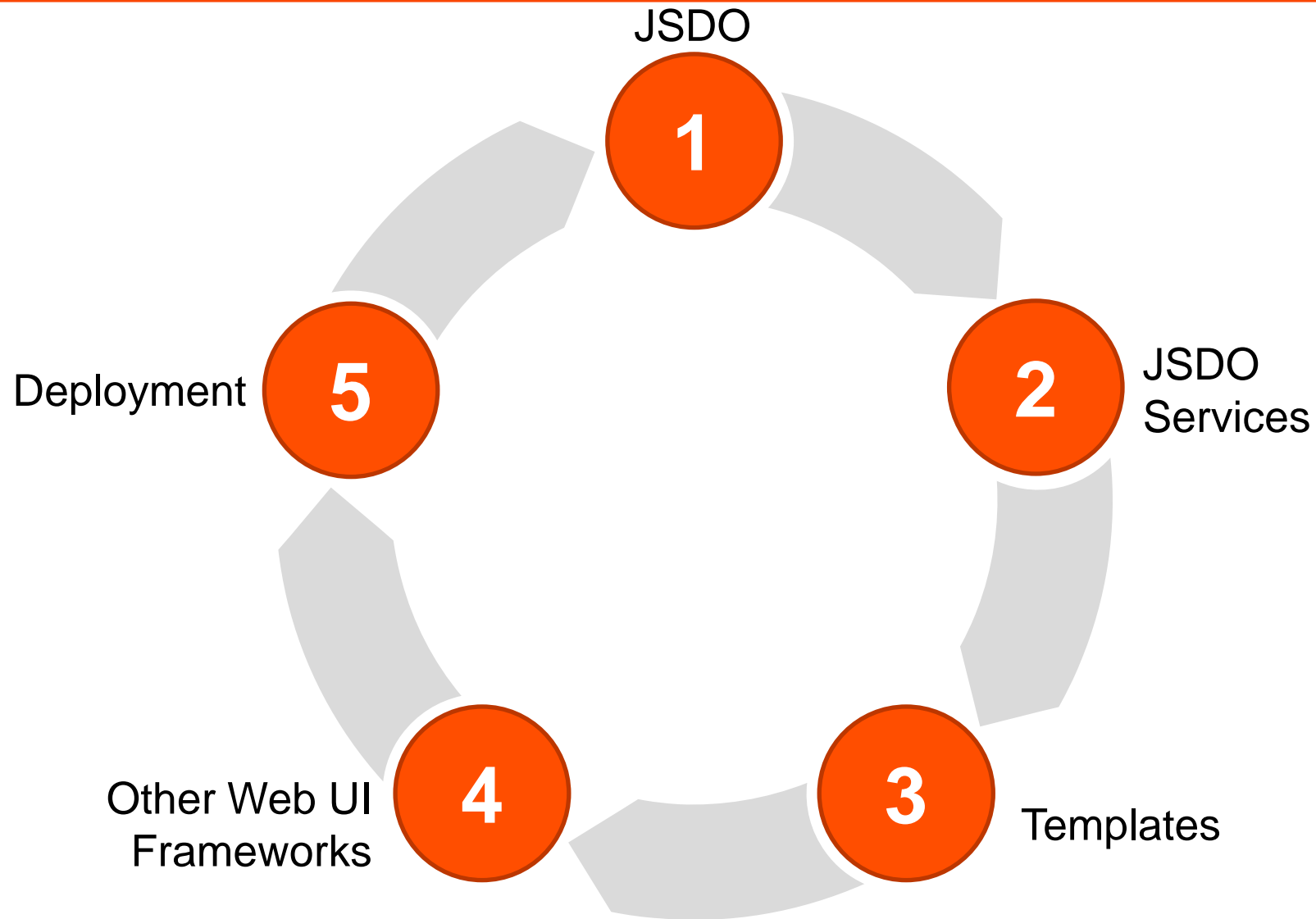


Inside the JSDO: Mobile and Web

Edsel Garcia
Principal Software Engineer
Progress Software
egarcia@progress.com

PROGRESS
EXCHANGE 2014



JSDO



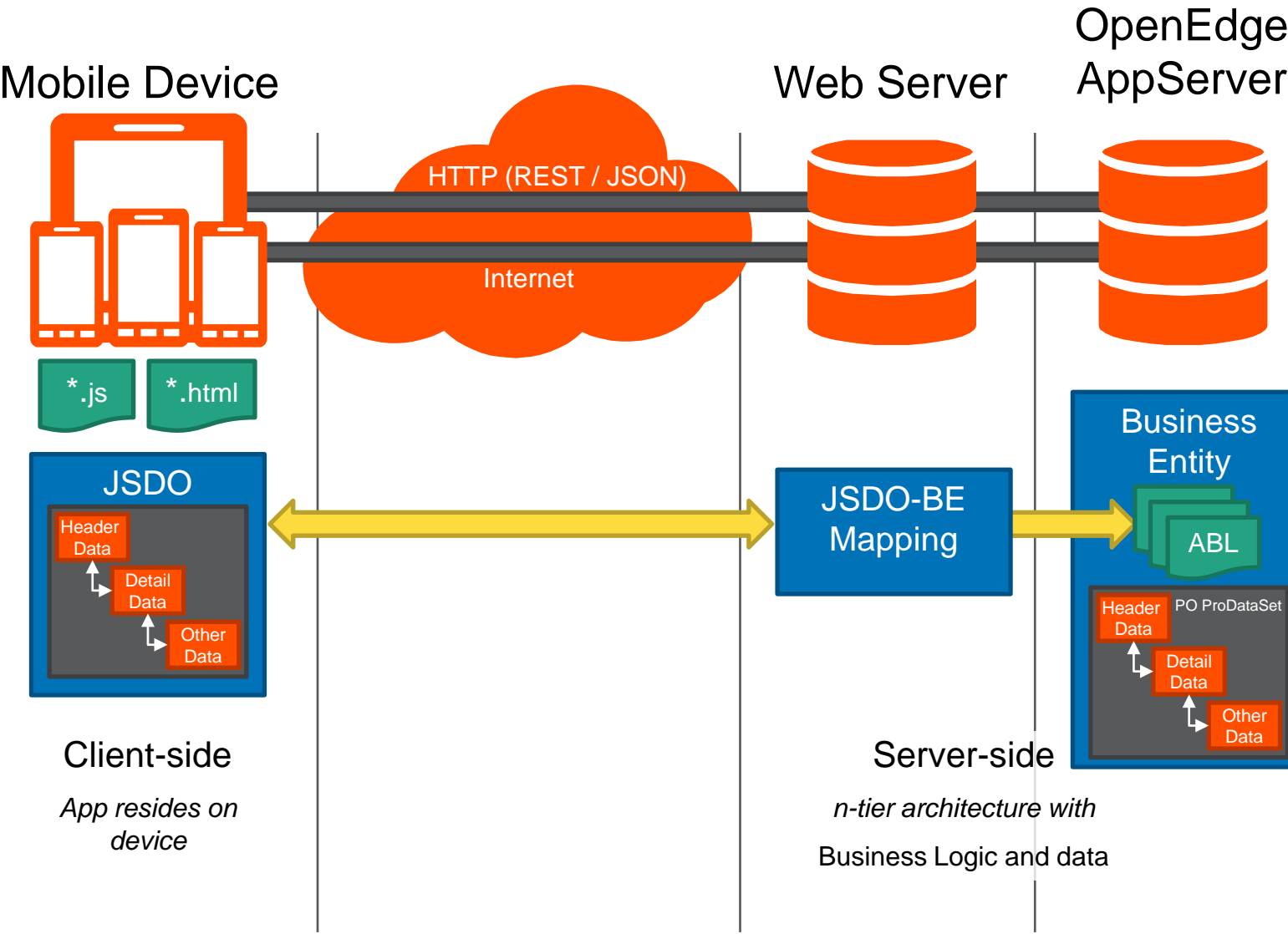
JSDO – Progress JavaScript Data Object

- Access to OpenEdge Database
- Access to the OpenEdge AppServer
- Business Entities
- XMLHttpRequest
- ProDataSet
- CRUD + Invoke

JSDO – Progress JavaScript Data Object

- Access to Rollbase backend
- CRUD + Invoke + Submit
 - JSON Before-Image support
- Offline/Online events in the Session object

Runtime Architecture for Rollbase Mobile



Business Entity

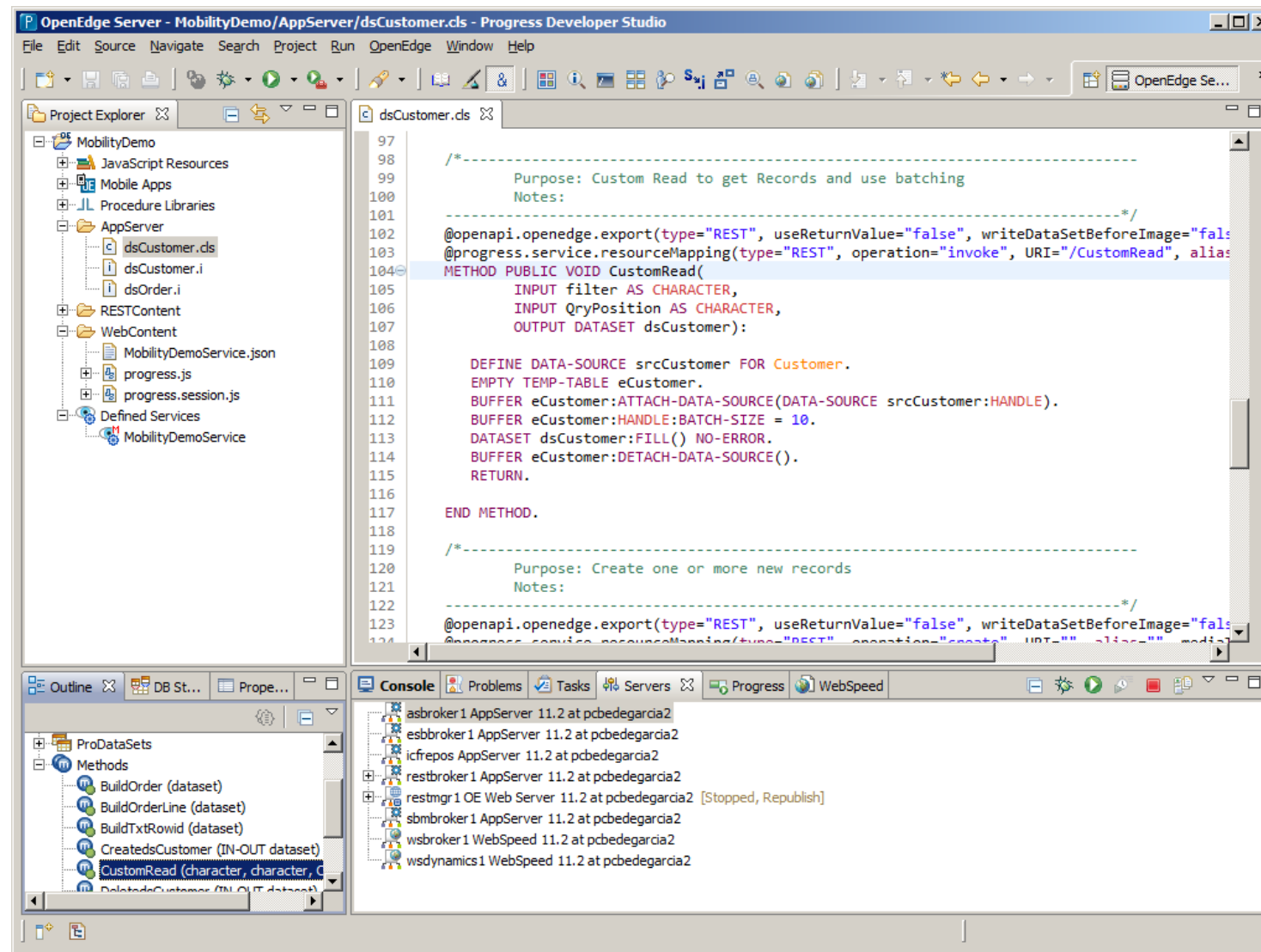
Progress Developer Studio

- Express Project Wizard
- Business Entity Wizard

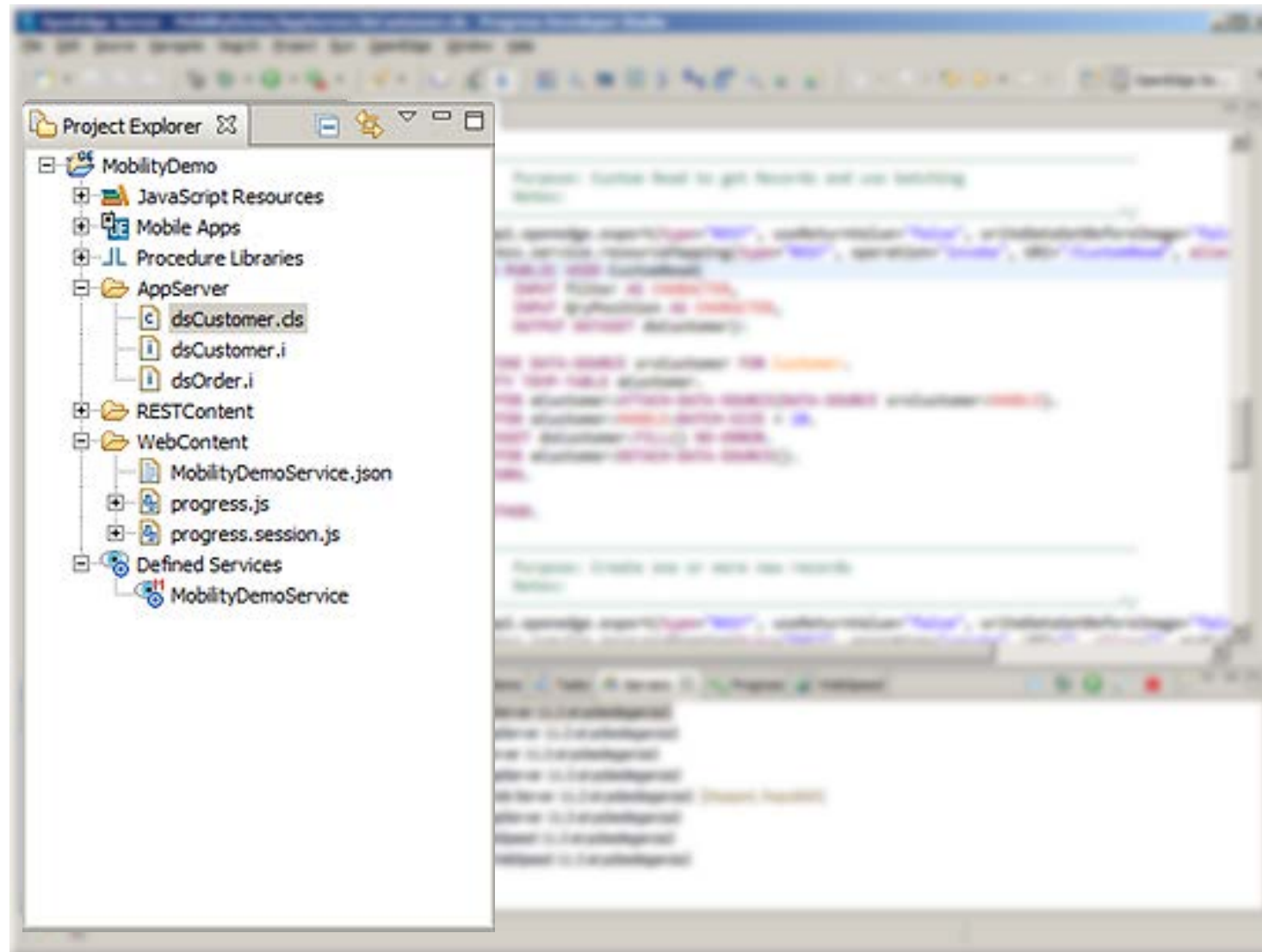
Types

- Read-only
- CRUD
- CRUD + Submit
- JSON Before-Image support

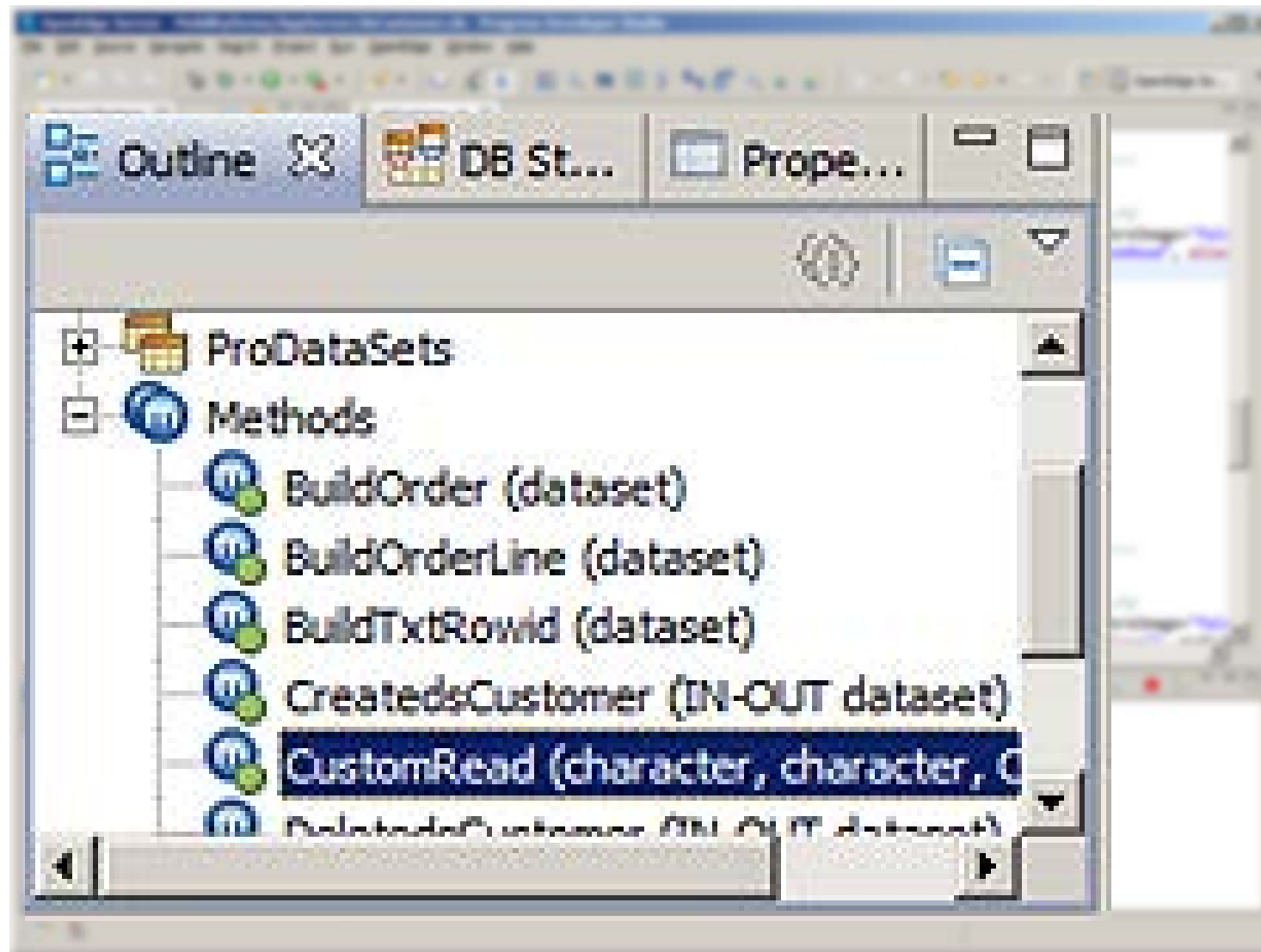
Business Entity



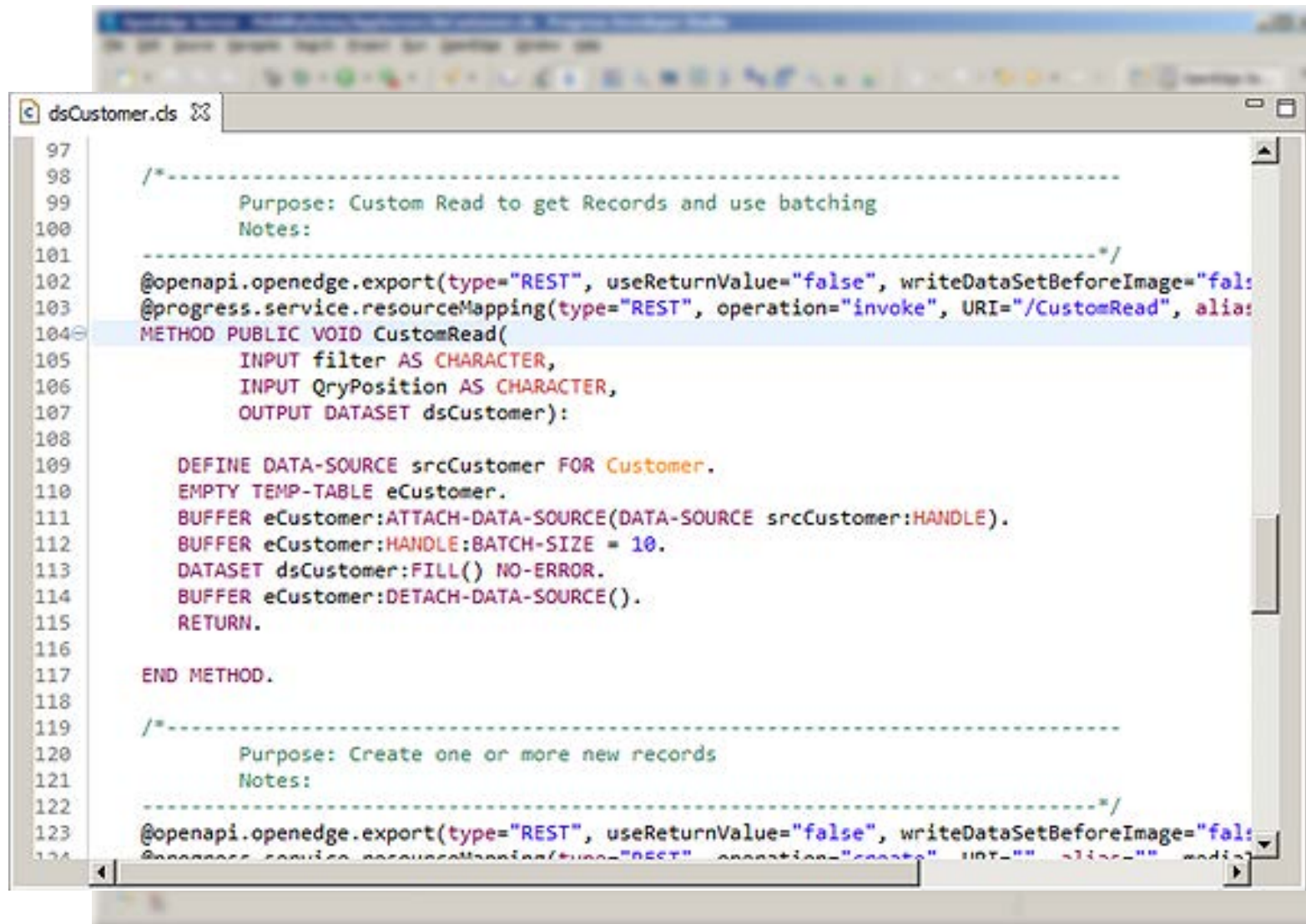
Business Entity



Business Entity

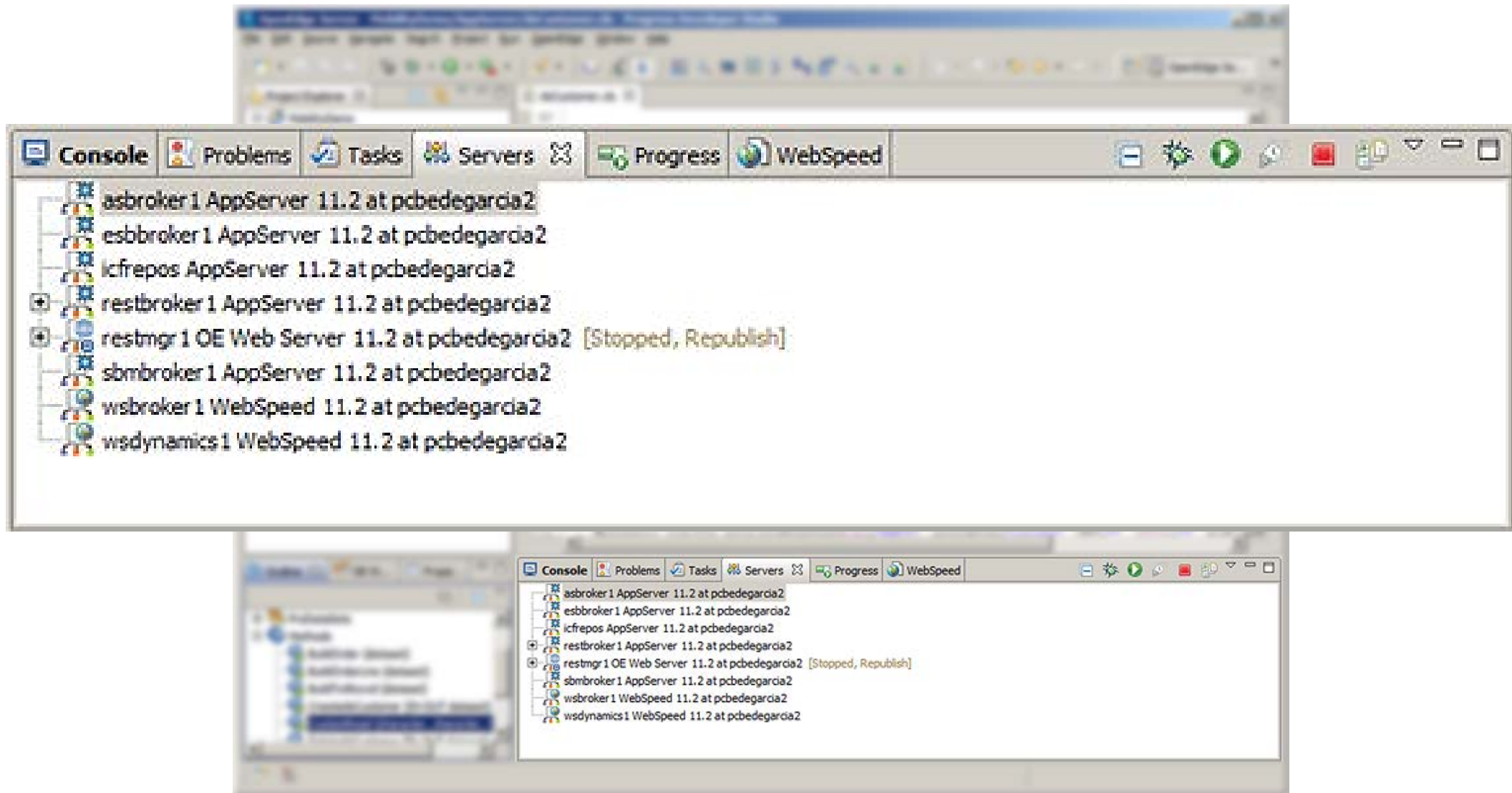


Business Entity

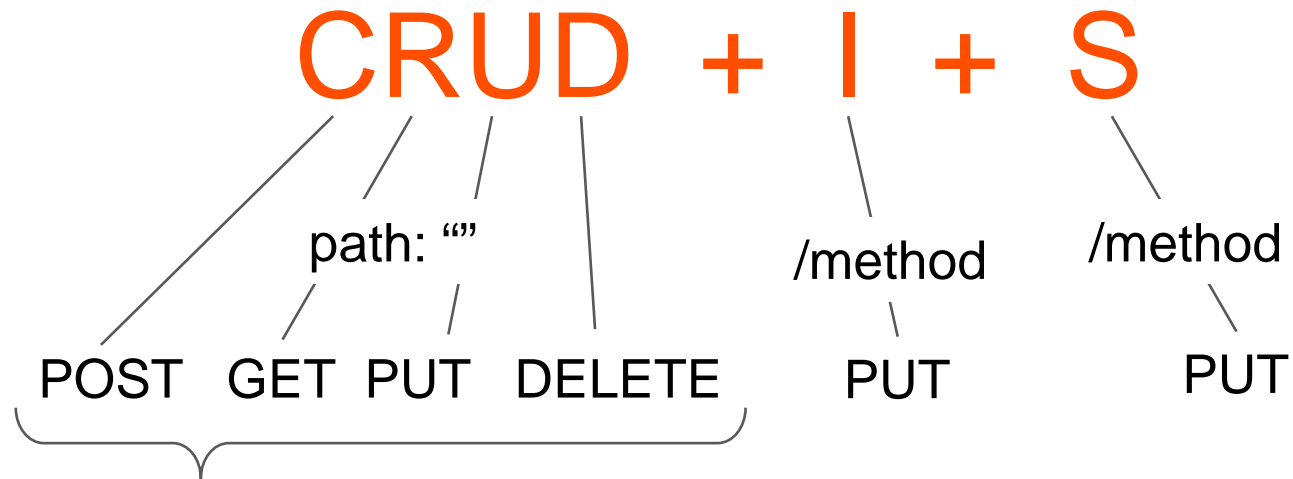


```
97
98  /*-----
99      Purpose: Custom Read to get Records and use batching
100     Notes:
101     -----*/
102  @openapi.openedge.export(type="REST", useReturnValue="false", writeDataSetBeforeImage="false")
103  @progress.service.resourceMapping(type="REST", operation="invoke", URI="/CustomRead", alias="CustomRead")
104  METHOD PUBLIC VOID CustomRead(
105      INPUT filter AS CHARACTER,
106      INPUT QryPosition AS CHARACTER,
107      OUTPUT DATASET dsCustomer):
108
109      DEFINE DATA-SOURCE srcCustomer FOR Customer.
110      EMPTY TEMP-TABLE eCustomer.
111      BUFFER eCustomer:ATTACH-DATA-SOURCE(DATA-SOURCE srcCustomer:HANDLE).
112      BUFFER eCustomer:HANDLE:BATCH-SIZE = 10.
113      DATASET dsCustomer:FILL() NO-ERROR.
114      BUFFER eCustomer:DETACH-DATA-SOURCE().
115      RETURN.
116
117  END METHOD.
118
119  /*-----
120      Purpose: Create one or more new records
121     Notes:
122     -----*/
123  @openapi.openedge.export(type="REST", useReturnValue="false", writeDataSetBeforeImage="false")
124  @progress.service.resourceMapping(type="REST", operation="create", URI="/", alias="Create")
```

Business Entity



Create, Read, Update, Delete + INVOKE + SUBMIT



Array	[]
Temp-Table	{ ttCustomer: [] }
DataSet	{ dsCustomer: { ttCustomer: [] } }
DataSet (Complex)	{ dsCustomer: { ttCustomer: [], ... ttOrder: [] } }

JSDO Catalog



```
1 {
2   "version": "1.0",
3   "lastModified": "Tue Mar 05 16:01:57 EST 2013",
4   "services": [{
5     "name": "MobilityDemoService",
6     "address": "\/rest\/MobilityDemoService",
7     "useRequest": true,
8     "resources": [{
9       "name": "dsCustomer",
10      "path": "\/dsCustomer",
11      "schema": {
12        "type": "object",
13        "additionalProperties": false,
14        "properties": { "dsCustomer": {
15          "type": "object",
16          "additionalProperties": false,
17          "properties": { "eCustomer": {
18            "type": "array",
19            "items": {
20              "additionalProperties": false,
21              "properties": {
22                "_id": { "type": "string" },
23                "CustNum": {
24                  "type": "integer",
25                  "default": 0,
26                  "title": ""
27                }
28              }
29            }
30          }
31        }
32      }
33    }
34  ]
35 }
36 }
```

JSDO – Progress JavaScript Data Object

■ CRUD + Invoke

- add() (CREATE)
- fill() (READ)
- assign() (UPDATE)
- remove() (DELETE)
- method() (INVOKE)

■ Properties

- autoSort
- autoApplyChanges
- caseSensitive
- name
- record
- useRelationships

■ Methods

- addRecords()
- acceptChanges(), rejectChanges()
- find()
- findById()
- foreach()
- getData()
- getId()
- getSchema()
- saveChanges()
- sort()
- subscribe()
- unsubscribe()

JSDO – Progress JavaScript Data Object

- JSDO – progress.jsdo.3.0.js
- Session – progress.jsdo.3.0.js
- Included in Mobile App Builder projects

JSDO – Using the JSDO

```
session = new progress.data.Session();  
session.login(<url-to-service>, "", "");  
session.addCatalog(<url-to-jsdo-catalog>);  
  
jsdo = new progress.data.JSDO({ name: 'dsCustomer' });  
jsdo.subscribe('AfterFill', onAfterFillCustomers, this);  
  
jsdo.fill();
```

JSDO

PROGRESS
EXCHANGE 2014

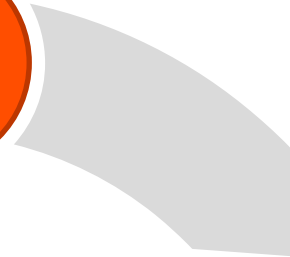
JSDO



Benefits

- Leverage Existing Business Logic

JSDO



JSDO
Services

JSDO Services

- Access to the JSDO from the Mobile App Builder
- JSDO Catalog
- CRUD:
 - Create
 - Read
 - Update
 - Delete
- Row
- Invoke
- Submit

JSDO Services

PROGRESS
EXCHANGE 2014

JSDO

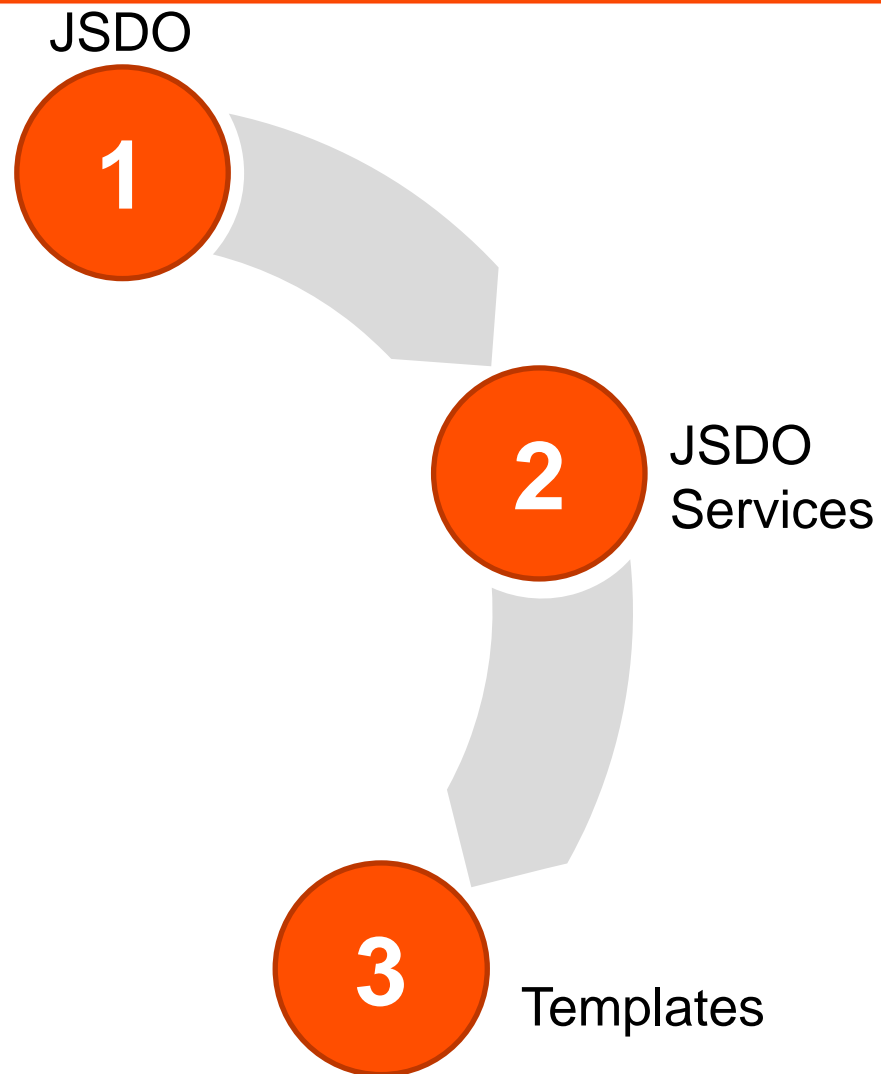


Benefits

- Leverage Existing Business Logic
- Visual Mapping



JSDO
Services

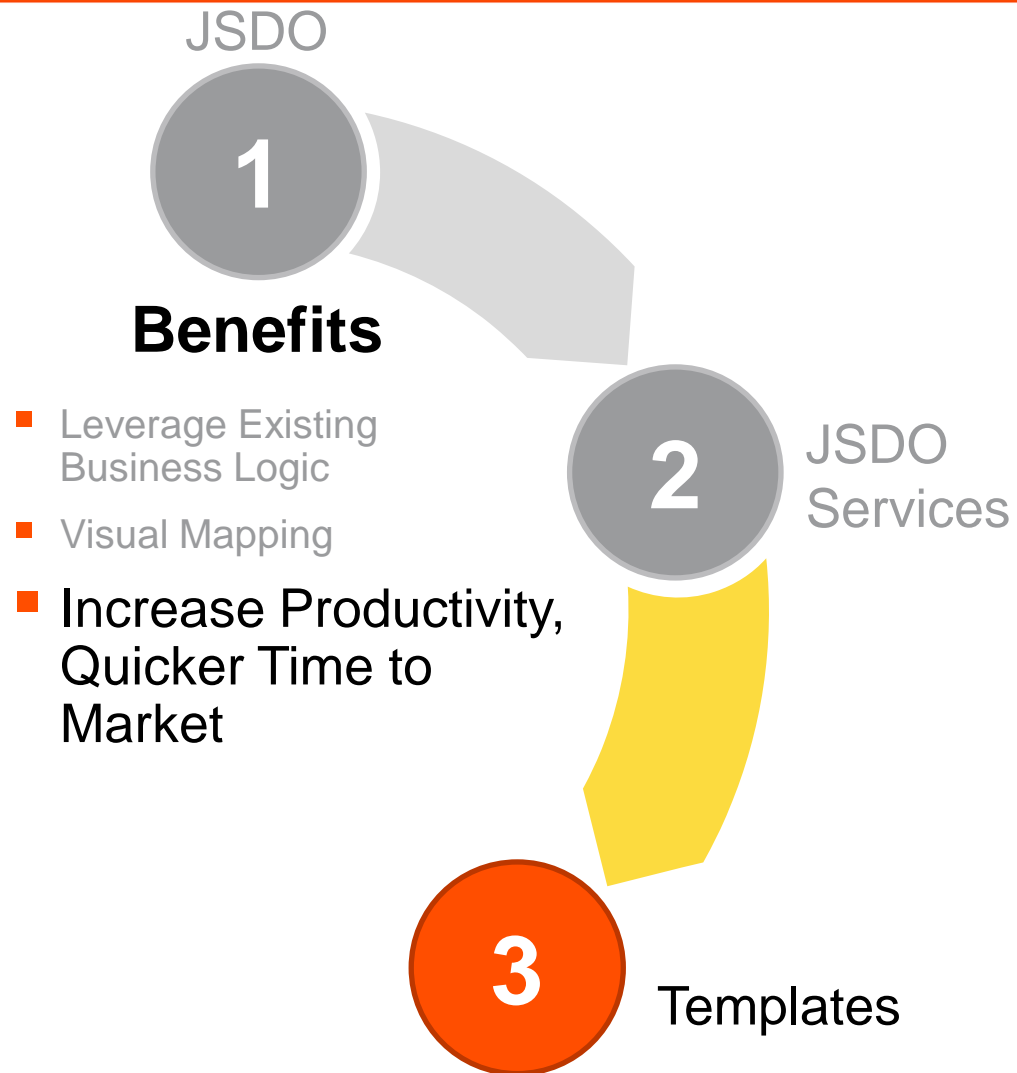


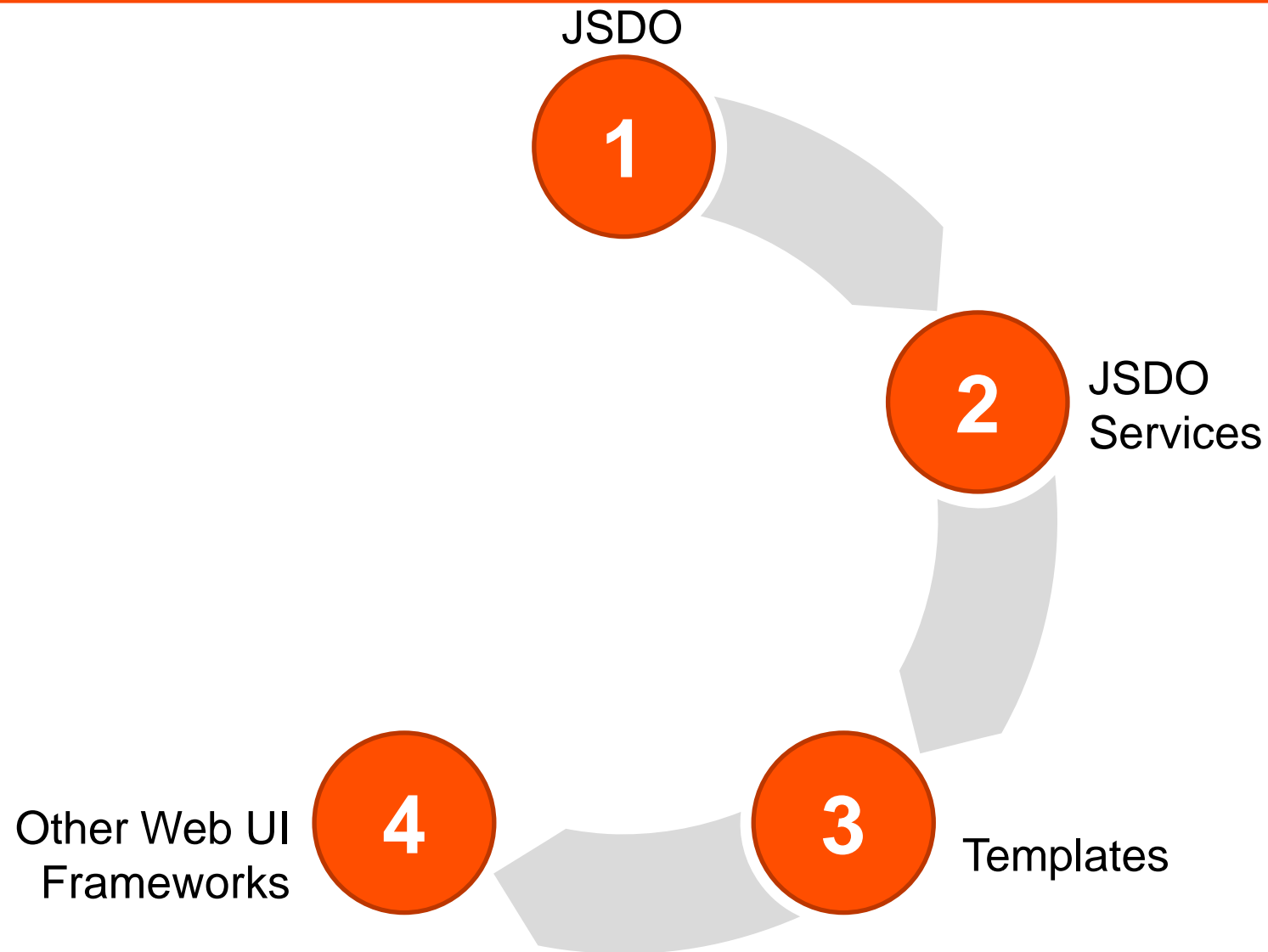
Templates

- Project Templates
 - Phone App / Tablet App
 - Session-enabled templates
 - Express Project
 - UIHelper (dynamic)
 - JSDO Services (generated)
- Templates
- Screen Templates
- Custom Components

Templates

PROGRESS
EXCHANGE 2014





Other Web UI Frameworks

- Web
- Angular.js
- Sencha Touch
- Kendo UI
- Knockout.js
- Qooxdoo
- Dojo Toolkit

Other Web Frameworks

- Node.js

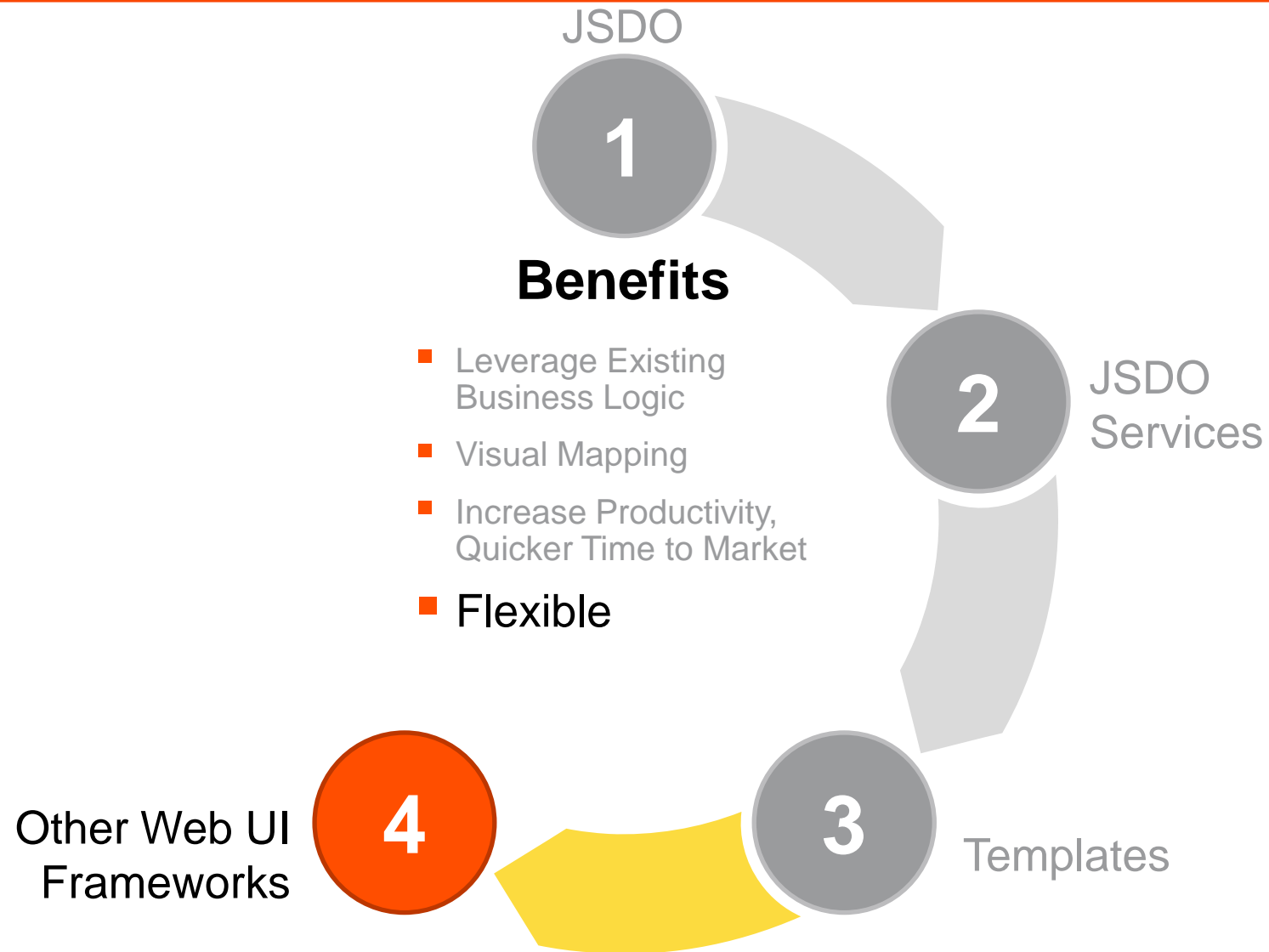
```
XMLHttpRequest = require("./XMLHttpRequest.js").XMLHttpRequest;  
require("./progress.jsdo.3.0.js");
```

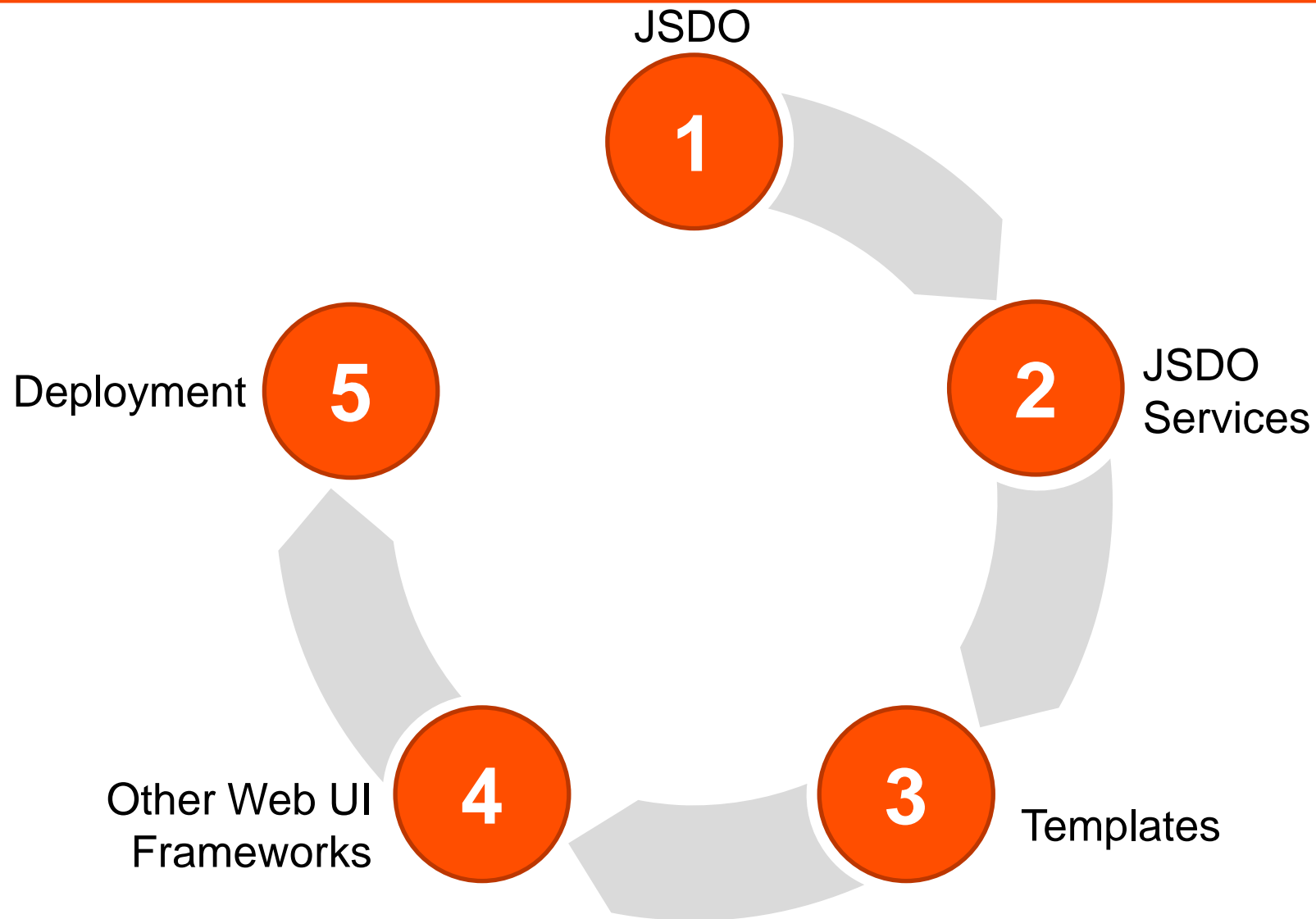
```
session = new progress.data.Session();  
session.login(<url-to-service>, "", "");  
session.addCatalog(<url-to-jsdo-catalog>);
```

```
jsdo = new progress.data.JSDO({ name: 'dsCustomer' });  
jsdo.subscribe('AfterFill', onAfterFillCustomers, this);  
jsdo.fill();
```

```
function onAfterFillCustomers(jsdo, success, request) {  
    jsdo.eCustomer.foreach(function(customer) {  
        console.log(jsdo.eCustomer.Name);  
    });  
}
```

Other Web Frameworks

















Deployment

- Build native app for iOS and Android using PhoneGap
- Cloud based build
- Distribution certificate and provisioning profile needed for iOS
- Auto-generated key/certificate for Android
 - Install from Unknown Sources allows install on device
- Install options:
 - Over the Air Install (iOS)
 - iTunes sync (iOS)
 - Download from web site (Android)
- Rollbase Mobile Native Tester

Deployment

PROGRESS
EXCHANGE 2014

Deployment

Platform	Web resources	Source code	Release binary
	 HTML/JS/CSS	 Eclipse project	 .apk
	 HTML/JS/CSS	 Xcode project	 .ipa
	 HTML/JS/CSS		
	 Template		

Deployment

We are working as fast as we can to build your IPA file...

This page will refresh in **8 seconds** automatically.

Refresh manually

[Click Here](#) if you changed your mind and want to cancel this build

Deployment

We are done!

Your application file was built successfully.

Your download will begin shortly.
If it does not start, please [click here](#) to start the download.



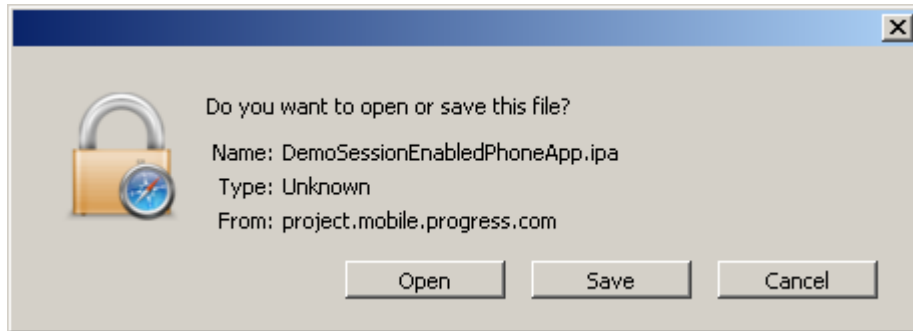
[Click Here](#) if you changed your mind and want to cancel this build

Deployment

We are done!

Your application file was built successfully.

Your download will begin shortly.
If it does not start, please [click here](#) to start the download.



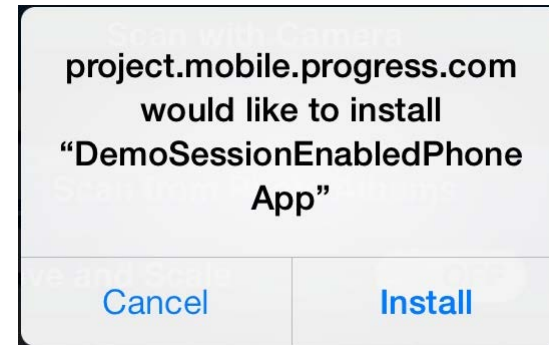
[Click Here](#) if you changed your mind and want to cancel this build

Deployment

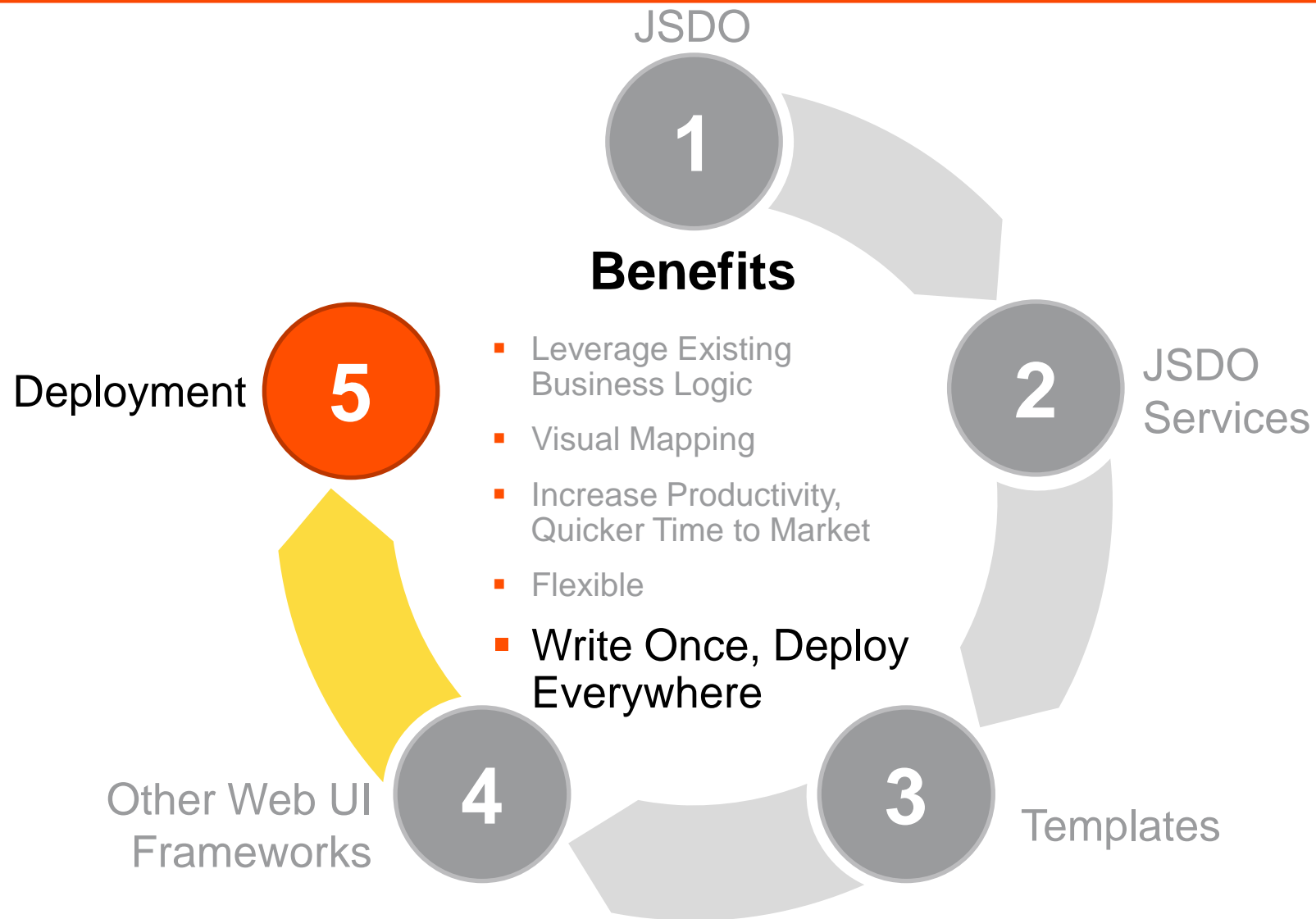
We are done!

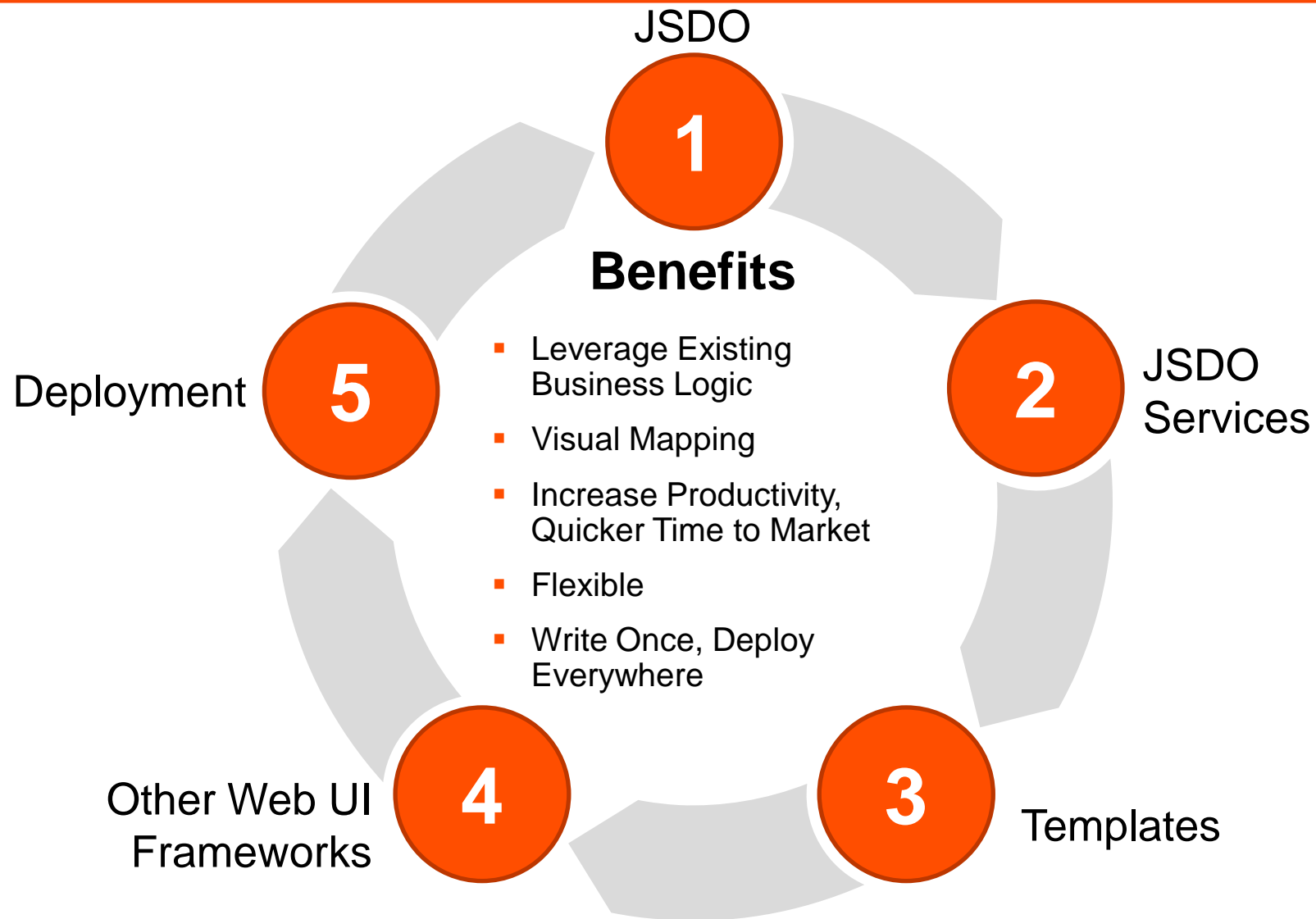
Your application file was built successfully.

Your download will begin shortly.
If it does not start, please [click here](#) to start the download.



[Click Here](#) if you changed your mind and want to cancel this build







Write Once, Run Anywhere Portability with the
Benefits of Native Applications and Web

The Easiest Way to Build an OpenEdge and
Rollbase Applications Supporting Mobile Devices,
End-to-end

Extra Resources



- Search Rollbase documentation: <http://documentation.progress.com/output/Rollbase/index.html>
- Search the Community: [OpenEdge 11.4 Production Documentation](#)
- Mobile App Builder documentation: <http://docs.mobile.rollbase.com/>
- JSDO Examples:
 - <http://oemobiledemo.progress.com/jsdo/example001.html>
 - <http://oemobiledemo.progress.com/jsdo/example007.html>

PROGRESS EXCHANGE²⁰¹⁴

Visit the Resource Portal

- Get session details & presentation downloads
- Complete a survey
- Access the latest Progress product literature

www.progress.com/exchange2014



PROGRESS