

DATABASE SCHEMA DOCUMENTATION FOR B2B2B SAAS PLATFORM

OVERVIEW

The database schema serves as the backbone of our multivendor B2B2B SaaS application, designed to efficiently manage complex interactions between multiple business entities. Its primary purpose is to facilitate seamless communication between various user types, including **agencies**, **sub-accounts**, and **end-users**, ensuring that operations remain fluid and integrated.

PURPOSE AND SIGNIFICANCE

The schema is crucial for several reasons:

- **Agency Management:** The system accommodates diverse agency structures, allowing them to manage clients and allocate resources effectively.
- **Integration with Payment Systems:** It supports smooth payment workflows and billing processes, essential for maintaining the financial health of the platform.

FEATURES

Key features of the database schema include:

1. **User Roles:** Defined roles ensure that users only access relevant data, maintaining data integrity and security.
2. **Dynamic Relationships:** The ability to establish relationships between entities allows for more effective data handling and interaction.
3. **Scalability:** The schema's design can adapt as the number of vendors and agencies grows, ensuring long-term usability.

By clearly organizing data and defining relationships, this schema empowers teams to implement and manage the SaaS platform effectively, enhancing overall user experience and operational efficiency.

KEY MODELS

In our database schema, several key models play essential roles in facilitating the operations of our B2B2B SaaS application. Below is a list of these models along with their primary functions:

USER

The **User** model represents individuals accessing the application, defined by their credentials and roles within the system. This model is critical for managing authentication and authorization.

AGENCY

The **Agency** model encapsulates organizations that manage multiple clients, allowing them to organize and oversee user accounts, permissions, and resources efficiently.

SUBACCOUNT

The **SubAccount** model allows agencies to create and manage lower-level accounts for their clients, fostering tailored interactions and specific resource allocations.

PERMISSIONS

The **Permissions** model defines what actions users can perform within the application, ensuring that data security is upheld by restricting unauthorized access.

FUNNEL & FUNNELPAGE

The **Funnel** and **FunnelPage** models are integral for tracking user journeys through various sales processes, helping agencies optimize their marketing strategies.

PIPELINE

The **Pipeline** model serves as a visual representation of different stages in a sales process, allowing users to track the progress of deals and manage workflows effectively.

LANE

The **Lane** model organizes and categorizes different groups of tickets or tasks within a pipeline, streamlining workflow management for users.

TICKET

The **Ticket** model is designed to manage specific tasks, requests, or issues that need addressing, ensuring that user concerns are efficiently tracked and resolved.

CONTACT

The **Contact** model maintains essential information about individuals associated with accounts, providing a comprehensive view of client relationships.

MEDIA

The **Media** model manages various types of files and multimedia used within the application, such as images and documents, enhancing user engagement.

TRIGGER

The **Trigger** model establishes specific actions or conditions in the application that automatically initiate certain workflows, thereby improving responsiveness.

AUTOMATION

The **Automation** model encompasses processes that run independently, handling repetitive tasks and saving time for users.

SUBSCRIPTION

The **Subscription** model refers to customers' billing cycles and the services they are entitled to, central to the revenue model of the application.

ADDONS

The **AddOns** model allows customers to add additional features or services to their subscriptions, enhancing flexibility and customization.

NOTIFICATION

The **Notification** model handles alerts and messages sent to users, ensuring timely communication of important updates.

INVITATION

The **Invitation** model is used to send access requests to new users, facilitating the onboarding process.

SIDEBAROPTIONS

The **SidebarOptions** model configures the user interface for optimal navigation and experience, allowing users to customize their workflows.

Each of these models contributes to a robust and efficient database schema, laying the foundation for managing complex interactions in our SaaS application.

USER MODEL

The **User** model is a fundamental component within our database schema, representing the individuals who interact with the B2B2B SaaS application. This model is pivotal for enabling user authentication and managing permissions across the platform.

KEY FIELDS

1. role:

- This field indicates the specific responsibilities and access levels assigned to each user. Common roles include **Admin**, **Manager**, and **User**, with each role tailored to meet varying needs in the operational hierarchy.

2. **agencyId**:

- This field references the associated agency that the user belongs to. It establishes a relationship between users and agencies, ensuring that data integrity is maintained and access is appropriately limited based on agency affiliations.

3. **Permissions[]**:

- This array defines a set of permissions granted to the user. Each permission dictates what actions a user can perform within the application, such as **viewing reports**, **editing data**, or **managing workflows**. This customizable feature enhances security by ensuring users have access only to the functionalities necessary for their roles.

USE CASE IN USER AUTHENTICATION

In the context of user authentication, the User model is crucial for validating user credentials during login, ensuring secure access to the platform. By leveraging the combination of **role** and **Permissions[]**, the system can dynamically enforce access control policies, thereby safeguarding sensitive data and optimizing user experiences tailored to their specific roles.

AGENCY MODEL

The **Agency** model serves as the primary entity for businesses within the B2B2B SaaS ecosystem. It plays a crucial role in managing relationships between various users and overseeing billing processes effectively.

KEY FIELDS

1. **connectAccountId**:

- This field serves as a unique identifier for connecting with external systems or payment gateways, facilitating seamless integration for billing and management activities.

2. **subAccount[]**:

- This array holds references to multiple sub-accounts under the agency, which allows agencies to manage individual client

accounts efficiently. Each sub-account can have its own users, ensuring tailored management and resource allocation.

3. **subscription:**

- This field defines the agency's subscription details, indicating the services and features they are entitled to utilize. It also encompasses billing cycles, which are essential for maintaining financial information related to the agency's operations.

AGENCY ROLES

Agencies act as frameworks for managing various users and their permissions. Through the agency model, organizations can:

- **Onboard Users:** Agencies can create and manage user accounts, ensuring that only authorized personnel access sensitive information.
- **Streamline Billing Processes:** With integrated subscription management, agencies use this model to oversee billing details, ensuring timely payments and efficient financial tracking.
- **Configure Permissions:** Agencies have the authority to define specific roles and permissions across their sub-accounts, allowing for customized access and maintaining data integrity.

The Agency model thus not only establishes a hierarchical structure but also ensures that operational tasks such as user management and billing are conducted smoothly within the SaaS platform.

SUBACCOUNT MODEL

The **SubAccount** model represents client-specific entities managed beneath an agency, enabling tailored interactions and resource allocation. This model is integral for agencies to maintain a clear hierarchy and effectively manage client relationships.

KEY FIELDS

1. **agencyId:**

- This field links each SubAccount to its parent **Agency**, ensuring that access and management capabilities align with the agency's permissions and structure.

2. **funnels[]**:

- This array stores references to marketing funnels associated with the SubAccount. Funnels help track client engagement and conversions, allowing agencies to optimize marketing strategies for each client.

3. **permissions[]**:

- This field defines specific access permissions for the users linked to the SubAccount. It ensures that only authorized personnel can interact with client resources, maintaining data security and integrity.

USE CASES FOR MANAGEMENT

- **Resource Allocation:** The SubAccount model allows agencies to distribute resources according to each client's needs, enhancing operational efficiency.
- **Client Workflows:** By utilizing funnels and permissions, agencies can create bespoke workflows tailored to individual client requirements, boosting overall effectiveness.
- **Performance Monitoring:** Agencies can track and analyze client performance through funnels, assisting in the adjustment of strategies to meet client goals.

The design of the SubAccount model thus facilitates effective client management, reinforcing the agency's role in orchestrating business relationships and workflows.

PERMISSIONS MODEL

The **Permissions** model is essential for controlling access and defining what actions users can execute within the B2B2B SaaS application. By allowing granular role-based access, this model enhances both security and usability for different user types.

KEY FIELDS

- **userId:**
 - A unique identifier for each user. This field links the permissions granted to a specific user within the application.

- **subAccountId:**

- This field indicates the specific sub-account related to the permission set. It helps establish context for the permissions, ensuring that users only access data pertinent to their sub-account.

- **accessLevel:**

- Defines the extent of actions a user can take (e.g., read, write, delete). This quantitative measure allows for tailored user experiences based on their role and responsibilities.

USE CASE FOR GRANULAR ROLE-BASED ACCESS

Granular role-based access fosters a customized user experience by strictly regulating what each role is permitted to do. For instance:

- **Admins** may manage settings and user accounts.
- **Managers** might view performance metrics but not modify sensitive configurations.
- **Standard Users** can access only the functionalities required for their daily tasks.

By delineating these access levels clearly, the Permissions model ensures **data integrity** and **security**, while also enhancing productivity by reducing the risk of unauthorized actions. This segregation ultimately contributes to better user satisfaction and operational efficiency.

FUNNEL & FUNNELPAGE MODELS

The **Funnel** and **FunnelPage** models are pivotal for creating and managing marketing funnels within our SaaS application. These models streamline the process of building sales processes tailored to user journeys, enabling agencies to enhance their marketing strategies effectively.

KEY FIELDS

1. **subDomainName:**

- This field specifies the unique sub-domain for each funnel, allowing agencies to host and manage multiple funnels simultaneously. It enhances the user experience by providing a distinct web address

for each funnel, aiding in segmentation and tracking of various marketing initiatives.

2. **content**:

- The **content** field holds the layout and text for FunnelPages. This encompasses all visual elements, such as images and call-to-action buttons, enabling agencies to craft compelling marketing messages that resonate with their target audience.

3. **funnelSteps[]**:

- This array contains references to sequential FunnelPages, which outline the specific stages a user encounters during their journey. By structuring funnels into distinct steps, agencies can better monitor user interactions and optimize conversion pathways for improved results.

FUNCTIONALITY

The Funnel and FunnelPage models support the development of unlimited funnels, providing flexibility for agencies to experiment with different strategies. By analyzing data from each funnel, agencies can refine their approaches, ensuring targeted marketing efforts yield maximum return on investment.

PIPELINE, LANE, AND TICKET MANAGEMENT

In the context of a Kanban/project management system, the **Pipeline**, **Lane**, and **Ticket** models work in harmony to ensure tasks are organized efficiently throughout their lifecycle.

KEY FIELDS

• **pipelineId**:

- This field identifies the specific pipeline to which a collection of lanes and tickets belongs. It serves as a framework for visualizing various stages of project progress, making it easier for teams to track the overall workflow.

- **laneId:**

- Within each pipeline, the laneId helps categorize tickets into distinct sections based on their status or the type of work involved (e.g., To Do, In Progress, Done). This organization aids in clarity and prioritization, allowing team members to focus on tasks based on their current phase.

- **tags[]:**

- Tags provide additional context for each ticket, enabling teams to filter and organize tasks effectively. Tags can represent categories such as urgency, team assignments, or project-specific identifiers, facilitating improved searchability and management of tickets.

FUNCTIONALITY IN PROJECT MANAGEMENT

Together, these models create a structured environment for task tracking and project management. The **Pipeline** showcases overarching processes, while **Lanes** break down workflows into actionable segments. **Tickets** represent individual tasks or issues, allowing teams to move tasks seamlessly through the Kanban system, enhancing collaboration and operational efficiency.

CONTACT, MEDIA, TRIGGER, AND AUTOMATION

In our B2B2B SaaS application, the **Contact**, **Media**, **Trigger**, and **Automation** models play critical roles in managing leads, enhancing user engagement, and facilitating automated workflows.

CONTACT MODEL

The **Contact** model maintains essential information about individuals associated with accounts, crucial for relationship management. This model enables agencies to track and manage client details efficiently, thus aiding in personalized communication strategies.

MEDIA MODEL

The **Media** model serves as a repository for various media types, including images and documents. By storing relevant media assets, this model enhances overall management capabilities, enabling agencies to utilize high-

quality content in their marketing campaigns and client interactions seamlessly.

TRIGGER MODEL

The **Trigger** model defines specific conditions or actions that automatically initiate workflows. For instance, a trigger might send a welcome email upon a new contact registration. This automation allows for timely responses to user actions, drastically improving customer experience and engagement.

AUTOMATION MODEL

The **Automation** model encompasses processes that operate independently to handle repetitive tasks. By automating routine actions, such as sending follow-up emails or scheduling calls, teams can focus on more complex tasks, thus driving efficiency and productivity.

By integrating these models, the application not only streamlines lead management but also enhances the ability to respond quickly to dynamic business needs, significantly bolstering operational capabilities and user satisfaction.

SUBSCRIPTION AND ADDONS MODEL

The **Subscription** and **AddOns** models are pivotal for managing billing within our multivendor B2B2B SaaS application. Together, they empower agencies and their clients to manage their financial commitments efficiently.

SUBSCRIPTION MODEL

The **Subscription** model serves as the backbone of billing operations, detailing the pricing structure and services provided to clients. Key fields include:

- **plan:**
 - This field categorizes different service levels such as **Basic**, **Pro**, and **Enterprise**, allowing agencies to present tailored offerings to their clients.

- **priceId:**

- Corresponding to specific subscription plans, the **priceId** links to Stripe billing integrations, facilitating seamless payment processing and invoicing.

By leveraging these fields, agencies can easily manage client subscriptions, ensuring accurate billing cycles and service access.

ADDONS MODEL

The **AddOns** model enhances subscription flexibility by enabling clients to opt for additional features or services. This model includes:

- **addOnType:**

- Identifies the nature of the add-on, such as storage capacity or analytics tools, providing clarity on what enhancements clients can choose.

- **addOnPriceId:**

- Similar to the Subscription model, this field ensures that additional charges are effectively processed through Stripe, consolidating payment mechanisms.

By utilizing the Subscription and AddOns models, agencies can create a dynamic billing ecosystem that not only caters to diverse client needs but also optimizes revenue management.

NOTIFICATION AND INVITATION MODELS

The **Notification** and **Invitation** models are essential for managing communication within the B2B2B SaaS platform, significantly enhancing user engagement and interaction.

NOTIFICATION MODEL

The **Notification** model is responsible for delivering alerts and updates to users. Key features include:

- **message:** The content of the notification, which informs users about relevant events or actions, such as new messages or system updates.

- **timestamp:** This field indicates when the notification was sent, helping users track the timeliness of alerts.

This model fosters real-time communication, allowing users to stay updated and engaged with the platform.

INVITATION MODEL

The **Invitation** model streamlines the onboarding process for new users. Key features encompass:

- **recipientEmail:** The email address of the user being invited, ensuring the invite reaches the correct individual.
- **inviteStatus:** This field tracks whether the invitation has been accepted, pending, or expired.

By facilitating the sending of access requests, this model plays a crucial role in welcoming new users, thus contributing to a smoother user journey within the application.

SIDEBAROPTIONS MODEL

The **SidebarOptions** model is an essential component for enhancing the user experience within our B2B2B SaaS application. It allows agencies and sub-accounts to customize their dashboards, ensuring tailored interactions according to specific needs.

IMPORTANCE OF CUSTOMIZATION

The flexibility provided by the SidebarOptions model is crucial for several reasons:

- **User-Focused Design:** Agencies can customize UI elements to suit their operational requirements, improving usability and access to vital functions.
- **Dashboard Personalization:** Users can rearrange or modify sidebar options, allowing quick access to frequently used features or reports, ultimately reducing the time spent navigating.

KEY FEATURES

1. **Customizable Selections:** Agencies can choose which elements to display, including shortcuts to key resources, reports, or internal tools.
2. **Responsive Layouts:** The layout of sidebar options can adapt to different devices, offering users a consistent experience whether on a desktop or mobile device.
3. **Preferred Settings:** Users can save their specific configurations, ensuring a seamless experience whenever they log in.

In summary, the SidebarOptions model plays a vital role in creating an intuitive and personalized interface within the application, leading to enhanced productivity and user satisfaction.

RELATIONSHIPS BETWEEN MODELS

Understanding the relationships between various models within the database schema is essential for maintaining data integrity and ensuring seamless feature interconnectivity. Key foreign keys, such as **agencyId** and **subAccountId**, serve as critical links between models.

FOREIGN KEY RELATIONSHIPS

- **User and Agency:** The **User** model includes the **agencyId** field, linking each user to their respective agency. This relationship helps enforce access control and ensures users interact only with data pertinent to their agency.
- **Agency and SubAccount:** The **Agency** model contains an array of **subAccountIds**, allowing it to manage multiple client-specific entities. Each sub-account inherits capacities defined by the parent agency, streamlining user permissions and resource allocation.
- **Permissions and SubAccount:** The **Permissions** model incorporates **subAccountId**, providing context for the access rights granted to users affiliated with specific sub-accounts. This relationship mitigates unauthorized access and bolsters data security.

IMPLICATIONS FOR DATA MANAGEMENT

These relationships not only help preserve data integrity but also enhance operational efficiency by:

- **Enforcing Hierarchy:** Clear relationships define how data flows through the system, enabling structured management of users, agencies, and sub-accounts.
- **Simplifying Queries:** Understanding model interconnections allows developers to construct more efficient queries, minimizing data retrieval time and improving system performance.
- **Promoting Scalability:** As the platform grows, these defined relationships facilitate the addition of new models or adjustments to existing ones without compromising system functionality.

WORKFLOW AND FEATURE FLOW

The workflow of our B2B2B SaaS application is structured to ensure seamless operations from user and agency creation to sub-account setup and feature management. This integrated approach allows teams to manage processes effectively and enhances user experience.

USER AND AGENCY CREATION

1. User Onboarding:

- Agencies create users within the platform using the **User** model, assigning appropriate roles and permissions based on their responsibilities.

2. Agency Framework:

- Each user is linked to an **Agency** through the **agencyId**, establishing a clear hierarchy for functionality and access.

SUB-ACCOUNT MANAGEMENT

1. SubAccount Setup:

- Agencies create **SubAccounts** under their umbrella, allowing for tailored management of client relationships while isolating operations for each client.

2. Custom Workflows:

- Unique **funnels** and **permissions** are set for each sub-account, enabling specific operational workflows aligned with client needs.

FEATURE MANAGEMENT

1. Kanban Boards:

- Utilizing the **Pipeline**, **Lane**, and **Ticket** models, teams can visualize workflows, manage tasks efficiently, and ensure smooth project tracking.

2. Billing and Automation:

- Integration of the **Subscription** and **Automation** models streamlines billing processes and automates routine tasks, enhancing operational efficiency and maintaining client satisfaction.

Through these interconnected workflows, the platform delivers cohesive and clear service across various business operations.