

## Case Study for Sr. Staff:

You've been hired as a Senior Staff Software Engineer in the MyBooks, which is a small business accounting product across the world. MyBooks is offered both as on-prem and online. We have 3M customers who use MyBooks on-prem and 100K move to online every year. MyBooks is a market leader in global markets for small business accounting and inventory management solutions generating Billion dollars in revenue for Intuit. MyBooks Desktop has matured over span of last 30 years and so has the technology stack matured. 60% of the code base is C++/C# and 40% is run through connected services built on mSaaS technology platform, powered by an AWS based, highly scaled platform. Quality, feature velocity, security and availability are paramount to maintain the company brand and reputation.

The business leadership has decided to venture upwards in the value chain to make the offering attractive for mid-market companies and small businesses which have a high growth trajectory and extend **MyBooks Enterprise Platinum®** offering for its MM customers. Due to digital disruption that COVID pandemic has accelerated, one of the unique challenges the team has is that MyBooks desktop customers are adopting MyBooks online. MyBooks desktop product teams must support this transition. While the transition to MyBooks online has started, for the customers who choose to stay on MyBooks desktop, we need to continuously invest in Mid-Market (MM) features for their needs.

One of the features, this year, that is required to be built is "Planning and Budgeting". The objective is to build this feature as a capability that helps small and mid-market businesses easily import/create the budgets, enables customers to monitor the business performance through advanced budget reports and leverage forecasting models to course correct in case of discrepancy.

### Planning and Budgeting for customers' needs to serve following:

- **Setup budgets tied to goals** - Today customers might have configured their goals in google spreadsheets, Microsoft excel or could have their own format of managing budgets (external client or mobile apps). We need a central view where budgets can be imported, created and maintained in MyBooks Desktop or in MyBooks Online
- **Role based access (RBAC)** - Based on the role of user, we would need to provide restricted access to the viewing or editing of these budgets and forecast models
- **Collaboration & Approvals** - Customers should be able to share the budgets & forecasts with accountants and their supervisor for approval. So, there is a workflow involved here
- **Notifications & Reminder** - For the approval or review of the planned budgets and forecast models, we should be able to set reminders and send notifications in the form of email once the budget & forecast model reviewal/ approval stage is progressed. Example if the user creates the budget, requires an accountant or supervisor to review, s/he should be able to assign it to the accountant or supervisor for review. Once assigned, notification should go to the accountant or supervisor for review. Similarly, once the action is taken by the accountant or supervisor, the same should be notified back. User, accountant or supervisor can set reminders for themselves to review.

**What to cover in your case study Technical Design and Architecture:**

- What would be your design principles for the capability?
- Given your experience, what would be your infrastructure & tech strategy to meet this business challenge?
- What are the pros and cons of your choice?
- What are the scalability considerations you would have?
- How would you architect a system? Please document assumptions made to arrive at the proposed architecture.

**Engineering Points to be considered:**

- Assumptions must be very clearly stated.
- The whole design needs to be cloud ready but integrates seamlessly on-prem. We look at your craft to capture high level tech architecture.
- We look at how the whole layer is built as a platform from which other app developers can also consume.
- We look at design principles, non-functional aspects such as engineering and operational excellence aspects in your craft.
- Any additional product innovation and design consideration will be great.