{
  "OrgId": 6624,
  "UserId": 469948,
  "FirstName": "Rock",
  "MiddleName": "",
  "LastName": "Eagle",
  "UserName": "rockeagle",
  "ExternalEmail": "mazhar.malik@usg.edu",
  "OrgDefinedId": "rockeagle",
  "UniqueIdentifier": "rockeagle",
  "Activation": {
    "IsActive": true
  },
  "DisplayName": "Rock Eagle"
}
```


Demo 7: Update User

- Host Name: goqaview.usg.edu
- Port: 443
- Application ID: *****
- Application Key: *****
- User ID: uNg-v0qO5TR4yrbk0FqpoR
- User Key: wbLLFBSleKvxB3Twt-zxCY
- Action/URL (ref): /d2l/api/lp/(version)/users/(userId)
- Learning Platform: 1.0
- Action/URL: /d2l/api/lp/1.0/users/469948
- Method: PUT
- JSON Data

Demo 7: Update User

```
{  
  "OrgDefinedId": <string>,  
  "FirstName": <string>,  
  "MiddleName": <string>,  
  "LastName": <string>,  
  "ExternalEmail": <string>,  
  "UserName": <string>,  
  "Activation": { <composite:User.UserActivationData> }  
}
```

```
{  
  "OrgDefinedId": "rockeagle",  
  "FirstName": "Rock",  
  "MiddleName": "",  
  "LastName": "Eagle",  
  "ExternalEmail": "rock.eagle@usg.edu",  
  "UserName": "rockeagle",  
  "Activation": {  
    "IsActive": true  
  }  
}
```

Demo 7: Response


```
{  
  "OrgId": 6624,  
  "UserId": 469948,  
  "FirstName": "Rock",  
  "MiddleName": "",  
  "LastName": "Eagle",  
  "UserName": "rockeagle",  
  "ExternalEmail": "rock.eagle@usg.edu",  
  "OrgDefinedId": "rockeagle",  
  "UniqueIdentifier": "rockeagle",  
  "Activation": {  
    "IsActive": true  
  },  
  "DisplayName": "Rock Eagle"  
}
```


Demo 7: Result in LMS

[My Home](#) > [Select a course...](#)

10/20/2015 | [SRS](#) | [GALILEO](#) | [Maintenance](#)

[Locker](#) | [Support](#) | [Library](#) | [Wiggio](#)

**go view**
GEORGIA ONLINE
Virtual Instruction Enterprise Wide

KDEV Georgia Online Virtual Instruction Enterprise Wide

[Online Rooms](#) [Log Out](#)

[Users](#) [User Collections](#) [Bulk User Management](#) [Settings](#)

[New User](#) [Statistics](#)

Search For: [Show Search Options](#)

1 Search Result [Clear Search](#)

☐ [Email](#) [Page](#) [Print](#) [Enroll](#) [Reset Password](#) [More actions](#)

Last Name ▲, First Name	Username	Org Defined ID	Role	Email	Last Login
<input type="checkbox"/> Eagle, Rock ▼	rockeagle	rockeagle	Student	rock.eagle@usg.edu	

☐ [Email](#) [Page](#) [Print](#) [Enroll](#) [Reset Password](#) [More actions](#)

20 per page

Demo 8: Create Template

- Host Name: goqaview.usg.edu
- Port: 443
- Application ID: *****
- Application Key: *****
- User ID: uNg-v0qO5TR4yrbk0FqpoR
- User Key: wbLLFBSIeKvxB3Twt-zxCY
- Action/URL (ref): /d2l/api/lp/(version)/coursetemplates/
- Learning Platform: 1.0
- Action/URL: /d2l/api/lp/1.0/coursetemplates/
- Method: POST
- JSON Data

Demo 8: Create Template

```
{  
  "Name": <string>,  
  "Code": <string>,  
  "Path": <string>,  
  "ParentOrgUnitIds": [ <number:D2LID>, ... ]  
}
```

```
{  
  "Name": "Rock Eagle Template",  
  "Code": "template.rockeagle",  
  "Path": "",  
  "ParentOrgUnitIds": ["6986"]  
}
```


Demo 8: Response

```
{  
  "Identifier": "508797",  
  "Code": "template.rockeagle",  
  "Name": "Rock Eagle Template",  
  "Path": "/content/enforced/508797-template.rockeagle/"  
}
```


Demo 8: Result in LMS

Offerings Templates


Find Course Templates

The following fields will be searched: Template Code, Template Name, Department, and Template Path

Search For:

Paging: Show courses per page

Displaying Results 1 to 1 of 1

<input type="checkbox"/>	<u>Template Code</u>	<u>Template Name</u> ▲	<u>Department</u>	<u>Creation Date</u>	
<input type="checkbox"/>	template.rockeagle	Rock Eagle Template	ITS	Oct 20, 2015 8:15 AM	

Demo 9: Create Course Offering

- Host Name: goqaview.usg.edu
- Port: 443
- Application ID: *****
- Application Key: *****
- User ID: uNg-v0qO5TR4yrbk0FqpoR
- User Key: wbLLFBSIeKvxB3Twt-zxCY
- Action/URL (ref): /d2l/api/lp/(version)/courses/
- Learning Platform: 1.0
- Action/URL: /d2l/api/lp/1.0/courses/
- Method: POST
- JSON Data

Demo 9: Create Course Offering

```
{  
  "Name": <string>,  
  "Code": <string>,  
  "Path": <string>,  
  "CourseTemplateId": <number:D2LID>,  
  "SemesterId": <number:D2LID> | null,  
  "StartDate": <string:UTCDateTime> | null,  
  "EndDate": <string:UTCDateTime> | null,  
  "LocaleId": <number:D2LID> | null,  
  "ForceLocale": <boolean>,  
  "ShowAddressBook": <boolean>  
}
```

```
{  
  "Name": "Rock Eagle 2015",  
  "Code": "C0.rockeagle",  
  "Path": "",  
  "CourseTemplateId": "508797",  
  "SemesterId": null,  
  "StartDate": null,  
  "EndDate": null,  
  "LocaleId": null,  
  "ForceLocale": false,  
  "ShowAddressBook": false  
}
```

Demo 9: Response

```
{
  "Identifier": "508798",
  "Name": "Rock Eagle 2015",
  "Code": "CO.rockeagle",
  "IsActive": true,
  "Path": "/content/enforced/508798-CO.rockeagle/",
  "StartDate": null,
  "EndDate": null,
  "CourseTemplate": {
    "Identifier": "508797",
    "Name": "Rock Eagle Template",
    "Code": "template.rockeagle"
  },
  "Semester": null,
  "Department": {
    "Identifier": "6986",
    "Name": "ITS",
    "Code": "ITStest"
  }
}
```


Demo 9: Result in LMS

Offerings

Templates

Find Course Offerings

The following fields will be searched: Offering Code, Offering Name, Department, and Offering Path

Search For:

Paging: Show courses per page

Search Options

☐ Only courses available after

☐ Only courses available before

☐ With this user

Displaying Results 1 to 1 of 1

Delete Selected

<input type="checkbox"/>	Offering Code	Offering Name▲	Department	Creation Date	
<input type="checkbox"/>	CO.rockeagle	Rock Eagle 2015	ITS	Oct 20, 2015 8:23 AM	

Back

Demo 10: User Enrollment

- Host Name: goqaview.usg.edu
- Port: 443
- Application ID: *****
- Application Key: *****
- User ID: uNg-v0qO5TR4yrbk0FqpoR
- User Key: wbLLFBSIeKvxB3Twt-zxCY
- Action/URL (ref): /d2l/api/lp/(version)/enrollments/
- Learning Platform: 1.0
- Action/URL: /d2l/api/lp/1.0/enrollments/
- Method: POST
- JSON Data

Demo 10: User Enrollment

```
{  
  "OrgUnitId": <number:D2LID>,  
  "UserId": <number:D2LID>,  
  "RoleId": <number:D2LID>  
}
```

```
{  
  "OrgUnitId": "508798",  
  "UserId": "469948",  
  "RoleId": "157"  
}
```

Demo 10: Response

```
{  
  "OrgUnitId": 508798,  
  "UserId": 469948,  
  "RoleId": 157,  
  "IsCascading": false  
}
```


Demo 10: Result in LMS

My Home > Rock Eagle 2015

My Home

Rock Eagle 2015

Course Home | Content | Assessments ▾ | Communication ▾ | Resources ▾ | Library ▾ | Design ▾ | Wiggio

Classlist


Print Settings Help

Add Participants ▾ Enrollment Statistics Email Classlist

View By: User ▾ Apply

Search For: Show Search Options

☐ Email ☐ Page ☐ Print ☐ Enrollment ☐ Unenroll 20 per page

Image	Last Name ▲, First Name	Username	Role	Last Accessed
<input type="checkbox"/> 	Eagle, Rock ▾	rockeagle	Student	

☐ Email ☐ Page ☐ Print ☐ Enrollment ☐ Unenroll 20 per page



Questions / Comments

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<https://github.com/usg-mm Malik/RockEagle2017.git>