

Introduction

The purpose of this guide is to onboard you as an Ignatius Resource so you have a complete understanding of the core functionality of the tool and you become self-sufficient to start building with Ignatius.

The **Ignatius Tool** builds database applications to support business operations and requirements. A database is a structured collection of data organized in a way that allows you to store, retrieve, and manipulate the data easily.

The Applications in Ignatius are used to store and manage data for business needs, but they will also allow you to build functions on top of your data repository to help with operational needs; with Ignatius, you can:

- Add or Import additional data as needed
- Create reports to analyze and visualize your data
- Set up workflows to automate some of your processes
- Set up notifications to alert you of specific events such as updates, new records etc.
- Build an interactive application to allow Resources to perform daily tasks
- Build very complex solutions to manage complex projects

A **Database Application** in Ignatius can represent any specific project/solution to manage your operational activities such as a Project Management App, a CRM App, or a Grants Management App.

The guide will walk you through building an application within Ignatius from scratch while also introducing you to the concept of databases. This guide will explain the step by step of building a project management tool as an example.

To build a project management application in Ignatius, you must start by creating the database. Before we walk through the process of creating the database, we will go over the concept to give you an understanding of what goes into building a database.

Introduction to Databases

As a reminder, a database is a structured collection of data organized in a way that allows you to store, retrieve, and manipulate the data easily. Within a database, you will typically have one or more data tables.

Data Tables

A Data Table is a collection organized in rows and columns. Each row represents a single record of data (a unique record), and each column represents a specific field of data for that record. Each Data Table stores a **different type of data** related to a specific function, activity, or role. The Data Table will have a list of Fields to store specific information.

For example, in a project management tool, you might have a **Resource Table** listing all the Resources participating in your projects. That Resource Table might include **fields/columns** for each Resource's *name*, *email address*, and *job title*. Each **row** in the table represents a single Resource (unique Resource), with their name, email address, and job title stored in the corresponding columns.

For example, the Resource Table might look like this:

First Name	Last Name	Email Address	Job Title
John	Doe	john@mail.com	Project Manager
Jane	Brown	jane@mail.com	Senior Analyst
Matt	Smith	matt@mail.com	Associate Analyst

Data Model

A data model, on the other hand, is a way of organizing and structuring data tables within a database to define how the different data tables relate to one another.

For example, in a project management tool that will track the work being done for a list of clients, you might have a data model that includes the following data tables:

- **Resources** : Resources/Employees working or participating on your projects
- **Clients** : The customers/clients to which your projects are related
- **Projects** : The projects requested by a specific customer
- **Tasks** : The tasks required to complete a specific project
- **Subtasks** : The subtasks related to a specific task

Notice that each **table** represents a **specific and basic unit of data** or a **specific type of data** (a specific function). Based on best practices, the purpose of each table should be specific and different.

In your data model, you can also create relationships between data tables. For example, the **Task** Table might be linked to the **Resource** Table to create a Relationship between the two tables. This **relationship** will connect each **task** with the **Resource** who is responsible for completing the task.

Relationships

Relationships are used to link data between different tables. The most common type of relationships is the one-to-many relationship, where one record in one table can be related to one or many records in another table. For example, **one Resource** from the **Resources** Table may be assigned to **multiple project tasks** from the **Task** Table.

For example, the **Resource John Doe** may be assigned to a list of tasks on a client project:

Tasks Table

Project	Task No.	Task Description	Start Date	End Date	Task Status	Assigned Resource
Titan Project	1.00	Gather & Define Requirements	1/01/23	1/14/23	Completed	John Doe
Titan Project	2.00	Solution Design	1/14/23	2/01/23	In Progress	John Doe
Titan Project	3.00	Configuration	2/02/23	2/20/23	Open	John Doe
Titan Project	4.00	Testing	3/01/23	4/01/23	Open	John Doe

Notice the **Assigned Resource** Field on the **Task** Table. In this example, John Doe is assigned to 4 different Project Tasks. To keep your database schema structured and organized, a Relationship can thus be created between the **Tasks** Table and the **Resource** Table. This will allow you to access Resource Data directly from the Task Table, and also summarize Task Data at the Resource Level (more on this later!).

In the later sections of this document, we will go over how to utilize **Table Keys** to create Relationships. There are two types of Table Keys in a Relational Database: **Primary Keys** and **Foreign Keys**. We will cover these later in this guide.

Summary

Data Tables, **Fields**, **Data Models**, and **Relationships** are all important concepts to understand when working with Ignatius. By understanding these concepts, you will be able to better organize and manage your data when you build applications with Ignatius.

To recap, a **Data Table** is a basic unit of data storage made up of **fields**/columns and rows, while the **Data Model** is an abstract model that helps organize your data, and structure/standardize the **relationships** between your data tables with the use of **Primary Keys** and **Foreign Keys**.

Introduction to the Course Project

Objective of the Course Project

This guide will walk you through creating a **Project Management App** using **Ignatius**. You will learn how to build a fully functional project management tool from scratch, starting with building **tables**, **fields**, and **relationships**. By the end of the course you should be able to use the concepts learned in this guide to build other types of applications with Ignatius.

The project management tool we will build in this guide is designed to help Resources organize and manage their projects more effectively across different customers. This project management tool can be used to track clients, one or multiple projects per client, the tasks and subtasks within each project, as well as additional information like status, duration, percent completion, assigned Resources and more. The tool will also include some reports to help Resources track project progress, projects behind schedule, project health etc. We will also go over creating notifications to alert you based on specific events related to projects, tasks and subtasks.

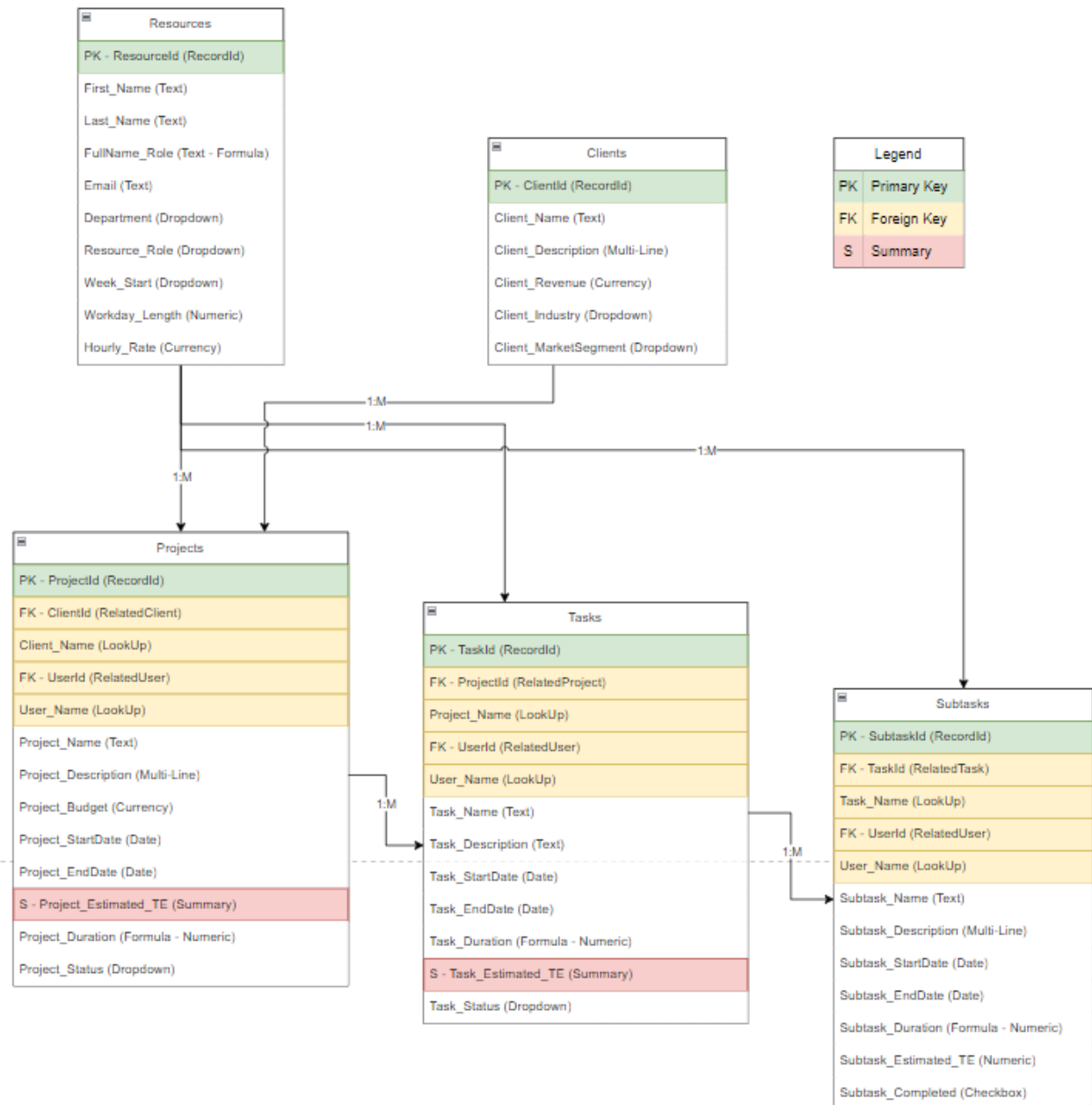
Project Management and Downstream Database Schema

The tool will be built around several key tables, including Resources, Clients, Projects, and Subtasks. The **Resources** table will store information about the Resources who will be working on the projects, while the **Clients** table will store information about the clients who have requested the projects. The **Projects** table will be used to organize the and track the progress of each project, while the Tasks and Subtasks Tables will break down each project into smaller, more manageable tasks.

Throughout the course project, you will learn how to design and implement each of these tables, how to define the fields and relationships between them, and how to build a Resource-friendly interface that allows Resources to easily interact with and manage their projects.

The following data tables and data model will be defined for the project management tool:

Database Schema



Note: We will go over the Summary Fields later in this guide.

Creating Data Tables and Fields

Lesson I: Data Tables and Fields Overview

When creating a new Application in Ignatius, the first step will be to identify the necessary tables and fields. Each table will represent a single unit of data and will have a specific purpose. Start by understanding the requirements of your application, and think about what type of data it will need to store and manage. Think about the different types of information that need to be stored.

The project management tool we will build in this training will serve as:

A tool that can help you manage your clients projects effectively by ensuring that tasks are completed on time and by the right team members. It can help you keep track of project costs, time spent and resources assigned to tasks and subtasks for each client project.

It is important to identify the different types of information that need to be stored based on your requirements. In the case of the project management tool: a **Client** first requests a **Project**. The project is broken down into different **tasks** and each task is broken down into simpler **subtasks**. A **Project** is then assigned to a **Resource** (for example a project manager), **Tasks** and **Subtasks** are also assigned to appropriate **Resources** (project manager, senior analyst, analyst etc.)

Based on the requirements and the components involved in the project management process, we can identify the following tables:

- **Clients** : The customers/clients who have requested one or more projects
- **Projects** : The projects requested by a specific customer
- **Tasks** : The tasks required to complete a specific project
- **Subtasks** : The subtasks related to a specific task
- **Resources** : Resources/Employees working or participating on your projects

For each table, you will then have to identify the different fields needed to store information. A **field** represents a **single piece of data** that is stored for each record in a table (for example, first name, last name, employee ID, project name, etc.).

Each field is assigned a specific **data type**, which defines the type of data that can be stored in that field, such as *integer*, *text*, or *date*. For example, '**first name**' will have a data type of text, while '**project start date**' will have a data type of date.

Following Field Types exist in Ignatius:

Text	Data contains alphanumeric characters
Text - Multi-Line	Data contains text on multiple lines
Text - Multiple Choice	Data contains a specific set of values - This is used to add

	dropdown list values
Numeric	Data only contains numeric values
Currency	Data is a currency
Phone Number	Data is a phone number
Datetime	Data contains a date and time
Date	Data contains a date without the time
Checkbox	Data is one of two values (True when checked and False when unchecked)
File Attachment	Data is a file
URL	Data is a website URL
Resource	Data is an existing Resource in the application
Formula - Text	Applies formulas to Text Fields
Formula - Numeric	Applies formulas to Numerical Fields
Formula - Currency	Applies formulas to Currency Fields
Formula - Date	Applies formulas to Date Fields
Formula - URL	Applies formulas to URL Fields

More on Multiple Choice Fields

The **Multiple Choice** Field Type represents a drop-down list of specific values. We recommend using drop-down lists instead of free text fields when there is a predefined list of values that can go into a field. For example, a project status can be one of the following: “Not Started”, “In Progress”, “Completed”, or “Canceled”. In that case, you can normalize your data by creating a multiple choice field with these values. This will prevent Resources from entering any other values. You can add/edit the valid values as needed at any point.

Below is the list of drop-down fields (Multiple Choice Fields) we will use in our Project Management Application.

<div>resources.department</div> <div>Sales/Marketing</div> <div>Accounting/Finance</div> <div>Operations Management</div> <div>Human Resource</div> <div>IT</div>	<div>resources.week_start</div> <div>Monday</div> <div>Tuesday</div> <div>Wednesday</div> <div>Thursday</div> <div>Friday</div> <div>Saturday</div> <div>Sunday</div>	<div>resources.resource_role</div> <div>Program Director</div> <div>Project Manager</div> <div>Sr. Analyst</div> <div>Analyst</div> <div>Implementation Specialist</div> <div>Sales Coordinator</div> <div>System Engineer</div> <div>Account Manager</div>	
<div>clients.client_industry</div> <div>Healthcare</div> <div>Materials</div> <div>Real Estate</div> <div>Consumer Staples</div> <div>Consumer Discretionary</div> <div>Utilities</div> <div>Energy</div> <div>Industrial</div> <div>Consumer Services</div> <div>Financials</div> <div>Technology</div>	<div>clients.client_marketsegment</div> <div>Start Up</div> <div>Small Cap</div> <div>Mid Market</div> <div>Enterprise</div>	<div>projects.project_status</div> <div>Open</div> <div>In Progress</div> <div>Completed</div> <div>Deferred</div> <div>Canceled</div>	<div>tasks.task_status</div> <div>Open</div> <div>In Progress</div> <div>Completed</div> <div>Deferred</div> <div>Canceled</div>
			<div>subtasks.subtask_status</div> <div>Open</div> <div>In Progress</div> <div>Completed</div> <div>Deferred</div> <div>Canceled</div>

More on Formula Fields

Formula Fields allow you to enter a function for a data column. This function provides an output for that column based on other field type values in the same row. For example, if you create a field called "Average" with the formula: $([num1] + [num2] + [num3]) / 3$, the data for that column will be the average value for three numeric fields.

There are four types of formula fields: Text, Numeric, Currency, and Date. For text-based formulas, you can manipulate values of each data type in various ways to create a customized or formatted output.

Below are examples of formulas that we will use for the Project Management Application:

- Project Duration:** This will calculate the project time duration (in days) based on the start and end dates
`TimeSpan([project_startdate], [project_enddate], "days")`
- Resource Full Name and Employee ID:** This will concatenate the first, last name and employee ID of a resource to help us better identify resources (specially resources with the same name).
`Concat([first_name], " ", [last_name], " - ", [employee_id])`

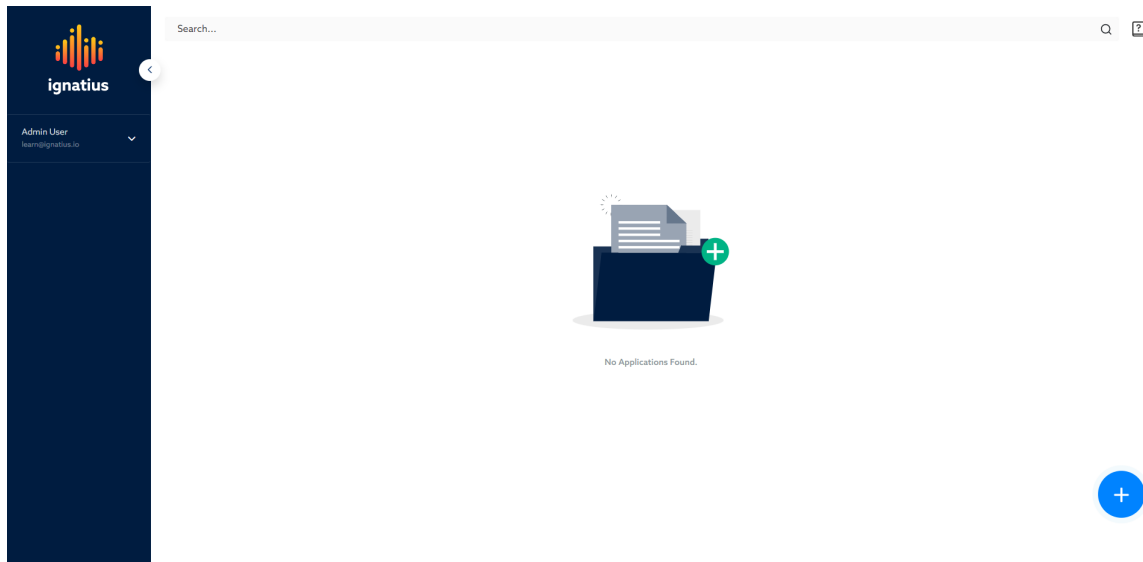
Lesson I Conclusion

In the next section, you will learn how to add Tables and Fields to a new application in Ignatius.

Practice Lesson I: Project Management App

You are ready to begin building the tables in your Ignatius environment. (Please reference the [Project Management Schema](#) introduced earlier to view the tables and fields that you will create).

1. Log in to your Ignatius environment at ignatius.io/auth/login
2. Once logged, select the **+** icon at the bottom right of the screen to create a new application. A pop-up window will appear prompting you to enter an Application Name.



3. Enter the Application Name: **Project Management**. Choose an Icon that will represent your new application or upload an image of your choice from your desktop. Select **Save** once complete.

A screenshot of the 'Add Application' modal form. The form has a title bar with 'Add Application' and a close button. It contains a text input field for 'Application Name' with the value 'Project Management'. Below this is a section titled 'Choose Icon' with a grid of 48 icons. The icon of a document with a checkmark is selected. At the bottom of the icon grid is a dashed box for file upload with the text 'Drag & drop your files here, or browse' and 'upload max 1 file'. At the very bottom are 'Cancel' and 'Save' buttons.

4. Once your project management application is created, you can start adding your first table by selecting **+ Add Table** located at the top right of the screen.
5. A pop-up window will appear prompting you for the table name. Enter the name of your first table along with its singular name. We will start with the Resources Table:
 - Name: Resources
 - Singular Name: Resource
6. Once the table is saved, it will be displayed on the Home Page.
7. Continue to add the tables listed below:

Table Name: Resources
Singular Name: Resource

Table Name: Clients
Singular Name: Client

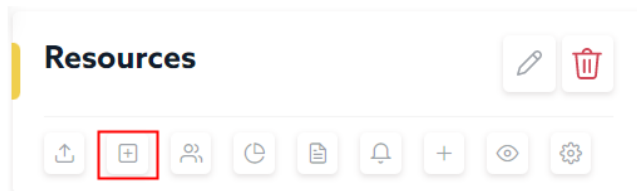
Table Name: Projects
Singular Name: Project

Table Name: Tasks
Singular Name: Task

Table Name: Subtasks
Singular Name: Subtask

8. Once your tables have been created, you can start to add the table fields. Follow the steps below to add table fields to the **Resources** Table.

On the Homepage, select the **Fields icon** under the **Resources** Table, then on the next page select **+ Add New Field** at the top right of the screen.



A pop-up window will appear to prompt you to enter a **Field Name**, and select a **Field Type**. For the first field to be created, enter the **Field Name** as “First Name”, and select the Field Type of **Text**.

×

Add Field

Field Name*

First Name

Info Text for Form Display

Field Type*

Text

☐ Must be Unique

➔

Add

Note: If a Field Type of **Formula** is selected, an extra input field will be displayed where you can type in the formula. Similarly, if a **Multiple Choice** Field Type is selected, an extra input field will be displayed to record the multiple choice values. You can use the “add” and “delete” icons to add or remove values.

Continue to follow these steps to create the remaining fields for the Resources Table as well as the others.

Table: Resources

Field Name	Field Type	Values (If Multiple-Choice)	Field Formula (If Applicable)
First Name	Text		
Last Name	Text		
Employee ID	Text		
FullName EmployeeId	Text - Formula		Concat([first_name], ",[last_name]," - ",[employee_id])
Email	Text		
Department	Text - Multiple Choice	Sales/Marketing Accounting/Finance Operations Management Human Resources IT	
Resource Role	Text - Multiple Choice	Program Director Project Manager Sr. Analyst Analyst Implementation Specialist Sales Coordinator System Engineer Account Manager	

Week Start	Text - Multiple Choice	Monday Tuesday Wednesday Thursday Friday Saturday Sunday	
Workday Length	Numeric		
Hourly Rate	Currency		

Table Name: Clients
Singular Name: Client

Field Name	Field Type	Values (If Multiple-Choice)
Client Name	Text	
Client Description	Text - Multi-Line	
Client Revenue	Currency	
Client Industry	Text - Multiple-Choice	Healthcare Materials Real Estate Consumer Staples Consumer Discretionary Utilities Energy Industrial Consumer Services Financials Technology
Client Market Segment	Text - Multiple-Choice	Start-Up Small Cap Mid Market Enterprise

Table Name: Projects
Singular Name: Project

Field Name	Field Type	Values (If Multiple-Choice)	Field Formula (If Applicable)
Project Name	Text		
Project Description	Text - Multi-Line		
Project Budget	Currency		
Project StartDate	Date		
Project EndDate	Date		
Project Duration	Formula - Numeric		TimeSpan([project_start date], [project_enddate],

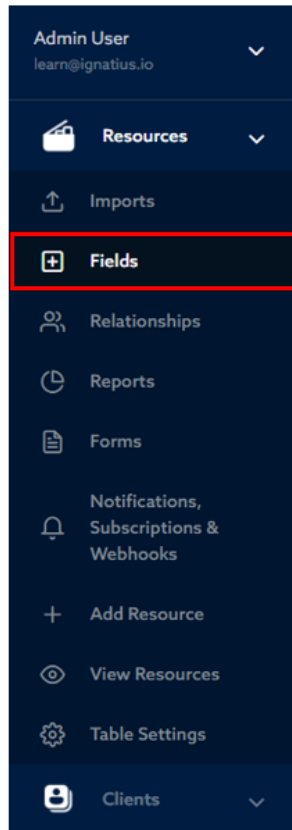
			"days")
Project Status	Text - Multiple-Choice	Open In Progress Completed Deferred Canceled	

Table Name: Tasks
Singular Name: Task

Field Name	Field Type	Values (If Multiple-Choice)	Field Formula (If Applicable)
Task Name	Text		
Task Description	Text - Multi-Line		
Task StartDate	Date		
Task EndDate	Date		
Task Duration	Formula - Numeric		TimeSpan([task_startdate], [task_enddate], "days")
Task Status	Text - Multiple-Choice	Open In Progress Completed Deferred Canceled	

Table Name: Subtasks
Singular Name: Subtask

Field Name	Field Type	Values (If Multiple-Choice)	Field Formula (If Applicable)
Subtask Name	Text		
Subtask Description	Text - Multi-Line		
Subtask StartDate	Date		
Subtask EndDate	Date		
Subtask Duration	Formula - Numeric		TimeSpan([subtask_startdate], [subtask_enddate], "days")
Subtask Estimated TE	Numeric		
Subtask Status	Text - Multiple-Choice	Open In Progress Completed Deferred Canceled	



The **Fields** screen will display the list of fields that exist on the selected table. You will notice these additional fields that will be automatically created by Ignatius for each Table:

- **Record Id:** Ignatius automatically creates this field for each table. The Record ID will simply automatically generate and increment a unique number for each new record added to a Table. This is called a **Primary Key**.

A **Primary Key** is the **column** on a data table that **uniquely identifies each record in the table**. It is used to ensure that each record in the table is unique and can be easily identified. A primary key cannot be null (i.e. empty), and is unique across all records in the table.
























For example, the Record ID in the **Resources** Table below allows you to differentiate between two resources with the same name.

Record ID (Primary Key)	First Name	Last Name	Email Address	Employee ID	Job Title
1	John	Doe	john1@mail.com	512001	Project Manager
2	Jane	Brown	jane@mail.com	658756	Senior Analyst
3	Matt	Smith	matt@mail.com	789524	Associate Analyst
4	John	Doe	john2@mail.com	257855	System Engineer

Notice these are 2 *Resources* named **John Doe**, but based on their email address, and/or employee ID, we know that they are 2 **different** Resources. With just their name, these 2 records would look like duplicate records (which we should always avoid when storing data). However, in this case, the record ID allows us to identify these records as separate resources.

Note: Technically, since the Employee ID is unique, it could also serve as the Primary Key of the Resource Table, however as a best practice when building with Ignatius, we recommend that you use the Record ID automatically generated by Ignatius, even if you already have a Unique Identifier.

- **Date Created:** Ignatius will automatically record the date/time on which a record was created
- **Date Modified:** Ignatius will automatically record the date/time on which a record was last updated
- **Created By:** Ignatius will automatically record the user who created a record
- **Modified By:** Ignatius will automatically record the user who last updated a specific record

Actions	Field Id ^	Name ^	Database Name ^	Type ^	Status ^
	#45788	Record Id 📌	id	Primary Key	-
	#45789	Date Created	datecreated	Timestamp	-
	#45790	Date Modified	datemodified	Timestamp	-
	#45791	Created By	createdby	User	-
	#45792	Modified By	modifiedby	User	-
  	#45793	First Name	first_name	Text	-
  	#45794	Last Name	last_name	Text	-
  	#45795	Employee ID	employee_id	Text	-
   	#45796	FullName EmployeeID	fullname_employeeid	Formula - Text	Succeed
 	#46007	Department	department	Text - Multiple Choice	-
 	#46008	Resource Role	resource_role	Text - Multiple Choice	-
 	#46009	Week Start	week_start	Text - Multiple Choice	-
 	#46010	Workday Length	workday_length	Numeric	-
 	#46011	Hourly Rate	hourly_rate	Currency	-

Conclusion

This completes the first section of the development of the Project Management Application. As a recap, to create a new application in Ignatius, you will follow these steps:

1. Identify the entities of your application to determine the Tables that will be required
2. For each table, identify the Fields required to track the necessary information
3. Log in to Ignatius and create a new Application
4. Within your application, create the Tables required for your application
5. For each Table, add the necessary fields. Utilize the appropriate types of fields to keep your data normalized. For example, use multiple choice and dates instead of text when appropriate, and use formulas if you wish to calculate values based on other fields.

In the next section, we will cover Relationships between the tables.

Creating Relationships between Data Tables

Lesson II: Table Relationships

Once you define the tables and fields needed for your application, you will also need to build your data model or database schema. The data model is a way of organizing and structuring data tables within a database to define Table Relationships. As mentioned previously, **Relationships** are used to link data between different tables.

For example, in the Project Management App, the **Tasks** Table can be linked to the **Projects** Table in order to specify which project each task belongs to.

The most common type of relationships is the one-to-many relationship, where one record in one table corresponds to one or many records in another table. For example, **one project** from the **Projects** Table may be composed of **multiple project tasks** on the **Tasks** Table.

For example, the *project Titan* currently contains **multiple tasks**, so a relationship can be created between the **Projects** and **Tasks** Tables, so that the project information (such as project name) can be pulled into the Tasks Table (as shown below).

Tasks Table

Project	Task No.	Task Description	Start Date	End Date	Task Status	Assigned Resource
Titan Project	1.00	Gather & Define Requirements	1/01/23	1/14/23	Completed	John Doe
Titan Project	2.00	Solution Design	1/14/23	2/01/23	In Progress	John Doe
Titan Project	3.00	Configuration	2/02/23	2/20/23	Open	John Doe
Titan Project	4.00	Testing	3/01/23	4/01/23	Open	John Doe

Notice the **Project** Field on the **Tasks** Table. In this example, the Titan Project has 4 different Project Tasks. To keep your database schema structured and organized, a Relationship can thus be created between the **Tasks** Table and the **Projects** Table. This Relationship will allow you to access Project Data directly from the Task Table and also summarize Task Data at the Project Level (more on this later!).

Primary Keys and Foreign Keys

As mentioned previously, to create a Relationship between two tables, we use Table **Keys**. A key is a column/field on a table that uniquely identifies each record in the table. There are two types of keys used in a relational database:

1) Primary Keys

As a recap, a **Primary Key** is the **column** on a data table that **uniquely identifies each record in the table**. It is used to ensure that each record in the table is unique and can be easily identified. This is the **Record ID** in Ignatius.

As a recap, the Record ID is automatically created for you by Ignatius and will automatically generate a unique number identifier for each record.

For example, the Record ID in the **Resources** Table below allows you to differentiate between two resources with the same name. The Ignatius **Record ID** is the **Primary Key** that helps us easily uniquely identify each Resource. Record ID 1 identifies Resource John Doe with employee ID 512001, and Record ID 4 identifies Resource John Doe with employee ID 257855.

Record ID (Primary Key)	First Name	Last Name	Email Address	Employee ID	Job Title
1	John	Doe	john1@mail.com	512001	Project Manager
2	Jane	Brown	jane@mail.com	658756	Senior Analyst
3	Matt	Smith	matt@mail.com	789524	Associate Analyst
4	John	Doe	john2@mail.com	257855	System Engineer

2) Foreign Keys

A foreign Key is a column in a table that relates to another table. It links a table to another.

For example, in the **Tasks** Table, we can use a foreign key to link each task to the resource assigned to it (the Resource responsible for completing the task). The **foreign key** would be a **column** in the **Tasks** Table that matches the **primary key** of the **Resources** Table.

The **Tasks** Table would look like the following with a Foreign Key for Resources. The following also shows the relationship between the Tasks and Resources Table.

Tasks Table

Project	Task No.	Task Description	Start Date	End Date	Task Status	Related Resource (Foreign Key)
Titan Project	1.00	Gather & Define Requirements	1/01/23	1/14/23	Completed	1
Titan Project	2.00	Solution Design	1/14/23	2/01/23	In Progress	1
Titan Project	3.00	Configuration	2/02/23	2/20/23	Open	1
Titan Project	4.00	Testing	3/01/23	4/01/23	Open	1
Titan Project	5.00	Training	3/20/23	5/01/23	Open	2
Titan Project	6.00	Support	5/01/23	6/01/23	Open	2

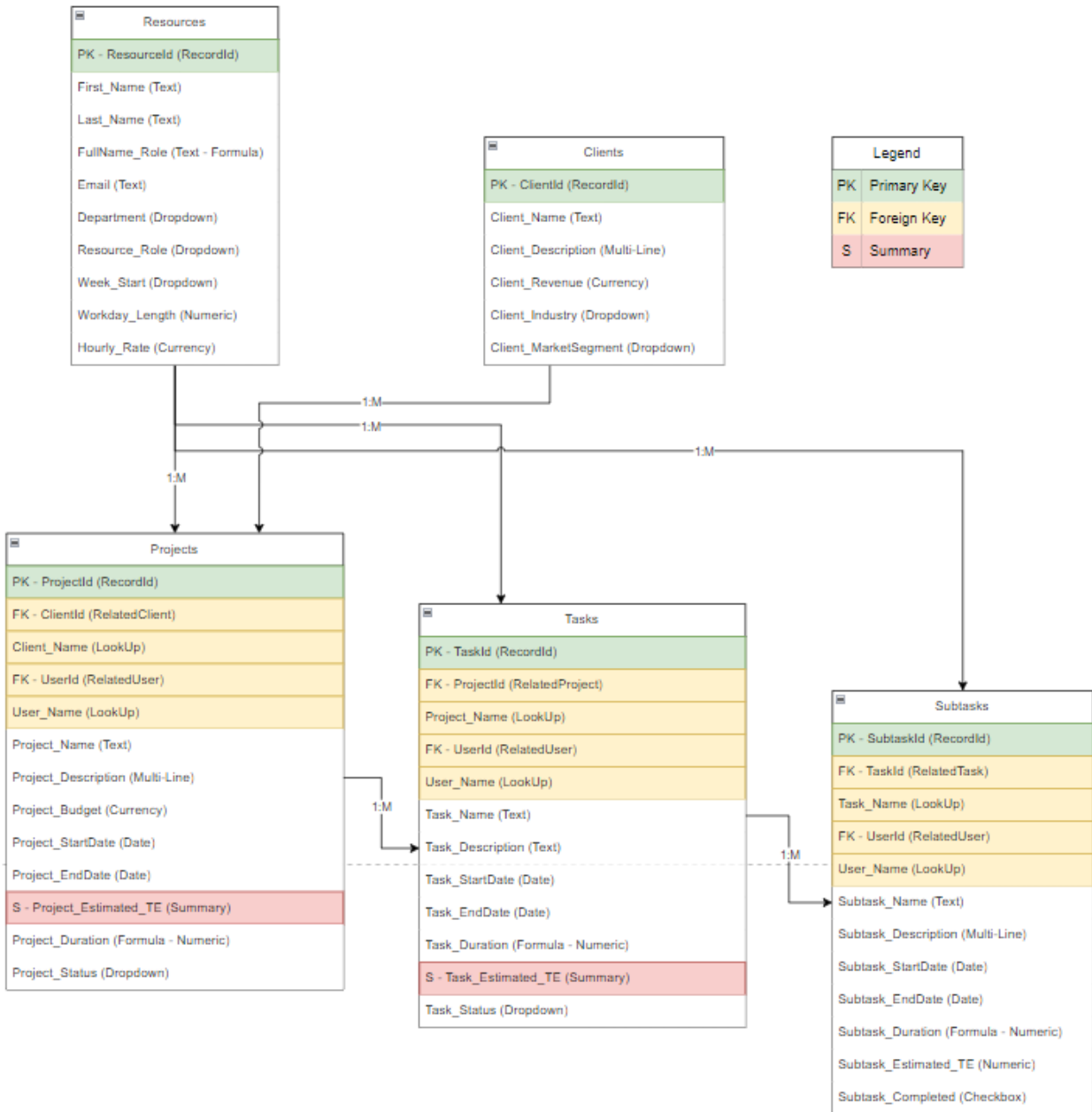
Resources Table

Record ID (Primary Key)	First Name	Last Name	Email Address	Employee ID	Job Title
1	John	Doe	john1@mail.com	512001	Project Manager
2	Jane	Brown	jane@mail.com	658756	Senior Analyst
3	Matt	Smith	matt@mail.com	789524	Associate Analyst
4	John	Doe	john2@mail.com	257855	System Engineer

In this example, the **Tasks 1.00 to 4.00** in the **Tasks** Table are assigned to **Related Resource 1** which relates back to Record ID 1 (John Doe with Employee ID 512001) in the **Resources** Table. The **Related Resource** on the **Tasks** Table is the **Foreign Key** that relates to the **Primary Key** (Record ID) of the **Resources** Table.

Primary Keys and **Foreign Keys** are important to understand for you to establish relationships between tables in a database. With relationships between tables, you can ensure that your data is accurate, integrous and consistent. Relationships also allow you to easily access and analyze data across multiple tables.

Refer to the Database Schema below for view of the required Relationships for the Project Management Application.



Practice Lesson II: Project Management App

Now that you have built the tables, fields, and formulas, you must create the relationships between the tables of your application. Table relationships are essential in database design as it allows the tables to be connected and interact in a structured manner. This also enables efficient data retrieval and management while avoiding data duplication and inconsistency for the best possible accuracy and integrity.

More importantly, table relationships enable you to perform complex queries and generate reports that combine data from multiple tables.

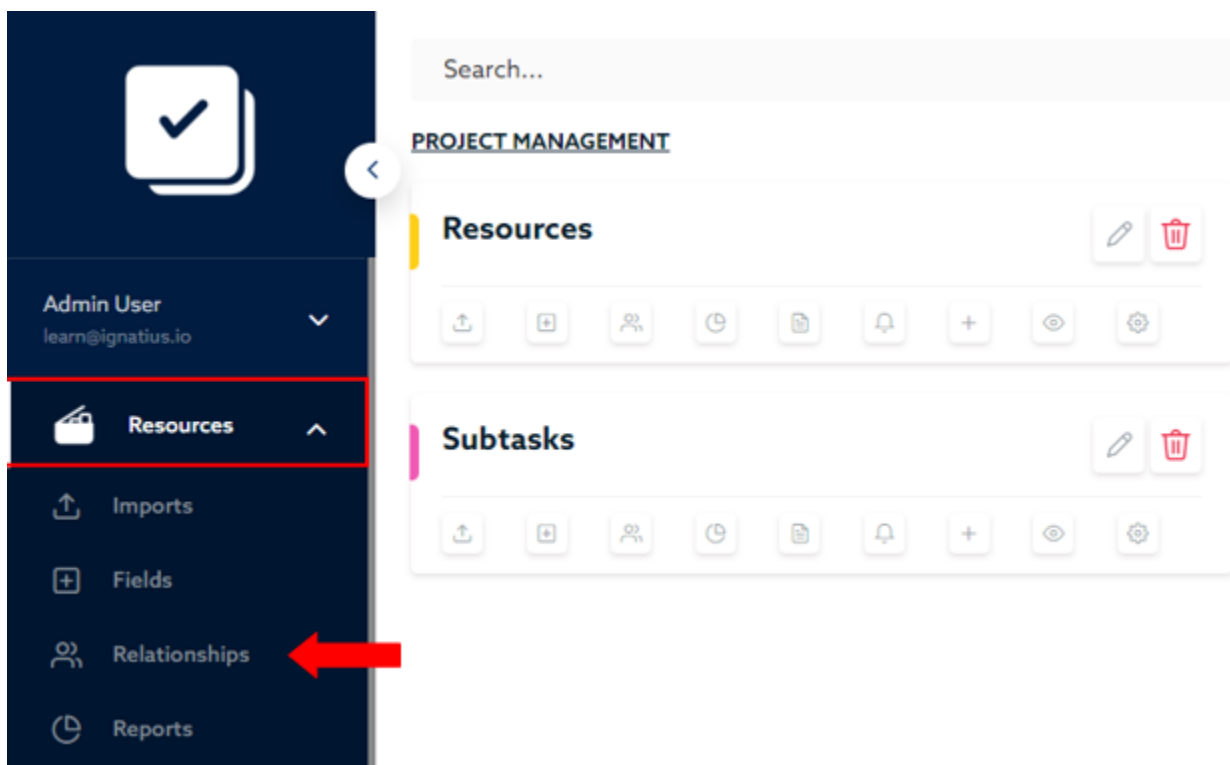
Before you start creating relationships, make sure you have your data model defined to visualize how your tables will relate to another.

Before you follow the steps below, it is helpful to refer to your Project Management App schema (shown in the previous section) to help you visualize the relationships you are about to build.

Resources - Table Relationships:

We will now create the first Table Relationship in our app. Follow the below steps to create a Relationship between **Resources** and **Projects**:

1. Select the Resources table on the left-hand navigator. From the dropdown menu displayed, select the Relationships option.



- When redirected to the Relationships screen, select the **Add Relation** button in the top right corner to create our first.
- Enter the below information on the next screen and save the relationship.

Resources to Projects - Relationship:

Table Name	Projects
For This Relationship Which is True	Each Resource may have many Projects
Key Field	Record Id
Proxy Field	Record Id

- Once you have saved your first relationship between Resources and Projects, select **Add Relation** again to add the next relationship between **Resources** and **Tasks**:










Table Name	Tasks
For This Relationship Which is True	Each Resource may have many Tasks
Key Field	Record Id
Proxy Field	Record Id

- Next, select **Add Relation** again to add the next relationship between **Resources** and **Subtasks**:

Table Name	Subtasks
For This Relationship Which is True	Each Resource may have many Subtasks
Key Field	Record Id
Proxy Field	Record Id

- Your **Resources** Table Relationships should be listed as displayed in the image below.

PROJECT MANAGEMENT | RESOURCES

Action	Name	Description
 	Resources  Projects	Resources Has many Projects
 	Resources  Tasks	Resources Has many Tasks
 	Resources  Subtasks	Resources Has many Subtasks

- Repeat the same steps to create Relationships for the other tables:




Clients - Table Relationship:

Repeat the same steps from above to create Relationships for the **Clients** Table:

Clients > Relationships > Enter the following:

Table Name	Projects
For This Relationship Which is True	Each Client may have many Projects
Key Field	Record Id
Proxy Field	Record Id

PROJECT MANAGEMENT | [CLIENTS](#)

Action	Name	Description
 	Clients  Projects	Clients Has many Projects

Relationship Visualization

[View](#)

Projects - Table Relationship:

Repeat the same steps from above to create Relationships for the **Projects** Table:

Projects > Relationships

Note: You will find existing relationships you previously created for the Projects.

Enter the following information:

Table Name	Tasks
For This Relationship Which is True	Each Project may have many Tasks
Key Field	Record Id
Proxy Field	Record Id










Note: Notice the difference between the descriptions of the relationships.

Tasks to Subtasks Relationship:

Repeat the same steps from above to create Relationships for the **Tasks** Table:

Tasks > Subtasks > Enter the following:

Table Name	Subtasks
For This Relationship Which is True	Each Task may have many Subtasks
Key Field	Record Id
Proxy Field	Record Id

Action	Name	Description
 	Tasks  Resources	Tasks Belongs to Resources
 	Tasks  Projects	Tasks Belongs to Projects
 	Tasks  Subtasks	Tasks Has many Subtasks

Relationship Visualization

[View](#)

This completes the **Data Table Relationships** of your environment. The next lessons will cover Importing Data into Ignatius before we start adding LookUp and Summary Fields.

Importing Data

Lesson III: Adding Data into Ignatius

You now have the following in your Project Management Environment:

1. Tables
2. Fields
3. Formulas
4. Relationships

Once Tables are created in Ignatius, you can start adding data into the platform. In Ignatius, data can be **created manually** or **by import** if you have existing external records from files or other applications.

There are multiple ways to import data in Ignatius, including the following:

- Copy/Paste from an Excel Spreadsheet
- Import a CSV File from your local computer.

For this training, we will only focus on these two. Please refer to the Ignatius knowledge base for details on the other methods.

Once Data is added or imported into Ignatius, you will be able to view your data via Ignatius **Reports**. With Table Reports, you can customize table views to display specific information.

In the next section, we will briefly go over reports so you can view the data imported. We will go over reports in more detail later in this guide.

Adding Data into Tables with Relationships:

When adding data into a Table, you will have to consider whether the Table has a Relationship. so you can specify the Related Record from the Related Table.

For example, if you are adding a new Project into the Projects Table, you will have to specify the Related Client from the Clients Table. To specify the Related Client, you will simply specify the Record ID of the Client Record.

For example, consider the **Clients** Table below.

Record ID	Client Name	Contact Name	Revenue	Industry
1	Acme Inc	John Smith	\$ 50,000.00	Manufacturing
2	Widget Co	Jane Doe	\$ 100,000.00	Technology
3	Globex Corp	Bob Johnson	\$ 75,000.00	Consulting

If you were to add a **Project** for the **client Globex Corp**, you would create a **Project** into the **Projects** Table, and select **Globex Corp** as the **Related Client**.

If you are adding this project via **Import**, you will specify the **Related Client** as **Globex Corp** by simply specifying its Client **Record ID** from the **Clients** Table (i.e. you would retrieve the **Record ID** of that client in the **Clients** Table). In this case, the Record ID from the Clients Table for Globex Corp is 3.

Record ID	Client Name	Contact Name	Revenue	Industry
1	Acme Inc	John Smith	\$ 50,000.00	Manufacturing
2	Widget Co	Jane Doe	\$ 100,000.00	Technology
3	Globex Corp	Bob Johnson	\$ 75,000.00	Consulting

Your import file will look like the below. The “**Related Clients**” column will specify the Record ID from the **Clients** Table.

	A	B	C	D	E	F	G	H
1	Project Name	Project Description	Project Budget	Project Start Date	Project End Date	Project Status	Related Clients	
2	IT System Migration	This project involves migrating the company's	\$120,000	3/1/2022	9/23/2022	Completed	3	
3								
4								
5								
6								
7								

Notice the Related Clients Column in the Import file.

Record ID	Client Name	Contact Name	Revenue	Industry
1	Acme Inc	John Smith	\$ 50,000.00	Manufacturing
2	Widget Co	Jane Doe	\$ 100,000.00	Technology
3	Globex Corp	Bob Johnson	\$ 75,000.00	Consulting

	A	B	C	D	E	F	G	H
1	Project Name	Project Description	Project Budget	Project Start Date	Project End Date	Project Status	Related Clients	
2	IT System Migration	This project involves migrating the company	\$120,000	3/1/2022	9/23/2022	Completed	3	
3	Website Redesign	This project involves redesigning the compa	\$35,000	2/1/2023	9/30/2023	In Progress	2	
4								
5								
6								

Practice Lesson III: Import Data into Ignatius

In this section, you will first learn how to import data from CSV files. Once the data is created/imported into Ignatius, you will also learn how to view the data in the data tables; you will be able to customize the table views via **reports** to display the information you wish to view in Ignatius.

Ignatius provides a few options to import data into your tables:

1. Paste CSV Text
2. CSV Import
3. CSV Endpoint

In this guide, we will cover the first two options.

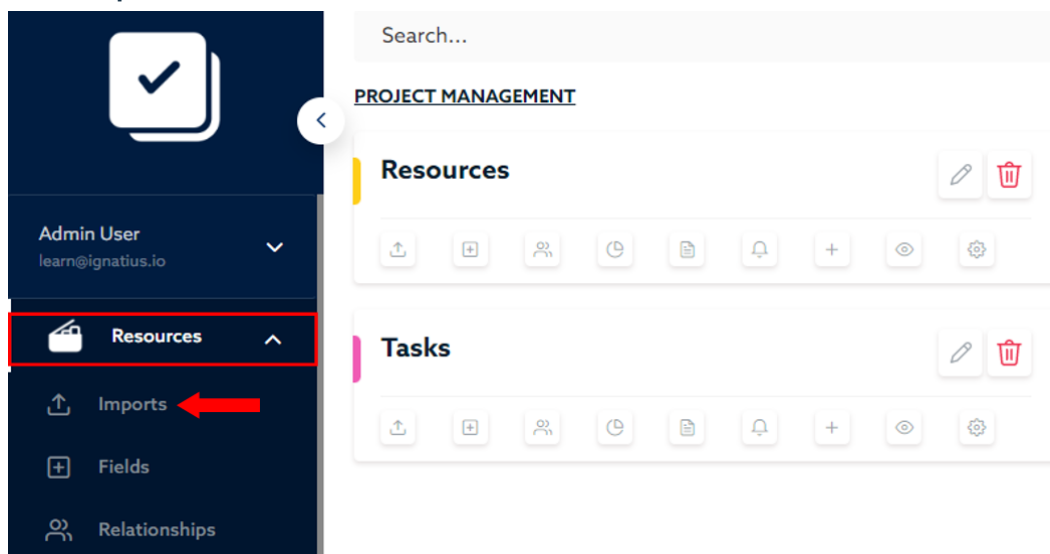
First, download the CSV import files provided by this training program [here](#).

Once you have downloaded all the sample files, you can follow the steps below to begin the importing process.

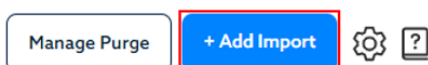
Practice # 1: Import Resources with **Paste CSV Text Method**

For the following guide steps, you will use the file **Resources Example DB.csv** file to import into the **Resources** Table. Please download the file from the [link](#) provided, if you have not already.

1. In your Project Management App, expand the **Resources** Table on your left-hand navigator and select **Import**.



2. On the screen displayed, select the **+ Add Import** button at the top-right of the screen.



- The next screen will provide some options that will determine how you wish to import the file into your table. From the **Import Type** drop-down, select **Paste CSV Text**.

Search...

PROJECT MANAGEMENT | RESOURCES

Import Data Import Type

Import type

Paste CSV Text

Paste template data without column headers here...

- Open the **Resources Example DB.csv** file that you previously downloaded.

Desktop > IAF - PM Template DB

Search IAF - PM Template DB

Name	Date modified	Type	Size
Clients Example DB	3/8/2023 12:31 PM	Microsoft Excel C...	1 KB
Projects Example DB	3/7/2023 1:31 PM	Microsoft Excel C...	2 KB
Resource Example DB	3/8/2023 12:22 PM	Microsoft Excel C...	2 KB

- Select **ALL populated cells** (only the populated rows and columns) in the CSV file and copy the data. You can use the Copy command (CTRL+C).

First Name	Last Name	Employee ID	Email	Department	Resource Role	Week Start	Workday Length	Hourly Rate
John	Doe	123456	john.doe@example.com	Sales/Marketing	Program Director	Monday	8	100
Jane	Smith	234567	jane.smith@example.com	Accounting/Finance	Sr. Analyst	Monday	8	80
Mike	Johnson	345678	mike.johnson@example.com	IT	Implementation Specialist	Monday	8	70
Sarah	Lee	456789	sarah.lee@example.com	Sales/Marketing	Sales Coordinator	Monday	8	60
David	Kim	567890	david.kim@example.com	IT	System Engineer	Monday	8	90
Jessica	Brown	678901	jessica.brown@example.com	Sales/Marketing	Project Manager	Monday	8	75
Eric	Davis	789012	eric.davis@example.com	Accounting/Finance	Account Manager	Monday	8	85
Karen	Wilson	890123	karen.wilson@example.com	Operations Management	Analyst	Monday	8	65
Steven	Taylor	901234	steven.taylor@example.com	Human Resources	Program Director	Monday	8	100
Mary	Johnson	123454	mary.johnson@example.com	IT	Sr. Analyst	Monday	8	80
Rachel	Hernandez	987654	rachel.hernandez@example.com	Sales/Marketing	Sr. Analyst	Monday	8	85
Michael	Martinez	876543	michael.martinez@example.com	Accounting/Finance	Account Manager	Monday	8	95
Sarah	Wilson	765432	sarah.wilson@example.com	Operations Management	Implementation Specialist	Monday	8	75
Eric	Garcia	654321	eric.garcia@example.com	Human Resources	Program Director	Monday	8	110
Vanessa	Rodriguez	543210	vanessa.rodriguez@example.com	IT	Project Manager	Monday	8	80
Anthony	Johnson	432109	anthony.johnson@example.com	Sales/Marketing	Analyst	Monday	8	70
Lisa	Nguyen	321098	lisa.nguyen@example.com	Accounting/Finance	Sales Coordinator	Monday	8	65

- Go back to Ignatius. Use the **Paste** command (**CTRL+V**) to Paste the data into Ignatius. Ignatius will organize the data in the same format as the CSV file (same columns as in the file) .

You will need to map the columns from the file to the Table Fields in Ignatius. From the drop-down options displayed, select the corresponding Ignatius fields for each column.

Note: The mapping process is more straightforward if the column headers in your CSV Files match the Table Fields Name in Ignatius. If you named them differently, you must search for the correct field names from the dropdowns.

PROJECT MANAGEMENT | RESOURCES

1

Import Data

2

Import Type

Import type

Paste CSV Text

Anthony Johnson 432109 anthony.johnson@example.com Sales/Marketing Analyst Monday 8 70
Lisa Nguyen 321098 lisa.nguyen@example.com Accounting/Finance Sales Coordinator Monday 8 65

First Name

Last Name

Employee ID

Email

Type here

Type here

Type here

Type here

First Name	Last Name	Employee ID	Email	Department	Resource Role	Week Start	Workday Length
John	Doe	123456	john.doe@example.com	Sales/Marketing	Program Director	Monday	8
Jane	Smith	234567	jane.smith@example.com	Accounting/Finance	Sr. Analyst	Monday	8
Mike	Johnson	345678	mike.johnson@example.com	IT	Implementation Specialist	Monday	8

Pros and Cons of Using **Paste CSV Text** for Import:

Pros	Cons
Easy to Import: It is a straightforward way to import data into an application. You can copy and paste from spreadsheets or other sources directly into the application without having to save and upload the file.	Human Error: Since data is manually pasted into the application, there is a possibility of human error while copying and pasting data. This can result in incorrect data being imported into the application.
Flexibility: It allows you to copy and paste from any source, such as emails, web pages, or documents.	Data Validation: Data validation is essential to ensure that the data is accurate and consistent.
Time-Saving: It saves you time as you do not have to go through the process of formatting data and exporting it to a CSV file.	Formatting Issues: CSV formatting can be sensitive to formatting issues, such as missing commas, quotation marks, or line breaks. If you do not format the data correctly, it may not import into the application.

Practice # 2: Import Clients with CSV File Method

For the following guide steps, you will use the file **Clients Example DB.csv** file to import into the **Clients** Table. Please download the file from the [link](#) provided, if you have not already.

1. In your Project Management App, expand the **Clients** Table on your left-hand navigator and select **Import**.
2. On the screen displayed, select the **+ Add Import** button at the top-right of the screen.
3. The next screen will provide some options that will determine how you wish to import the file into your table. From the **Import Type** drop-down, select **CSV File**.

Next, select the **Choose File** option, and import the **Clients Example DB.csv** from your desktop.

Select **Next** once you've chosen the file.

PROJECT MANAGEMENT | CLIENTS

1 Import Data ————— 2 Import Type ————— 3 Field Mapping

Import type

CSV File

Description

CSV File:

Choose File Clients Example DB.csv

4. The next screen provides a few import options. For this exercise, you will select the **Insert New** import option.

PROJECT MANAGEMENT | RESOURCES

1 Import Data ————— 2 Import Type ————— 3 Field Mapping

Insert New Update & Insert New Sync - Match Import Data

Below is the list of import options along with their description.

Insert New	This function will always add new records to the application. Only use this function when adding non-existing records. Note: this function might create duplicate records as it always inserts new records even if they might already exist.
Update	This function will simply update existing records. For example, if you want to update a list of existing resources with new emails, the "Update" function would modify the existing resource records with the new email information. If there were any records in your file that did not exist in Ignatius, these records would be ignored.
Update & Insert New	This function allows you to update existing data and insert new data simultaneously. For example, if you have a list of resources with existing records that need to be updated as well as new records that need to be added, the "Update & Insert New" function would modify the existing records and add the new records as new entries. This is the best option to use to avoid creating duplicate records.
Sync - Match Import Data NOT RECOMMENDED for inexperienced users.	<p>This function allows you to synchronize data in Ignatius with an external source. This will completely replace the data in Ignatius with the data on the file being imported. Records that exist in Ignatius, but do not exist in your file will be removed from Ignatius.</p> <p>Use this option ONLY when necessary. Only the records on your file will exist in Ignatius.</p>


- On the next screen, select the **Quick Map** button. This will automatically map the fields from your file to the fields with matching names in Ignatius. Note: The Quick Map will only map Source Fields (CSV File) to Ignatius Fields if they are an **exact match**. If you use the file we provided for this lesson, all fields should match.

... | CLIENTS

1 Import Data 2 Import Type 3 Field Mapping

Field Mapping



Source Field		Ignatius Field		
Client Name	→	Client Name	<input type="radio"/> Do not Import <input checked="" type="radio"/> To Existing Field	+ CREATE NEW FIELD
Client Description	→	Client Description	<input type="radio"/> Do not Import <input checked="" type="radio"/> To Existing Field	+ CREATE NEW FIELD
Client Revenue	→	Client Revenue	<input type="radio"/> Do not Import <input checked="" type="radio"/> To Existing Field	+ CREATE NEW FIELD
Client Industry	→	Client Industry	<input type="radio"/> Do not Import <input checked="" type="radio"/> To Existing Field	+ CREATE NEW FIELD
Client MarketSegment	→	Client Market Segment	<input type="radio"/> Do not Import <input checked="" type="radio"/> To Existing Field	+ CREATE NEW FIELD



Note: The import function provides additional functionalities that can be helpful in certain circumstances. This lesson will not cover these additional features; however you can find helpful articles inside the Ignatius Knowledge Base on how/when to use **+ Create New Field** and/or **Filter Data** options.

6. Next, select **Save Changes** when you're ready to import your CSV File into your Clients Table.
7. Ignatius will display information related to your Import along with a status specifying whether the import was successful. Confirm that the total number of **New** records displayed matches the number of records on your import file (minus the column header).

PROJECT MANAGEMENT | **RESOURCES**

Action	Name	Type	Last run	Result	Status	Created By
	default1678324381997	 csv	03/08/2023 8:13 PM EST	Deleted: 0 Errors: 0 New: 17 Updated: 0 Updates Not Found: 0 Time Taken: 0.2 sec	Succeed	learn@ignatius.io

Practice #3: Import Projects

Next you will repeat the import process with the method of your choice for the Projects Data. Download the **Projects Example DB.csv** file [here](#).

Select the method you prefer and repeat the steps from the previous sections, this time going into the **Projects** Table. You can select the Paste CSV Text or the CSV File method.

Practice #4: Import Tasks

Next you will repeat the import process with the method of your choice for the Tasks Data. Download the **Tasks Example DB.csv** file [here](#).

Select the method you prefer and repeat the steps from the previous sections, this time going into the **Tasks** Table. You can select the Paste CSV Text or the CSV File method.

Practice #5: Import Subtasks

Next you will repeat the import process with the method of your choice for the Subtasks Data. Download the **Subtasks Example DB.csv** file [here](#).

Select the method you prefer and repeat the steps from the previous sections, this time going into the **Subtasks** Table. You can select the Paste CSV Text or the CSV File method.

Viewing your Data in Ignatius

Lesson IV: Viewing the Data in Ignatius

Once Data is added or imported into Ignatius, you will be able to view your data via Ignatius **Reports**. With Table Reports, you can customize table views to display specific information.

In this section, we will briefly go over reports so you can view the data imported. We will go over reports in more detail later in this guide.

When a Table is created in Ignatius, a Default Report is also automatically created. This is called the “List All” Report which uses a standard Table View. When this report is automatically created, it will only contain the original immutable fields that are auto-generated when creating tables. The immutable fields are: Record ID, Created By, Modified By, Date Created, and Date Modified.

When the List All Report is first created by Ignatius, it will only display these fields, and it will also be set as the Default Report for the Table. You will have the option to edit the report to select the fields you wish to view.

Practice Lesson IV: Default Report in Ignatius

View the Default List All Report for Resources

To view the data in the **Resources** Table, select the **View Resources** option on the left-hand navigator under the **Resources** Table. This option displays the set **Default** Report, which is currently the auto generated **List All Report**.

This will display all the records in the **Resources** Table. You will notice that only the Ignatius auto-generated fields are displayed. In the next section we will go over the steps to edit a report to display other fields.

Search...

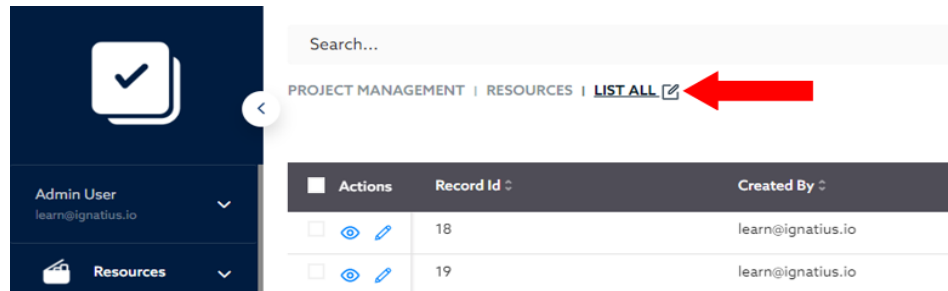
PROJECT MANAGEMENT | RESOURCES | LIST ALL

Actions	Record Id	Created By	Modified By	Date Created	Date Modified
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	18	learn@ignatius.io	learn@ignatius.io	03/08/2023 20:13:00 PM EST	03/08/2023 20:13:00 PM EST
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	19	learn@ignatius.io	learn@ignatius.io	03/08/2023 20:13:00 PM EST	03/08/2023 20:13:00 PM EST
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	20	learn@ignatius.io	learn@ignatius.io	03/08/2023 20:13:00 PM EST	03/08/2023 20:13:00 PM EST
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	21	learn@ignatius.io	learn@ignatius.io	03/08/2023 20:13:00 PM EST	03/08/2023 20:13:00 PM EST
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	22	learn@ignatius.io	learn@ignatius.io	03/08/2023 20:13:00 PM EST	03/08/2023 20:13:00 PM EST
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	23	learn@ignatius.io	learn@ignatius.io	03/08/2023 20:13:00 PM EST	03/08/2023 20:13:00 PM EST
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	24	learn@ignatius.io	learn@ignatius.io	03/08/2023 20:13:00 PM EST	03/08/2023 20:13:00 PM EST
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	25	learn@ignatius.io	learn@ignatius.io	03/08/2023 20:13:00 PM EST	03/08/2023 20:13:00 PM EST
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	26	learn@ignatius.io	learn@ignatius.io	03/08/2023 20:13:00 PM EST	03/08/2023 20:13:00 PM EST
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	27	learn@ignatius.io	learn@ignatius.io	03/08/2023 20:13:00 PM EST	03/08/2023 20:13:00 PM EST
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	28	learn@ignatius.io	learn@ignatius.io	03/08/2023 20:13:00 PM EST	03/08/2023 20:13:00 PM EST
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	29	learn@ignatius.io	learn@ignatius.io	03/08/2023 20:13:00 PM EST	03/08/2023 20:13:00 PM EST
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	30	learn@ignatius.io	learn@ignatius.io	03/08/2023 20:13:00 PM EST	03/08/2023 20:13:00 PM EST
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	31	learn@ignatius.io	learn@ignatius.io	03/08/2023 20:13:00 PM EST	03/08/2023 20:13:00 PM EST
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	32	learn@ignatius.io	learn@ignatius.io	03/08/2023 20:13:00 PM EST	03/08/2023 20:13:00 PM EST

Showing 1 to 17 of 17 entries

Edit the Default List All Report for Resources

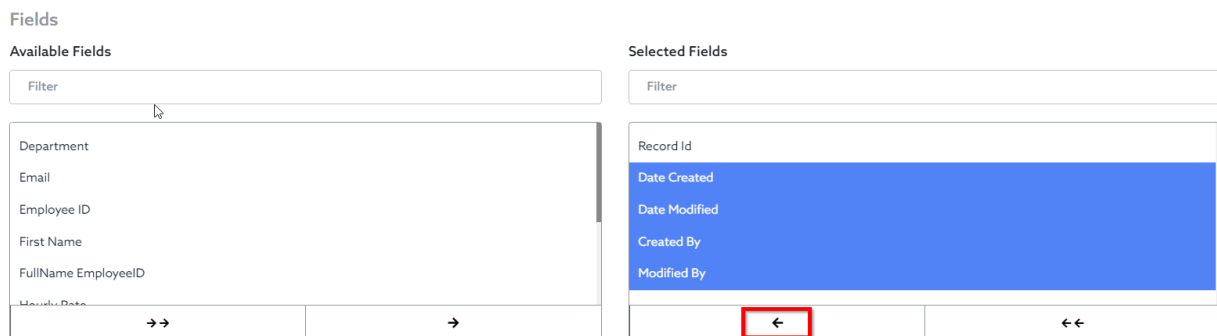
1. While still viewing the List All Report for **Resources** from the previous step, select the **edit icon** on the breadcrumb trail at the top.



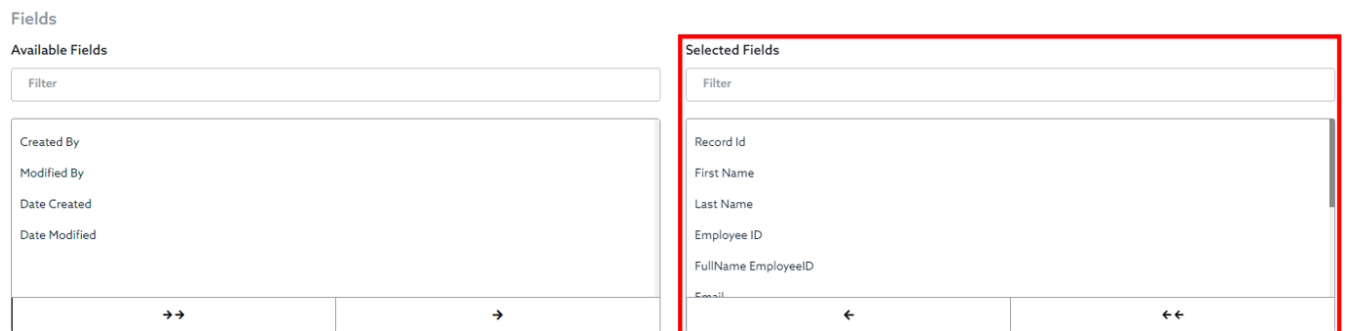
The Report **Edit Screen** will be displayed for the **List All** Report. Here you can edit the report name, add a report description, and add or remove fields from the report. Additionally, you can create filtered reports that are sorted and grouped.

2. Under the Fields Section, you can use the arrows to move fields from Available to Selected to add columns to the report, and move the fields from Selected to Available to remove columns from the report. Start by removing: **Created By**, **Modified By**, **Date Created**, and **Date Modified** from the **Selected Fields List**.

Note: You can select multiple fields at once and then move them with the left arrow or move the unwanted fields one by one.



3. Select the following fields from the Available Fields List to move them to the Selected Fields List: **First Name**, **Last Name**, **Employee ID**, **FullName Employee ID**, **Email**, **Department**, **Resource Role**, **Week Start**, **Workday Length**, and **Hourly Rate**. They should all be showing under the **Selected Fields** as shown below.



Note: You can create as many customs (filtered and grouped) reports as you'd like in Ignatius. However, only one default report can be selected to be displayed when viewing the specific table. If you wish to utilize multiple reports, you can use the Ignatius Dashboard function, which you will learn about later in the guide.

- Now that you have modified your Default Report “**List All**” Report, the table for your resources should match the CSV file you uploaded. The screenshot below displays the column headers we updated in our previous step and our new table report.

The screenshot displays the Ignatius application interface. On the left, a dark blue sidebar contains navigation options. The 'View Resources' option, represented by an eye icon, is highlighted with a red arrow. The main content area shows a table of resources. The table has a red header row with the following columns: Actions, Record Id, First Name, Last Name, Employee Id, Fullname Employeeid, Email, Department, Resource Role, Week Start, Workday Length, and Hourly Rate. The table contains 7 visible rows of data, with a total of 17 entries as indicated by the 'Showing 1 to 17 of 17 entries' text at the bottom left of the table.

Actions	Record Id	First Name	Last Name	Employee Id	Fullname Employeeid	Email	Department	Resource Role	Week Start	Workday Length	Hourly Rate
<input type="checkbox"/>	18	John	Doe	123456	John Doe - 123456	john.doe@exar	Sales/Marketing	Program Director	Monday	8	\$100.00
<input type="checkbox"/>	19	Jane	Smith	234567	Jane Smith - 234567	jane.smith@ex	Accounting/Finan	Sr. Analyst	Monday	8	\$80.00
<input type="checkbox"/>	20	Mike	Johnson	345678	Mike Johnson - 345678	mike.johnson@i	IT	Implementation Specialist	Monday	8	\$70.00
<input type="checkbox"/>	21	Sarah	Lee	456789	Sarah Lee - 456789	sarah.lee@exar	Sales/Marketing	Sales Coordinator	Monday	8	\$60.00
<input type="checkbox"/>	22	David	Kim	567890	David Kim - 567890	david.kim@exa	IT	System Engineer	Monday	8	\$90.00
<input type="checkbox"/>	23	Jessica	Brown	678901	Jessica Brown - 678901	jessica.brown@i	Sales/Marketing	Project Manager	Monday	8	\$75.00
<input type="checkbox"/>	24	Eric	Davis	789012	Eric Davis - 789012	eric.davis@exa	Accounting/Finan	Account	Monday	8	\$85.00

Showing 1 to 17 of 17 entries

Adding Lookup Fields

Lesson V: Lookup Fields in Ignatius

To understand **Lookup Fields**, we will briefly recap **Table Relationships**: a Table Relationship defines how two tables relate to each other. Table Relationships are often referred to as “**Parent-Child**” Relationships.

The table that has the Primary Key in the relationship is the **Parent table** and the table that has the Foreign Key is the **Child table**. In other words, the **Parent Record** will have one or more Child **Records**. For example:

- A Client can request multiple Projects, so in this case, the **Clients** Table is the Parent Table, and the **Projects** Table is the Child Table.
- A Project can be broken down into multiple tasks (whereas a specific Project Task can only have one project). In this case, the **Projects** Table is the Parent Table, and the **Tasks** Table is the Child Table.

As mentioned earlier, **Relationships** allow you to easily access data across multiple tables. In other words, you can easily access data from a Parent Table directly from a Child Table. You will be able to pull down **fields from the Parent Table** to display them **directly into the Child Table**. These fields are what are called “Look Up Fields” on a Child Table.

For example, let’s consider the **Resources (Parent) to Tasks (Child) Table Relationship**. When viewing the Tasks Table (as in the example below), we know that Tasks 1.00 to 4.00 are assigned to the Related Resource with Record ID 1.

Tasks Table – CHILD TABLE

Project	Task No.	Task Description	Start Date	End Date	Task Status	Related Resource (Foreign Key)
Titan Project	1.00	Gather & Define Requirements	1/01/23	1/14/23	Completed	1
Titan Project	2.00	Solution Design	1/14/23	2/01/23	In Progress	1
Titan Project	3.00	Configuration	2/02/23	2/20/23	Open	1
Titan Project	4.00	Testing	3/01/23	4/01/23	Open	1
Titan Project	5.00	Training	3/20/23	5/01/23	Open	2
Titan Project	6.00	Support	5/01/23	6/01/23	Open	2

The Record ID alone is likely not very useful; the resource name may be more relevant when looking at assigned resources. In this case, you would need to go to the **Resources** Table and look for Record ID 1 to get more information on that resource, such as first name, last name, email etc.

This is where **Look Up Fields** can be useful. **Look Up Fields** will allow you to pull any information from a **Parent Table** and make it available directly on the **Child Table**. So in this case, you could pull information like *First Name, Last Name, Employee ID* from the **Resources** Table and make them available on the **Tasks** Table instead of the *Record ID*. See below.

With the “**Look Up**” Fields “Resource - Full Name”, and “Resource - Employee ID”, you now have access to the resource information **directly** from the **Tasks** Table.

Project	Task No.	Task Description	Start Date	End Date	Task Status	Resource – Full Name	Resource – Employee ID
Titan Project	1.00	Gather & Define Requirements	1/01/23	1/14/23	Completed	John Doe	512001
Titan Project	2.00	Solution Design	1/14/23	2/01/23	In Progress	John Doe	512001
Titan Project	3.00	Configuration	2/02/23	2/20/23	Open	John Doe	512001
Titan Project	4.00	Testing	3/01/23	4/01/23	Open	John Doe	512001
Titan Project	5.00	Training	3/20/23	5/01/23	Open	Jane Brown	658756
Titan Project	6.00	Support	5/01/23	6/01/23	Open	Jane Brown	658756

Practice Lesson V: Adding Lookup Fields in Ignatius

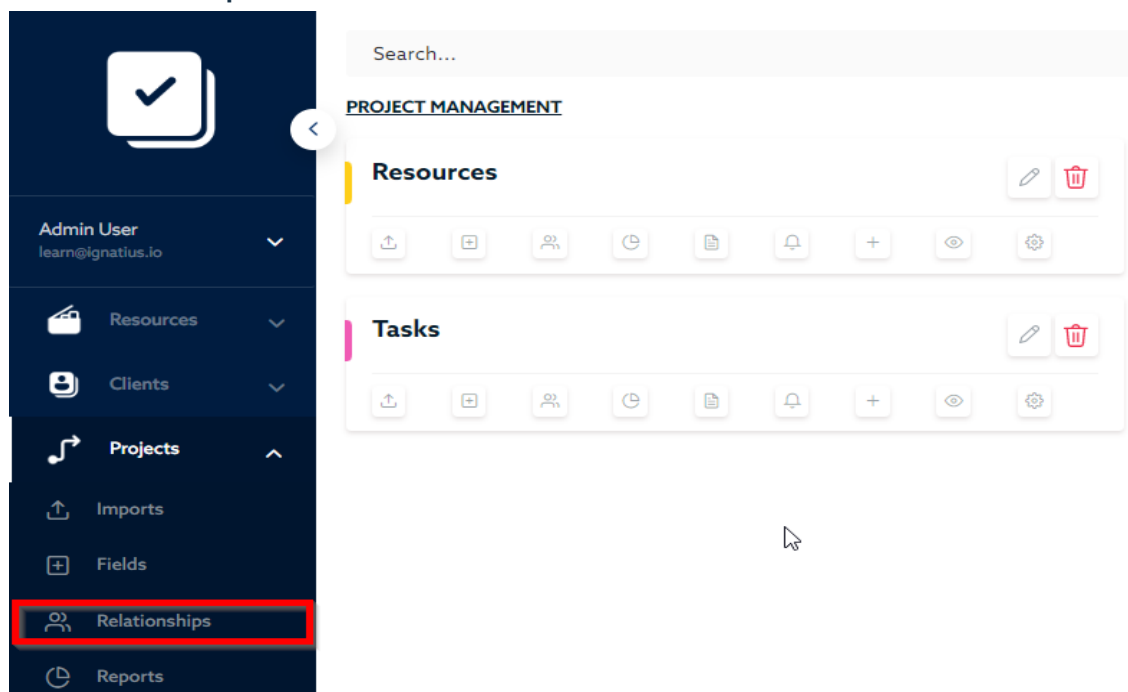
Since Lookup Fields are based on **Relationships**, to add **Lookup Fields** in Ignatius for a Table, you will need to have an existing Relationship for that Table.

Follow the steps below to add Lookup Fields for the Project Management Application.

Practice # 1: Clients Lookup Fields on **Projects** Table

In this section, we will add lookup fields on the projects table to pull down the Client Name onto the Projects Table:

1. In your Project Management App, expand the **Projects** Table on your left-hand navigator and select **Relationships**.



- Click to edit the Clients to Projects **Relationship**.
- On the next screen displayed, on the right side click on Add Lookup Field.

PROJECT MANAGEMENT | PROJECTS | PROJECTS TO CLIENTS

Update Relationship

Table Name
Clients

For this Relation Which is True?
☐ Each Project may have many Clients ☒ Each Client may have many Projects

Clients			Projects		
Parent Table			Child Table		
Key Field	Proxy Field		Related Clients		
Record Id	Client Name		Field	Field Type	Action
Field	Summary Type	Action			
Add Summary Field			Add Lookup Field		

Cancel Save

- On the pop-up window displayed, select “**Client Name**” from the **drop-down list**.
Note: You can click on the + icon to continue adding more lookup fields you wish to display on the Projects Table. For example, you could add the Client Industry, Revenue or Contact if you think this information is useful to have at the project level.

Projects

Imports

Fields

Relationships

View Projects

Lookup Fields
 (Choose to add fields from Parent table to Child table)

Client Name

CANCEL SAVE

- Click Save when done adding your desired lookup fields.
- Click Save on the Relationship Screen.

Practice # 2: Resources Lookup Fields on **Projects** Table

Repeat the same steps outlined above, this time for the **Resources** to **Projects** Relationship. You will add the **Resource Full Name** as a Lookup Field.

PROJECT MANAGEMENT | PROJECTS | PROJECTS TO RESOURCES

Update Relationship

Table Name

Resources

For this Relation Which is True?

Each Project may have many Resources

Each Resource may have many Projects

Resources

Parent Table

Key Field

Proxy Field

Record Id

FullName EmployeeID

Field

Summary Type

Action

Add Summary Field

Projects

Child Table

Related Resources

Field

Field Type

Action

FullName EmployeeID

Text

Add Lookup Field

Cancel

Save

Practice # 3: Projects Lookup Fields on **Tasks** Table

Repeat the same steps outlined above, this time for the **Projects** to **Tasks** Relationship. You will add the **Project Name**, and **Client Name** as Lookup Fields on the Tasks Table.

Lookup Fields

(Choose to add fields from Parent table to Child table)

Project Name

Clients - Client Name

CANCEL

SAVE

PROJECT MANAGEMENT | TASKS | **TASKS TO PROJECTS**

Update Relationship

Table Name

For this Relation Which is True?
☐ Each Task may have many Projects ☒ Each Project may have many Tasks

Projects <i>Parent Table</i>		
Key Field	Proxy Field	
Record Id	Record Id	
Field	Summary Type	Action
Add Summary Field		

Tasks <i>Child Table</i>		
Related Projects		
Field	Field Type	Action
Project Name	Text	✕
Clients - Client Name	Text	✕
Add Lookup Field		

Cancel Save

Practice # 4: Resources Lookup Fields on **Tasks** Table

Repeat the same steps outlined above, this time for the **Resources** to **Tasks** Relationship. You will add the **Resource Full Name** as a Lookup Field.

PROJECT MANAGEMENT | TASKS | **TASKS TO RESOURCES**

Update Relationship

Table Name

For this Relation Which is True?
☐ Each Task may have many Resources ☒ Each Resource may have many Tasks

Resources <i>Parent Table</i>		
Key Field	Proxy Field	
Record Id	Record Id	
Field	Summary Type	Action
Number of Tasks	Count	✕
Add Summary Field		

Tasks <i>Child Table</i>		
Related Resources		
Field	Field Type	Action
FullName EmployeeID	Text	✕
Add Lookup Field		

Cancel Save

Practice # 5: Resources Lookup Fields on **Subtasks** Table

Repeat the same steps outlined above, this time for the **Resources** to **Subtasks** Relationship. You will add the **Resource Full Name** as a Lookup Field.

PROJECT MANAGEMENT | SUBTASKS | SUBTASKS TO RESOURCES

Update Relationship

Table Name

Resources

For this Relation Which is True?

☐ Each Subtask may have many Resources ☒ Each Resource may have many Subtasks

Resources		Parent Table
Key Field	Proxy Field	
Record Id	Record Id	
Field	Summary Type	Action
Add Summary Field		

Subtasks		Child Table
Related Resources		
Field	Field Type	Action
FullName EmployeeID	Text	
Add Lookup Field		

Cancel

Save

Practice # 6: Tasks Lookup Fields on **Subtasks** Table

Repeat the same steps outlined above, this time for the **Tasks** to **Subtasks** Relationship. You will add the **Projects - Project Name** and **Task Name** as a Lookup Fields.

PROJECT MANAGEMENT APP DON | SUBTASKS | SUBTASKS TO TASKS

Update Relationship

Table Name

Tasks

For this Relation Which is True?

☐ Each Subtask may have many Tasks

☒ Each Task may have many Subtasks

Tasks

Parent Table

Key Field

Proxy Field

Record Id

Record Id

Field

Summary Type

Action

Task Estimated Time

Sum

Task Time Logged

Sum

Task Completed Time

Sum

Add Summary Field

Subtasks

Child Table

Related Tasks

Field

Field Type

Action

Projects - Project Name

Text

Task Name

Text

Add Lookup Field

Adding Summary Fields

Lesson VI: Summary Fields in Ignatius

Similarly to Look Up Fields, **Summary Fields** are a part of **Table Relationships**.

*Please feel free to go back to the [Look Up Fields Chapter](#) to review the **Parent-Child Relationship definition**.*

As a recap: in a Parent-Child Table Relationship, the **Parent Record** will have one or more Child **Records**. For example:

- A Client can request multiple Projects, so in this case, the **Clients** Table is the Parent Table, and the **Projects** Table is the Child Table.
- A Project can be broken down into multiple tasks (whereas a specific Project Task can only have one project). In this case, the **Projects** Table is the Parent Table, and the **Tasks** Table is the Child Table.

As mentioned earlier, **Relationships** allow you to easily analyze data across multiple tables. In other words, you can easily summarize data from a Child Table to its Parent Table. You will be able to add fields to the Parent Table that will summarize information from the related Child records. These fields are what are called “Summary Fields” on a Parent Table.

For example, let’s consider the **Resources (Parent) to Tasks (Child) Table Relationship**. When viewing the Resources Table, you can easily analyze data by summarizing information such as the number of tasks a resource is assigned to, or the number of hours a resource has worked across his/her many assigned tasks.

Let’s look at the Tasks Table example below. We can see that Resource John Doe has multiple tasks, and completed hours. You can manually count the number of tasks assigned to John, or manually calculate the number of hours he completed.

Task No.	Task Description	Start Date	End Date	Task Status	Time Spent	Resource – Full Name	Resource – Employee ID
1.00	Gather & Define Requirements	1/01/23	1/14/23	Completed	25	John Doe	512001
2.00	Solution Design	1/14/23	2/01/23	In Progress	56	John Doe	512001
3.00	Configuration	2/02/23	2/20/23	Open	6	John Doe	512001
4.00	Testing	3/01/23	4/01/23	Open	0	John Doe	512001
5.00	Training	3/20/23	5/01/23	Open	0	Jane Brown	658756
6.00	Support	5/01/23	6/01/23	Open	2	Jane Brown	658756

As an alternative, this is where **Summary Fields** can be useful. **Summary Fields** will allow you to summarize that information directly into the Parent Table. So in this case, you could add Summary Fields

directly in the Resources Table to automatically calculate the number of tasks and amount of hours worked. See below.

Resources Table – PARENT TABLE

Record ID (Primary Key)	First Name	Last Name	Email Address	Employee ID	Job Title	Time Spent (Summary Field)	Number of Tasks (Summary Field)
1	John	Doe	john1@mail.com	512001	Project Manager	87	4
2	Jane	Brown	jane@mail.com	658756	Senior Analyst	2	2
3	Matt	Smith	matt@mail.com	789524	Associate Analyst	0	0
4	John	Doe	john2@mail.com	257855	System Engineer	0	0

Practice Lesson VI: Adding Summary Fields in Ignatius

Since Summary Fields are based on **Relationships**, to add **Summary Fields** in Ignatius for a Table, you will need to have an existing Relationship for that Table.

Follow the steps below to add Summary Fields for the Project Management Application.

Practice # 1: Summary Fields on **Projects** and **Tasks** Table

In this section, we will add Summary fields on the projects table to Summarize the following information:

1) Number of Tasks in Project

This summary field will count the number of tasks in a project. In order to summarize information from Tasks to Projects, you will utilize the **Projects to Tasks Relationship**.

- 1) In your Project Management App, expand the **Projects** Table on your left-hand navigator and select **Relationships**.
- 2) Click to edit the **Projects to Tasks Relationship**.
- 3) On the next screen displayed, on the left side, click on Add Summary Field.

PROJECT MANAGEMENT | PROJECTS | TASKS TO PROJECTS

Update Relationship

Table Name
Tasks

For this Relation Which is True?
☒ Each Project may have many Tasks ☐ Each Task may have many Projects

Projects		Parent Table
Key Field	Proxy Field	
Record Id	Record Id	
Field	Summary Type	Action
Add Summary Field		

Tasks		Child Table
Related Tasks		
Field	Field Type	Action
Add Lookup Field		

Cancel Save

- 4) On the next screen, enter the Field Name for the Summary Field: "Number of Tasks".
Next, under **Type of Summary**, select "Number of Tasks related to Projects".
Next, under **Drilldown Report**, select **ListAll**.

Note: The summary field added on a Table will be clickable and once clicked, the related records in the child table will be displayed. For example, the summary field "Number of Tasks" will display the total number of tasks in a project. Let's say that field displayed the value 3. When clicking the value 3, that screen would display the 3 associated tasks to the project. The drill-down report option will allow you to select the report that is displayed

when a user clicks the summary field. For more details, please refer to the Knowledge Base.

PROJECT MANAGEMENT | PROJECTS | TASKS TO PROJECTS | FIELDS (SUMMARY) | NUMBER OF TASKS

Summary Field

Summary Field Name*

Number of Tasks

Type of Summary *

Number of Tasks related to Projects

Filters

-- Select --

Add Group

Column	Condition	Value	Actions
-- Select --	-- Select --	Enter here	+

Drilldown Report *

ListAll

CancelSave

5) Click Save when done. Continue to add the next Summary Field.

2) Number of **Open** Tasks in Project

This summary field will count the number of **open** tasks in a project. This is similar to the number of tasks, except this only counts tasks with a status of “**Open**”. This will require utilizing the **Filter Option** to only count the tasks with status “Open”.



- 1) On the Projects to Tasks Relationship screen, click on **Add Summary Field**.


PROJECT MANAGEMENT | PROJECTS | TASKS TO PROJECTS

Update Relationship

Table Name
Tasks

For this Relation Which is True?
☒ Each Project may have many Tasks ☐ Each Task may have many Projects

Projects		Parent Table	
Key Field	Proxy Field		
Record Id	Record Id		
Field	Summary Type	Action	
Number of Tasks	Count	 	

 Add Summary Field

Tasks		Child Table	
Related Tasks			
Field	Field Type	Action	

Add Lookup Field

Cancel Save

- 2) On the next screen, enter the Field Name for the Summary Field: “Number of Open Tasks”.
- 3) Next, under **Type of Summary**, select “Number of Tasks related to Projects”.
- 4) Next, you will need to specify a **filter** to only count the **tasks with status** of “**Open**”:

First select the following option: “**All of these conditions are true**”.

Next, select the following:

- **Column** : Tasks - Task Status
- **Condition** : is equal
- **Value** : Open

Note: when adding a filter, you will always have to select from the two (2) options:

- a) **All of these conditions are true** - This option is selected when all filter conditions you enter have to be true, for example: *Task Status is Open AND Tasks Start Date is greater than Today*

- b) **Any of these conditions are true** - This option is selected when only one of the filter conditions needs to be true, for example: *Task Status is Open OR Task Status is In Progress*

Next, under **Drilldown Report**, select **ListAll**.

PROJECT MANAGEMENT | PROJECTS | TASKS TO PROJECTS

Summary Field

Summary Field Name*
Number of Open Tasks

Type of Summary*
Number of Tasks related to Projects

Filters

All of these conditions are true

Add Group

Column	Condition	Value	Actions
Tasks - Task Status	is equal	Open	+

Drilldown Report*
ListAll

Cancel Save

- 5) Click **Save** when done.

3) Sum of Estimated Time & Effort of Tasks and Subtasks

The Estimated Time & Effort is the expected amount of time to complete a task. The Estimated Time & Effort will be stored for each subtask. This will then be summarized at the Task Level, and then summarized at the Project Level. See example below:

Subtask Name	Related Task Name	Subtask Status	Estimated Time
Database Design	Backend Development	Completed	40 hours
API Development	Backend Development	In Progress	60 hours
Testing	Backend Development	Not Started	20 hours
UI Design	Frontend Development	Not Started	40 hours
Frontend Coding	Frontend Development	Not Started	120 hours

Task Name	Related Project Name	Status	Total Estimated Time (Summary)
Backend Development	Project A	In Progress	120 hours
Frontend Development	Project A	Not Started	160 hours

Project Name	Project Description	Customer	Total Estimated Time (Summary)
Project A	Development of a new website	XYZ Company	280 hours

Summary of the Estimated Time at Task Level:

First, you will create a **Summary Field** at the **Task Level** to summarize the Estimated Time from the Subtasks.

- 1) In your Project Management App, expand the **Tasks** Table on your left-hand navigator and select **Relationships**.
- 2) Click to edit the **Tasks** to **Subtasks Relationship**.
- 3) On the next screen displayed, on the left side, click on Add Summary Field.
- 4) On the next screen, enter the Field Name for the Summary Field: "Task Estimated Time". Next, under **Type of Summary**, select "Summary of a Specific Field". Next, select the **Field to Summarize**: *Subtask Estimated TE*. Next, select the **Aggregate Function** as *Sum*. Finally, under **Drilldown Report**, select **ListAll**.

Summary Field

Summary Field Name⁺

Type of Summary⁺

Field to Summarize⁺

Aggregate Function⁺

Filters

-- Select --

Add Group

Column	Condition	Value	Actions
-- Select --	-- Select --	Enter here	+

Drilldown Report⁺

Cancel **Save**

5) Click Save when done. Click Save again to update the Relationship.

Summary of the Estimated Time at the Project Level:

Now that we have the Estimated Time at the Task Level, we can get the Estimated Time at the Project Level. We can now summarize the Summary Field from the Tasks Table on the Projects Table. We will create a **Summary Field** at the **Project** Level to summarize the **Summary Field** from the Tasks Table.

- 1) In your Project Management App, expand the **Tasks** Table on your left-hand navigator and select **Relationships**.
- 2) Click to edit the **Tasks** to **Projects Relationship**.
- 3) On the next screen displayed, on the left side, click on Add Summary Field.
- 4) On the next screen, enter the Field Name for the Summary Field: "Project Estimated Time".
 Next, under **Type of Summary**, select "Summary of a Specific Field".
 Next, select the **Field to Summarize**: *Task Estimated Time*. Note: This is the summary field created previously.
 Next, select the **Aggregate Function** as *Sum*.
 Finally, under **Drilldown Report**, select **ListAll**.

Summary Field

Summary Field Name:

Type of Summary: Field to Summarize:

Aggregate Function:

Filters

-- Select --

Add Group

Column	Condition	Value	Actions
-- Select --	-- Select --	Enter here	+

Drilldown Report:

Cancel **Save**

5) Click **Save** when done. Click Save again to update the Relationship.

4) Sum of all Time Logged on Tasks and Subtasks

The Time Logged the actual amount of time entered by a resource. The Logged Time will be entered by resources at the subtask level. This will then be summarized at the Task Level, and then summarized at the Project Level, similarly to the Estimated Time.

Summary of the Time Logged at Task Level:

First, you will create a **Summary Field** at the **Task Level** to summarize the Time Logged from the Subtasks.

- 1) In your Project Management App, expand the **Tasks** Table on your left-hand navigator and select **Relationships**.
- 2) Click to edit the **Tasks to Subtasks Relationship**.
- 3) On the next screen displayed, on the left side, click on Add Summary Field.
- 4) On the next screen, enter the Field Name for the Summary Field: "Task Time Logged".

Next, under **Type of Summary**, select “Summary of a Specific Field”.
Next, select the **Field to Summarize**: *Time Log*.
Next, select the **Aggregate Function** as *Sum*.
Finally, under **Drilldown Report**, select **ListAll**.

- 5) Click **Save** when done. Click Save again to update the Relationship.

Summary of the Time Logged at the Project Level:

Now that we have the Time Logged at the Task Level, we can get the Time Logged at the Project Level. We can now summarize the Summary Field from the Tasks Table on the Projects Table. We will create a **Summary Field** at the **Project** Level to summarize the **Summary Field** from the Tasks Table.

- 1) In your Project Management App, expand the **Tasks** Table on your left-hand navigator and select **Relationships**.
- 2) Click to edit the **Projects to Tasks Relationship**.
- 3) On the next screen displayed, on the left side, click on Add Summary Field.
- 4) On the next screen, enter the Field Name for the Summary Field: “Project Time Logged”.
Next, under **Type of Summary**, select “Summary of a Specific Field”.
Next, select the **Field to Summarize**: *Task Time Logged*. Note: This is the summary field created previously.
Next, select the **Aggregate Function** as *Sum*.
Finally, under **Drilldown Report**, select **ListAll**.
- 5) Click **Save** when done. Click Save again to update the Relationship.

6) Sum of Estimated Time & Effort on Completed Subtasks

The **Completed Estimated Time & Effort** represents the expected time that was completed. This will be the Sum of the Estimated Time & Effort for Subtasks with a **Completed** Status. This will be summarized at the Task Level, and then summarized at the Project Level.

Summary of the Completed Estimated Time at Task Level:

First, you will create a **Summary Field** at the **Task Level** to summarize the Estimated Time from the Subtasks.

- 1) In your Project Management App, expand the **Tasks** Table on your left-hand navigator and select **Relationships**.
- 2) Click to edit the **Tasks to Subtasks Relationship**.
- 3) On the next screen displayed, on the left side, click on **Add Summary Field**.
- 4) On the next screen, enter the Field Name for the Summary Field: “Task Completed Time”.
Next, under **Type of Summary**, select “Summary of a Specific Field”.

Next, select the **Field to Summarize**: *Subtask Estimated TE*.

Next, select the **Aggregate Function** as *Sum*.

- 5) Next, you will need to specify a **filter** to only summarize the **subtasks with status** of **“Completed”**:

First select the following option: **“All of these conditions are true”**.

Next, select the following:

- **Column** : Tasks - Task Status
- **Condition** : is equal
- **Value** : Completed

Finally, under **Drilldown Report**, select **ListAll**.

PROJECT MANAGEMENT APP DON | TASKS | SUBTASKS TO TASKS | FIELDS (SUMMARY) | **TASK COMPLETED TIME**

Summary Field

Summary Field Name: Task Completed Time

Type of Summary: Summary of a specific field

Field to Summarize: Subtask Estimated TE

Aggregate Function: Sum

Filters

All of these conditions are true

Column	Condition	Value	Actions
Tasks - Task Status	is equal	Closed	+

Drilldown Report: ListAll

- 6) Click Save when done. Click Save again to update the Relationship.

Summary of the Estimated Time Completed at the Project Level:

Now that we have the Estimated Time **Closed** at the Task Level, we can get the Estimated Time **Closed** at the Project Level. We can now summarize the Summary Field from the **Tasks** Table on the **Projects** Table. We will create a **Summary Field** at the **Project** Level to summarize the **Summary Field** from the Tasks Table.

- 1) In your Project Management App, expand the **Tasks** Table on your left-hand navigator and select **Relationships**.
- 2) Click to edit the **Projects to Tasks Relationship**.
- 3) On the next screen displayed, on the left side, click on Add Summary Field.

- 4) On the next screen, enter the Field Name for the Summary Field: “Project Completed Time”.
- Next, under **Type of Summary**, select “Summary of a Specific Field”.
- Next, select the **Field to Summarize**: *Task Completed Time*. Note: This is the summary field created previously.
- Next, select the **Aggregate Function** as *Sum*.
- Finally, under **Drilldown Report**, select **ListAll**.

PROJECT MANAGEMENT APP DON | TASKS | TASKS TO PROJECTS | FIELDS (SUMMARY) | ...

Summary Field

Summary Field Name*

Project Completed Time

Type of Summary *

Summary of a specific field

Field to Summarize

Task Completed Time

Aggregate Function

Sum

Filters

-- Select --

Add Group

Column	Condition	Value	Actions
-- Select --	-- Select --	Enter here	+

Drilldown Report *

ListAll

- 5) Click **Save** when done.

Reports

Lesson VII: Reports in Ignatius

As mentioned previously, **Reports** are used to view/display data from your tables. You can create any of the following types of Reports in Ignatius:

Table	Displays records in a table format with rows and columns
Summary	Summarizes your data with sums, averages and other statistics
Chart	Creates a graphical representation of the desired data
Calendar	Shows a Calendar highlighting events on a monthly, weekly or daily basis
Map	Shows your data on a geographical map
Gantt	Bar chart that illustrates a project schedule

When creating reports in Ignatius, you can do the following for some of the reports:

- **Filter:** you can specify/filter the data you want to see based on specific values. Filtering data is a useful way to see **only** the data that you want displayed.
- **Sort:** You will be able to sort/order the records on your table based on specified criteria.
- **Group:** You will have the option to divide the records into groups. This will make your data easier to read. *For example, instead of listing ALL existing tasks across all projects, grouping tasks by project will allow you to display the data in a more organized view.*

For our project management application, we will create the following reports:

- 1) Project List with Completion Percentage - **Table**
- 2) Open Tasks grouped by Project - **Table with Filter and Grouping**
- 3) Project Status Percentages - **Chart: Pie Chart**
- 4) Estimated vs Actual Time and Effort - **Chart: Column Line Chart**
- 5) Total Project Budget - **Summary**
- 6) Count of Projects - **Summary**
- 7) Count of Completed Projects - **Summary**

Practice Lesson VII: Creating Reports in Ignatius

Practice # 1: Project List with Completion Percentage

The Project List reports will display all projects along with their name, description, project manager, start and end dates, as well as their Completion Percentage.

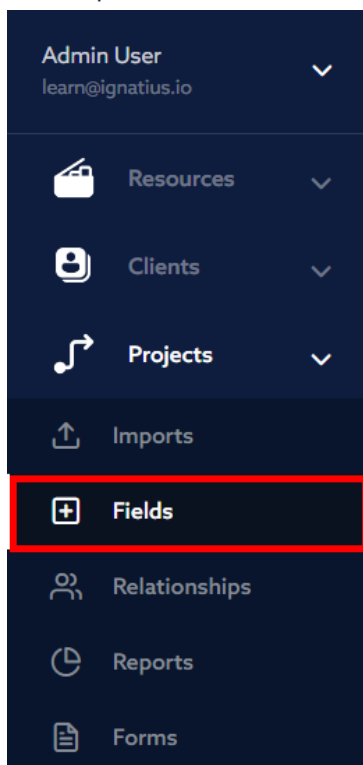
Note that all these fields are available on the Projects Table, except for the **Completion Percentage**. The project completion percentage simply indicates how much progress has been accomplished for a project (the percentage of the project that has been closed). This will have to be a formula field:

$$\text{Completion Percentage} = \text{Estimated Time Completed} / \text{Total Project Estimated Time}$$

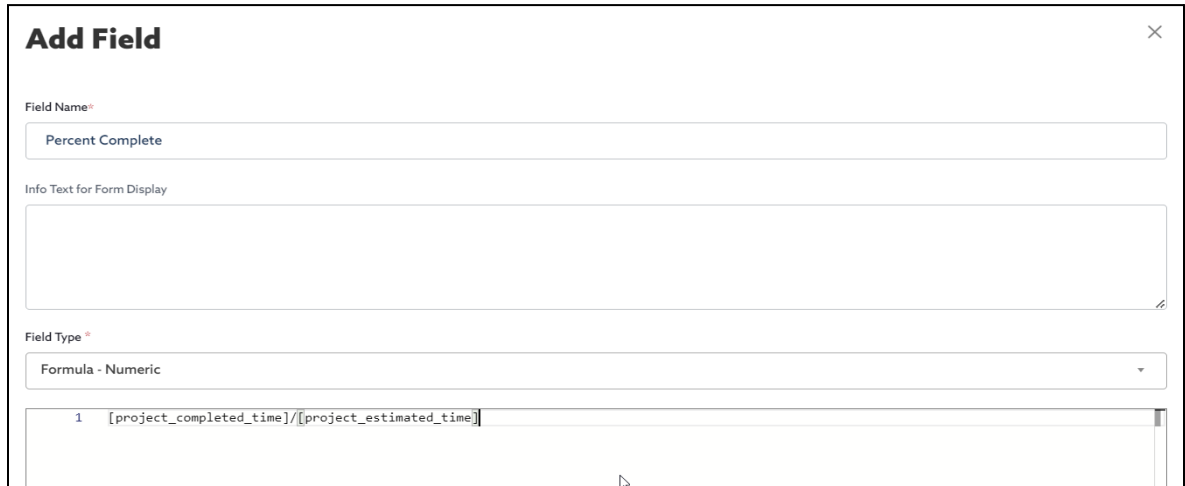
This formula takes the **total time with a Closed/Completed Status** over the **Total expected time**. This will give us the percentage of the projected time that has been completed.

Before creating the Project List Report, we will need to create the Formula so we can add it to the report:

1. On your App Homepage, on the left Navigation menu, expand the Table for which you wish to create the formula. In this case, this is the **Projects** Table. From the expanded menu, Select the Fields option.



2. On the Fields Screen, select Add New Field at the top right.
3. On the pop-up window, enter the Field Name “Percent Complete”, and select the Field Type “Formula - Numeric”. On the Formula Entry Field displayed, enter the formula:
`[project_completed_time]/[project_estimated_time]`



Add Field

Field Name*

Percent Complete

Info Text for Form Display

Field Type*

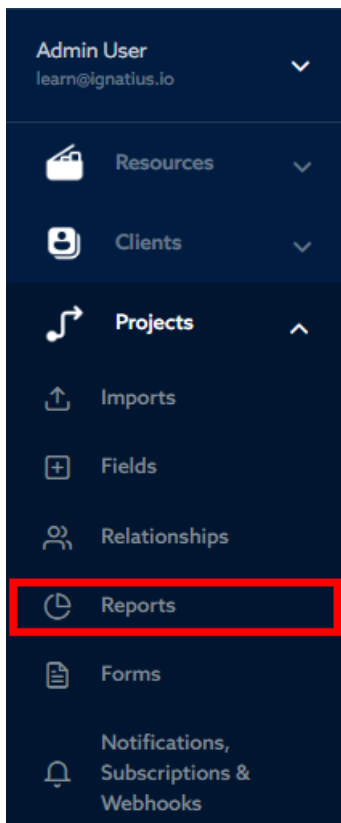
Formula - Numeric

1 [project_completed_time]/[project_estimated_time]

4. Scroll down and click Add at the bottom.

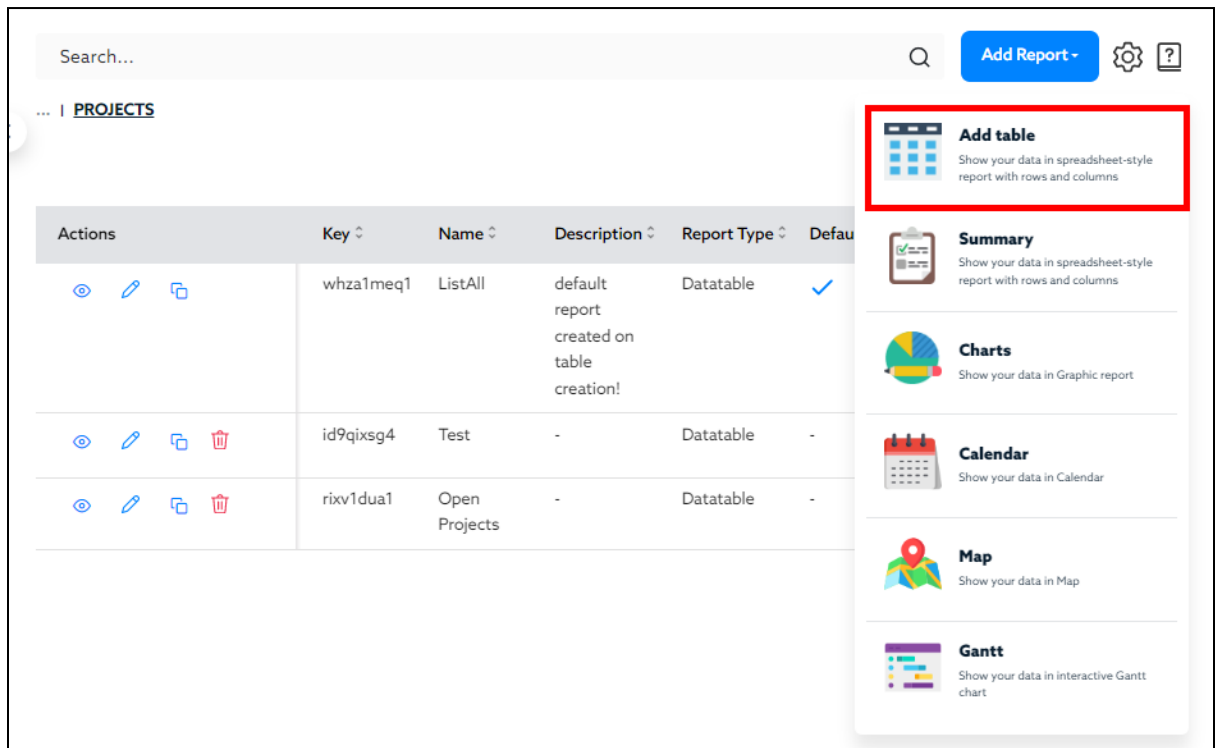
Now that the Formula Field has been created, we will now create the Report:

1. On your App Homepage, on the left Navigation menu, expand the Table for which you wish to create the report. In this case, this is the **Projects** Table. From the expanded menu, Select the **Reports** option.



The **Reports Screen** will be displayed showing the list of current reports.

- On the top right of the screen, click **"Add Report"**, and from the list displayed, select **Add Table**.



- On the Report Screen displayed, enter the Report Name "Project List with Completion Percentage".
Next, under the **Available Fields Section**, select the Fields you wish to display on the report.
Note: you can click on the fields in the order you wish to display them on the report. Once all fields have been selected, click on the arrow to move them to the **Selected Fields Section**.

Columns to select:

Client Name, Project Name, Start Date, End Date, Project Status, Project Estimated Time, Project Completed Time, Percent Complete.



Practice # 2: Open Tasks grouped by Project

1. On your App Homepage, on the left Navigation menu, expand the Table for which you wish to create the report. In this case, this is the **Tasks** Table. From the expanded menu, Select the **Reports** option.

The **Reports Screen** will be displayed showing the list of current reports.

2. On the top right of the screen, click **"Add Report"**, and from the list displayed, select **Add Table**.
3. On the Report Screen displayed, enter the Report Name "Open Tasks by Project".
Next, under the **Available Fields Section**, select the Fields you wish to display on the report.
Note: you can click on the fields in the order you wish to display them on the report. Once all fields have been selected, click on the arrow to move them to the **Selected Fields Section**.

Columns to select:

Project Name, Task Name, Start Date, End Date, Task Estimated Time, Task Completed Time, Task Status.

The screenshot shows the 'Fields' selection interface. It is divided into two main sections: 'Available Fields' on the left and 'Selected Fields' on the right. Both sections have a 'Filter' input field at the top. The 'Available Fields' section lists the following fields: 'Created By', 'Date Created', 'Date Modified', 'Modified By', 'Record Id', and 'Related Resources'. The 'Selected Fields' section lists the following fields: 'Projects - Project Name', 'Task Name', 'Task StartDate', 'Task EndDate', 'Task Estimated Time', and 'Task Completed Time'. A red rectangular box highlights the 'Selected Fields' section. At the bottom of the 'Available Fields' section, there is a double arrow icon (↔) pointing right. At the bottom of the 'Selected Fields' section, there is a double arrow icon (↔) pointing left.

4. Next, scroll down to the Filter Section. We will add a **Filter** to only display the **Open** Tasks. Under the Filter Section:

First select the following option: **"All of these conditions are true"**.

Next, select the following:

- **Column** : Tasks - Task Status
- **Condition** : is equal
- **Value** : Open

Note: when adding a filter, you will always have to select from the two (2) options:

- **All of these conditions are true** - This option is selected when all filter conditions you enter have to be true, for example: *Task Status is Open AND Task Start Date is greater than Today*
- **Any of these conditions are true** - This option is selected when only one of the filter conditions needs to be true, for example: *Task Status is Open OR Task Status is In Progress*

5. Next, scroll down to the Grouping Section, and select the Project Name as the field to group by.

Filter Data

All of these conditions are true ▼

Column	Condition	Value	Actions
Task Status ▼	is equal ▼	Open	+ 🗑️

Sorting

-- Select -- ▼ -- Select -- ▼ +
 🗑️

Grouping

Projects - Project Name ▼
 🗑️

Cancel Save

6. Select **Save** when done.
7. To view the report, you can click on the View Icon next to the report.

PROJECT MANAGEMENT | **TASKS**

Actions	Key ↕	Name ↕	Description ↕	Report Type ↕	Default ↕
👁️ ✎️ 📄	9sfze6va6	ListAll	default report created on table creation!	Datatable	✓
👁️ ✎️ 📄 🗑️	dxso1olg3	Open Tasks	-	Datatable	-

Practice # 3: Project Status Percentages

The Project Status Percentages Chart is a Pie Chart visualization of the Overall Project Statuses.

1. On your App Homepage, on the left Navigation menu, expand the Table for which you wish to create the report. In this case, this is the **Projects** Table. From the expanded menu, Select the **Reports** option.

The **Reports Screen** will be displayed showing the list of current reports.

2. On the top right of the screen, click "**Add Report**", and from the list displayed, select **Charts**.

- On the Report Screen displayed, enter the Report Name “Project Status Percentages”, and select the Chart Type as Pie.

PROJECT MANAGEMENT | PROJECTS

1 Filter Data ————— 2 Chart Configuration

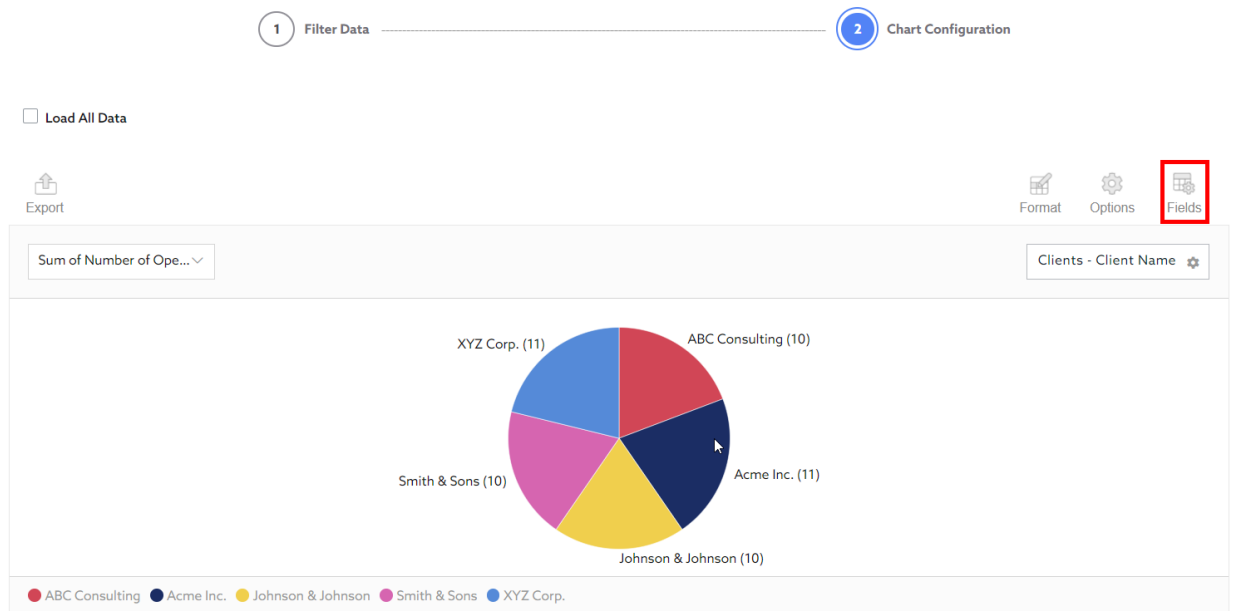
Report fields

Report Name*

Chart Type

- Click Next.

- On the next screen, select **Fields**.



- Next, on the pop-up window, uncheck the pre-selected fields.
Drag the **Project Status** field under the **Rows** section to break the pie chart by project status.
Next, Drag the **Project Name** under **Values** to count the number of projects by status.
Click **Apply**.

Fields

Drag and drop fields to arrange

All fields Expand all

☐ Project Description
 ☐ Project Duration
 ☐ Project Estimated Time
 ☒ **Project Name**
☒ **Project Status**
☐ Related Clients
 ☐ Related Resources
 ☐ Resources - FullName EmployeeID

▶ Calculated values

Report filters

Drop field here

Columns

Σ Values

Drop field here

Rows

Project Status

Drop field here

Values

Count of Project Name

Drop field here

Add calculated value

APPLY

CANCEL

- Click the Save Changes button.

Practice # 4: Estimated vs Actual Time and Effort

The Estimated vs Actual Time and Effort Chart will be a Column Line Chart that will compare the Estimated Time of each project vs the Actual Time entered by resources.

- On your App Homepage, on the left Navigation menu, expand the Table for which you wish to create the report. In this case, this is the **Projects** Table. From the expanded menu, Select the **Reports** option.

The **Reports Screen** will be displayed showing the list of current reports.

- On the top right of the screen, click “**Add Report**”, and from the list displayed, select **Charts**.
- On the Report Screen displayed, enter the Report Name “Estimated vs Actual Time and Effort”, and select the Chart Type as **Column Line**.
- Click Next.
- On the next screen, select **Fields**.
- Next, on the pop-up window, uncheck the pre-selected fields.
 Drag the **Project Name** field under the **Rows** section to break the chart by project.
 Next, Drag the **Project Time Logged** under **Values** to display the Actual Time as bars on the chart.
 Next, Drag the **Project Estimated Time** under **Values** to display the Estimated Time as a line on the chart.

Click **Apply**.

- Click the Save Changes button.

Practice # 5: Total Project Budget

Ignatius will give you the ability to show an **overall Total** of a Summary Field as a KPI Card on a Dashboard, as displayed below. The example below is the Total Budget across all clients.



The Total Project Budget will simply be the Summary Field on the Clients Table. The Budget summary field on the Clients Table summarizes the total budget across all projects for a particular client. That summary field can then be used to summarize an **Overall Total** (Total Budget across all clients) and can be displayed on a Dashboard.

This will not require you to create a Report. You will simply need to make sure the Summary Field is created. We will go over Dashboards in a later section.

Summary of the Project Budgets at Client Level:

- 1) In your Project Management App, expand the **Clients** Table on your left-hand navigator and select **Relationships**.
- 2) Click to edit the **Clients** to **Projects Relationship**.
- 3) On the next screen displayed, on the left side, click on Add Summary Field.
- 4) On the next screen, enter the Field Name for the Summary Field: "Total Project Budget". Next, under **Type of Summary**, select "Summary of a Specific Field". Next, select the **Field to Summarize**: *Project Budget*. Next, select the **Aggregate Function** as *Sum*. Finally, under **Drilldown Report**, select **ListAll**.
- 5) Click **Save** when done. Click Save again to update the Relationship.

We will go over how to utilize this summary field later, in the Dashboard Section.

Practice # 6: Count of Projects

Similarly to the Total Project Budget seen on the previous step, the Count of Projects will simply be a Summary Field on the Clients Table. The Count of Projects summary field on the **Clients** Table summarizes the total number of projects for a particular client. That summary field can then be used to summarize an **Overall Total Count of Projects** (Total Count across all clients) and can be displayed on a Dashboard.

This will not require you to create a Report. You will simply need to make sure the Summary Field is created. We will go over Dashboards in a later section.

Summary of the Total Count of Projects at Client Level:

- 1) In your Project Management App, expand the **Clients** Table on your left-hand navigator and select **Relationships**.
- 2) Click to edit the **Clients to Projects Relationship**.
- 3) On the next screen displayed, on the left side, click on Add Summary Field.
- 4) On the next screen, enter the Field Name for the Summary Field: "Total Count of Projects". Next, under **Type of Summary**, select "Number of Projects Related to Clients".

Finally, under **Drilldown Report**, select **ListAll**.

- 5) Click **Save** when done. Click Save again to update the Relationship.

We will go over how to utilize this summary field later, in the Dashboard Section.

Practice # 7: Count of Completed Projects

Similarly to the Total Count of Projects seen on the previous step, the Count of Completed Projects will simply be a Summary Field on the Clients Table. The Count of Completed Projects summary field on the **Clients** Table summarizes the total number of projects that have been completed for a particular client. That summary field can then be used to summarize an **Overall Total Count of Completed Projects** (Total Count across all clients) and can be displayed on a Dashboard.

This will not require you to create a Report. You will simply need to make sure the Summary Field is created. We will go over Dashboards in a later section.

Summary of the Total Count of Completed Projects at Client Level:

- 1) In your Project Management App, expand the **Clients** Table on your left-hand navigator and select **Relationships**.

2) Click to edit the **Clients to Projects Relationship**.

3) On the next screen displayed, on the left side, click on Add Summary Field.

4) On the next screen, enter the Field Name for the Summary Field: "Total Count of Completed Projects".

Next, under **Type of Summary**, select "Number of Projects Related to Clients".

Next, under the Filter Section:

First select the following option: "**All of these conditions are true**".

Next, select the following:

- **Column** : Project Status
- **Condition** : is equal
- **Value** : Completed

Finally, under **Drilldown Report**, select **ListAll**.

5) Click **Save** when done. Click Save again to update the Relationship.

We will go over how to utilize this summary field later, in the Dashboard Section.

Forms

Lesson VIII: Forms in Ignatius

Forms in Ignatius serve as Data Entry Forms and are used to manually add records to a table as well as to manually edit existing records on a table. The Entry Form can be configured to display specific fields to be populated to create or edit records. Multiple Data Entry Forms can be created for each Table to allow different data entry activities.

For example, following forms can be configured for the **Subtasks** Table:

- **Generic Entry Form** to add new Subtasks to a Project - This form would need to include all the necessary fields to define a new subtask such as Subtask Name, Related Task, Start Date, End Date, Estimated Time, and Assigned Resource
- **Time Entry Form** for resources to add log the time they spent working on a task - This form would technically only require the Subtask Name and the Time Log Field.
- **Resource Entry Form** to assign resources to Subtasks - This form would technically only require the Subtask Name and the Resource Field.

For the example above, three (3) forms would be created to each serve a different purpose: 1) creating a new subtask, 2) time logging and 3) assigning a resource to a subtask. These three (3) activities all require data to be entered into the same table, the subtasks table. Having different custom forms allow you to display specific fields that are related to the activity a user is performing. This will facilitate the data entry process as opposed to having a single form, where the user would have to scroll through all fields of a table to update just a subset.

In addition to data entry, forms are also used to **view** and **display** data records. When viewing a report, you can select the **View Record icon** to display the details of a specific record. This will display the form in a View Only Mode and not in the Edit Record mode.

Data Entry Forms can be created in Ignatius as web forms, mobile forms, PDF forms or Word Forms. In this guide, we will only cover the web forms. To learn more about the other forms, please refer to the Knowledge Base.

Each form created in Ignatius will be tied to an existing Report. When viewing a report, you can add, view or edit records. The form displayed to add, view or update records will be the form associated with the report being viewed.

In this section, we will create the following forms:

- 1) Subtask Entry Form
- 2) Subtask Resource Assignment
- 3) Subtask Total Time Log Form

Practice Lesson VIII: Creating Forms in Ignatius

Practice # 1: Subtask Entry Form

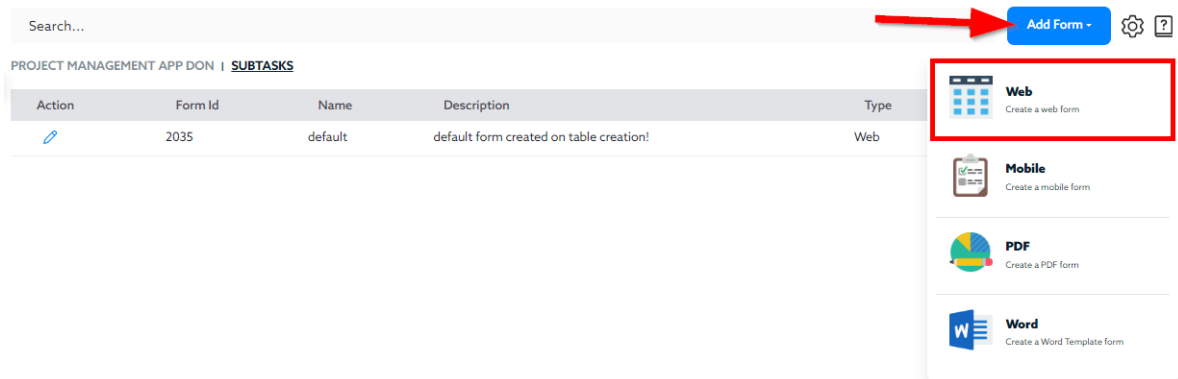
The Subtask Entry Form will be used to add new Subtasks to a Project's Task. This form would need to allow users to enter all the necessary values to define a new subtask such as Subtask Name, the Related Task, Start Date, End Date, Estimated Time, and Assigned Resource.

To create the form:

1. On your App Homepage, on the left Navigation menu, expand the Table for which you wish to create the form. In this case, this is the **Subtasks** Table. From the expanded menu, Select the **Forms** option.

The **Forms Screen** will be displayed showing the list of current forms.

2. On the top right of the screen, click "**Add Form**", and from the list displayed, select **Web**.



3. On the Form Screen displayed, enter the Form Name "Subtask Default Entry Form", and select the **Default form** checkbox.

A screenshot of the 'Form Settings' screen in the Ignatius application. The screen has a header 'PROJECT MANAGEMENT APP DON | SUBTASKS' and a sub-header 'Form Settings'. Below the header, there is a 'Form Name' field with the text 'Subtask Default Entry Form' and a 'Description' field. To the right of the 'Form Name' field, there is a checkbox labeled 'Default form' which is checked. The 'Description' field is empty.

4. Next, under the Edit Form section, you will drag and drop the fields you wish to add to the form. Start by adding the **Related Task** field. This will allow the user to select an **existing Task** to add the subtasks to.
By default since the Related Task field is a *foreign key*, the Record ID of the Task would be referenced on the form (*i.e., a user would have to know the Task Record ID to add a subtask to it*). As an alternative, you could select another field to be displayed as the Related Task such as **Task Name** instead of the **Task Record ID** (which is not always intuitive). This will be more convenient and intuitive for the user when using the form.

From the drop down option, select the **Task Name**.

Drag and drop to add fields to a row. Insert/remove rows with the add/remove buttons.

Edit form

Fields

Q Search

- Created By
- + Date Created
- + Date Modified
- Modified By
- + Record Id

+ ADD TAB

ADD ROW

+ Related Tasks

Task Name

Task Name

Task Description

Task StartDate

Task EndDate

Task Duration

Task Status

5. Next, drag and drop Subtask Name onto the form.

6. Next click on **Add Row** to add a new row on the form. Then drag and drop the **Task Description** field.

Add a new Row, then drag and drop the **Related Resources** Field, and select the Field **FullName EmployeeID** from the drop down. On that same row, drag and drop the **Subtask Status**.

Add a new Row, then drag and drop the **Subtask StartDate**, **Subtask EndDate**, and the **Subtask Estimated TE**.

Drag and drop to add fields to a row. Insert/remove rows with the add/remove buttons.

Edit form

Fields

Q Search

- Created By
- + Date Created
- + Date Modified
- Modified By
- + Record Id

+ ADD TAB

ADD ROW

+ Related Tasks

Task Name

Task Name

Task Description

Task StartDate

Task EndDate

Task Duration

Task Status

7. Scroll down and click **Save** when done.

8. Since the default form checkbox was selected, this is the form that will be automatically displayed when adding new records. Additional custom forms can be added and associated with specific reports to override the default form.

You can click on the Add Subtask from the left side navigation menu to display the default form.

PROJECT MANAGEMENT APP DON | SUBTASKS | LISTALL [🔗](#)

Related Tasks:

Subtask Name:

Subtask Description:

Related Resources:

Subtask Status:

Subtask StartDate:

Subtask EndDate:

Subtask Estimated TE:

+ Add Subtask (highlighted in red)

View Subtasks

Table Settings

Tasks

Cancel Save

You will be able to use this form to add new records to the **Subtasks** Table.

Practice # 2: Add a Subtask Manually via Form

1. Click on the **Add Subtask** from the left side navigation menu to display the default form.

PROJECT MANAGEMENT APP DON | SUBTASKS | LISTALL [🔗](#)

Related Tasks:

Subtask Name:

Subtask Description:

Related Resources:

Subtask Status:

Subtask StartDate:

Subtask EndDate:

Subtask Estimated TE:

+ Add Subtask (highlighted in red)

View Subtasks

Table Settings

Tasks

Cancel Save

2. Under Related Tasks, select the Task you wish to add the Subtask to. Notice that the list of Task Name is also not intuitive because it does not specify which project the task belongs to. If multiple

projects happen to have the same Task Name, you would not be able to tell which task to select just from the Task Name.

An option for that issue is to add a field to the Tasks Table to concatenate the Project Name and the Task Name. This would be a formula field on the Tasks Table. This field would then be selected as the Related Tasks field on the form.

Go to the Fields screen of the **Tasks** Table. Click **Add New Field** at the top right of the screen.

Actions	Field Id	Name	Database Name	Type	Status	Execution Time	Last Run	Isunique	Isnullable
	#46500	Created By	createdby	User	-	-	-	-	-
	#46498	Date Created	datecreated	Timestamp	-	-	-	-	-
	#46499	Date Modified	datemodified	Timestamp	-	-	-	-	-
	#46501	Modified By	modifiedby	User	-	-	-	-	-
	#46554	Projects - Client Name (Clients)	tbl2578_tbl2577_client	Text	-	-	-	-	-

- On the pop-up window, add the field title 'ProjectTaskName', and enter the formula:
`Concat([tbl2578_project_name], " - ", [task_name])`

Note: your Table ID will be different from the one in the formula (tbl2578).

Edit Field

Field Name

ProjectTaskName





Info Text for Form Display

Field Type

Formula - Text

```
1 Concat([tbl2578_project_name], " - ", [task_name])
```

- Next, go back to the Forms screen of the Subtasks Table. Click the **Edit** icon to edit the Subtask Default Entry Form.

Search...					Q	Add Form +	⚙️ ?
PROJECT MANAGEMENT APP DON SUBTASKS							
Action	Form Id	Name	Description	Type	Related Report		
  	2035	default	default form created on table creation!	Web	ListAll		
	2069	Subtask Default Entry Form		Web	ListAll		

- On the Edit screen, select the ProjectTaskName field (previously created) from the Related Tasks drop down.

Form Settings

Form Name*

Subtask Default Entry Form

☒ Default form

Description

Drag and drop to add fields to a row. Insert/remove rows with the add/remove buttons.

Edit form

Fields

Q Search

Created By

+ Date Created

+ Date Modified

+ Related Tasks

ProjectTaskName

+ ADD TAB

ADD ROW

Subtask Name

Remove row

Subtask Description

- Click Save when done.
- Click on the **Add Subtask** from the left side navigation menu to display the default form.
- Click on the Related Tasks field on the entry form. You will notice that the Related Task field now displays the **concatenated Project Name and Task Name** which is more intuitive than just the **Task Name**.

Practice # 3: Subtask Resource Assignment Form Form

The Subtask Resource Assignment Form will be used to assign a specific user to a subtask. This form would need to allow users to specify the subtask along with the assigned resource. This form would include Project/Task, Subtask and Resource.

To create the form:

1. To create a Custom Form that will **not** be a **default form**, it will need to be associated with a Report, so it can be accessed. Once associated with a report, the custom form will be displayed when adding or editing records from that specific report.

On your App Homepage, on the left Navigation menu, expand the Table for which you wish to create the report. In this case, this is the **Subtasks** Table. From the expanded menu, Select the **Reports** option.

2. The **Reports Screen** will be displayed showing the list of current reports.
3. On the top right of the screen, click "**Add Report**", and from the list displayed, select **Add Table**.
4. On the Report Screen displayed, enter the Report Name "Assigned Resources".

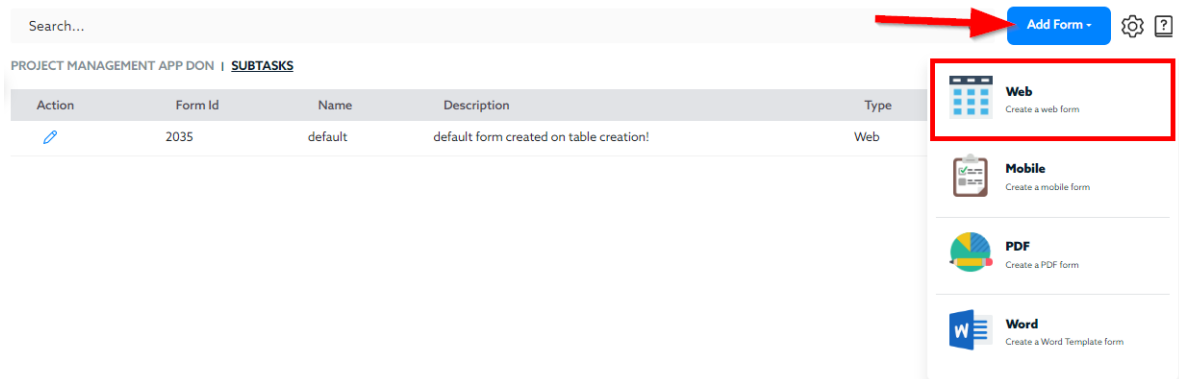
Next, under the **Available Fields Section**, select the Fields you wish to display on the report. Note: you can click on the fields in the order you wish to display them on the report. Once all fields have been selected, click on the arrow to move them to the **Selected Fields Section**.

Be sure to add the Project Name, Task Name, Subtask, Start Date, End Date, Related Resources and Resources - FullName Employee ID.

5. On your App Homepage, on the left Navigation menu, expand the Table for which you wish to create the form. In this case, this is the **Subtasks** Table. From the expanded menu, Select the **Forms** option.

The **Forms Screen** will be displayed showing the list of current forms.

6. On the top right of the screen, click **"Add Form"**, and from the list displayed, select **Web**.



7. On the Form Screen displayed, enter the Form Name "Subtask Resource Form". **DO NOT** select the **Default form** checkbox.
8. Next, under Show in Report, select the "Assigned Resources" Report you previously created.

A screenshot of the 'Form Settings' screen. The 'Form Name' field contains 'Subtask Resource'. The 'Default form' checkbox is unchecked. The 'Description' field is empty. The 'Show in report' dropdown menu is set to 'Assigned Resources'.

9. Next, under the **Edit Form** section, you will drag and drop the fields you wish to add to the form.

On the first row, drag and drop the **project name** and **task name**.

Add a row to drag and drop **Start Date**, **End Date** and **Status**. Since this form will only be used to assign a resource to a subtask, we can prevent users from changing the start date, end date and status via this form. To do so, you will set these fields as Read Only:

1. Next to Start Date, End Date and Status, click on the **Edit** icon.

2. On the pop-up window displayed, select the **Read Only** option displayed. Click **Save**.

3. Repeat for the fields Start Date, End Date and Status.

Next, add a row to then drag and drop the **Subtask Name** and the **Related Resources**. Since the Related Resources field is a foreign key field, you will need to select which field from the Resources Table you wish to use on the form. Select **FullName Employee ID** from the drop down options as the *Full Name and Employee ID* are more descriptive than just the Record ID.

Continue to add other fields if you wish.

10. Scroll down and click **Save** when done.

11. Since this is NOT a default form, this form will only be accessible via the Report it was associated with, the “Assigned Resources”.
12. Proceed to the Subtasks Table’s **Reports**, and click to view the **Assigned Resources** Report.

Tasks








Subtask

Imports

Fields


Relationships













Reports

Actions	Key	Name	Description	Report Type	Default	Related Form	Created By
  	4kautccq5	ListAll	default report created on table creation!	Datatable	<input checked="" type="checkbox"/>	default	learn@ignatius.io
   	eeymtwcq8	Assigned Resources	-	Datatable	<input type="checkbox"/>	Subtask Resource	learn@ignatius.io

Showing 1 to 2 of 2 entries


13. The next screen will display the Report. Select the Edit icon next to any record. This will display the form attached to the report (the Resources Form you previously created). From there you can edit the information related to the subtask.

... | SUBTASK | **ASSIGNED RESOURCES** 

Actions	Tasks - Project Name (Projects)	Tasks - Task Name	Subtask Name	Subtask Startdate	Subtask Enddate	Related Resources	Resources - Fullname
<input type="checkbox"/>  	Customer Relationship Management System Upgrade	Requirements Gathering	Requirements Analysis	04/15/2023	04/19/2023	-	-
<input type="checkbox"/>  	Customer Relationship Management System Upgrade	Requirements Gathering	Requirements Documentation	04/20/2023	04/23/2023	-	-
<input type="checkbox"/>  	Customer Relationship Management System Upgrade	System Design	System Design Review	04/25/2023	04/27/2023	-	-
<input type="checkbox"/>  	Customer Relationship Management System Upgrade	System Design	Detailed Design	04/28/2023	04/30/2023	-	-
<input type="checkbox"/>  	Customer Relationship Management System Upgrade	Development	Development Tasks	05/01/2023	05/22/2023	-	-
<input type="checkbox"/>  	Customer Relationship Management System Upgrade	Testing	Testing Plan	05/23/2023	05/24/2023	-	-

Notice the **Read Only fields** that were set on the form. They are not editable via this form. You will also notice that the **Project Name** and **Task Name** fields are also not editable as they are **lookup fields**. Lookup fields are not editable as they simply reference data from other tables. You would have to go to the respective tables to edit that information.

Click on the **Related Resources** field. Notice the “Full Name Employee ID” field is displayed for the user to easily select and assign a resource. Select a Resource from the list.

... | SUBTASK | **ASSIGNED RESOURCES**  | **RECORD: #3**

Tasks - Project Name (Projects)

Customer Relationship Management System Upgrade

Tasks - Task Name

System Design

Subtask StartDate

04/25/2023

Subtask EndDate

04/27/2023

Subtask Status

In Progress

Subtask Name

System Design Review

Related Resources

Type here

-- Select --

John Doe - 123456

Jane Smith - 234567

Mike Johnson - 345678

Sarah Lee - 456789

David Kim - 567890

14. Click Save when done.

Practice # 4: Subtask Time Log Form

The Subtask Time Log Form will be used to enter the accumulated worked time against an existing Subtask. This form would need to allow users to simply enter a decimal value for the number of hours. This form would include the Project Name, Task Name, Subtask Name and the Time Log entry field.

Note: This form would only allow one (1) time log entry as this would be a single field on the Subtask table. In this case, this field would be used to update the accumulated worked hours over time.

As an alternative, if you wish to track dated worked time records (instead of a single cumulative value), you would have to create a separate **Time Log** Table. This time log table would allow you to make multiple time log entries for a single subtask as displayed below:

Related Subtask	Related Resource	Log Date	Time Log
Requirements Analysis	John Doe	3/6/2023	1.5
Requirements Analysis	John Doe	3/7/2023	5
Requirements Analysis	John Doe	3/8/2023	7.45
Requirements Documentation	Sarah Lee	3/6/2023	2.5
Requirements Documentation	Sarah Lee	3/9/2023	6

In other words, the **subtasks** Table only has one (1) record for each subtask, so only one (1) time entry would be possible. For multiple dated time entries, a new table is required. That table would then require a relationship to be created with the **Subtasks** Table. Please see the next Practice for more details.

To create the form for the single cumulative time log:

1. To create a Custom Form that will **not** be a **default form**, it will need to be associated with a Report, so it can be accessed. Once associated with a report, the custom form will be displayed when adding or editing records from that specific report.

On your App Homepage, on the left Navigation menu, expand the Table for which you wish to create the report. In this case, this is the **Subtasks** Table. From the expanded menu, Select the **Reports** option.

2. The **Reports Screen** will be displayed showing the list of current reports.
3. On the top right of the screen, click "**Add Report**", and from the list displayed, select **Add Table**.
4. On the Report Screen displayed, enter the Report Name "Subtasks Accumulated Time".

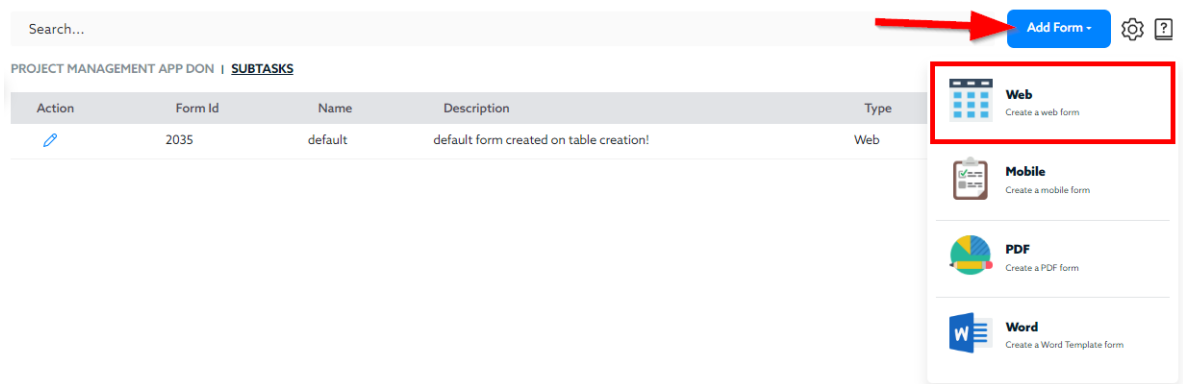
Next, under the **Available Fields Section**, select the Fields you wish to display on the report. Note: you can click on the fields in the order you wish to display them on the report. Once all fields have been selected, click on the arrow to move them to the **Selected Fields Section**.

Be sure to add the Project Name, Task Name, Subtask, Start Date, End Date, and Time Log.

5. On your App Homepage, on the left Navigation menu, expand the Table for which you wish to create the form. In this case, this is the **Subtasks** Table. From the expanded menu, Select the **Forms** option.

The **Forms Screen** will be displayed showing the list of current forms.

6. On the top right of the screen, click “**Add Form**”, and from the list displayed, select **Web**.

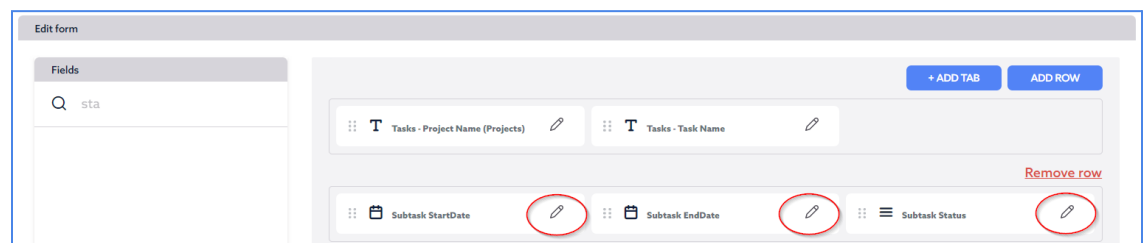


7. On the Form Screen displayed, enter the Form Name “Subtasks Time Log”. **DO NOT** select the **Default form** checkbox.
8. Next, under Show in Report, select the “Subtasks Accumulated Time” Report you previously created.
9. Next, under the **Edit Form** section, you will drag and drop the fields you wish to add to the form.

On the first row, drag and drop the **project name** and **task name**.

Add a row to drag and drop **Start Date**, **End Date** and **Status**. Since this form will only be used to update the worked time of a subtask, we can prevent users from changing the start date, end date and status via this form. To do so, you will set these fields as Read Only:

1. Next to Start Date, End Date and Status, click on the **Edit** icon.



2. On the pop-up window displayed, select the **Read Only** option displayed. Click **Save**.

Properties Subtask StartDate

Is hidden? ☐

Read Only? ☒

Hidden Filter

-- Select --

Column	Condition	Value	Actions
-- Select --	-- Select --	Enter here	+

Cancel Save

3. Repeat for the fields Start Date, End Date and Status.

Next, add a row to then drag and drop the **Subtask Name** and the **Time Log** field.

Edit form

Fields

Search

Created By

Date Created

Date Modified

Modified By

+ ADD TAB + ADD ROW

Tasks - Project Name (Projects) Tasks - Task Name












Subtask StartDate Subtask EndDate Subtask Status

Subtask Name Time Log

Remove row


Continue to add other fields if you wish.













10. Scroll down and click **Save** when done.
11. Since this is NOT a default form, this form will only be accessible via the Report it was associated with, the "Subtasks Accumulated Time".
12. Proceed to the Subtasks Table's **Reports**, and click to view the **Subtasks Accumulated Time** Report.

Actions	Key	Name	Description	Report Type	Default	Related Form	Created By
  	4kautccq5	ListAll	default report created on table creation!	Datatable	<input checked="" type="checkbox"/>	default	learn@ignatius.io
   	eeymtwcq8	Assigned Resources	-	Datatable	<input type="checkbox"/>	Subtask Resource	learn@ignatius.io
   	6ft9juhw5	Subtasks Accumulated Time	-	Datatable	<input type="checkbox"/>	Subtasks Time Log	learn@ignatius.io

Showing 1 to 3 of 3 entries

13. The next screen will display the Report. Select the Edit icon next to any record. This will display the form attached to the report (the **Subtasks Time Log** Form you previously created). From there you can edit the information related to the subtask.


PROJECT MANAGEMENT | SUBTASK | SUBTASKS ACCUMULATED TIME 

Actions	Tasks - Project Name (Projects)	Tasks - Task Name	Subtask Name	Subtask Startdate	Subtask Enddate	Time Log
<input type="checkbox"/>  	Customer Relationship Management System Upgrade	Requirements Gathering	Requirements Analysis	04/15/2023	04/19/2023	15.25
<input type="checkbox"/>  	Customer Relationship Management System Upgrade	Requirements Gathering	Requirements Documentation	04/20/2023	04/23/2023	10.5
<input type="checkbox"/>  	Customer Relationship Management System Upgrade	System Design	System Design Review	04/25/2023	04/27/2023	4
<input type="checkbox"/>  	Customer Relationship Management System Upgrade	System Design	Detailed Design	04/28/2023	04/30/2023	2.5
<input type="checkbox"/>  	Customer Relationship Management System Upgrade	Development	Development Tasks	05/01/2023	05/22/2023	12.5
<input type="checkbox"/>  	Customer Relationship Management System Upgrade	Testing	Testing Plan Creation	05/23/2023	05/24/2023	0

Showing 1 to 50 of 59 entries

Notice the **Read Only** fields that were set on the form. They are not editable via this form. You will also notice that the **Project Name** and **Task Name** fields are also not editable as they are **lookup fields**. Lookup fields are not editable as they simply reference data from other tables. You would have to go to the respective tables to edit that information.

Click on the **Time Log** field, and enter the accumulated hours so far on that subtask.

PROJECT MANAGEMENT | SUBTASK | SUBTASKS ACCUMULATED TIME  | RECORD: #2

Tasks - Project Name (Projects)
Customer Relationship Management System Upgrade

Tasks - Task Name
Requirements Gathering

Subtask StartDate
04/20/2023

Subtask EndDate
04/23/2023

Subtask Status
Completed

Subtask Name
Requirements Documentation

Time Log
10.5

Cancel Save

14. Click Save when done.

Optional Practice

As mentioned in the previous section, the **Subtask** Table only has one (1) record for each subtask, so only one (1) time entry would be possible. A Subtask form would only allow one (1) time log entry as this would be a single field on the Subtask table. In this case, this field would be used to update the accumulated worked hours over time.

For multiple dated time entries, a new table is required. That table would then require a relationship to be created with the **Subtasks** Table. If you wish to add an option for multiple time log entries for the same subtask, follow the steps below:

- 1) Create a new Table called **Subtask Time Log**. Add Fields including: Log Date and Log Entry Time.
- 2) Create a **Text Formula Field “Subtask Full Name”** on the Subtasks Table to concatenate the Project, Task and Subtask Name into a single field.

Note: From the new table, to add a new time entry, you will select the subtask to which you wish to add time entries. Given that some subtasks might have the same name, it might be difficult to distinguish the right subtask. For this reason, you should **create a formula field** on the Subtasks Table to concatenate the project Name, Task Name and Subtask Name into one field. You can then reference that field from the **Subtask Time Log** Table to find the right subtask.

- 3) Add a Relationship between the **Subtasks** Table and the **Time Logs** Table: **each subtask** may have **many time logs**. Add Lookup fields such as Subtask Name, Task Name, Project Name and Resource.
- 4) Create the **Time Log Entry** Form from the **Time Logs Table**, and add fields including the project name, task name, the Related Subtask (use the concatenated field **Subtask Full Name** previously created), and Log Entry Time. Add this form as the default form.

Additional Information on Forms

When creating or editing forms, the following options are available:

Function	Description
+ Add Tab	<p>Ignatius will allow you to create a form with multiple tabs (pages). This will allow you to separate and organize the information as needed, especially if you have a lot of fields. This will also allow you to specify which tabs are for admin view only.</p> <p>Example: You can add a tab, rename your main tab “Resource Information” and add another tab named “Admin Information.” This</p>

	enables you to conceal sensitive information from users at the form level.
Add Row	Ignatius only allows you to have three (3) fields per row on a form. Use the Add Row to create more space for additional fields.
Hide for Admin (Only with + Add Tab)	Ignatius allows tabs to be hidden from Admins. It is a rare occasion, but depending on the roles/users of your environment, you may have a form that is useful for daily participants but an eyesore for an admin.
Hide for Participant (Only with +Add Tab)	Same function as Hide For Admin , but for participant roles.

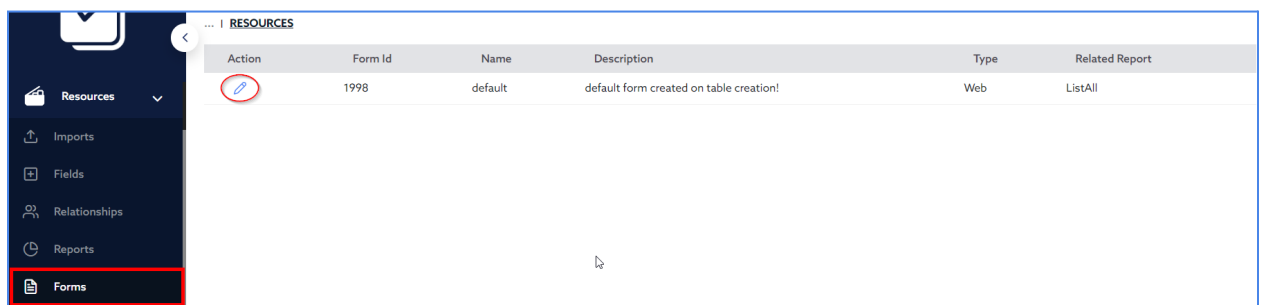
Additional Practice

Continue to create the following forms. Note: You can use the existing default form created for each table or create a new one:

- Default Resource Form
- Default Client Form
- Default Project Form
- Default Task Form

To edit an existing form:

1. Select **Forms** on the desired Table on your left-hand navigator.
2. On the Forms screen, select the **Edit** action next to the default form.



3. Remove the fields *Created By*, *Modified By*, *Date Created*, *Date Modified* from the form by dragging them to the field list on the left side. Only leave **Record Id** on the form.

The screenshot shows the 'Edit form' interface. On the left, a 'Fields' panel lists various fields: Search, Department, Email, Modified By, Created By, Date Modified, Date Created, Employee ID, First Name, FullName EmployeeID, Hourly Rate, and Last Name. On the right, the form structure is shown with a single row containing the field 'Record Id'. There are buttons for '+ ADD TAB' and 'ADD ROW' at the top right, and a 'Remove row' link at the bottom right of the row.

4. Drag and drop the desired fields to the form while utilizing tabs and rows as needed.

The screenshot shows the 'Edit form' interface after several fields have been added. The form structure consists of five rows. The first row contains 'Record Id' and 'FullName EmployeeID'. The second row contains 'First Name', 'Last Name', and 'Employee ID'. The third row contains 'Email'. The fourth row contains 'Department' and 'Resource Role'. The fifth row contains 'Hourly Rate', 'Week Start', and 'Workday Length'. Each row has a 'Remove row' link at the bottom right. The 'Fields' panel on the left is partially visible, showing 'Modified By', 'Created By', 'Date Modified', and 'Date Created'.

5. Select the **View** option on the left-hand navigator for the Table you are working on. This will display the default report of that table. Select the **Edit** icon on your first record to display the updated form at the record level. This will display the **default form** you just updated.

PROJECT MANAGEMENT | RESOURCES | LIST ALL ☒ | **RECORD: #18**

Record Id	① FullName EmployeeID	
18	John Doe - 123456	

First Name	Last Name	Employee ID
John	Doe	123456

Email

john.doe@example.com

Department	Resource Role
Sales/Marketing	Program Director

Hourly Rate	Week Start	Workday Length
100.00	Monday	8

Cancel Save

6. Notice how you can now make changes to the records by editing the fields you created in the data table process. However, certain fields are immutable and cannot be edited. For example, the **FullName EmployeeID** field on the resource table is immutable because it is a **Formula Field**.

Dashboards

Lesson IX: Dashboard in Ignatius

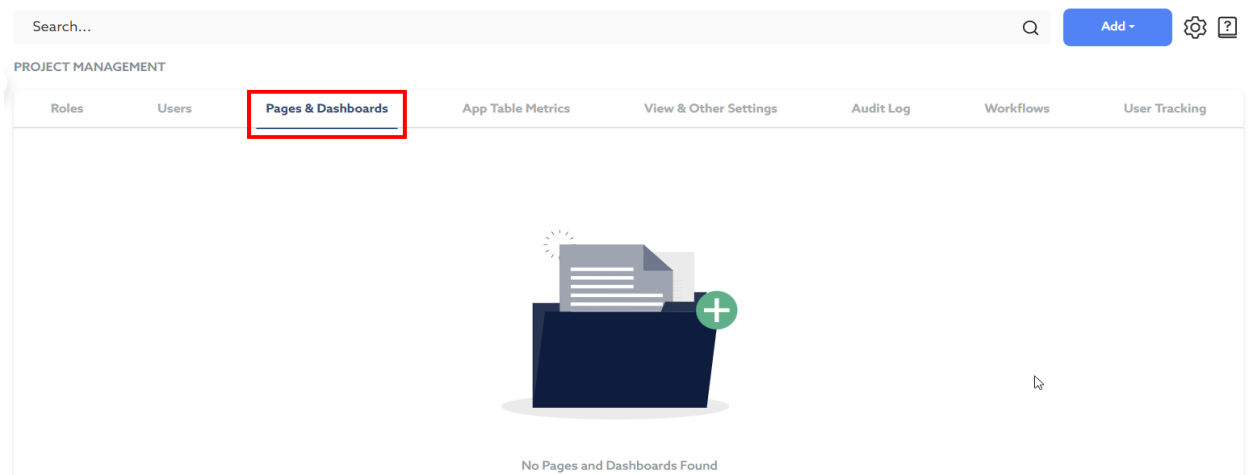
The Dashboard is the Home Page or first screen that appears following user login. It can display various types of summary information, reports as well as buttons and links to perform specific actions.

Buttons and links can be used to access any of the existing forms, reports or other dashboards. For example, you can add a button titled “Add Time Log”, and link the button to the **Time Entry Log Form** where the user can enter time spent on a subtask.

You can create multiple Dashboards and assign a default dashboard to a specific user role. In that case, any user with that specific role will have that dashboard as their home page. You can create a Dashboard for each role if you wish to display specific information based on the user role.

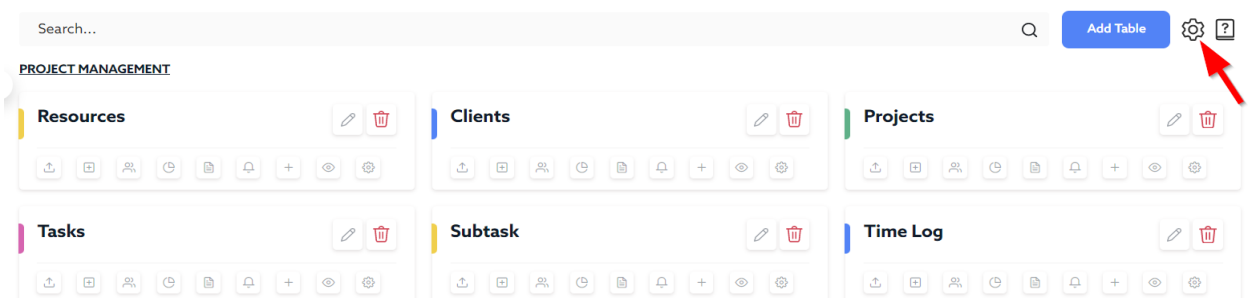
Practice Lesson IX: Creating Dashboards in Ignatius

Practice # 1: Create a Dashboard

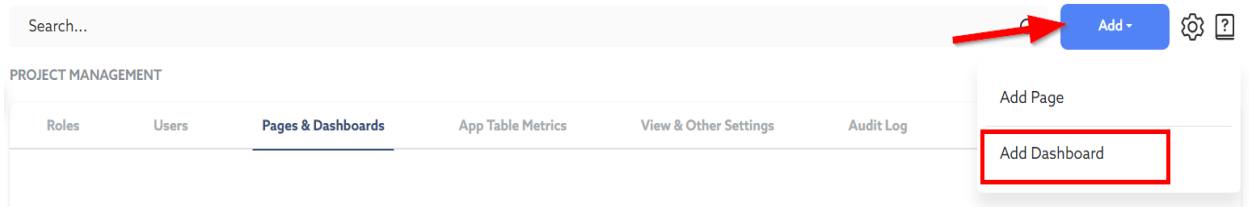


We will create one default dashboard in this training guide. To create a dashboard:

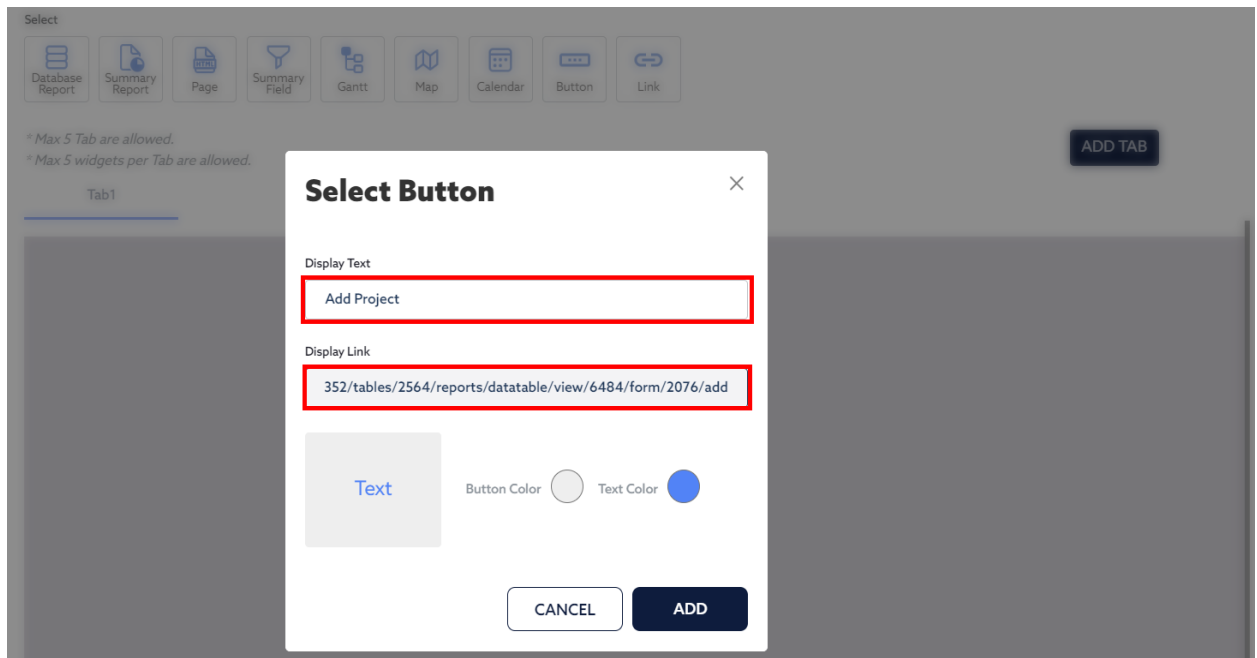
1. Click on **Settings** at the top right of the screen.



2. On the Settings Page, click the **Pages & Dashboards** tab.
3. Next, click Add at the top right, and select Add Dashboard.



4. Next, name the Dashboard “Project Manager Default Dashboard”.
5. Next, we will add a button to Add a New Project:
 - 1) Click on **Button**, and on the pop-up window displayed enter the display text of the button as “Add Project”. Next for the Link, enter the link to the **default** form to add a new Project.



To find the link to the data entry form:

If you wish to use the **Default Form**, simply click on the **Add Record** option for the table, in this case “**Add Project**” under the **Projects** Table. Once the form is displayed, copy/paste the link from your browser.

The screenshot shows the Ignatius.io dashboard interface. On the left is a dark sidebar with a menu. The 'Add Project' option, marked with a plus icon, is highlighted with a red box and a red arrow. The main content area is titled 'PROJECT MANAGEMENT | PROJECTS | LISTALL'. It contains several form fields: 'Related Clients' (text input), 'Project Name' (text input), 'Project Description' (text area), 'Project StartDate' (date picker), 'Project EndDate' (date picker), 'Project Budget' (text input), and 'Project Status' (dropdown menu).

2) Next, click Add to add the button to the dashboard.

The 'Select Button' dialog box is shown. It has a title bar with a close button. Inside, there are two text input fields: 'Display Text' with the value 'Add Project' and 'Display Link' with the value '352/tables/2564/reports/datatable/view/6484/form/2076/add'. Below these is a preview of a button with the text 'Text'. To the right of the preview are two color selection options: 'Button Color' (a grey circle) and 'Text Color' (a blue circle). At the bottom are two buttons: 'CANCEL' and 'ADD'. A red arrow points to the 'ADD' button.

3) Once the button is added, you can resize it as needed: simply place your cursor on one of the corners or borders to drag and resize. Also, as you add more buttons and reports to the Dashboard, be sure to space them properly.

6. Next, follow the same steps to continue to add buttons for:
 - Add Task to Project
 - Display Text: Add Task to Project
 - Link: use the default form (Tasks > Add Task > Copy Link from browser)
 - Add Subtasks to Task
 - Display Text: Add Subtask to Task
 - Link: use the default form (Subtasks > Add Subtask > Copy Link from browser)
7. Next, add a **button** to Assign a Resource to a Subtask:

On the pop-up window, enter the display text: “Assign Resource to Subtask”.

For the link, instead of displaying an entry form, we will display the report “**Assigned Resources**”.

Note: assigning a resource to a subtask requires **editing** an **existing** subtask as opposed to creating a new subtask, so instead of displaying the default data entry form, we will display a report from which users can edit records.

To find the link to the report:

Go to the **Reports** Screen of the Table (in this case Subtasks > Reports), and click to display the desired report (in this case the **Assigned Resources** Report). Copy the link from your browser.

Search...

PROJECT MANAGEMENT | SUBTASK

[Add Report +](#)

Actions	Key ▾	Name ▾	Description ▾	Report Type ▾	Default ▾	Related Form ▾	Created By ▾
	4kautccq5	ListAll	default report created on table creation!	Datatable		default	learn@ignatius.io
	eeymtwcq8	Assigned Resources	-	Datatable	-	Subtask Resource	learn@ignatius.io
	6ft9juhw5	Subtasks Accumulated Time	-	Datatable	-	Subtasks Time Log	learn@ignatius.io

Add the Assign Resource to Subtask button to the Dashboard.

8. Next, follow the same steps to continue to add button for:
- Add Time Log to Subtask
 - Display Text: Add Time Log to Subtask
 - Link: use the report Subtasks Accumulated Time (Tasks > Reports > View the **Subtasks Accumulated Time** Report > Copy Link from browser)

Create Dashboard

Dashboard Name*
Project Manager Default Dashboard

Show Breadcrumb Bar? ☒

Select

Database Report Summary Report Page Summary Field Gantt Map Calendar Button Link

* Max 5 Tab are allowed.
* Max 5 widgets per Tab are allowed.

ADD TAB

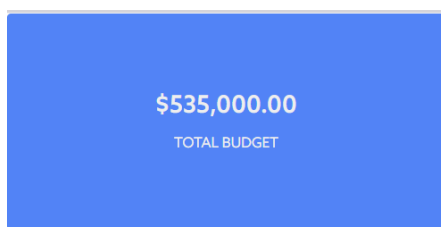
Tab1

ADD PROJECT ADD TASK TO SUBTASK ADD SUBTASK TO TASK ASSIGN RESOURCE TO SUBTASK UPDATE TIME LOG ON SUBTASK

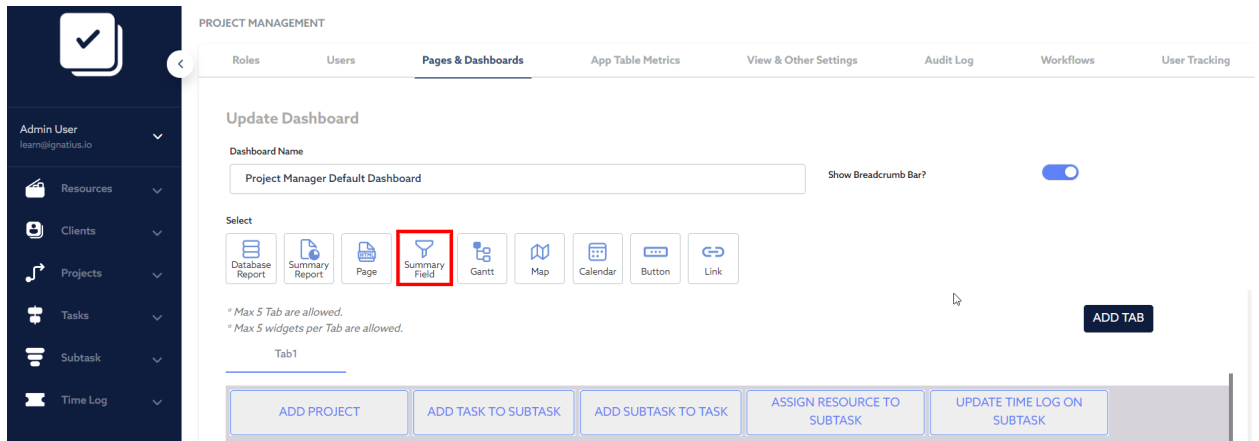
9. Next, you will add some Project Summary Information. In the previous chapter, you created the following summary fields:

- Total Project Budget - **Summary**
- Count of Projects - **Summary**
- Count of Completed Projects - **Summary**

Ignatius will give you the ability to show an **overall Total** of a Summary Field as a KPI Card on a Dashboard, as displayed below. The example below is the Total Budget across all clients.



To add a Summary KPI to your Dashboard, click on Summary Field at the top of the Dashboard Canvas

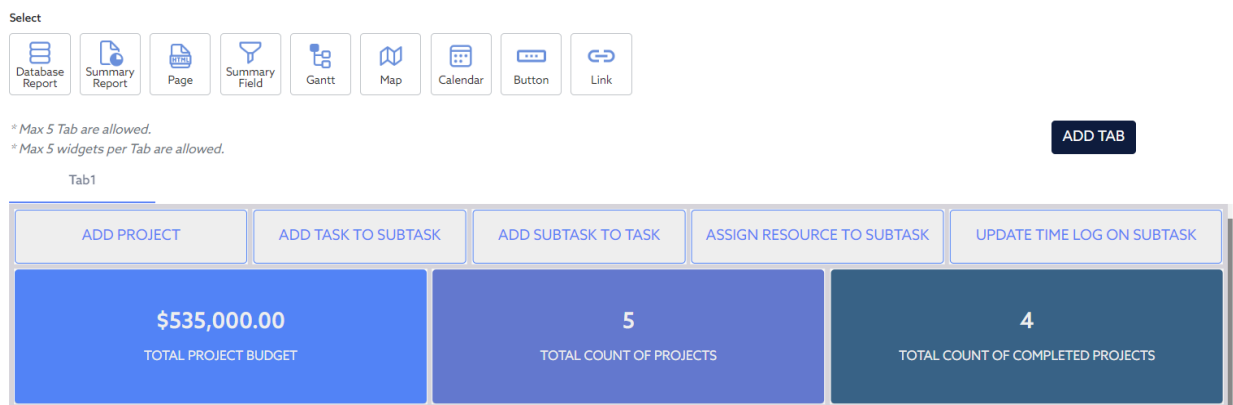


On the pop-up window, select the field you wish to add as a Metric to your Dashboard. Start with the “Clients - Total Budget”. You can change the color as needed.



10. Repeat to add the summary Fields:

- Clients - Total Count of Projects
- Clients - Total Count of Completed Projects



11. Click on Add Tab to add a new Tab to your Dashboard. Rename the new Tab “Project Details”. Rename the first tab “Summary”.

Dashboard Name

Project Manager Default Dashboard

Show Breadcrumb Bar? ☐

Select

Database Report Summary Report Page Summary Field Gantt Map Calendar Button Link

* Max 5 Tab are allowed.
* Max 5 widgets per Tab are allowed.

Summary X Project Details

ADD TAB

12. Next, for the Project Details Tab, click on **Summary Report** to add the **Projects - Project Status Percentages**, then click on Summary Report again to add the **Projects - Estimated vs Actual Time and Effort**.
13. Finally, click on **Datatable Report** to add the **Projects - Project List with Completion Percentage**, then click on **Datatable Report** again to add the **Projects - Open Projects**.

Dashboard Name

Project Manager Default Dashboard

Show Breadcrumb Bar? ☐

Select

Database Report Summary Report Page Summary Field Gantt Map Calendar Button Link

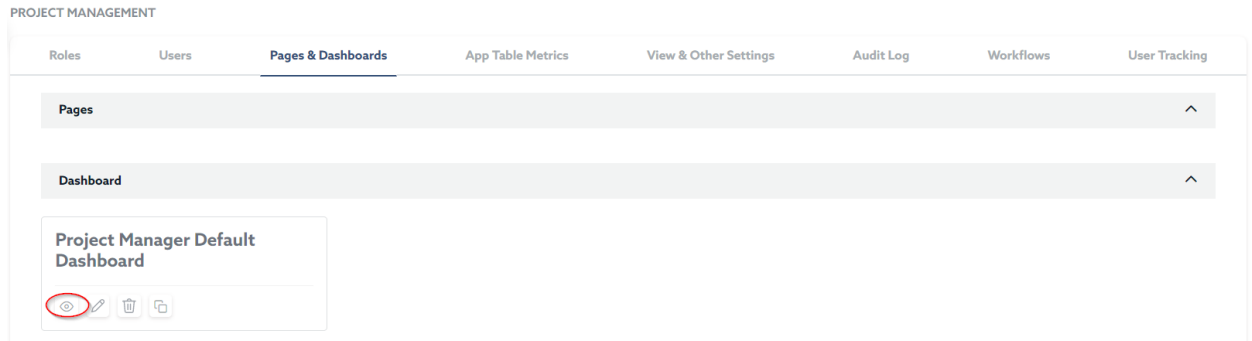
* Max 5 Tab are allowed.
* Max 5 widgets per Tab are allowed.

Summary X Project Details X

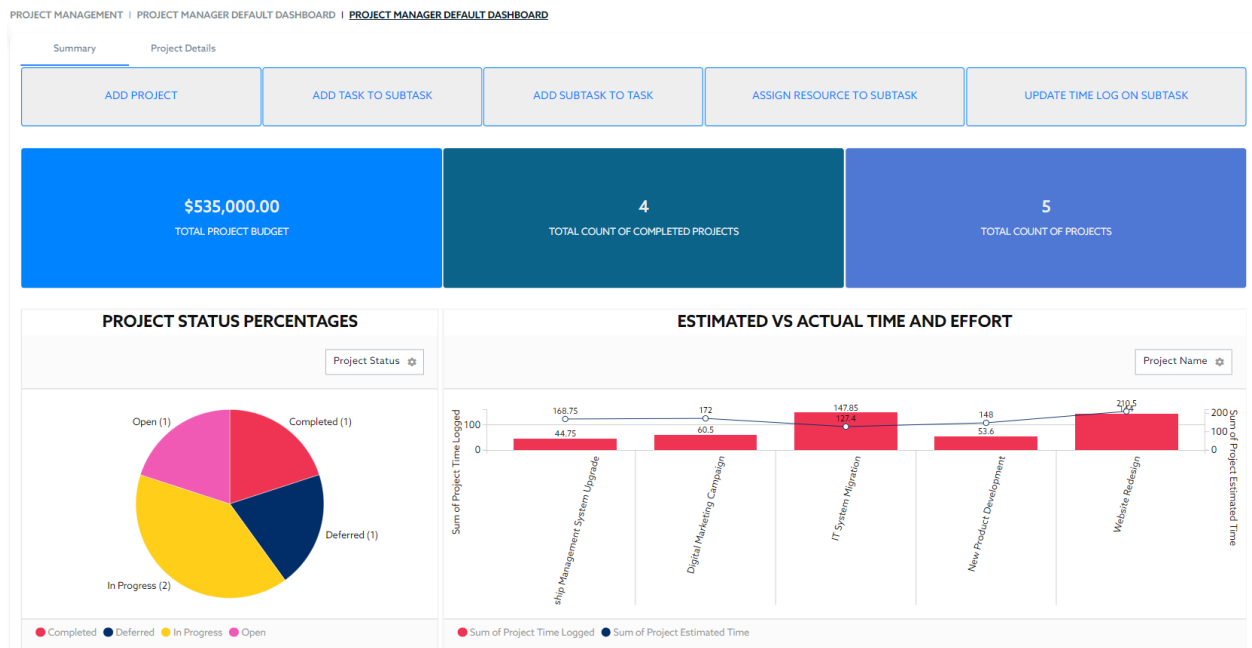
ADD TAB

PROJECT LIST WITH COMPLETION PERCENTAGE						
{ [(50)] }						
Actions	Clients - Client Name	Project Name	Project Startdate	Project Enddate	Project Status	Percent Complete
<input type="checkbox"/>	ABC Consulting	Customer Relationship Management System Upgrade	04/15/2023	07/31/2023	Open	0
<input type="checkbox"/>	Acme Inc.	New Product Development	03/01/2023	02/28/2024	In Progress	0

14. Scroll down and click Save to save the Dashboard.
15. On the next screen click the View icon to display the Dashboard. You can edit at any point to make changes.



This will display the Dashboard.



- To assign a default Dashboard to users, you will have to assign it to a user role:
Go to Settings. Under Roles, click Add Role.

On the screen displayed, enter the **Role Name** as “Admin”, then select the **default dashboard** you wish to assign.

Click **Save**.

Be sure to check all desired boxes. Check all boxes to have access to all tables.

Note: If you wish to know more about setting permissions and restrictions to user roles, please refer to the Ignatius Knowledge for more details.

In the Settings, click on Users.

PROJECT MANAGEMENT

Roles

Users

Pages & Dashboards

App Table Metrics

View & Other Settings

Audit Log

Workflows

User Tracking

Actions

Impersonate

Password Reset


Name


Email


Top-level Role


Role

Lastlogin









Admin User

learn@ignatius.io

Admin

-

4/27/2023 1:20:23 PM EST

Update User

Email

☒ Is Admin?

Role

Admin

Cancel

Save

Other Features

Following features and more are also available in Ignatius, but not discussed in this training guide:

- **Users and User Roles:** Users can be created or invited to the Ignatius App via the **Users** Module of the **Settings**. Each user can be assigned a specific Role. Note that there is a Field Type of **User** that can be added to any Table. This field type will list all existing Ignatius Users in a drop down list. This would be useful to replace the email field on the **Resources** Table. Instead of using the **email** field, you could add the **User** field.
- **Notifications** can be set to alert you when new records have been added to a table, when records have been updated, and when records have been deleted from a table. A practical use case for Notification would be to alert a user when a task has been assigned to them. When setting the notification, you can specify who is to be notified; this could be the email address stored in the user field of the record (if the User field is being used), or it could be a specific list of email addresses.
- **Subscriptions** can be set to send reports via email based on a configured schedule. This can facilitate the ability for users to effectively receive reports based on a specified schedule. You can set numerous parameters that dictate which report(s) will be shared and with which frequency.

For more information on these features and other features, please refer to the Ignatius Knowledge Base.