



**EcoHealth
Alliance**

Open Data Kit

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What you need for the demonstration

- A data entry device ideally a mobile device running on **Android** (smartphone or tablet), or an **iOS** device, or a computer with a web browser
- An internet connection
- If using an **Android** device, please download **ODK Collect** from the **Google Play Store**.
- If you do not want to download yet another app or if you are using **iOS** device or a computer, nothing to download ahead of time. You will enter data into the forms and submit via your web browser

Outline

- Brief overview of **Open Data Kit** development
- **Open Data Kit** within **EcoHealth Alliance**
- **ODK Central** demonstration

ODK development

Google

CommCare

nemo
elmo



2008

2009

2011

2013

2016

2018



SurveyCTO

ODK Central

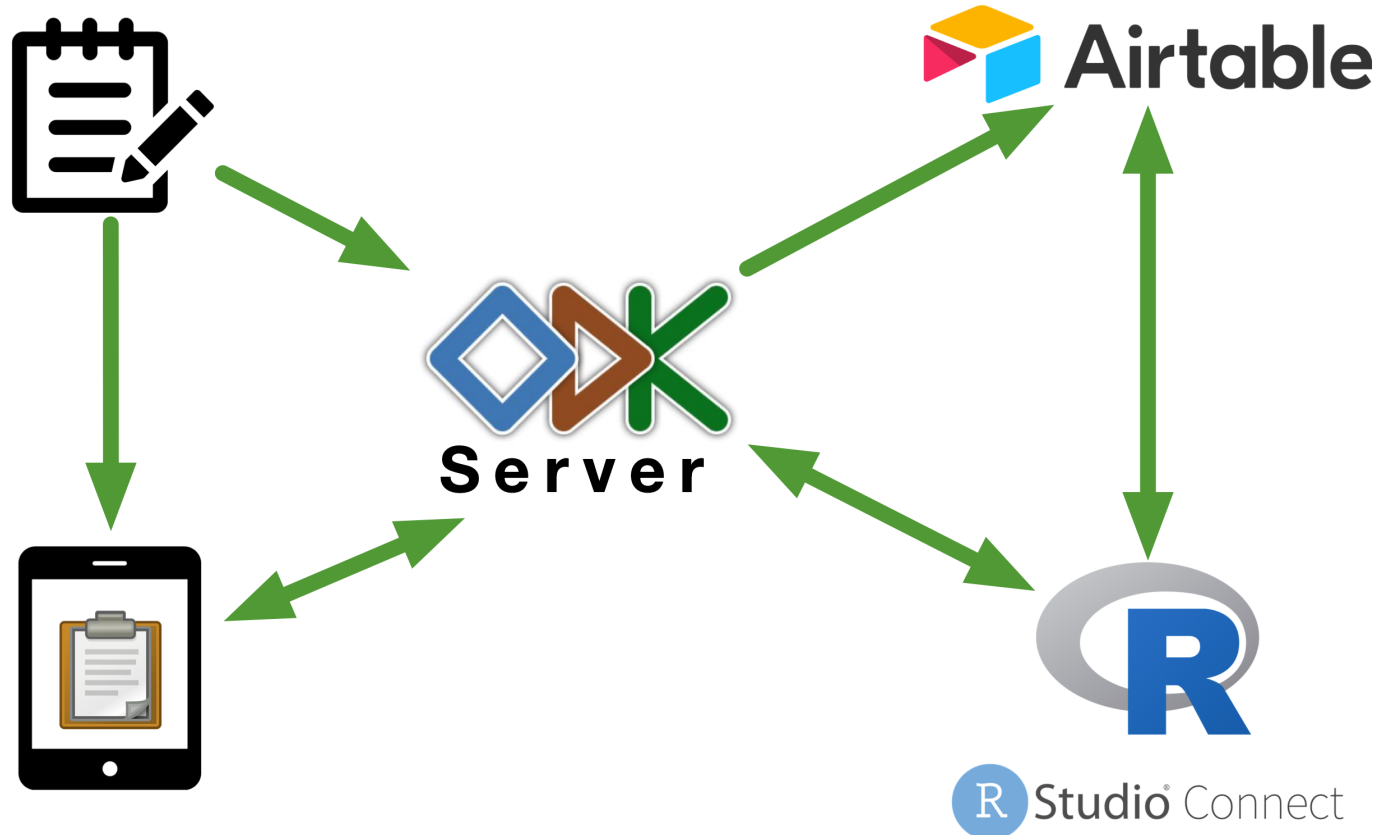
formhub

ENKETO

KoBoToolbox

ONN

ODK within EcoHealth



ODK Central

- **ODK Central** is the newest iteration of the **ODK server**.
- It manages user accounts and permissions, stores form definitions, and allows data collection clients like **ODK Collect** to connect to it for form download and submission upload
- New features and functionalities in the server software itself and via its **REST**, **OpenRosa**, and **OData** APIs

ODK Central demonstration

For this demonstration, I have created a feedback form for my talk today which we will use to demonstrate the following:

- How to deploy a form in **ODK Central**
- How to submit a form to **ODK Central** (collecting data)
- How to monitor submission of forms to **ODK Central**
- How to get **ODK Central** data into R

Setting up your project in ODK Central

- Create a web user account
- Create a project and choose web users to include in project
- Web users within a project can have varying permissions levels (admin, read, submit)

Deploy form in ODK Central

- Create a form in XLSForm standard
 - Demonstration form at [GitHub repo](#) and on [Google Sheets](#)
- Publish form into **ODK Central**

Submit forms to ODK Central

- Create *app users* on ODK Central
- Connect *app users* to ODK Central
- *App users* click on *Get Blank Form* on ODK Collect
- *App users* click on *Fill Blank Form* and select form to fill on ODK Collect

Connect to ODK Central via R

```
## Install ruODK from GitHub
remotes::install_github("ropensci/ruODK")

## Setup connection with ODK Central
ruODK::ru_setup(
  svc = "https://odk-beta.eha.io/v1/projects/1/forms/pizza.svc",
  un = "YOUR_USERNAME_HERE",
  pw = "YOUR_PASSWORD_HERE",
  tz = "GMT",
  odkc_version = "1.1.2"
)
```

Get list of projects

```
## Get list of projects  
project_list()
```

```
## # A tibble: 1 x 8  
##       id name  forms app_users created_at      updated_at  
##   <int> <chr> <int>    <int> <dtm>      <dtm>  
## 1     1 ODK ...      1        17 2021-01-22 20:52:20 NA  
## # ... with 2 more variables: last_submission <dtm>, archived <lgl>
```

id	name	forms	app_users	created_at	updated_at	last_submission	archived
1	ODK Demonstration	1	17	2021-01-22 20:52:20	NA	2021-01-26 10:45:41	FALSE

Get list of forms

```
form_list(pid = 1)
```

```
## # A tibble: 1 x 11
##   name   fid   version state submissions created_at      created_by_id
##   <chr> <chr> <chr>   <chr> <chr>         <dtm>              <int>
## 1 Pizz... pizza 202101... open    3           2021-01-26 10:40:47            8
## # ... with 4 more variables: created_by <chr>, updated_at <dtm>,
## #   last_submission <dtm>, hash <chr>
```

name	fid	version	state	submissions	created_at	created_by_id	created_by	updated_at	last_submission	hash
Pizza toppings	pizza	2021012601	open	3	2021-01-26 10:40:47	8	Ernest Guevarra	2021-01-26 10:43:54	2021-01-26 10:45:41	6b264d46ada72163860cbf872822dc2e

Get form schema

```
form_schema(odkc_version = "1.1.2")
```

```
## # A tibble: 10 x 5
```

	path	name	type	binary	ruodk_name
	<chr>	<chr>	<chr>	<lgl>	<chr>
## 1	/start	start	dateTime	NA	start
## 2	/end	end	dateTime	NA	end
## 3	/today	today	date	NA	today
## 4	/pizza1	pizza1	string	NA	pizza1
## 5	/pizza2	pizza2	string	NA	pizza2
## 6	/pizza3	pizza3	string	NA	pizza3
## 7	/closing	closing	string	NA	closing
## 8	/meta	meta	structure	NA	meta
## 9	/meta/audit	audit	binary	TRUE	meta_audit
## 10	/meta/instanceID	instanceID	string	NA	meta_instance_id

Get form schema (stylised output)

path	name	type	binary	ruodk_name
/start	start	dateTime	NA	start
/end	end	dateTime	NA	end
/today	today	date	NA	today
/pizza1	pizza1	string	NA	pizza1
/pizza2	pizza2	string	NA	pizza2
/pizza3	pizza3	string	NA	pizza3

List submissions for one form

```
submission_list()
```

```
## i https://odk-beta.eha.io/v1/projects/1/forms/pizza/submissions
```

```
## # A tibble: 3 x 5
```

	instance_id	submitter_id	device_id	created_at	updated_at
	<chr>	<int>	<chr>	<dtm>	<dtm>
## 1	uuid:d14d2e96...	28	collect:0...	2021-01-26 10:45:41	NA
## 2	uuid:46ec1773...	28	collect:0...	2021-01-26 10:45:14	NA
## 3	uuid:1dab3449...	28	collect:0...	2021-01-26 10:44:59	NA

List submissions for one form (stylised output)

```
## i https://odk-beta.eha.io/v1/projects/1/forms/pizza/submissions
```

instance_id	submitter_id	device_id	created_at	updated_at
uuid:d14d2e96-c5b8-48ac-83cb-e956bf39107d	28	collect:OzBJWquB0Hebm3g5	2021-01-26 10:45:41	NA
uuid:46ec1773-d9b5-4355-8add-744b942f0cc1	28	collect:OzBJWquB0Hebm3g5	2021-01-26 10:45:14	NA
uuid:1dab3449-6bb9-4c78-bbb5-a729115b72c1	28	collect:OzBJWquB0Hebm3g5	2021-01-26 10:44:59	NA

Get data from all submissions

```
odata_submission_get(odkc_version = "1.1.2")
```

```
## # A tibble: 3 x 14
##   id      start      end      today      pizza1
##   <chr> <dtm>      <dtm>      <dtm>      <chr>
## 1 uuid... 2021-01-26 10:45:27 2021-01-26 10:45:42 2021-01-26 00:00:00 1
## 2 uuid... 2021-01-26 10:45:03 2021-01-26 10:45:14 2021-01-26 00:00:00 2
## 3 uuid... 2021-01-26 10:44:42 2021-01-26 10:44:59 2021-01-26 00:00:00 1
## # ... with 9 more variables: pizza2 <chr>, system_submission_date <chr>,
## #   system_submitter_id <chr>, system_submitter_name <chr>,
## #   system_attachments_present <int>, system_attachments_expected <int>,
## #   meta_audit <chr>, meta_instance_id <chr>, odata_context <chr>
```

Get data from all submissions (stylised output)

id	start	end	today	pizza1	pizza2	system_submission_date	system_submitter_id	system_submitter_name
uuid:d14d2e96-c5b8-48ac-83cb-e956bf39107d	2021-01-26 10:45:27	2021-01-26 10:45:42	2021-01-26	1	cheese tomatoes pepperoni	2021-01-26T10:45:41.791Z	28	presenter
uuid:46ec1773-d9b5-4355-8add-744b942f0cc1	2021-01-26 10:45:03	2021-01-26 10:45:14	2021-01-26	2	NA	2021-01-26T10:45:14.240Z	28	presenter
uuid:1dab3449-6bb9-4c78-bbb5-a729115b72c1	2021-01-26 10:44:42	2021-01-26 10:44:59	2021-01-26	1	cheese	2021-01-26T10:44:59.065Z	28	presenter



Questions?

Thank you!

Slides can be viewed at <https://ecohealthalliance.github.io/opendatakit>
or PDF version downloaded at
<https://ecohealthalliance.github.io/opendatakit/opendatakit.pdf>

R scripts for slides available at
<https://github.com/ecohealthalliance/opendatakit>

Demo ODK forms available at
<https://github.com/ecohealthalliance/opendatakit/forms>