Linked Table Examples

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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

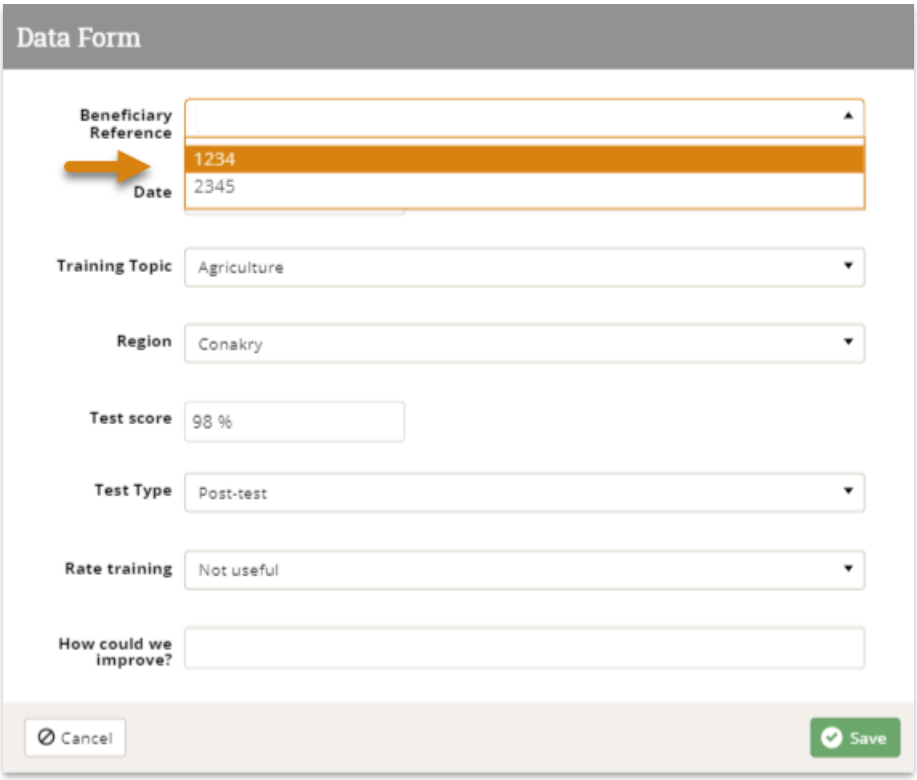
Repeat interactions

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
1234	Kindia	Male	26-39
2345	Kindia	Female	18-25

BeneficiaryID	Date	Training Topic	Region	Activity	Test score	Test Type	Rate training	How could we improve?
1234	12/15/2017	Administratio	Kindia	ABC	75	Pre-test		More snacks would be great.
1234	3/1/2018	Administratio	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.



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
1234	Male	Farm 1234	Arid	501-1000
5678	Female	Farm 5678	Grassland	1001-2000

FarmerID	Date	Technology Applied	Activity	Sex	Location	Land Type	# hectares
1234	12/15/2017	Irrigation	ABC	Male	Farm 1234	Arid	501-1000
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
7	1234	21 Jun 2019	Irrigation	DEF	Male	Farm 1234 (Boké)	Arid
6	5678	1 Mar 2018	Disease management	ABC	Female	Farm 5678 (Kindia)	Grassland
5	5678	1 Mar 2018	Irrigation	DEF	Female	Farm 5678 (Kindia)	Grassland
4	1234	15 Dec 2017	Pest management	ABC	Male	Farm 1234 (Boké)	Arid
3	1234	15 Dec 2017	Crop rotation	DEF	Male	Farm 1234 (Boké)	Arid
2	1234	15 Dec 2017	Genetics	ABC	Male	Farm 1234 (Boké)	Arid
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

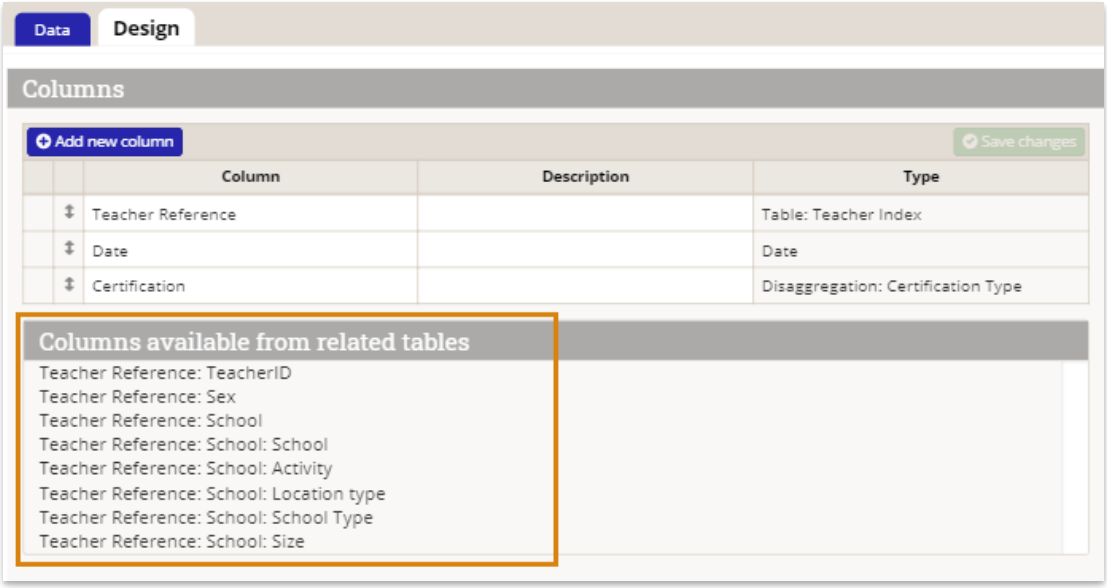
interested in information like '# teachers certified in remedial reading in secondary schools, disaggregated by location type'. **Without linked tables**, each row would require re-entering data about both the teacher as well as the schools they work in.

School	Location type	School Type	Size
Faudou School	Urban	Secondary	501-1000
Kebassabaya Schoc	Rural	Primary	251-500

TeacherID	Sex	School
1234	Male	Faudou School
2345	Female	Faudou School
3456	Female	Kebassabaya School
4567	Male	Kebassabaya School

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



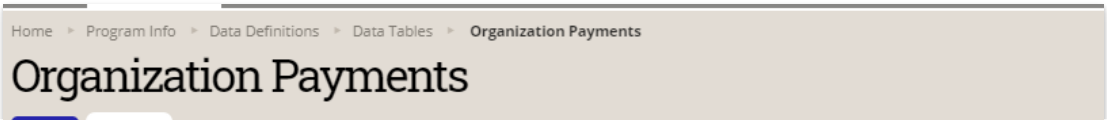
Double Link

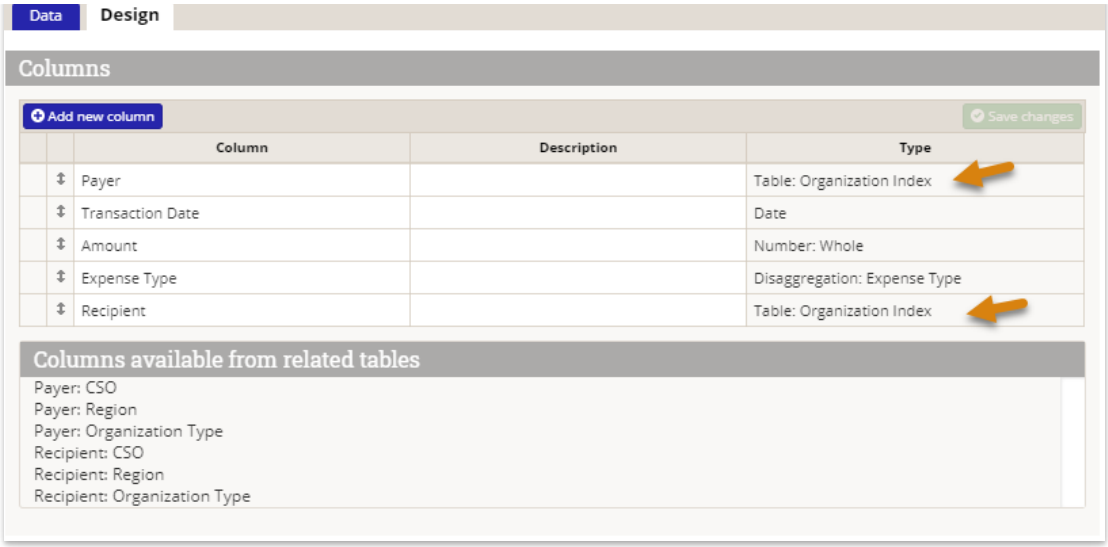
Use case: International development work very often involves capturing information about how different entities interact with one another. For example, when tracking funds transferred between donors and CSOs, it's important to retain information about both organizations. **Without linked tables**, users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

CSO	Region	Organization Type
Organization 1	Kindia	Development
Organization 2	Kindia	Monitor
CSO A	Faranah	Community building
CSO B	Mamou	Anti-violence

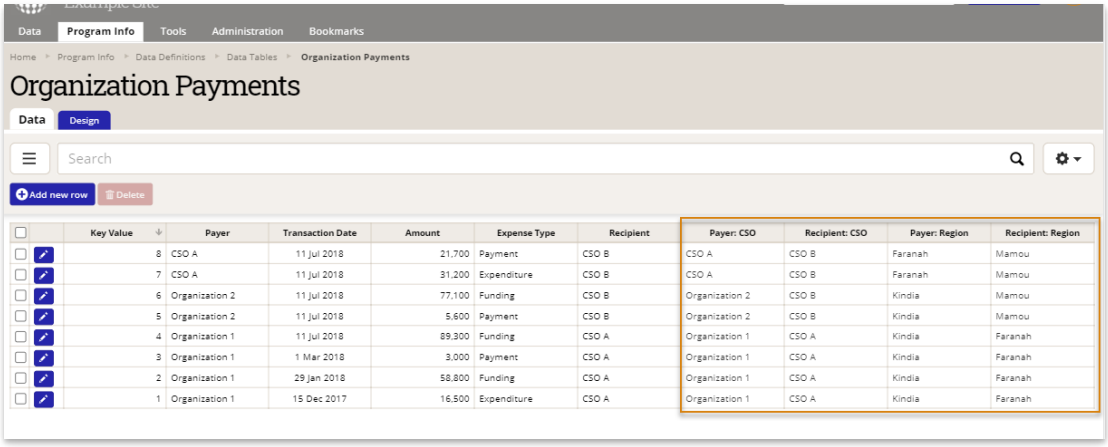
Payer	Transaction Date	Amount	Expense Type	Recipient	Payer Region	Payer Type	Recipient Region	Recipient Type
Organization 1	12/15/2017	16500	Expenditure	CSO A	Kindia	Development	Faranah	Community building
Organization 1	1/29/2018	58800	Funding	CSO A	Kindia	Development	Faranah	Community building
Organization 1	3/1/2018	3000	Payment	CSO A	Kindia	Development	Faranah	Community building
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".





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



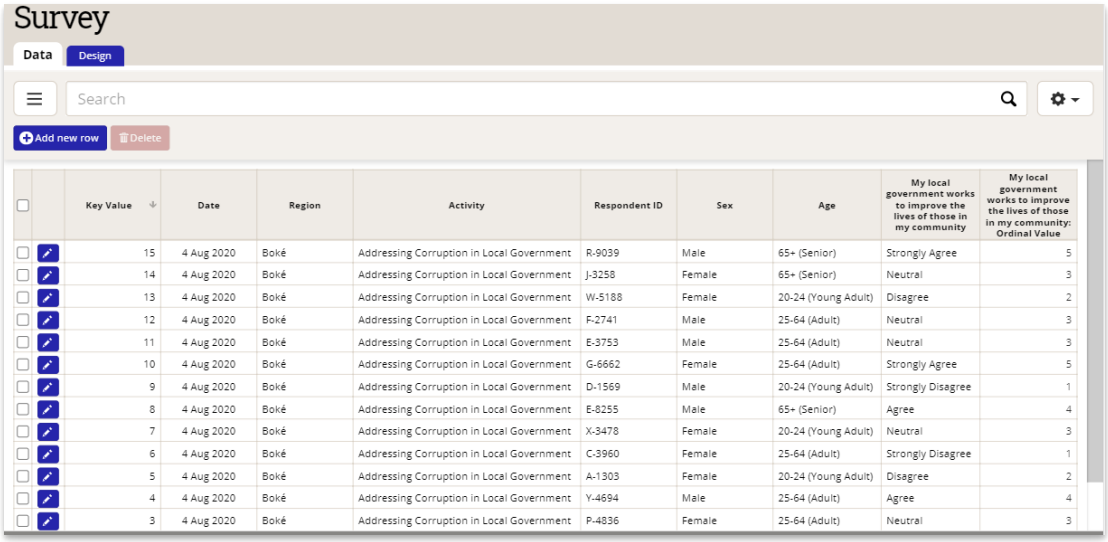
Between Column Logic

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.

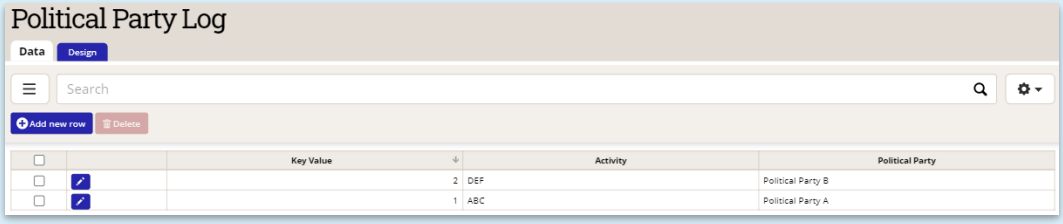
Response	Ordinal Value		Date	Training Topic	Region	Activity	Training was well organized	Ordinal value
Strongly Agree	5		12/15/2017	Administration	Kindia	ABC	Strongly Agree	5
Agree	4		3/1/2018	Administration	Kindia	ABC	Agree	4
Neutral	3		12/15/2017	Agriculture	Kindia	ABC	Agree	4
Disagree	2		3/1/2018	Agriculture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

Using linked tables: Users can create a data table that only contains response information.

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.



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.



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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