IBM Software

Connect 2014
January 26–30 Orlando, Florida
ENERGIZING LIFE'S WORK

BP301: An Introduction to Working with the Activity Stream

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IBM.

@me

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- Lover of plugins – plugins are cool! – but slowly becoming the widget guy
- IBM Champion since program inception

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What is this session about?

"The future of business is social and the activity stream is the way events and messages are communicated in the social business. In this session you'll learn all there is to know about the activity stream including exactly what it is and how to interact with it using your favorite development environment whether that be JavaScript, XPages, Java or even the plain vanilla HTTP based REST API. This session is for you if you want to start working the Activity Stream."

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Agenda

- What's this session about

- What's the activity stream and what is it not

- REST 101

- Anatomy of an activity stream post

- Posting, working with roll ups and impersonation

- Fun and laughter…

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The activity stream concept

Activity stream was added in IBM Connections v. 4.0.

*"An activity stream is a **list of recent activities** performed by an individual, typically on a single website. For example, Facebook's News Feed is an activity stream. Since the introduction of the News Feed on September 6, 2006 other **major websites** have introduced similar implementations for their own users. Since the proliferation of activity streams on websites, there have been calls to **standardize the format** so that websites could interact with a stream provided by another website."*

What is the Activity Stream

- **River of news** – it's like water flowing by you

- Notifications about "stuff" happening in (other) systems – we refer to these notifications as **entries**

- Entries may be **saved** for future reference and entries may be **actionable** i.e. indicated that it must be acted upon

- Typically **you** decide what goes into your stream

- A replacement for email notifications (although you can have those too...)

- **Standards based** – like – meaning – IBM took the standard and added IBM Connections specific stuff to it
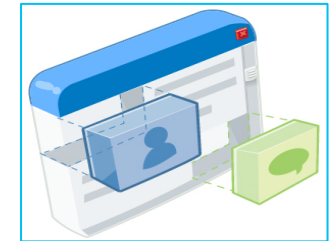
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What is the Activity Stream <u>NOT</u>

- A new inbox – doesn't replace email

- A perpetual data store – entries are deleted based on a server defined purge interval (default is 30 days) unless **saved** or **actionable**

- Meant as a content repository

- Something that implies that you must read it all – it's notifications – treat it as such...
    - If an entry is **"must read"** it should be marked actionable

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Demo

- Let's look at the activity stream in IBM Connections

- See options for filtering (saved/actionable)
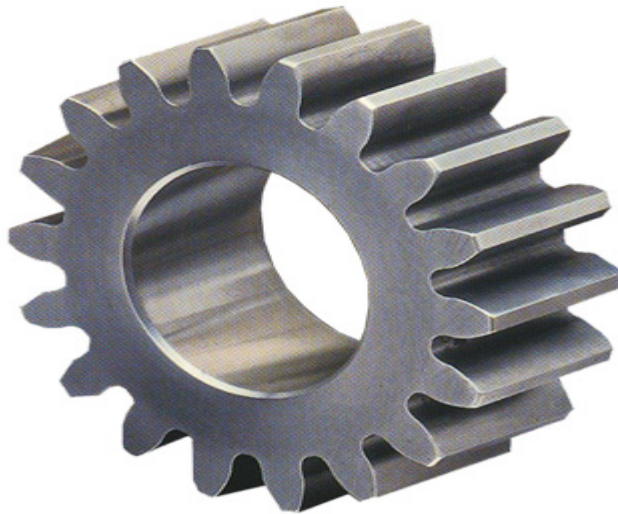
🏠 Home

🔍 All Connections ▾   Search

Getting Started

▪ I'm Following

Status Updates

My Notifications

Action Required

Saved

Discover

My Page

Administration

I'm Following

View updates for people and things you are following, and responses to your content.

What are you working on right now?

Filter By: All ▾

Gitte Boe Harter Så er det Connect Danmark og DanNotes de næste dage - på kontoret igen fredag.

👤 Today at 4:14 PM   🙂 ▾ Like

Mikkel Flindt Heisterberg Opdaterer OnTime GC Social til v. 3.5.0 beta 1

👤 Today at 1:28 PM   🙂 ▾ Like

Jens Overgaard Dinesen edited the file **Kickstart med IntraVision.docx.**

📄 **Kickstart med IntraVision.docx**

Malene Carstens Clausen | Tags: kickstart, connections

📇 Friday at 3:29 PM

Show all 2 comments

To Do List

You do not have

Go to my to do lis

Recommend

💼 Opsætning a
1 related pers

💼 Opgaver i fo
event
1 related perse

💼 Ønske om fa
1 related pers

📄 OnTimeGC 3
2 related peop

💼 Ny mail signat
logo
2 related peo

1 - 5 of 15

No content stored in the stream

Profile | Communities | Blogs | Forums
Wikis | Files | Bookmarks | Activities

Chris Holmes
Marketing Director
ch@intravision.dk

Send Email | More Actions ▼

Chris Holmes commented on their own message.

Chris Holmes Getting ready for he Project X launch event at 4pm - fireworks at the ready! :)

👤 Today at 10:38 | 😐 - Like

Show all 3 comments

Jerry Hartmann Today at 10:38 | 😐 | Like
Fireworks?! Sounds like I should have accepted that event invite after all :)

Chris Holmes Today at 10:38 | 😐 | Like
Oh yes - we're going all out. It's gonna be a night to remember

---

Chris Holmes created meeting in IBM Notes Calendar.
Sales Meeting on 21 May 2013
Meeting on Project X on 22 May 2013
Today at 07:06

Mikkel Flindt Heisterberg created a blog entry named OnTime Group Calendar v. 3.5.0 beta 1 og understøttelse af navneformater, alternative navne og alternativ sortering in the lekkimworld blog.

Mikkel Flindt Heisterberg I version 3.5.0 af OnTime Group Calendar er der kommet 3 store nye funktioner:
1. Kunden kan nu selv definere det navneformat brugernes navne vises efter
2. Understøttelse af alternative navne
3. Understøttelse af alternativ sortering

" Yesterday at 20:47

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REST API's 101 (1)

▪ HTTP is much more than what a web browser reveals

▪ The request
  – has a <u>method</u> (GET, POST, PUT, DELETE)
  – may have <u>headers</u> that describe the request such as a Content-Type (text/html), cookies and authentication information.
  – may have a <u>body data</u>

▪ The response
  – has a <u>return code</u> (200 = OK, 301 = Moved, 404 = Not found)
  – may carry <u>body data</u>
  – may have <u>headers</u> that describe the response (e.g. Content-Type, charset and new location)

REST API's 101 (2)

▪ You will mainly use the POST and PUT <u>methods</u> to send <u>JSON</u> data (Content-Type: application/json) to the API

▪ JSON is super simple key/value data format. It has simple datatypes (strings, numbers, booleans), objects and arrays

```
{
    "email": "mh@intravision.dk",
    "niceGuy": true,
    "age": 37,
    "name": {
        "first": "Mikkel Flindt",
        "last": " Heisterberg"
    },
    "Lotuspheres": [2006, 2007, 2008, 2009, 2010, 2011, 2012],
    "IBMConnects": [2013, 2014]
}
```

REST API's 101 (3)

▪ HTTP is pure text and easily done using telnet but there are cool tools to make it easier:
  – RESTClient in Firefox
  – Advanced REST Client in Chrome
  – cURL if you're a command line guy/gal
  – Standalone REST client

▪ Recommend standalone REST client such as CocoaRESTClient in combination with a proxy such as Charles Web Proxy, http://www.charlesproxy.com

How many streams are there?

- In my opinion it makes most sense **to not** consider the activity stream as one single stream

- Instead think that
  - Each user has his/her own (**@me**)
  - There is a public stream (**@public**)
  - A community **may** have a stream if the widget has been added by a community owner – if there's no stream for a community posting to it will return a "403 Forbidden"

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Stream URL components

https://<host>/connections/opensocial/**<auth>**/rest/activitystreams
/**<user ID>**/**<group ID>**/**<application ID>**/**<activity ID>**

Component	Meaning
<auth>	**(optional)** If using form based authentication leave this component out. Otherwise options are anonymos, basic, oauth (last option not covered in this presentation).
<user ID>	The user whose stream you're addressing – use **@me** for current users stream, **@public** for public stream or a community ID for the stream in a community.
<group ID>	The group of entries you're addressing – use **@all** for all posts or options for special meaning such as **@saved**, **@actions, @mentions**. Refer for InfoCenter and resources slide for more.
<application ID>	When retrieving entries this refers to the application (or "generator") that created the entry. All the IBM Connections app names can be used (**profiles**, **blogs**, **wikis** etc.) plus custom ones (e.g. **ontimegc**). **@all** used for all applications.
<activity ID>	Used to reference a specific event e.g. for updating saved status.

Stream URL Examples

1. /activitystreams/@me/@all
   List my (current users) entries

2. /activitystreams/@public/@all
   List public stream entries

Also used
when creating
new entries
(e.g. POSTing)

3. /activitystreams/@me/@actions
   List my actionable events

4. /activitystreams/@me/@saved/blogs
   List my saved events from blogs

5. /@me/@all/@all/urn:lsid:lconn.ibm.com:activitystreams.story:bdb562f…
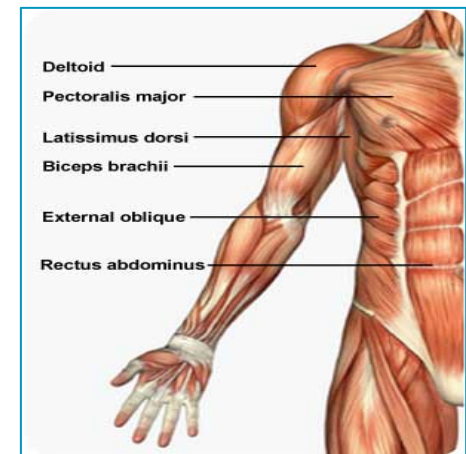   Work with entry from my stream based on ID

* All URLs above start with
  https://<host>/connections/opensocial/<auth>/rest

Anatomy of a stream entry

A stream entry reads like *"the current user posted a note to IBM Connections and you should act on it"*

Deltoid
Pectoralis major
Latissimus dorsi
Biceps brachii
External oblique
Rectus abdominus

Anatomy of a stream entry

A stream entry reads like "*the current user posted* *content to IBM Connections and you should*

The person doing the posting is called the **actor** and can be a specific user ID but usually the current user (**@me**)
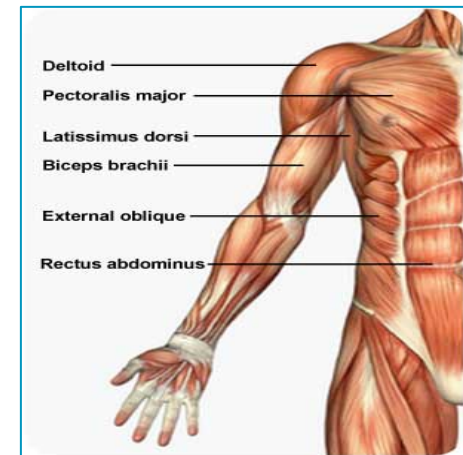
Deltoid
Pectoralis major
Latissimus dorsi
Biceps brachii
External oblique
Rectus abdominus

Anatomy of a stream entry

A stream entry reads like *"the current user posted a note to IBM Connections and you should act on it"*

What the person does is called the **verb** and there's a long list of predefined ones such as **post**, **update**, **create**...

Deltoid

Pectoralis major

Latissimus dorsi

Biceps brachii

External oblique

Rectus abdominus

Anatomy of a stream entry

A stream entry reads like *"the current user posted a note to IBM Connections and you should act on it"*

The object in question is called the **object** and can be anything that represents the target "thing" i.e. file, note, meeting...
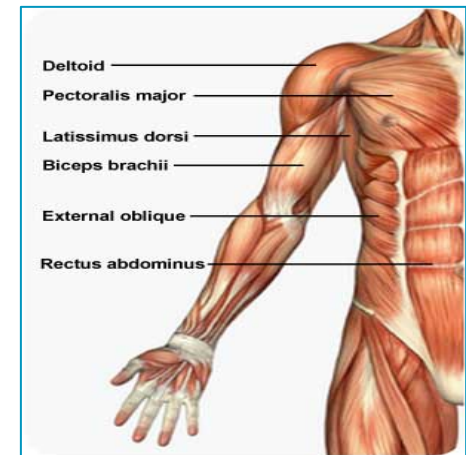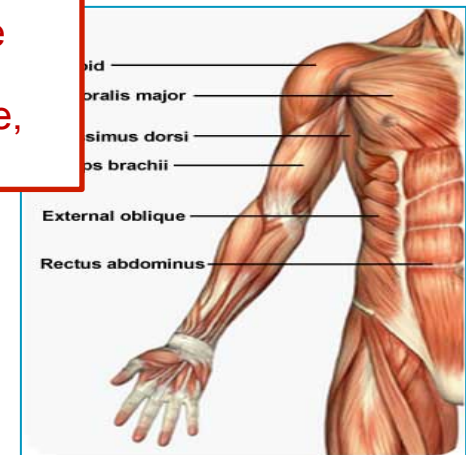
Billedet kan ikke vises. Computeren har muligvis ikke hukommelse nok til at åbne

Anatomy of a stream entry

A stream entry reads like *"the current user posted a note to* IBM Connections *and you should see it"*

The system the user worked on is called the **target** and can be any system you need to refer to

Deltoid
Pectoralis major
Latissimus dorsi
Biceps brachii
External oblique
Rectus abdominus

Anatomy of a stream entry

A stream entry reads like *"the current user posted a note to IBM Connections and you should act on it"*

IBM Connections supports some special properties for entries such as **actionable** and **saved** to allow users to work with entries

Deltoid
Pectoralis major
Latissimus dorsi
Biceps brachii
External oblique
Rectus abdominus

Anatomy of a stream entry

```
{
    "actor": {"id": "@me"},
    "verb": "post",
    "title": "Some entry title",
    "updated": "2013-05-17T12:00:00.000Z",
    "object": {
        "title": "Some object title",
        "objectType": "note",
        "id": "1234567890-1234567890-1234567890"
    }
}
```

Anatomy of a stream entry

■

```json
{
    "actor": {"id": "@me"},
    "verb": "create",
    "title": "Sales proposal for Rockets Inc.",
    "updated": "2013-05-17T12:00:00.000Z",
    "object": {
    "title": "Sales proposal for Rockets Inc.",
    "objectType": "proposal",
    "id": "1234567890-1234567890-1234567890"
    },
    "target": {
        "displayName": "Acme Corp. CRM",
        "url": "https://crm.example.com"
    }
}
```

IBM Connections is the implied default target but you can specify your own target in the entry

Posting an entry* to the stream

POST /connections/opensocial/basic/rest/activitystreams/@me/@all
Host: social.example.com
Content-Type: application/json
Content-Length: xyz
Authorization: Basic xyz123

```
{
    "actor": {"id": "@me"},
    "verb": "post",
    "title": "Some entry title",
    "updated": "2013-05-17T12:00:00.000Z",
    "object": {
        "title": "Some object title",
        "objectType": "note",
        "id": "1234567890-1234567890-1234567890"
    }
}
```

        * Smallest entry you can/should post to the stream
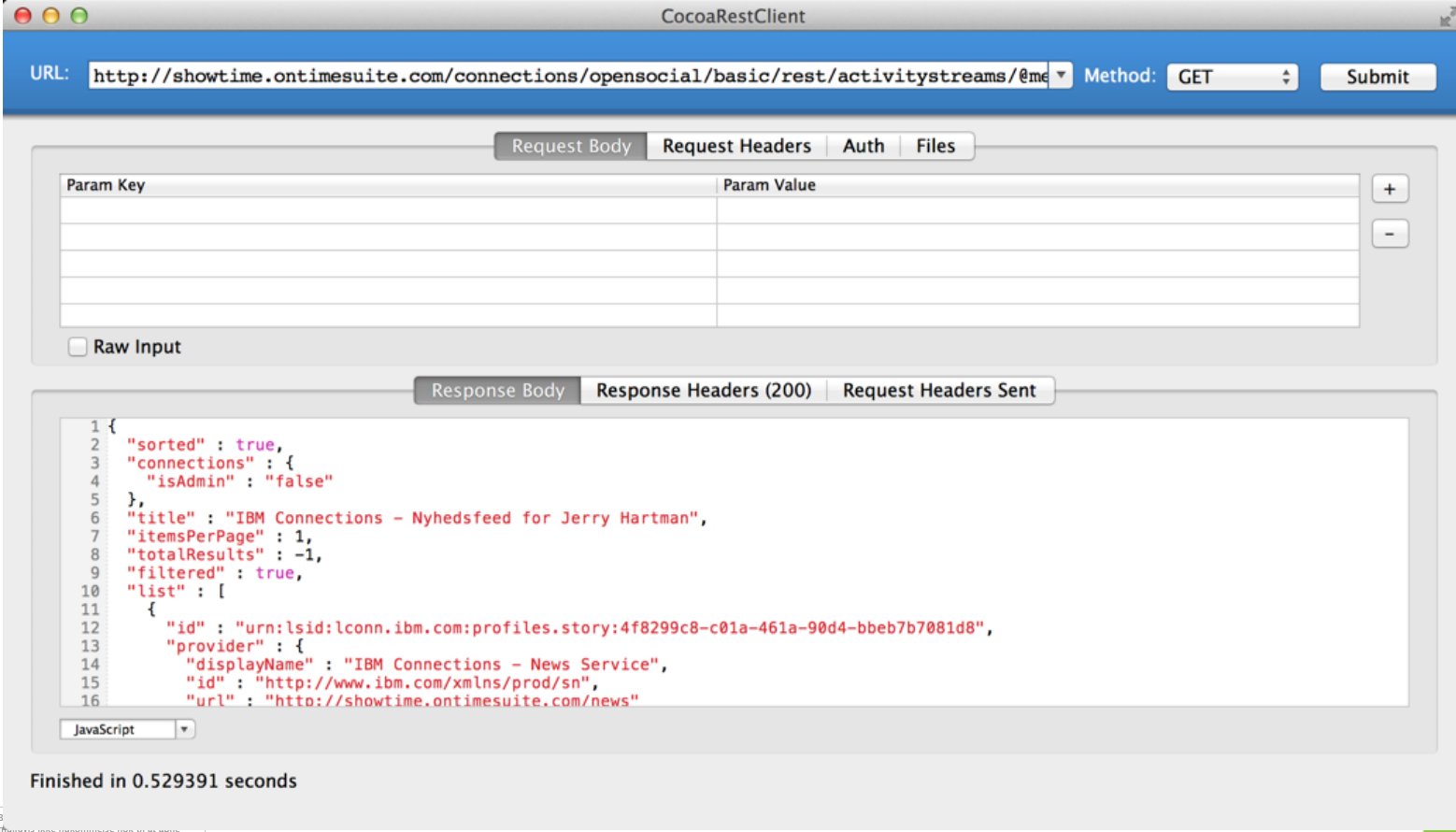
Demo

- REST client

- Easily work with feeds, authentication, headers etc.

- Use proxy to override cookies

Demo safety slide

Deleting from the stream

- In short you can't – up to IBM Connections v. 4.5 you cannot delete from the activity stream – you'll just get an 403 Forbidden back

- There is some light at the end of the tunnel though – this directly from the developers at IBM: *"We are however adding 'propagateDelete' at the moment, which deletes all events related to a given object on receipt of a delete event (if so specified). This will be protected by a trusted role."*

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Action required!

Mark/unmark as actionable

GET /connections/opensocial/basic/rest/activitystreams/@me/@actions
Host: social.example.com
Authorization: Basic xyz123

PUT /connections/.../activitystreams/@me/@all/@all/de325123-e269-4a33-b62a
Host: social.example.com
Content-Type: application/json
Content-Length: xyz
Authorization: Basic xyz123

```
{
    "actor": {"id": "@me"},
    "id": "de325123-e269-4a33-b62a",
    "connections": {
    "actionable": false
    }
}
```

Response
```
{"entry": {
    "connections": {
    "actionable": "false"
    },
    "id": "unmark actionable:"
}}
```

Save for later

Mark/unmark saved

GET /connections/opensocial/basic/rest/activitystreams/@me/@saved
Host: social.example.com
Authorization: Basic xyz123

PUT /connections/.../activitystreams/@me/@all/@all/de325123-e269-4a33-b62a
Host: social.example.com
Content-Type: application/json
Content-Length: xyz
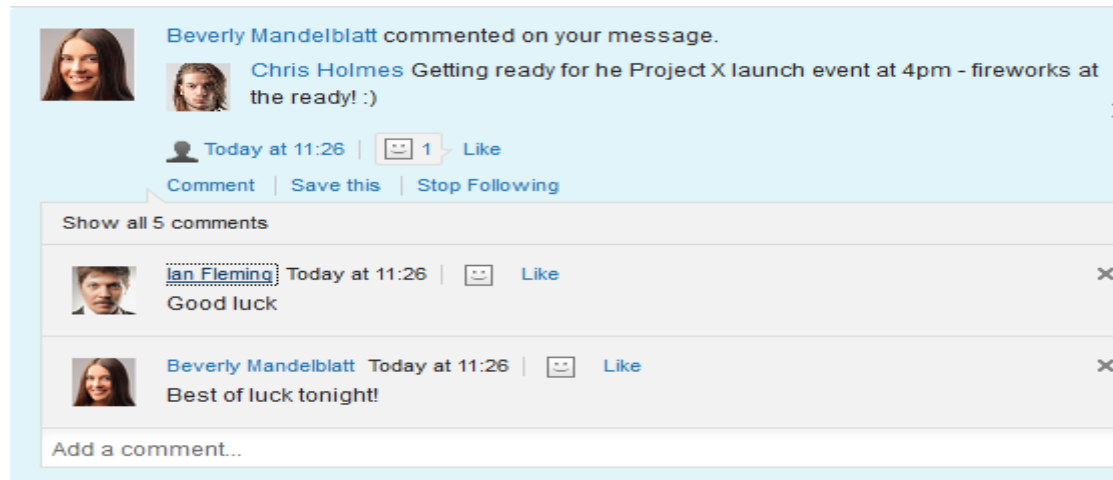Authorization: Basic xyz123

```
{

    "actor": {"id": "@me"},
    "id": "de325123-e269-4a33-b62a",
    "connections": {
    "saved":  false
    }
}
```

Response
```
{"entry": {
    "connections": {
    "saved": "false"
    },
    "id": "unmark saved:"
}}
```
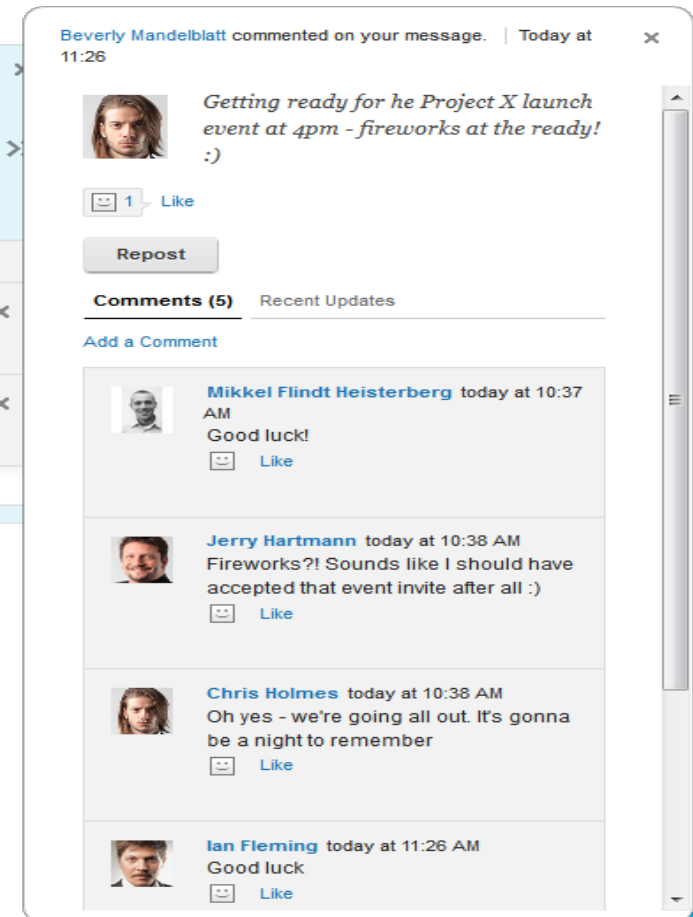
Rolling it up

- Rollup is telling the stream that an post/ update relates to the same "thing"

- Used to avoid cluttering up the user interface

Rolling it up

```
POST /connections/opensocial/basic/rest/activitystreams/@me/@all
Host: social.example.com
Content-Type: application/json
Content-Length: xyz
Authorization: Basic xyz123

{
    "actor": {"id": "@me"},
    "verb": "post",
    "title": "Some entry title",
    "updated": "2013-05-17T12:00:00.000Z",
    "object": {"title": "Some object title",
        "objectType": "note", "id": "1234567890-1234567890-1234567890"
    },
    "connections": {
        "rollupid": "1234567890-1234567890-1234567890"
    }
}
```

Rollup id vs. Object id

- May seem similar but not the same…

- **Rollup** is a way of telling the activity stream that **different posts**, with different object ids, **relate** to the same thing i.e. should be rolled into the same post (in the UI)

- Posting with the **same object id** is the **same as specifying the object id as the rollup id**

- In general get into the habit of explicitly using the id of the "thing" (i.e. the object id) you're pointing to as the roll up id.

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Templates

- Two main reasons for looking at templates
  – Internationalization (i18n) / translation
  – Getting a standard representation in the UI

- Two types of templates
  – Object Substitution replaces a reference with nice markup – an example is replacing the actor with a HTML reference using the business card
  – Title Template Substitution – uses object substitutions it makes standard titles
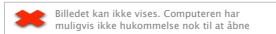
Templates

- Object Substitution
  - ${Actor} - this is converted into appropriately marked up HTML which displays the Actors name and links to a Business Card
  - ${Object} - if this is a per**son** we display as with the Actor above, otherwise the displayName with a link to the url
  - ${Target} - if this is a person we display as with the Actor above, otherwise the displayName with a link to the url

- Title Template Substitution
  - ${created}   = ${Actor} created ${Object}
  - ${create.target}   = ${Actor} created ${Object} in ${Target}

Ian Fleming created meeting.
Project Z Review Meeting
Today at 1:41 PM

Ian Fleming oprettede meeting.
Project Z Review Meeting
I dag kl. 13.41

Ian Fleming が meeting を作成しました。
Project Z Review Meeting
今日の 13:41

Billedet kan ikke vises. Computeren har muligvis ikke hukommelse nok til at åbne

Using templates

```
POST /connections/opensocial/basic/rest/activitystreams/@me/@all
Host: social.example.com
Content-Type: application/json
Authorization: Basic xyz123

{
    "actor": {"id": "@me"},
    "verb": "create",
    "title": "${create}",
    "updated": "2013-05-21T12:00:00.000Z",
    "object": {
        "summary": "Project Z Review Meeting",
        "objectType": "meeting",
        "id": "1234567890123456789012345678900P"
    }
}
```
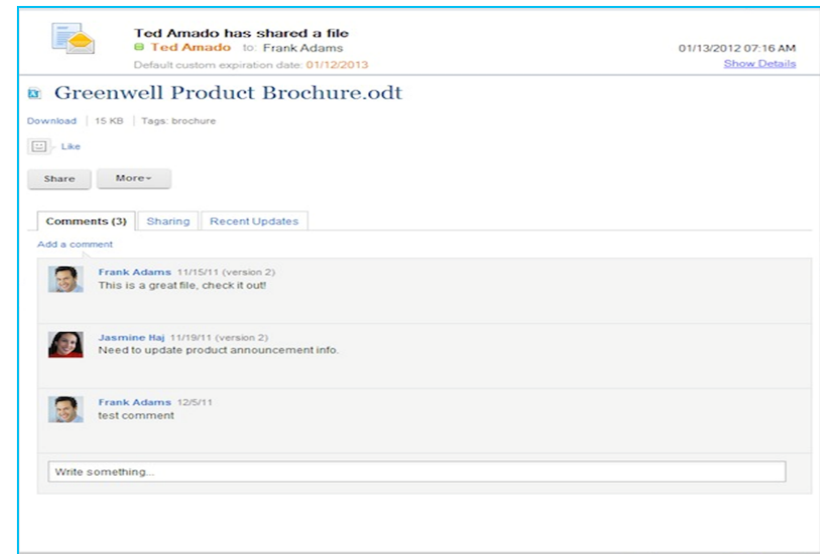
Embedded Experiences

- EE works a little different in e-mail and in the activity stream

- E-mail
  - Traditional (SMTP) e-mail is using **M**ultipurpose **I**nternet **M**ail **E**xtension (MIME)
  - EE's **adds** an additional "MIME part" – clients in the know will show content based on this data if possible and allowed by policy

- Activity stream
  - Activity stream delivery model is a bit different than in e-mail as we already have a structured payload
  - Application sending the entry adds an openSocial.embed object to the entry with link to the gadget required for rendering the EE and context info

Ted Amado has shared a file
Ted Amado   to: Frank Adams   01/13/2012 07:16 AM
Default custom expiration date: 01/12/2013   Show Details

Greenwell Product Brochure.odt
Download | 15 KB | Tags: brochure

Like

Share   More▾

Comments (3) | Sharing | Recent Updates
Add a comment

Frank Adams 11/15/11 (version 2)
This is a great file, check it out!

Jasmine Haj 11/19/11 (version 2)
Need to update product announcement info.

Frank Adams 12/5/11
test comment

Write something…

Embedded Experiences

```
{
    "actor": {"id": "@me"},
    …
    …
    "openSocial": {
        "embed": {
            "gadget": http://ee.example.com/mygadget.xml,
            "context": {"id":"12345"}
        }
    }
}
```

Posting to other users stream

- By default you may only post entries to your own activity stream

- Sending to others can be considered as spam

- As with standards there are multiple ways of doing it using either
    - OpenSocial (openSocial: {deliverTo: []})
    - Activitystrea.ms (to: [])
    - Just use the second one...

- To send to another users stream
  you need to either be him/her
  or be a trusted application (more
  information later...)

Billedet kan ikke vises. Computeren har
muligvis ikke hukommelse nok til at åbne

Posting <u>to</u> other user

```
{
    "actor": {"id": "@me"},
    "to": [{"objectType": "person", "id": "A7E718F4-3040-2A00-C125"}],
    "verb": "create",
    "title": "${create}",
    "updated": "2013-05-21T12:00:00.000Z",
    "object": {
        "summary": "Project X Review Meeting",
        "objectType": "meeting",
        "id": "12345678901234567890123456789MN"
    },
    "connections": {
        "rollupid": "12345678901234567890123456789MN",
    }
}
```

Posting <u>as</u> other user

```
{
    "actor": {"id": "A7E718F4-3040-2A00-C125"},
    "to": [{"objectType": "person", "id": "A7E718F4-3040-2A00-C125"}],
    "verb": "create",
    "title": "${create}",
    "updated": "2013-05-21T12:00:00.000Z",
    "object": {
        "summary": "Project Y Review Meeting",
        "objectType": "meeting",
        "id": "1234567890123456789012345678900P"
    },
    "connections": {
        "rollupid": "1234567890123456789012345678900P"
    }
}
```

Posting to & as other user

```
{
    "actor": {"id": "1E7F44DD-9C20-842A-C125"},
    "to": [{"objectType": "person", "id": "A7E718F4-3040-2A00-C125"}],
    "verb": "create",
    "title": "${create}",
    "updated": "2013-05-21T12:00:00.000Z",
    "object": {
        "summary": "Project Z Review Meeting",
        "objectType": "meeting",
        "id": "12345678901234567890123456789OP"
    },
    "connections": {
        "rollupid": "12345678901234567890123456789OP"
    }
}
```

How it looks in the UI
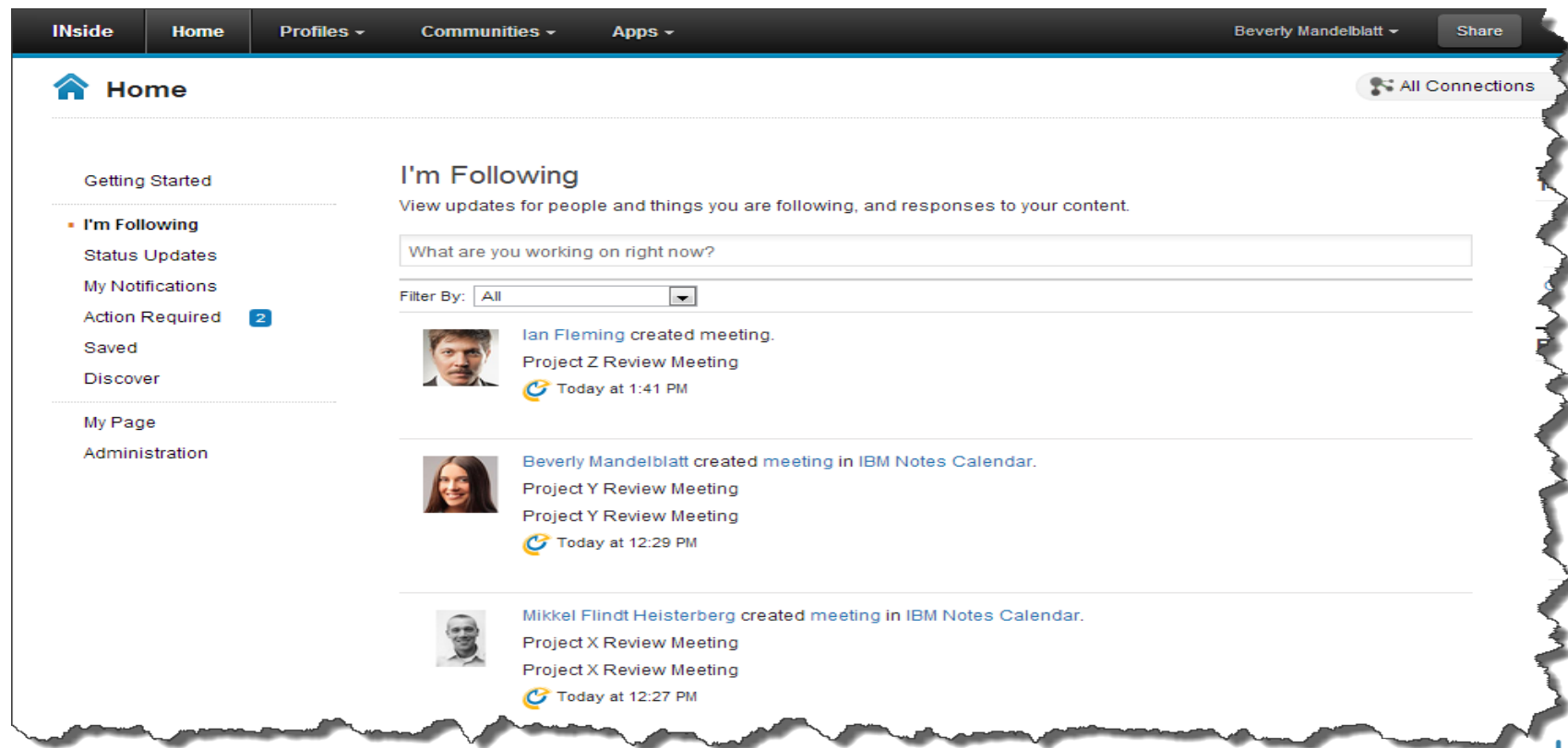
How it looks in the UI
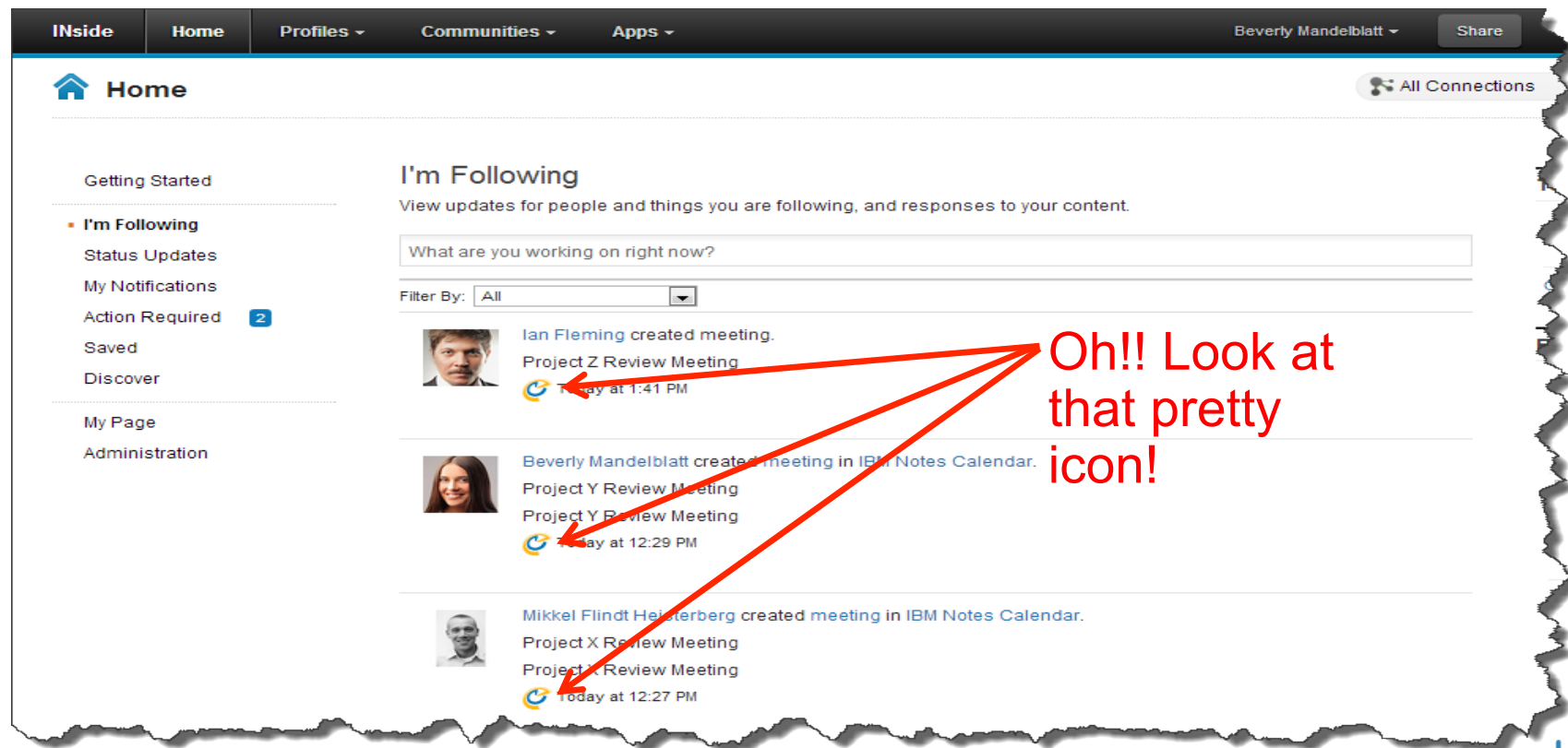
Using a generator

```
{
    "generator": {"id": "ontimegc",
        "image": "http://www.ontimesuite.com/favicon.ico",
        "displayName": "OnTime Group Calendar",
        "url": "http://www.ontimesuite.com"
    },
    "actor": {"id": "@me"},
    "verb": "post",
    "title": "Some entry title",
    "updated": "2013-05-17T12:00:00.000Z",
    "object": {
        "title": "Some object title",
        "objectType": "note",
        "id": "1234567890-1234567890-1234567890"
    }
}
```

Using a predefined generator

```
{
    "generator": {"id": "ontimegc"},
    "actor": {"id": "@me"},
    "verb": "post",
    "title": "Some entry title",
    "updated": "2013-05-17T12:00:00.000Z",
    "object": {
        "title": "Some object title",
        "objectType": "note",
        "id": "1234567890-1234567890-1234567890"
    }
}
```

Registering generators

```
wsadmin>execfile("newsAdmin.py")

wsadmin>NewsActivityStreamService.listApplicationRegistrations()
```

{wikis=wikis, communities=communities, general=General, profiles=profiles, activities=activities, homepage=homepage, blogs=blogs, forums=forums, files=files, dogear=dogear, demoapp=Demo Application, kudos=Kudos}

```
wsadmin>NewsActivityStreamService.registerApplication("ontimegc", "OnTime Group
Calendar", "http://www.ontimesuite.com", "", "http://inside.intravision.dk/
images/ontime.gif", "", "OnTime Group Calendar", "true")

wsadmin>
```
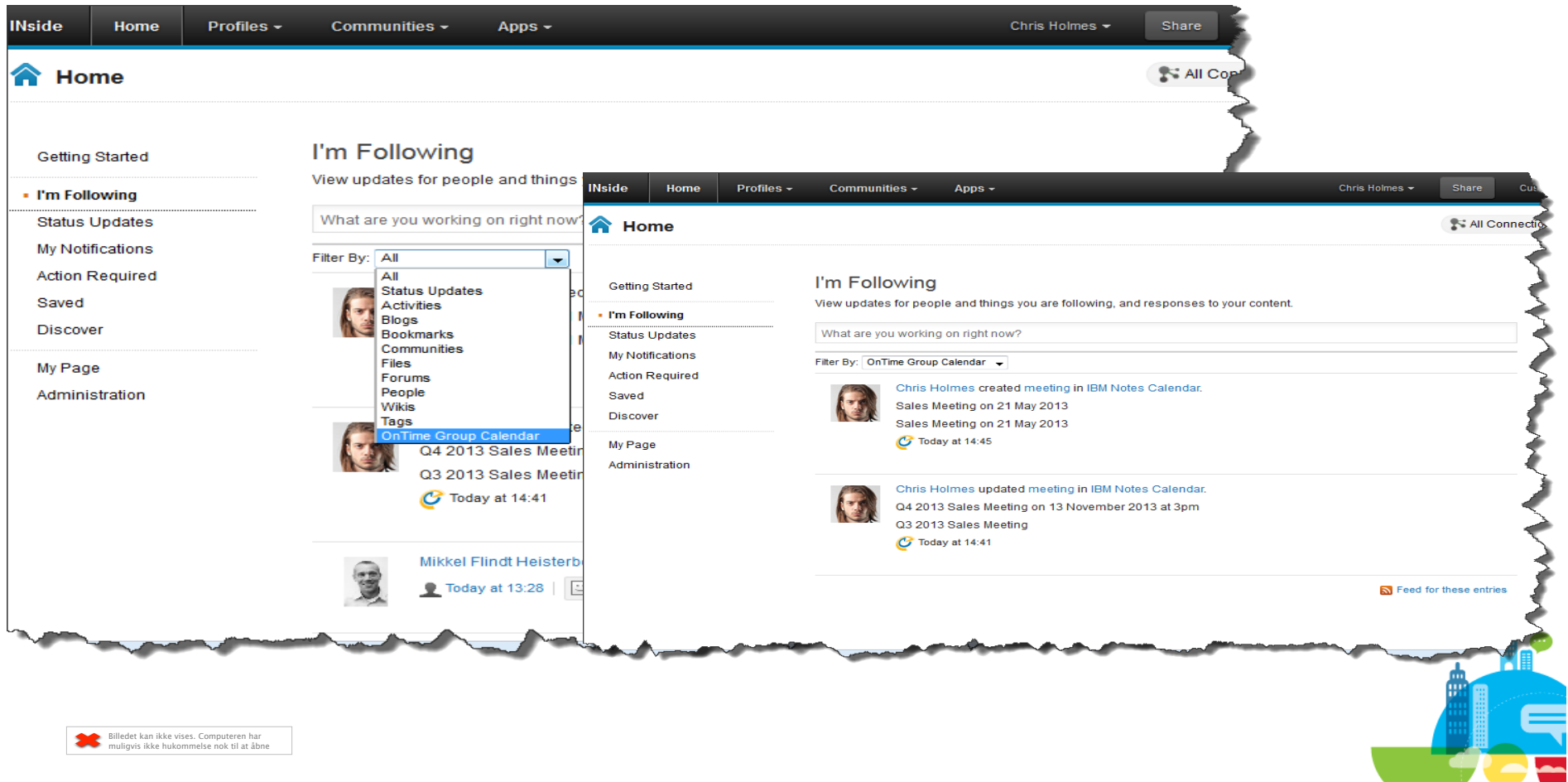
After first use of a generator it can be referenced by ID. Purpose of registering is that users may filter by it in the UI.

Benefit of registering generator

Granting access (1)

- Permission to send to other users are granted using the trustedExternalApplication role

- Granted in the WidgetContainer application using wsadmin or the Websphere Application Server Integrated Solutions Console – the latter is easiest

Billedet kan ikke vises. Computeren har muligvis ikke hukommelse nok til at åbne

Granting access (2)

Granting access (3)

Granting access (4)

Granting access (5)

Enterprise Applications > WidgetContainer > Security role to user/group mapping > Map users/groups

Use this page to search for users or groups and add them to the selected roles.

■ trustedExternalApplication

Search and Select Users

Select a user realm, specify the number of results to display, enter a search string (use * for wildcard) and click Search. Select users from the Available list and add them to the Mapped to role list.

User realm
defaultWIMFileBasedRealm ▼

Display a maximum of
20   results

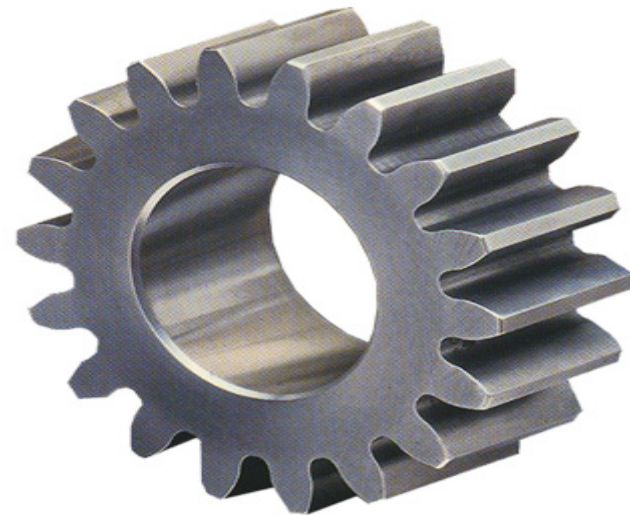Search string
mh

Search

Available: Selected:
                                                        mh

Demo

- Tweet'2'stream
  - https://github.com/lekkimworld/IC14_BP301

- Build script integration

Billedet kan ikke vises. Computeren har muligvis ikke hukommelse nok til at åbne

Demo – safety slide (1)

Demo – safety slide (2)

Summary

- There's no one stream - @me vs. @public vs. community

- Be patient – wrapping your head around these concepts can be hard in the beginning

- Remember that the data **isn't stored in** the stream but rather is **pointed to from** the stream

- Entries are automatically purged from the stream unless saved or marked actionable

- You cannot delete from the stream (yet)

- Accessed using REST API URL based on user, group, application and activity ID

- When working with the RESTClient in Firefox use "Private Browsing" mode as credentials used and cookies returned in one tab doesn't leak to other "Private Browsing" tabs.

- Pretty easy to use once you grasp the concepts

Billedet kan ikke vises. Computeren har muligvis ikke hukommelse nok til at åbne
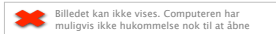
Resources

- Activity Streams in the OpenSocial specification, http://opensocial-resources.googlecode.com/svn/spec/trunk/Social-API-Server.xml#ActivityStreams-Service

- AppDev wiki, http://www-10.lotus.com/ldd/appdevwiki.nsf

- IBM Connections Activity Stream Integration (AD104 from IBM Connect 2013), http://www.slideshare.net/brianog/ad104-ibm-connections-actiivtystream-integration

- Activity Stream hands-on lab, http://www-10.lotus.com/ldd/appdevwiki.nsf/ xsp/.ibmmodres/domino/OpenAttachment/ldd/appdevwiki.nsf/ 82567C415DF5243185257AEE00626F82/attach/5-sdk-workshop-activitystreams.pdf

Billedet kan ikke vises. Computeren har muligvis ikke hukommelse nok til at åbne

Tools of the trade

- RESTclient in Firefox, https://addons.mozilla.org/da/firefox/addon/restclient/

- Advanced REST client in Chrome (issues with POSTs), http://bit.ly/advancedrest

- cURL (for any imaginable operating system), http://curl.haxx.se/

- **Charles Web Proxy**, http://www.charlesproxy.com

Billedet kan ikke vises. Computeren har muligvis ikke hukommelse nok til at åbne

Thank You!

Your feedback is important!

Access Connect Online to complete your session surveys

- But?, How?, Doesn't that mean...

- Give it to me! (or come talk
  to me after the session or find me in the hallways...)

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