

Linked Table Examples

Last Modified on 08/10/2020 3:20 pm EDT

DevResults supports linked (or relational) data by allowing users to [link data tables](#) by information common to both. Linked data tables are a solution that may benefit your team in day-to-day data management and monitoring work. To help you decide whether linked tables may be a solution for your team, we've put together a list of common use cases for linked tables. You can also watch [a webinar on the topic](#).

The most common use cases for linked tables are:

- [Repeat Interactions](#)
- [Select Multiple](#)
- [Hierarchical Entities](#)
- [Double Link](#)
- [Between Column Logic](#)

Repeat interactions

Use case: Recording multiple interactions with a single entity without having to re-enter static information about that entity is one of the most common use cases for linked tables. In the example below, pre- and post-training surveys record both static information (a beneficiary's sex, age, and location) as well as information that changes between surveys (test score) or information only collected in one survey (training rating). **Without linked tables**, indicators like '# women who passed the post-training test' would require users to enter in static information about beneficiaries (like sex) for every row relating to that beneficiary.

BeneficiaryID	Region	Sex	Age	BeneficiaryID	Date	Training Topic	Region	Activity	Test score	Test Type	Rate training	How could we improve?
1234	Kindia	Male	26-39	1234	12/15/2017	Administratioi	Kindia	ABC	75	Pre-test		More snacks would be great.
2345	Kindia	Female	18-25	1234	3/1/2018	Administratioi	Kindia	ABC	87	Post-test	Very useful	Please repeat explanations.
				2345	12/15/2017	Agriculture	Kindia	ABC	80	Pre-test		Go slower in the hands-on section.
				2345	3/1/2018	Agriculture	Kindia	ABC	90	Post-test	Not useful	Provide more examples of the complicated things.

Using linked tables: Linked tables allow users to create a single table for static information (like beneficiary demographic information) and pull that information into other tables to avoid having to re-enter data. In this case, we'd [create two separate data tables](#): one would capture beneficiary data and another would capture information about the trainings each beneficiary attends.

Data Form

Beneficiary Reference

Date

Training Topic

Region

Test score

Test Type

Rate training

How could we improve?

Users can select a beneficiary from the dropdown menu and all other data associated with that beneficiary will be associated with that row of training data, both in the training data table as well as in **any indicator that pulls information from the training data table**.

Select Multiples

Use case: In some surveys, participants may have multiple responses to the same question. In the example below, farmers are surveyed about the type of technology they use. A single farmer may use multiple types of technologies. Project teams will want to capture each type of technology used and record information about the farmer at the same time. **Without linked tables**, each row would require re-entering data about the farmer.

FarmerID	Sex	Location	Land Type	# hectares	FarmerID	Date	Technology Applied	Activity	Sex	Location	Land Type	# hectares
1234	Male	Farm 1234	Arid	501-1000	1234	12/15/2017	Irrigation	ABC	Male	Farm 1234	Arid	501-1000
5678	Female	Farm 5678	Grassland	1001-2000	1234	12/15/2017	Genetics	ABC	Male	Farm 1234	Arid	501-1000
					1234	12/15/2017	Crop rotation	ABC	Male	Farm 1234	Arid	501-1000
					1234	12/15/2017	Pest management	ABC	Male	Farm 1234	Arid	501-1000
					5678	3/1/2018	Irrigation	DEF	Female	Farm 5678	Grassland	1001-2000
					5678	3/1/2018	Disease management	DEF	Female	Farm 5678	Grassland	1001-2000

Using linked tables: Users can **create a table** that stores information about each farmer and link it to a separate table that captures information about technologies used by each farmer. Similar to the repeat interactions example, additional information about a farmer will be automatically associated with a single technology.

	Key Value	Principal Farmer	Date	Technology Applied	Activity	Principal Farmer: Sex	Principal Farmer: Location	Principal Farmer: Land Type
<input checked="" type="checkbox"/>	7	1234	21 Jun 2019	Irrigation	DEF	Male	Farm 1234 (Boké)	Arid
<input checked="" type="checkbox"/>	6	5678	1 Mar 2018	Disease management	ABC	Female	Farm 5678 (Kindia)	Grassland
<input checked="" type="checkbox"/>	5	5678	1 Mar 2018	Irrigation	DEF	Female	Farm 5678 (Kindia)	Grassland
<input checked="" type="checkbox"/>	4	1234	15 Dec 2017	Pest management	ABC	Male	Farm 1234 (Boké)	Arid
<input checked="" type="checkbox"/>	3	1234	15 Dec 2017	Crop rotation	DEF	Male	Farm 1234 (Boké)	Arid
<input checked="" type="checkbox"/>	2	1234	15 Dec 2017	Genetics	ABC	Male	Farm 1234 (Boké)	Arid
<input checked="" type="checkbox"/>	1	1234	15 Dec 2017	Irrigation	ABC	Male	Farm 1234 (Boké)	Arid

Hierarchical Entities

Use case: Organizations often work with beneficiaries that inherit characteristics from entities they're linked with. For example, if a project works on teacher certifications, it's useful to have demographic information about the teachers, but it's also important to have information about the schools they work in. This is especially true when you're

interested in information like '# teachers certified in remedial reading in secondary schools, disaggregated by location type'. **Without linked tables**, each row would require re-entering data about both the teacher as well as the schools they work in.

School	Location type	School Type	Size	TeacherID	Sex	School	TeacherID	Date	Certification	Sex	School	Location type	School Type	Size	Activity
Faudou School	Urban	Secondary	501-1000	1234	Male	Faudou School	1234	12/15/2017	Remedial reading	Male	Faudou School	Urban	Secondary	501-1000	ABC
Kebassabaya Scho	Rural	Primary	251-500	2345	Female	Faudou School	1234	12/15/2017	Special needs	Male	Faudou School	Urban	Secondary	501-1000	ABC
				3456	Female	Kebassabaya School	1234	3/1/2018	Administration	Male	Faudou School	Urban	Secondary	501-1000	ABC
				4567	Male	Kebassabaya School	2345	12/15/2017	Math tutor	Female	Faudou School	Urban	Secondary	501-1000	ABC
							2345	1/29/2018	Administration	Female	Faudou School	Urban	Secondary	501-1000	ABC
							3456	3/1/2018	Remedial reading	Female	Kebassabaya Scho	Rural	Primary	251-500	DEF
							4567	1/29/2018	Vulnerable childrer	Male	Kebassabaya Scho	Rural	Primary	251-500	DEF
							4567	7/11/2018	Remedial reading	Male	Kebassabaya Scho	Rural	Primary	251-500	DEF

Using linked tables: In DevResults, you can [link multiple tables](#) to one another. Users can [create a table](#) to record information about schools, another table to record demographic information about teachers which pulls data from the schools table, and a third that captures information about teacher certifications which pulls data from **both** tables. By linking to the Teacher table, the Certification table automatically inherits everything in that table, *including* the Schools table. A single [indicator](#) can then calculate information from all three tables.

Double Link

Use case: International development work very often involves capturing information about how different entities interact with one another. For example, when tracking funds transferred between donors and CSOs, it's important to retain information about both organizations. **Without linked tables**, users would have to re-enter data about each organization for each row.

CSO	Region	Organization Type	Payer	Transaction Date	Amount	Expense Type	Recipient	Payer Region	Payer Type	Recipient Region	Recipient Type
Organization 1	Kindia	Development	Organization 1	12/15/2017	16500	Expenditure	CSO A	Kindia	Development	Faranah	Community building
Organization 2	Kindia	Monitor	Organization 1	1/29/2018	58800	Funding	CSO A	Kindia	Development	Faranah	Community building
CSO A	Faranah	Community building	Organization 1	3/1/2018	3000	Payment	CSO A	Kindia	Development	Faranah	Community building
CSO B	Mamou	Anti-violence	Organization 1	7/11/2018	89300	Funding	CSO A	Kindia	Development	Faranah	Community building
			Organization 2	7/11/2018	5600	Payment	CSO B	Kindia	Monitor	Mamou	Anti-violence
			Organization 2	7/11/2018	77100	Funding	CSO B	Kindia	Monitor	Mamou	Anti-violence
			CSO A	7/11/2018	31200	Expenditure	CSO B	Faranah	Community buildin	Mamou	Anti-violence
			CSO A	7/11/2018	21700	Payment	CSO B	Faranah	Community buildin	Mamou	Anti-violence

Using linked tables: DevResults allows you to [link to the same table twice](#). Users can create a single table that captures information about organizations, and a separate table that tracks transactions between each organization. By linking to the organization table twice, information about each organization is available both for the "Payer" and the "Recipient".

Data Design

Columns

[Add new column](#) [Save changes](#)

Column	Description	Type
↓ Payer		Table: Organization Index
↓ Transaction Date		Date
↓ Amount		Number: Whole
↓ Expense Type		Disaggregation: Expense Type
↓ Recipient		Table: Organization Index

Columns available from related tables

- Payer: CSO
- Payer: Region
- Payer: Organization Type
- Recipient: CSO
- Recipient: Region
- Recipient: Organization Type

As a result, users can compare organization information for both the payer and the recipient for *each transaction*.

Organization Payments

Data Design

Search

[Add new row](#) [Delete](#)

Key Value	Payer	Transaction Date	Amount	Expense Type	Recipient	Payer: CSO	Recipient: CSO	Payer: Region	Recipient: Region
8	CSO A	11 Jul 2018	21,700	Payment	CSO B	CSO A	CSO B	Faranah	Mamou
7	CSO A	11 Jul 2018	31,200	Expenditure	CSO B	CSO A	CSO B	Faranah	Mamou
6	Organization 2	11 Jul 2018	77,100	Funding	CSO B	Organization 2	CSO B	Kindia	Mamou
5	Organization 2	11 Jul 2018	5,600	Payment	CSO B	Organization 2	CSO B	Kindia	Mamou
4	Organization 1	11 Jul 2018	89,900	Funding	CSO A	Organization 1	CSO A	Kindia	Faranah
3	Organization 1	1 Mar 2018	3,000	Payment	CSO A	Organization 1	CSO A	Kindia	Faranah
2	Organization 1	29 Jan 2018	58,800	Funding	CSO A	Organization 1	CSO A	Kindia	Faranah
1	Organization 1	15 Dec 2017	16,500	Expenditure	CSO A	Organization 1	CSO A	Kindia	Faranah

Between Column Logic

Use case: In surveys, certain responses (especially qualitative responses) often need to be converted into numerical responses. For example, if surveys are collecting feedback on how a training or event went, it's useful to collect information in qualitative format for clarity, but it's also important to translate that to numerical values so that indicators can analyze the data. **Without linked tables**, users would have to enter both the qualitative response as well as the corresponding numerical value for each row.

Response	Ordinal Value	Date	Training Topic	Region	Activity	Training was well organized	Ordinal value
Strongly Agree	5	12/15/2017	Administration	Kindia	ABC	Strongly Agree	5
Agree	4	3/1/2018	Administration	Kindia	ABC	Agree	4
Neutral	3	12/15/2017	Agriculture	Kindia	ABC	Agree	4
Disagree	2	3/1/2018	Agriculture	Kindia	ABC	Disagree	2
Strongly Disagree	1						

Using linked tables: Users can [create a data table](#) that only contains response information.

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Responses

Data Design

Search

Add new row Delete

	Key Value	Response	Ordinal Value
<input type="checkbox"/>		5 Strongly Agree	5
<input type="checkbox"/>		4 Agree	4
<input type="checkbox"/>		3 Neutral	3
<input type="checkbox"/>		2 Disagree	2
<input type="checkbox"/>		1 Strongly Disagree	1

When linked to the survey response table, respondents can enter a qualitative response and DevResults will automatically populate the numerical value that corresponds to that response. **Indicators can pull from the column with numerical values** for further analysis.

Survey

Data Design

Search

Add new row Delete

	Key Value	Date	Region	Activity	Respondent ID	Sex	Age	My local government works to improve the lives of those in my community	My local government works to improve the lives of those in my community: Ordinal Value
<input type="checkbox"/>	15	4 Aug 2020	Boké	Addressing Corruption in Local Government	R-9039	Male	65+ (Senior)	Strongly Agree	5
<input type="checkbox"/>	14	4 Aug 2020	Boké	Addressing Corruption in Local Government	J-3258	Female	65+ (Senior)	Neutral	3
<input type="checkbox"/>	13	4 Aug 2020	Boké	Addressing Corruption in Local Government	W-5188	Female	20-24 (Young Adult)	Disagree	2
<input type="checkbox"/>	12	4 Aug 2020	Boké	Addressing Corruption in Local Government	F-2741	Male	25-64 (Adult)	Neutral	3
<input type="checkbox"/>	11	4 Aug 2020	Boké	Addressing Corruption in Local Government	E-3753	Male	25-64 (Adult)	Neutral	3
<input type="checkbox"/>	10	4 Aug 2020	Boké	Addressing Corruption in Local Government	G-6662	Female	25-64 (Adult)	Strongly Agree	5
<input type="checkbox"/>	9	4 Aug 2020	Boké	Addressing Corruption in Local Government	D-1569	Male	20-24 (Young Adult)	Strongly Disagree	1
<input type="checkbox"/>	8	4 Aug 2020	Boké	Addressing Corruption in Local Government	E-8255	Male	65+ (Senior)	Agree	4
<input type="checkbox"/>	7	4 Aug 2020	Boké	Addressing Corruption in Local Government	X-2478	Female	20-24 (Young Adult)	Neutral	3
<input type="checkbox"/>	6	4 Aug 2020	Boké	Addressing Corruption in Local Government	C-3960	Female	25-64 (Adult)	Strongly Disagree	1
<input type="checkbox"/>	5	4 Aug 2020	Boké	Addressing Corruption in Local Government	A-1303	Female	20-24 (Young Adult)	Disagree	2
<input type="checkbox"/>	4	4 Aug 2020	Boké	Addressing Corruption in Local Government	Y-4694	Male	25-64 (Adult)	Agree	4
<input type="checkbox"/>	3	4 Aug 2020	Boké	Addressing Corruption in Local Government	P-4836	Female	25-64 (Adult)	Neutral	3

TIP: Between column logic is also useful when you want to filter dropdown menu options for partners so they only see information relevant to their activities. Create a table where each row represents a dropdown menu option (for example, every political party that activities work with) and the activity associated with it.

Political Party Log

Data Design

Search

Add new row Delete

	Key Value	Activity	Political Party
<input type="checkbox"/>	2 DEF		Political Party B
<input type="checkbox"/>	1 ABC		Political Party A

When other tables pull information from this log, partners assigned to Activity "ABC" will only see Political Party A in their dropdown menu, while partners assigned to Activity "DEF" will only see Political Party B. This allows you to maintain data security where needed, and also avoid extensive dropdown lists.

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