



Session 4 - Hand-on Lab

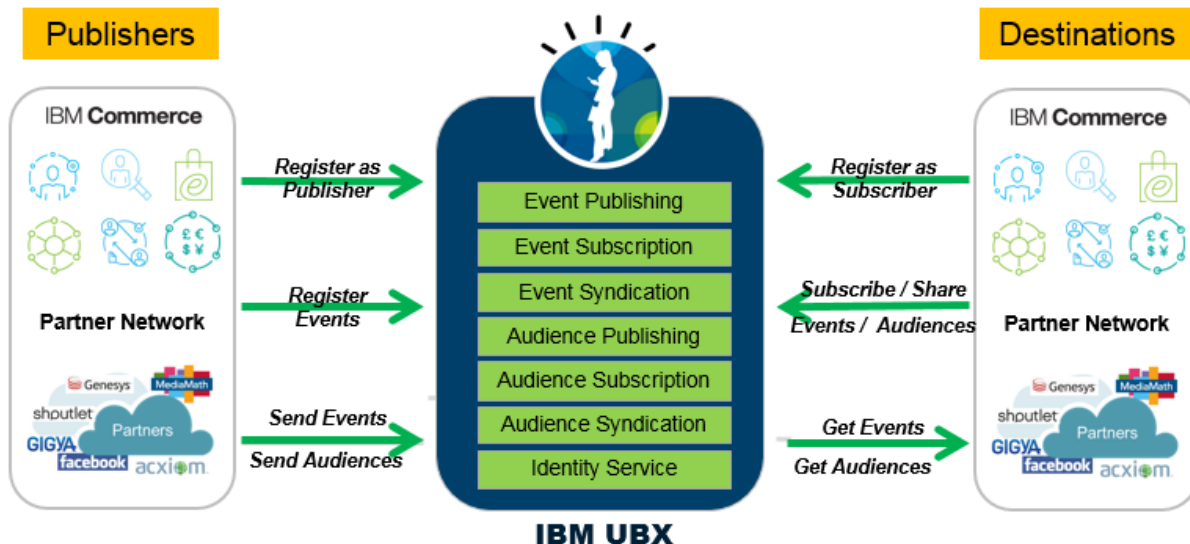
How to participate in IBM UBX ecosystem

Lab Instructions

What is UBX ?

Universal Behavior Exchange (UBX) empowers marketers with actionable and streamlined access to omni-channel customer context that enables effective marketing and analytic activities.

1. Business users can focus on using customer context rather than the complexities of assembling that context
2. Customer context is continuously exchanged across an organization's solution ecosystem
3. IBM Commerce and partner network ecosystem delivers a robust contextual view of the customer for insights and engagement



What you will do today:

Using UBX Console User Interface (UI) and the “UBX Quick Start Tool” provided in this lab, you will call live UBX public APIs, to send and receive event and audience data between varying product endpoints.

Lesson 1 Event Syndication

Step 1. Register an event publisher endpoint.

Step 2. Register events for your event publisher endpoint.

Step 3. Register an event destination endpoint.

Step 4. Subscribe the destination endpoint to the publisher’s event.

Step 5. Send an event from the publisher to UBX and see it get delivered to the destination.

Lesson 2 Audience (segment) Syndication

Step 1. Review pre-configure an audience publisher endpoint.

Step 2. Review pre-configure an audience destination endpoint.

Step 3. Test and understand APIs an audience endpoint must implement.

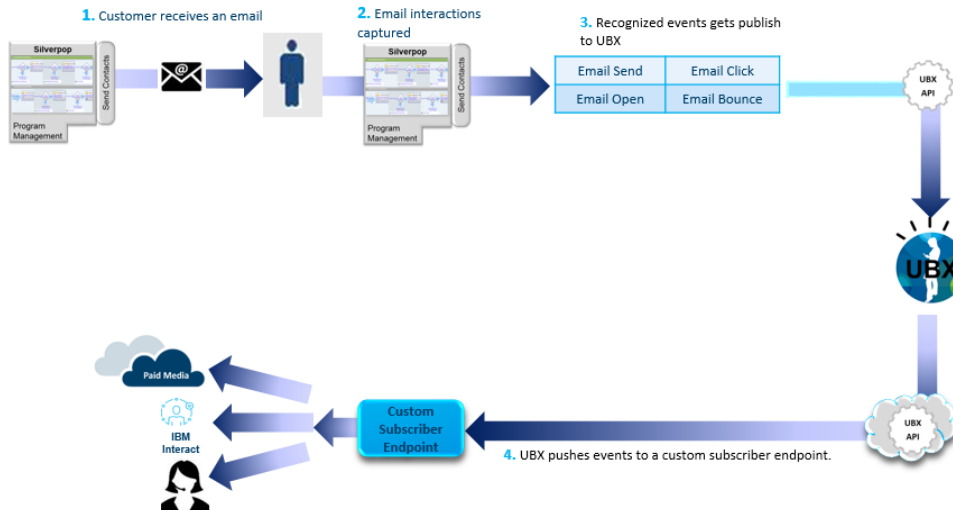
Step 4. Use the UBX UI to export an audience to your destination endpoint.

Step 5. View the audience data at the destination endpoint.

Lesson 1: Event Syndication:

The business scenario for this use case is to provide customer email behavior events such as email open, email view email click, from our UBX publisher endpoint to any subscribed UBX solution endpoints, as shown in the use case diagram:

Build data-driven Omni-channel marketing activities triggered by email events



Note: use When using the UBX Quick Start Tool or the UBX API's and Console UI, use proper and current UBX URLs for the UBX Quick Start Tool, UBX Console UI and API URLs:

UBX Quick Start Tool URL - <http://ubxquickstart.adm01.com/ubx-quickstart-tool/>

Console URL - <https://ubx-pilot.ibmmarketingcloud.com/#/login>

API URL - <https://api-pilot.ubx.ibmmarketingcloud.com>

API URLs -

To register a UBX endpoint, tack on /v1/endpoint to the end of URL

To register a UBX event type, tack on /v1/eventtype to the end of URL

To post an event to UBX, tack on /v1/event at the end of the URL

Account IDs: For the purposes of this hands-on exercise, UBX accounts have been created with these credentials. These accounts are temporary and all endpoints, audience data, event registrations and other data will be subject to removal at any time for use with other training sessions. Username/password credentials for the account IDs should be provided for you separately during the workshop session.

Endpoint URLs are provided below to use for your endpoint destinations to use in the JSON payload for the UBX APIs, to simulate how UBX endpoint would be used in production solutions. Use these URLs for the UBX endpoint destination in the body of the UBX APIs, in the JSON payload, use these URLs in place of the preconfigured ones in the UBX Quick Start tool, ie:

```
"destination":{
  "enabled":true,
  "url":"http://ubxquickstart.adm01.com:5551/demoeventconsumer",
  "destinationType":"push"
}
```

Endpoint URLs:

For use with UBX Quick Start URL 1: <http://ubxquickstart.adm01.com/ubx-quickstart-tool/>

Event consumers running at
<http://ubxquickstart.adm01.com:5551/demoeventconsumer>

<http://ubxquickstart.adm01.com:5552/demoeventconsumer>

<http://ubxquickstart.adm01.com:5553/demoeventconsumer>

<http://ubxquickstart.adm01.com:5554/demoeventconsumer>

<http://ubxquickstart.adm01.com:5555/demoeventconsumer>

For use with UBX Quick Start URL 2 (backup): <http://ubxquickstart1.adm01.com/ubx-quickstart-tool/>

Event consumers running at

<http://ubxquickstart1.adm01.com:5551/demoeventconsumer>

<http://ubxquickstart1.adm01.com:5552/demoeventconsumer>

<http://ubxquickstart1.adm01.com:5553/demoeventconsumer>

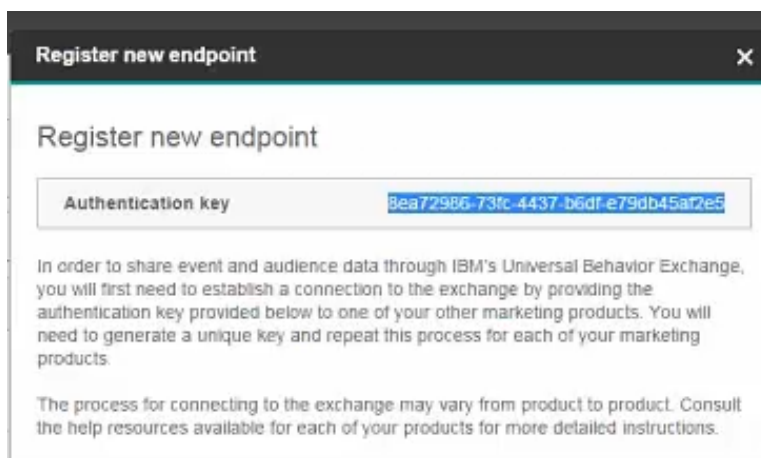
<http://ubxquickstart1.adm01.com:5554/demoeventconsumer>

<http://ubxquickstart1.adm01.com:5555/demoeventconsumer>

Step 1. Register an event publisher endpoint

A UBX user must initiate each endpoint registration from the UBX user interface. The registration requires a series of actions by the UBX user and the endpoint provider.

- a) Log in to the UBX UI at the Console URL: <https://ubx-pilot.ibmmarketingcloud.com/#/login>
- b) Generate a new endpoint authentication key by clicking 'Register new endpoint'. (This authentication key would then be submitted to the endpoint provider).



- c) Access the UBX Quick Start Tool at <http://ubxquickstart.adm01.com/ubx-quickstart-tool/>
- d) Register the endpoint by calling the UBX `/v1/endpoint` API.
 - Select the **“Register endpoints”** tab
 - Make sure to **select the ‘Event publisher’ checkbox**.
 - In the **“Authorization”** field, provide the authentication key that you requested from the UBX Console UI in the previous step (must be in the form *Bearer <your authentication key>*). Refer to the screenshot below, in the green highlighted authentication key in the Header field. The authentication key must be in the header of the API call as the authorization bearer. This step would typically be done by the endpoint provider, but can be done by the customer as well if needed.
 - For the purposes of this hands-on exercise, use a *Provider Name* of either **IBM** or **UBXDemo**. Use an *Endpoint Name* of any unique name, for instance *“EmailMarketingSource<your initials>”*. Refer to the screenshot, in the blue highlighted endpoint name field.

You can use the *v1/endpoint – event publisher* JSON code sample provided in the Appendix of this document for reference or to quickly load the example JSON for the UBX endpoint registration

← → ↻ 169.45.67.107/ubx-quickstart-tool/

IBM - UBX Quick Start Tool

Overview Register endpoints Register event types Send events Verify events Audiences

Verify audiences

Select endpoint type: ☒ Event publisher ☐ Event destination

☐ Audience publisher ☐ Audience destination

URL to the endpoint API:

https://api-pilot.ubx.ibmmarketingcloud.com/v1/endpoint

Headers

Authorization: This key is obtained from the UBX UI by clicking on "Register an endpoint"

Bearer 463d991a-5a1f-4135-87c1-951fca2b0f59

Content-Type: Content-Type must be set to application/JSON; charset=utf-8

application/JSON; charset=utf-8

Payload

```
{
  "name": "EmailMarketingSourceMDW",
  "description": "EmailMarketingSource",
  "providerName": "IBM",
  "endpointTypes": {
    "event": {
      "source": {
        "enabled": true
      }
    }
  },
  "marketingDatabasesDefinition": {
    "marketingDatabases": [
      {
        "name": "marketingDB1",
        "identifiers": [
          {
            "name": "emailId",
            "type": "email"
          }
        ]
      }
    ]
  }
}
```


Notes: All UBX JSON API requests must provide authentication key in the request header, in the *Authorization: Bearer* attribute, ie:

PUT https:api-pilot.ubx.ibmmarketingcloud.com/v1/endpoint

Content-Type: application/json

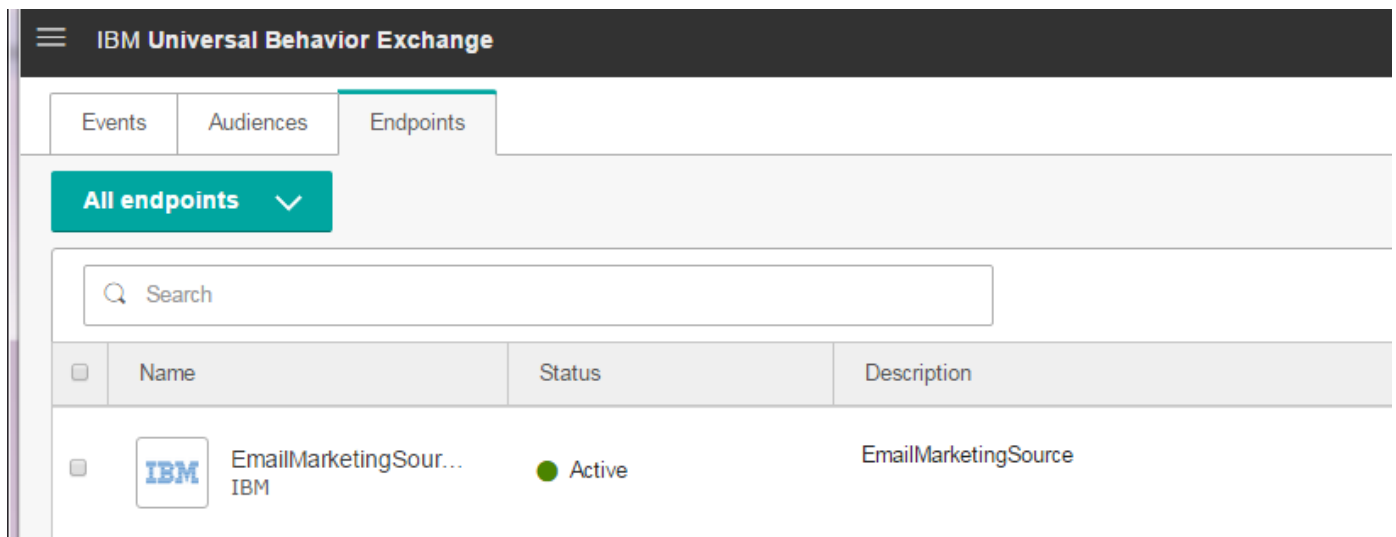
Authorization: Bearer XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXXXX

Accept-Charset: utf-8

For the purposes of this hands-on exercise, we are using preloaded *Provider Names* (**IBM** or **UBXDemo**), and are using an arbitrary name for the *Endpoint Name*. For a production UBX solution scenario, the *Provider Name* should be the specific company name or brand name of the solution provider, and the *Endpoint Name* should be the name of the solution/application being used with UBX. Note that provider names must be pre-registered with UBX in its database, if the provider name you are using does not match what is in the database, your UBX API calls will not succeed.

If the endpoint requires native API authentication, the endpoint provider must also call the /v1/endpointattributes API to provide the necessary connection and login information.

- e) Click the **PUT** button to submit the v1/endpoint API request to register the endpoint
- f) Upon successful registration, the response will return 'true' and a status code 200. The endpoint will appear as an option in the UBX user interface for that account. (A refresh of the UI may be necessary).

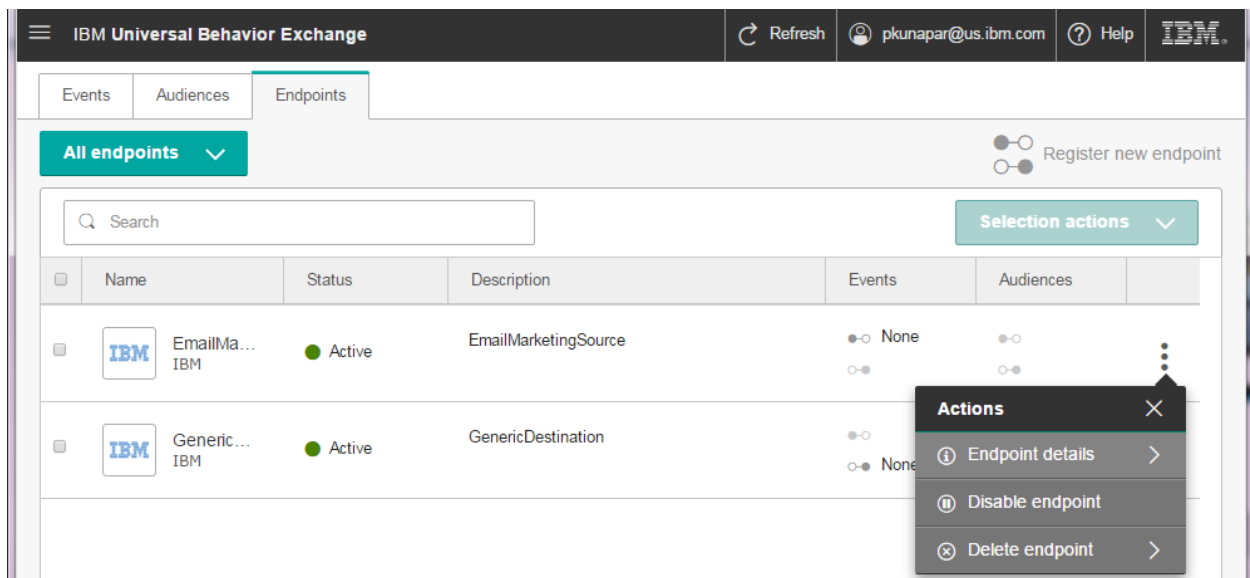


Step 2. Register events for your event publisher endpoint.

Register events that are available to be subscribed to within your event publisher endpoint.

a) In the UBX Quick Start Tool, go to the '**Register event types**' tab.

b) Change the authentication key in the "Authorization: Bearer" header to contain the value of your newly registered **event publisher endpoint** you created in Step 1. You can retrieve the authentication key for your endpoint by using the UBX Console UI, click the "Actions" icon indicated by the 3 vertical dots in the right hand column for your endpoint, select "Endpoint details"



c) Adjust the event type's payload definition as desired, for the types of events you will be publishing. You can use the v1/eventtype JSON code sample provided in the Appendix of this document for reference or to quickly load the example JSON for the UBX event type registration

| Overview | Register endpoints | Register event types | Send events | Monitor events |
|---|--------------------|----------------------|-------------|----------------|
| URL to the event type API: <input type="text" value="https://api-pilot.ubx.ibmmarketingcloud.com/v1/eventtype"/> | | | | |
| Headers Authorization: This key is obtained from the UX UI by clicking on "Register an endpoint". <input type="text" value="Bearer 8ea72986-73fc-4437-b6df-e79db45af2e5"/> | | | | |
| Content-Type: Content-Type must be set to application/JSON, charset=utf-8 <input type="text" value="application/JSON; charset=utf-8"/> | | | | |
| Payload <pre>{ "code": "emailSend", "name": "emailSend", "description": "Email send event", "version": 1, "namespace": "com.acme.pilot", "attributes": [{ "name": "eventName", "type": "string" }, { "name": "messageId", "type": "string" }, { "name": "subjectLine", "type": "string" }] }</pre> | | | | |

- d) Click **'POST'** to register the event type. The response will be the id of the newly created event type.

Payload

```
{
  "code": "emailSend",
  "name": "emailSend",
  "description": "Email send event",
  "version": 1,
  "namespace": "com.acme.pilot",

  "attributes": [ {
    "name": "emailId",
    "type": "email"
  }, {
    "name": "messageId",
    "type": "string"
  }, {
    "name": "subjectLine",
    "type": "string"
  } ]
}
```

POST

Response

Status: 200. 4702

Step 3. Register an event destination endpoint.

A UBX user must initiate each endpoint registration from the UBX user interface. The registration requires a series of actions by the UBX user and the endpoint provider.

- a) Log in to the UBX UI at <https://ubx-pilot.ibmmarketingcloud.com/#/login>
Generate a **new** endpoint authentication key by clicking '**Register new endpoint**'. You should **NOT** reuse the key you created in Step1.
- b) Using the UBX Quick Start Tool, register the endpoint by calling the UBX `/v1/endpoint` API. Make sure to **select the 'Event destination' checkbox**.
 - Replace the Authentication key string following "Bearer" in the Header with your new Authentication key you accessed in step (a). The authentication key must be in the header of the API call as the authorization bearer. This step would typically be done by the endpoint provider, but can be done by the customer as well if needed.
 - For the purposes of this hands-on exercise, use a *Provider Name* of either **IBM** or **UBXDemo**. Use an *Endpoint Name* of any unique name, for instance *"GenericDestination<your initials>"*
 - Click the **PUT** button to submit the `v1/eventtype` API to register the event type.

You can use the `v1/endpoint – event publisher JSON` code sample provided in the Appendix of this document for reference or to quickly load the example JSON for the UBX event endpoint registration

IBM - UBX Quick Start Tool

Overview

Register endpoints

Register event types

Send events

Verify events

Audience APIs

Verify audiences

Select endpoint type:

Event publisher

Event destination

Audience publisher

Audience destination

URL to the endpoint API:

https://api-pilot.ubx.ibmmarketingcloud.com/v1/endpoint

Headers

Authorization: This key is obtained from the UBX UI by clicking on "Register an endpoint"

Bearer 90cced80-XXXX-XXXX-XXXX-86168313f1c9

Content-Type: Content-Type must be set to application/JSON; charset=utf-8

application/JSON; charset=utf-8

Payload

```

{
  "name": "GenericDestination",
  "description": "GenericDestination",
  "providerName": "IBM",
  "url": "http://ubxquickstart.adm01.com:5551/demoeventconsumer",
  "endpointTypes": {
    "event": {
      "source": {
        "enabled": false
      },
      "destination": {
        "enabled": true,
        "url": "http://ubxquickstart.adm01.com:5551/demoeventconsumer",
        "destinationType": "push"
      }
    }
  },
  "marketingDatabasesDefinition": {
    "marketingDatabases": [
      {
        "name": "marketingDB1",
        "identifiers": [
          {
            "name": "emailId",
            "type": "email"
          }
        ]
      }
    ]
  }
}

```

PUT /v1/endpoint

Register an endpoint

Endpoint registration o

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4. UBX recognizes t

data between applic

5. Upon successful

displays to the user

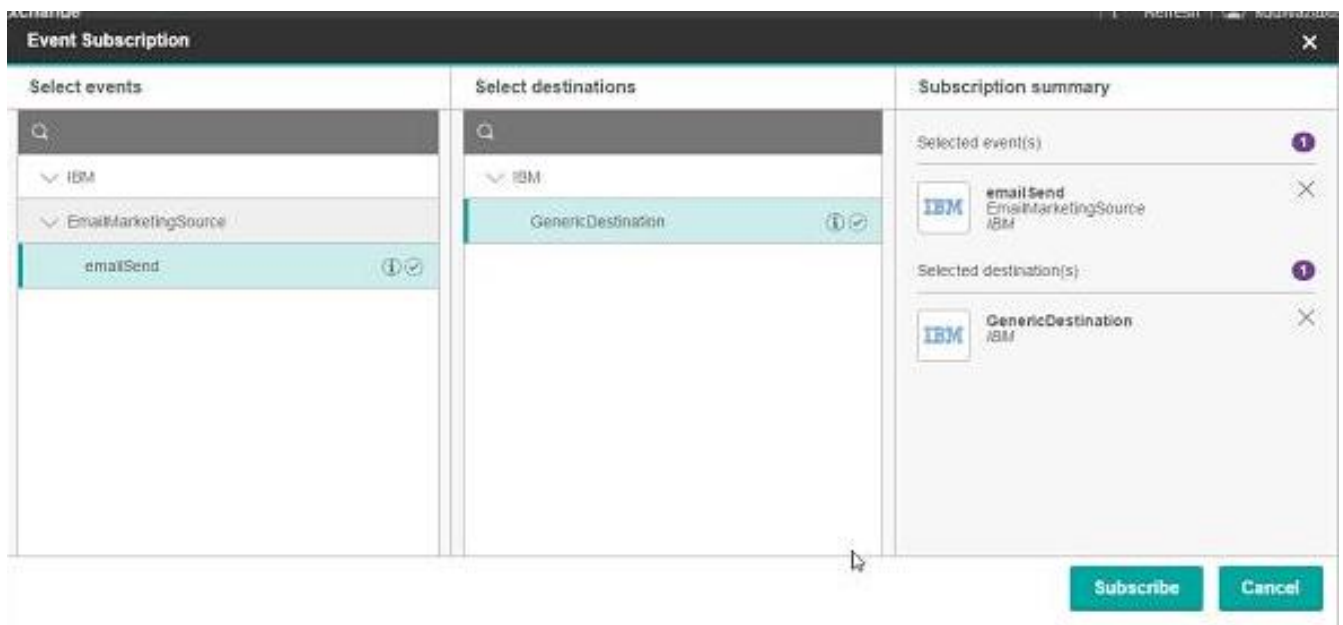
Note: If the endpoint requires native API authentication, the endpoint provider must also call the `/v1/endpointattributes` API to provide the necessary connection and login information.

c) Upon successful registration, the response will return 'true' and a status code 200. The new endpoint will appear as an option in the UBX user interface for that account. (If you do not see the new endpoint or there is a "pending" state for the new endpoint then a refresh of the UI may be necessary, either using the → **Refresh** button at the title bar of the UBX Console UI, or reload the URL for the UBX console UI in the browser and log in again).

Step 4. Subscribe the destination endpoint to the publisher's event.

The marketer will use the UBX UI to subscribe to events that have been provisioned within their UBX account. Once a subscription is created, events that flow to UBX from the producer endpoint will automatically be sent to the subscribing destination endpoint.

- a) In the UBX Console UI, click on the 'Events' tab.
- b) Click the '**Subscribe to events**' button and an 'Event Subscription' dialog will appear.
- c) On the left side, under **Select events** click on the Provider name you used to register the publisher endpoint (either **IBM** or **UBXDemo**), click on the specific endpoint name to open the list of registered event types, and select the event you created for your event publisher endpoint (EmailSend in this case).
- d) On the right side, under **Select destinations** click on the Provider name you used to register the subscriber endpoint, and select the event destination endpoint.



- e) Click 'Subscribe' and the endpoints will be shown wired together.

IBM Universal Behavior Exchange

Refreshlgg@vaz@us.ibm.comHelpIBM

EventsAudiencesEndpoints

Path viewTable view

Clear selectionSubscribe to events

1 Publishers

Destinations 1

IBM EmailMarketingSource
IBM

1

IBM Generic Destination
IBM

Step 5. Send an event from the publisher to UBX and see it get delivered to the destination.

- a) In the UBX Quick Start Tool, go to the **'Send events'** tab.
- b) Change the authentication key in the "Authorization: Bearer" header to contain the value of the authentication key for your previously registered **event publisher endpoint**. Do **NOT** use the event *destination* endpoint authentication key here.
- c) Note that any UBX requires *mandatory* fields for *channel*, *identifiers* and the event *code*, as follows:
 - **channel** indicates the interaction channel thru which the customer event occurred such as web, mobile, SMS, email, etc...
 - **identifiers** are the unique identity of the customer such as email id, Facebook ID, phone number, customer registration number, etc.
 - event **code** is the specific event type that was used when the endpoint registered the event type to be published to UBX using the v1/eventtype API.

IBM - UBX Quick Start

Overview

Register endpoints

Register event types

Send events

Verify e

URL to the event API:

https://api-pilot.ubx.ibmmarketingcloud.com/v1/event

Headers

Authorization:

This key is obtained from the UBX UI by clicking on "Register an endpoint"

Bearer 90cced80-1920-4e67-80c8-86168313f1c9

Content-Type:

Content-Type must be set to application/JSON; charset=utf-8

application/JSON; charset=utf-8

Payload

```

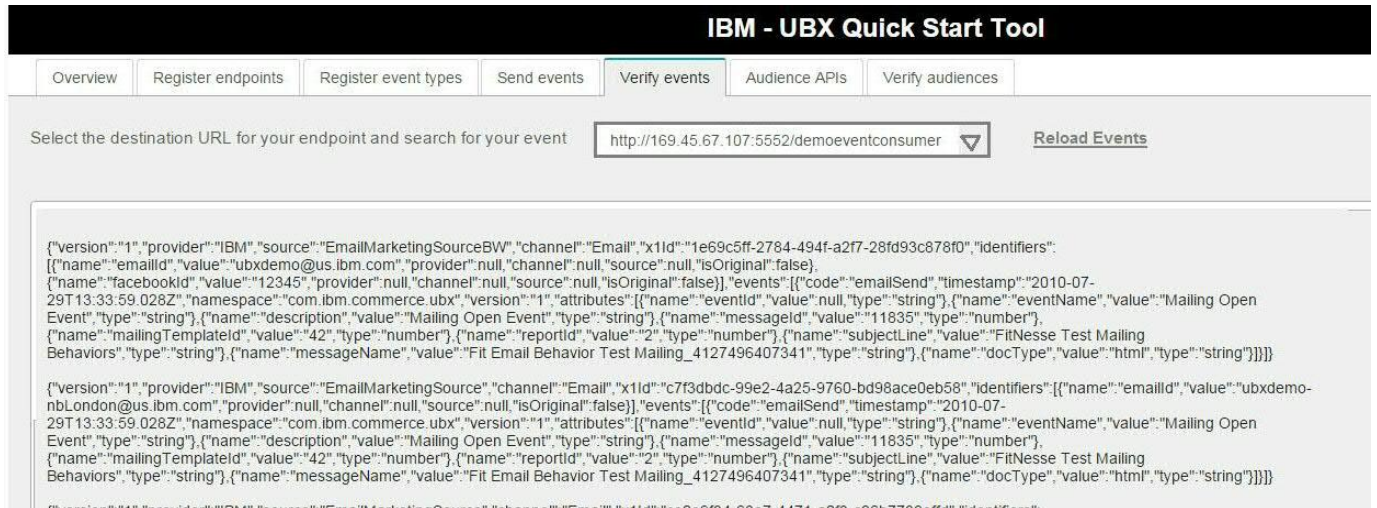
{
  "channel": "Email",
  "identifiers": [
    {
      "name": "emailId",
      "value": "ubxdemo@us.ibm.com"
    }
  ],
  "events": [
    {
      "code": "emailSend",
      "timestamp": "2010-07-29T13:33:59.028Z",
      "attributes": [
        {
          "name": "eventId",
          "value": null,
          "type": "string"
        },
        {
          "name": "eventName",
          "value": "Mailing Open Event",
          "type": "string"
        },
        {
          "name": "description",
          "value": "Mailing Open Event",
          "type": "string"
        }
      ]
    }
  ]
}

```

- d) Adjust the event's payload as needed and **click 'POST'** to send the event to UBX. You can use the *v1/event* JSON code sample provided in the Appendix of this document for reference or to quickly load the example JSON for the UBX event to send as an example.

d) Go to the **‘Verify events’** tab in the UBX Quick Start Tool.

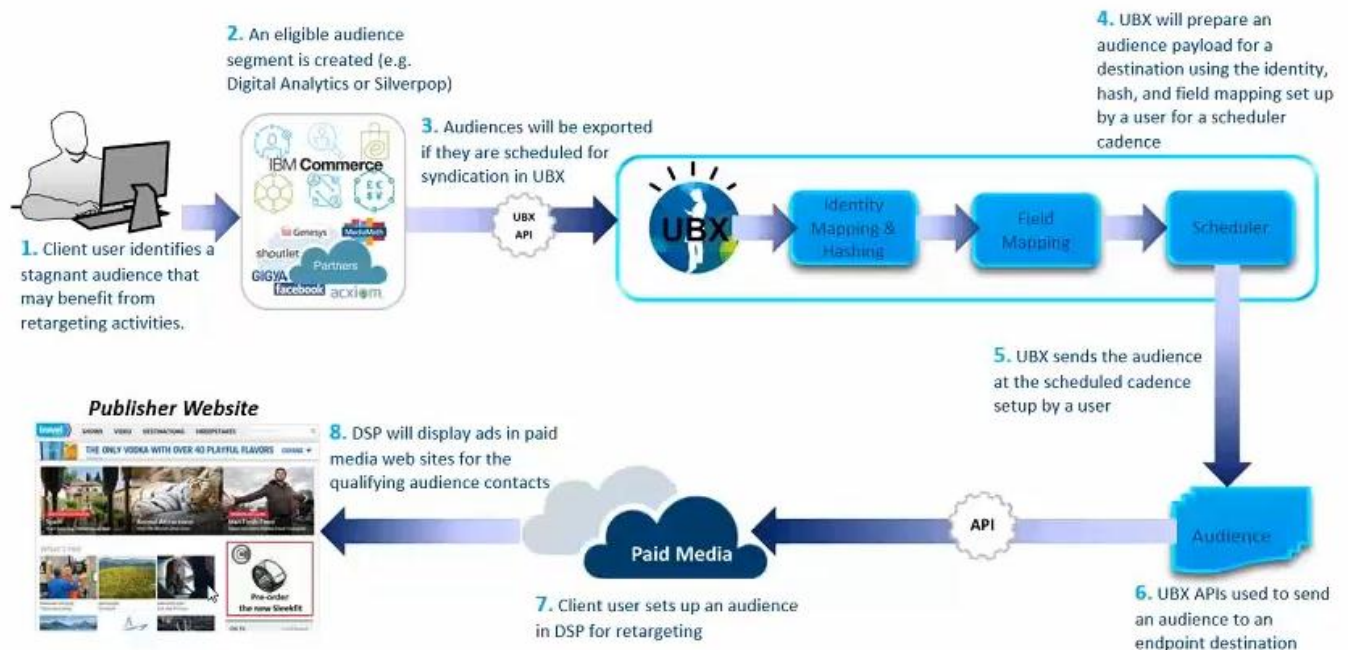
e) See the event delivered to your event destination endpoint.



If for some reason you are not able to view the event data in the **‘Monitor events’** tab, you can view a log of all events published in the log file located at: `<home>\var\logs\events.txt`

Lesson 2: Audience (segment) syndication

Retarget customers with relevant offers by syndicating audiences from an audience publishers to a DSP audience destination



Step 1. Register an audience publisher endpoint:

A UBX user must initiate each endpoint registration from the UBX user interface. The registration requires a series of actions by the UBX user and the endpoint provider.

a) Log in to the UBX UI and generate a **new** endpoint authentication key by clicking **'Register new endpoint'**.

b) Using the UBX Quick Start Tool, register the endpoint by calling the UBX `/v1/endpoint` API. Make sure to **select the 'Audience source' checkbox**. The authentication key must be in the header of the API call as the authorization bearer. This step would typically be done by the endpoint provider, but can be done by the customer as well if needed.

| | | | | | | |
|----------|--------------------|----------------------|-------------|---------------|---------------|------------------|
| Overview | Register endpoints | Register event types | Send events | Verify events | Audience APIs | Verify audiences |
|----------|--------------------|----------------------|-------------|---------------|---------------|------------------|

Select endpoint type:

Event publisher

Event destination

✓ Audience publisher

Audience destination

URL to the endpoint API:

https://api-pilot.ubx.ibmmarketingcloud.com/v1/endpoint

Headers

Authorization: This key is obtained from the UBX UI by clicking on "Register an endpoint"

Bearer 90cced80-XXXX-XXXX-XXXX-86168313f1c9

Content-Type: Content-Type must be set to application/JSON; charset=utf-8

application/JSON; charset=utf-8

Payload

```
{
  "name": "EmailMarketingSourceAudience",
  "description": "UBX Demo producer Endpoint",
  "providerName": "IBM",
  "url": "http://ubxquickstart.adm01.com:8096/SegmentEndpoint",
  "endpointTypes": {
    "segment": {
      "source": {
        "enabled": true
      }
    }
  },
  "marketingDatabasesDefinition": {
    "marketingDatabases": [
      {
        "name": "marketingDBSource1",
        "identifiers": [
          {
            "name": "Email",
            "type": "email"
          }
        ],
        "attributes": [
          {
            "name": "FirstName",
            "type": "string"
          },
          {
            "name": "LastName",
            "type": "string"
          },
          {
            "name": "Sex",
            "type": "string"
          }
        ]
      }
    ]
  }
}
```

PUT /v1/endpoint
Register an endpoint
Endpoint registration
A UBX user must register an endpoint.
1. In UBX, a user determines how the endpoint header of the connection, the necessary connection data between the UBX and the endpoint.
2. The user determines how the endpoint header of the connection, the necessary connection data between the UBX and the endpoint.
3. The endpoint header of the connection, the necessary connection data between the UBX and the endpoint.
4. UBX recognizes the data between the UBX and the endpoint.
5. Upon successful registration, the response will return 'true' and a status code 200. The endpoint will appear as an option in the UBX user interface for that account. (A refresh of the UI may be necessary).

You can use the *v1/endpoint – audience source* JSON code sample provided in the Appendix of this document for reference or to quickly load the example JSON for the UBX event to send as an example.

*Note: If the endpoint requires native API authentication, the endpoint provider must also call the */v1/endpointattributes* API to provide the necessary connection and login information.*

c) Upon successful registration, the response will return 'true' and a status code 200. The endpoint will appear as an option in the UBX user interface for that account. (A refresh of the UI may be necessary).

Step 2. Register an audience destination endpoint:

A UBX user must initiate each endpoint registration from the UBX user interface. The registration requires a series of actions by the UBX user and the endpoint provider.

a) Log in to the UBX UI and generate a **new** endpoint authentication key by clicking **'Register new endpoint'**. Do **NOT** use the key you created in Step 1.

b) Using the UBX Quick Start Tool, register the endpoint by calling the UBX `/v1/endpoint` API. Make sure to **select the 'Audience destination' checkbox**. The authentication key must be in the header of the API call as the authorization bearer. This step would typically be done by the endpoint provider, but can be done by the customer as well if needed.

IBM - UBX Qu

OverviewRegister endpointsRegister event typesSend eventsVerify eventsAudience APIsVerify audiences

Ⓢ

Select endpoint type:

Event publisherEvent destinationAudience publisherAudience destination

URL to the endpoint API:

https://api-pilot.ubx.ibmmarketingcloud.com/v1/endpoint

Headers

Authorization: This key is obtained from the UBX UI by clicking on "Register an endpoint"

Bearer 90ccd80-XXXX-XXXX-XXXX-86168313f1c9

Content-Type: Content-Type must be set to application/JSON; charset=utf-8

application/JSON; charset=utf-8

Payload

```
{
  "name": "EmailMarketingDestinationAudience",
  "description": "UBX Demo consumer Endpoint",
  "providerName": "IBM",
  "url": "http://ubxquickstart.adm01.com:8096/SegmentEndpoint",
  "endpointTypes": {
    "segment": {
      "destination": {
        "enabled": true,
        "destinationType": "push"
      }
    }
  },
  "marketingDatabasesDefinition": {
    "marketingDatabases": [
      {
        "name": "marketingDBSource1",
        "identifiers": [
          {
            "name": "EMAIL_SHA256",
            "type": "email",
            "hashAlgorithm": "EMAIL_SHA256",
            "hashMode": "HASHED"
          }
        ]
      }
    ]
  },
  "attributes": [
    { "name": "FName", "type": "string" },
    { "name": "LName", "type": "string" },
    { "name": "Gender", "type": "string" }
  ]
}
```

PUT /v1/endpoint

Register an end

Endpoint registrati

A UBX user mus

actions by the UI

1. In UBX, a use

2. The user cont

the key.

3. The endpoint

the authorization

v1/endpointattrib

4. UBX recogniz

applications on b

5. Upon success

22

Note: If the endpoint requires native API authentication, the endpoint provider must also call the `/v1/endpointattributes` API to provide the necessary connection and login information.

c) Upon successful registration, the response will return 'true' and a status code 200. The endpoint will appear as an option in the UBX user interface for that account. (A refresh of the UI may be necessary).

Step 3. Test and understand APIs an audience endpoint must implement.

Audience endpoint APIs

When a user elects to share an audience, a dialog is shown which shows audience definitions which were retrieved using the publisher endpoint's `GET /segments` API. If a user selects the audience they may click an 'info' icon next to the audience to view its details. This will call the publisher endpoint's `GET /segment/{id}` API to retrieve audience details. After a user selects an audience to export and chooses a destination endpoint they click 'Next' and select an identity schema and (optionally) additional attributes to export. Options to select identity schemas and additional attributes come from the endpoint's MarketingDatabase schemas that were declared during endpoint registration.

An audience publisher can also (optionally) provide this info via the `GET /segment/{id}` API.

Lastly, when a user clicks 'Share', UBX puts the job on the job queue to export the audience and/or schedules the job for later execution. UBX will use the endpoints and jobs apis to execute the export.

Using Audience endpoint APIs:

- In the UBX Quick Start Tool, go to the 'Audience APIs' tab where you will see the `GET /segments` API ready for execution.
- Change the authentication key in the "Authorization: Bearer" header to contain the value of your newly registered audience ***publisher*** endpoint (the value of the authentication key from step 1).

The screenshot shows the UBX Quick Start Tool interface. On the left, there are input fields for 'URL' (http://169.45.67.107:8096/SegmentEndpoint/v1/segments), 'Headers' (Authorization: Bearer 90cced80-1920-4e67-80c8-86168313f1c9), and 'Content-Type' (application/JSON; charset=utf-8). A blue 'GET' button is visible. Below the button, the 'Response' section shows a JSON response: {"responseStatus": "success", "result": {"totalCount": 4, "list": [{"id": 1, "name": "EmailMarketingData.csv"}, {"id": 2, "name": "Last week's abandoned carts.csv"}, {"id": 3, "name": "Today's abandoned carts copy.csv"}, {"id": 4, "name": "test.csv"}]}}. On the right, there is a list of 'Audience producer APIs' and 'Audience consumer APIs'.

Audience producer APIs

- `GET /segments`
Return a list of segments (ids, names and descriptions only)
- `GET /segments/{segmentId}`
Return detailed meta data about a specific segment
- `GET /segments/{segmentId}/data`
Export the segments data. Returns error if data is not available
- `POST /jobs`
Return detailed meta data about a specific segment
- `GET /jobs/{jobId}`
Returns the status of an asynchronous segment export job
- `POST /jobs`
Returns the segment data that was exported for the segment

Audience consumer APIs

- `POST /segments`
- `POST /segments/{segmentId}/data`
- `PUT /segments/{segmentId}/data`

- Click the 'Get' button and you will see a json response containing the names and ids of the audiences that are available for export from your publisher endpoint.

IBM - UBX Quick Start Tool

Overview Register endpoints Register event types Send events Monitor events **Audience APIs** Monitor audiences

URL:

Headers

Authorization:

Content-Type:

Content-Type must be set to application/JSON; charset=utf-8

Response

```
{
  "responseStatus": "success",
  "result": {
    "totalCount": 4,
    "list": [
      {
        "id": 1,
        "name": "EmailMarketingData.csv"
      },
      {
        "id": 2,
        "name": "Last week's abandoned carts.csv"
      },
      {
        "id": 3,
        "name": "Today's abandoned carts copy.csv"
      },
      {
        "id": 4,
        "name": "test.csv"
      }
    ]
  }
}
```

Audience producer APIs

- GET /segments
Return a list of segments (ids, names and descriptions only)
- GET /segments/{segmentId}
Return detailed meta data about a specific segment
- GET /segments/{segmentId}/data
Export the segments data. Returns error if data is not available
- POST /jobs
Return detailed meta data about a specific segment
- GET /jobs/{jobId}
Returns the status of an asynchronous segment export job
- POST /jobs
Returns the segment data that was exported for the segment

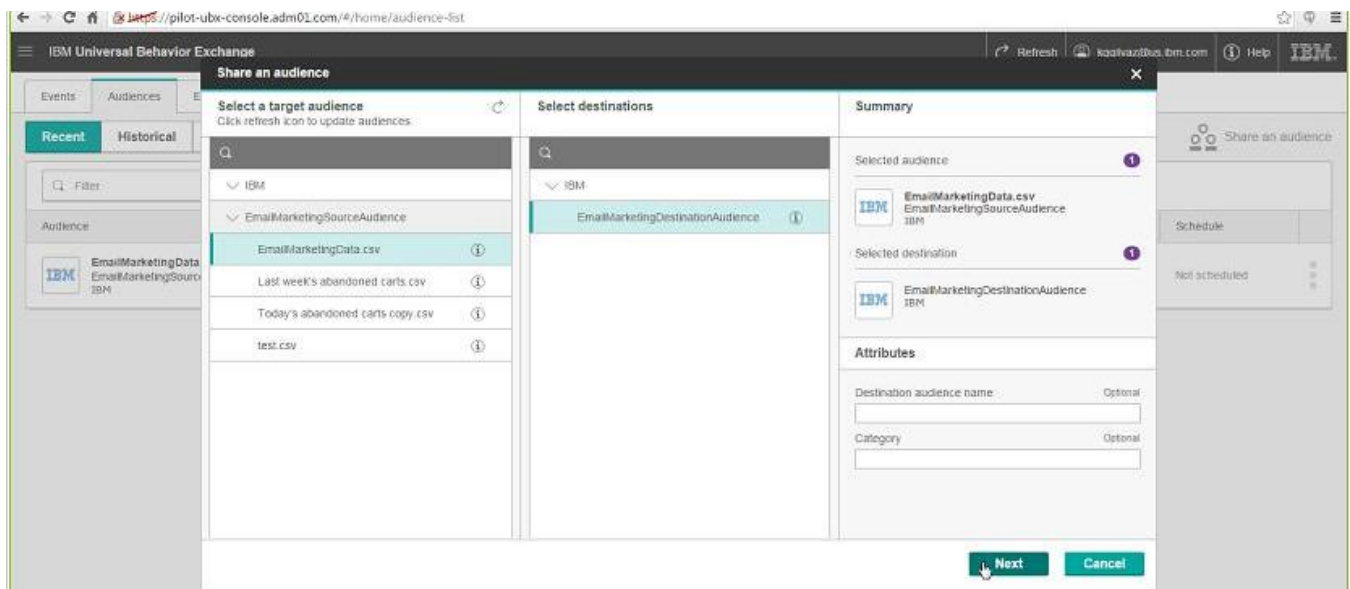
Audience consumer APIs

- POST /segments
- POST /segments/{segmentId}/data
- PUT /segments/{segmentId}/data

d) Optional: Explore the rest of the publisher APIs as desired, using the Audience producer and Audience consumer API links on the right side of the UBX Quick Start tool's Audience APIs tab. There are Audience publisher APIs for publishing audiences, publishing specific audience segments, retrieving segment meta-data, and segment export jobs. There are Audience consumer APIs for retrieving audience data segments, audience data for a specific segment and replacing audience data for a specific segment.

Step 4. Use the UBX Console UI to export an audience to your destination endpoint:

- a) Go into the UBX Console UI and go to the 'Audiences' tab
- b) Click 'Share Audience' to initiate the export process.
- c) If you do not see your publisher endpoint and its audiences listed on the left, click the 'refresh icon' within that dialog to load them. (Audiences are automatically loaded nightly). You may need to switch to another tab and select the refresh icon one more time if you do not see the audiences immediately.
- d) Select an audience to export, select the destination endpoint you created and click **'Next'**.



- e) Map the fields in the list of audience attributes between the "Source attributes" and "Destination attributes" for the audience that you wish to export – for instance first name, last name and sex from the Source attributes mapped to FName, LName and Gender in the Destination attributes for the audience sharing:

IBM Universal Behavior Exchange

Share an audience

Map identities & select attributes

Selected audience

IBM EmailMarketingData.csv
EmailMarketingSourceAudience
IBM

Identity scheme
Email

Match attributes: Click in a Source attribute. Drag its connecting ring to a Destination attribute. (To remove the connection, drag the ring back to the Source.)

Source attributes

Destination attributes

IBM EmailMarketingDestinationAudience
IBM

Identity scheme
EMAIL_SHA256

Attributes
FirstName

Selected destination

IBM EmailMarketingDestinationAudience
IBM

Identity scheme
EMAIL_SHA256

Attributes
FName

Previous Next Cancel

Notice that all mapped attributes will show up in the **“Summary”** view on the right side

Summary

Selected audience

IBM EmailMarketingData
ad_EmailMarketingSourceAudience
IBM

Identity scheme
Email

Attributes
FirstName
LastName
Sex

Selected destination

IBM ad_EmailMarketingDestinationAudie...
IBM

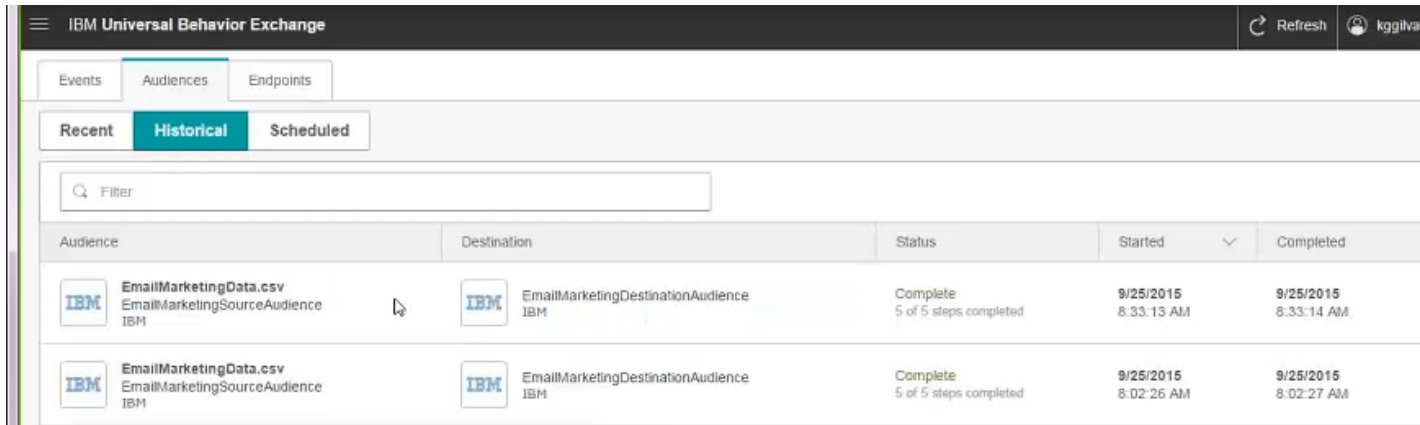
Identity scheme
EMAIL_SHA256

Attributes
FName
LName





Previous Next Cancel

Click **Next**

- f) In the “Share audience” prompt, select “Immediately” and click **‘Share’** to run immediately. *Note: you can optionally elect to schedule the export for a future date.*
- g) You should see the audience exported in a formatted csv file



The screenshot shows the IBM Universal Behavior Exchange interface. At the top, there's a navigation bar with 'Events', 'Audiences', and 'Endpoints' tabs. Below this, there are 'Recent', 'Historical', and 'Scheduled' sub-tabs. A search filter box is present. The main table displays two rows of historical export data, both with a status of 'Complete' and '5 of 5 steps completed'.

| Audience | Destination | Status | Started | Completed |
|---|--|------------------------------------|-------------------------|-------------------------|
|  EmailMarketingData.csv EmailMarketingSourceAudience IBM |  EmailMarketingDestinationAudience IBM | Complete 5 of 5 steps completed | 9/25/2015 8:33:13 AM | 9/25/2015 8:33:14 AM |
|  EmailMarketingData.csv EmailMarketingSourceAudience IBM |  EmailMarketingDestinationAudience IBM | Complete 5 of 5 steps completed | 9/25/2015 8:02:26 AM | 9/25/2015 8:02:27 AM |

Step 5. View the audience data at the destination endpoint:

- a) In the UBX Quick Start Tool, go to the **'Verify audiences'** tab.
- b) Refresh the destination endpoint's file system view as needed.
- c) A directory will have been created whose name is the authentication key of your destination endpoint. Click into that directory.



- d) You will see a .csv file for the newly exported audience.
- e) Click the .csv to view the contents of the data that was exported and see how the data has been transformed to the destination endpoint's point of view.

IBM Universal Behavior Extender (UBX) technical session

169.45.67.107:8084/ubx-quickstart-tool/index.html

IBM - UBX Quick Start Tool

Overview Register endpoints Register event types Send events Monitor events Audience APIs Monitor audiences

Source audience Destination audience

1_Default - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW

Cut Copy Paste Format Painter Clipboard

Calibri 11 A A Bold Italic Underline Font Color Background Color

Wrap Text Merge & Center Alignment Number

A1 EMAIL_SHA256,FName,Gender,LName

| | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| 1 | EMAIL_SHA256,FName,Gender,LName | | | | | | | | |
| 2 | 04c59359f9509d9f38cb9e8ddca4dbcf937ef95d8563482a6b4c65d59d438cb8,Steve,M,Rogers | | | | | | | | |
| 3 | a806e1cd202da3d06370a59d09203da12115c39ed53798d34c661876f1244feb,Tony,M,Stark | | | | | | | | |
| 4 | 8b36f84d162f6b757c07e9f911f42ee241170922cfc717cf2646f06992b5f657,Black,F,Widow | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |

Appendix: API details

PUT /v1/endpoint

Register an endpoint with UBX – event publisher:

Header

Content-Type: application/JSON

Authorization: Bearer c582232f-xxxxx-40b6-xxxxx-19f3a5fd9264

Body

```
{
  "name":"EmailMarketingSource",
  "description":"EmailMarketingSource",
  "providerName":"IBM",
  "url":"http://169.45.67.107:5555/timedevent",
  "endpointTypes":{
    "event":{
      "source":{
        "enabled":true
      },
      "destination":{
        "enabled":false,
        "url":"http://169.45.67.107:5555/timedevent",
        "destinationType":"push"
      },
      "segment" : {
        "source":{ "enabled":false }
      }
    }
  },
  "marketingDatabasesDefinition":{
```

```

    "marketingDatabases":[
    {
        "name":"My Database",
        "identifiers":[
            {
                "name":"WorkEmail",
                "type":"Email"
            }
        ],
        "attributes":[
            {
                "name":"Gender",
                "type":"String",
                "isRequired":false
            },
            {
                "name":"Firstname",
                "type":"String",
                "isRequired":false
            }
        ]
    }
    ]
}

```

Register an endpoint with UBX – event subscriber:

Header

Content-Type: application/JSON

Authorization: Bearer c582232f-xxxxx-40b6-xxxxx-19f3a5fd9264

Body

```

{
    "name":"GenericDestination",
    "description":"GenericDestination",
    "providerName":"IBM",
    "url":"http://ubxquickstart.adm01.com:5551/demoeventconsumer",
    "endpointTypes":{
        "event":{
            "source":{

```



```

        "enabled":false
    },
    "destination":{
        "enabled":true,
        "url":"http://ubxquickstart.adm01.com:5551/demoeventconsumer",
        "destinationType":"push"
    }
}
},
"marketingDatabasesDefinition":{
    "marketingDatabases":[
        {
            "name":"marketingDB1",
            "identifiers":[
                {
                    "name":"emailId",
                    "type":"email"
                }
            ]
        }
    ]
}
}
}

```

Register an endpoint with UBX – audience source:

Header

Content-Type: application/JSON

Authorization: Bearer c582232f-xxxxx-40b6-xxxxx-19f3a5fd9264

Body

```

{
    "name":"EmailMarketingSourceAudience",
    "description":"UBX Demo producer Endpoint",
    "providerName":"IBM",
    "url":"http://ubxquickstart.adm01.com:8096/SegmentEndpoint",
    "endpointTypes":{
        "segment":{
            "source":{
                "enabled":true
            }
        }
    }
}

```

```

},
"marketingDatabasesDefinition":{
  "marketingDatabases":[
    {
      "name":"marketingDBSource1",
      "identifiers" : [
        { "name" : "Email",
          "type" : "email"
        }
      ],
      "attributes":[
        { "name" : "FirstName",
          "type" : "string"
        },
        { "name" : "LastName",
          "type" : "string"
        },
        { "name" : "Sex",
          "type" : "string"
        }
      ]
    }
  ]
}
}

```

Register an endpoint with UBX – audience destination:

Header

Content-Type: application/JSON

Authorization: Bearer c582232f-xxxxx-40b6-xxxxx-19f3a5fd9264

Body

```

{
  "name":"EmailMarketingDestinationAudience",
  "description":"UBX Demo consumer Endpoint",
  "providerName":"IBM",
  "url":"http://ubxquickstart.adm01.com:8096/SegmentEndpoint",
  "endpointTypes":{
    "segment":{
      "destination":{
        "enabled":true,

```

```

        "destinationType":"push"
    }
}
},
"marketingDatabasesDefinition":{
    "marketingDatabases":[
        {
            "name":"marketingDBSource1",
            "identifiers" : [
                {
                    "name":"EMAIL_SHA256",
                    "type":"email",
                    "hashAlgorithm":"EMAIL_SHA256",
                    "hashMode":"HASHED"
                }
            ],
            "attributes":[
                { "name" : "FName",
                  "type" : "string"
                },
                { "name" : "LName",
                  "type" : "string"
                },
                { "name" : "Gender",
                  "type" : "string"
                }
            ]
        }
    ]
}
}

```

PUT /v1/eventtype

Header

Content-Type: application/JSON

Authorization: Bearer c582232f-xxxxx-40b6-xxxxx-19f3a5fd9264

Body

```
{
  "code": "emailSend",
  "name": "emailSend",
  "description": "Email send event",
  "version": 1,
  "namespace": "com.acme.pilot",
  "attributes": [ {
    "name": "eventName",
    "type": "string"
  }, {
    "name": "messageId",
    "type": "string"
  }, {
    "name": "subjectLine",
    "type": "string"
  }
]
```

Post /v1/event

```
{
  "channel" : "Email",
  "identifiers" : [ {
    "name" : "contactId",
    "value" : "4"
  }, {
    "name" : "email",
    "value" : "teamparam@us.ibm.com"
  } ],
  "events" : [ {
    "code" : "emailSend",
    "timestamp" : "2010-07-29T13:33:59.028Z",
    "attributes" : [ {
      "name" : "eventId",
      "value" : null,
      "type" : "string"
    }, {
      "name" : "eventName",
      "value" : "Mailing Open Event",
      "type" : "string"
    }, {
      "name" : "description",
      "value" : "Mailing Open Event",
      "type" : "string"
    }, {
      "name" : "messageId",
      "value" : "11835",
      "type" : "number"
    }
  ]
}
}]
}
```

Audience Publisher APIs

(APIs that need to be implemented by an audience publisher endpoint)

Return a list of segments (ids, names and descriptions only)

GET /segments

Return detailed meta data about a specific segment

GET /segments/{segmentId}

Export the segments data

GET /segments/{segmentId}/data

Create a new job to export the data for the segment in the post body

POST /jobs

Return the status of an asynchronous segment export job

GET /jobs/{jobId}

Return the segment data that was exported for the segment export job

GET /jobs/{jobId}/data/{dataId}

Audience Destination APIS

(APIs that need to be implemented by an audience destination endpoint)

Create a new segment and return the id of the newly created segment

POST /segments

Add new contacts to the segment with the specified segment id

POST /segments/{segmentId}/data

Replace all contacts in the segment with the specified segment id

PUT /segments/{segmentId}/data

UBX Documentation

Documentation for the UBX pilot can currently be found in the [UBX Documentation collection](#)

Documentation currently includes UBX Users Guide, UBX Integration Guide and UBX Toolkit Users Guide.

Current version of hands-on exercise located at: <http://ubxquickstart.adm01.com/ubx-quickstart-tool/ubxsession4.pdf>