# a SDLC for a SaaS application

For the creation a generic SaaS first we would have to go through the following steps before deciding upon the technologies and architecture. Since more of the parts are tasks of a project I would be using a task tracking software like Jira and Confulence for document and knowledge sharing

The steps I would take are:

1. Find out what we want

Here we define what the business of the Saas will be

What is the scope of the Saas

Potential clients

What Saas needs to do

1. Create high level architecture

This is needed to find out what cloud platform is needed since the evaluation process takes time and choosing the right one could save time and money in the long run.

For a normal Saas I would suggest:

* + Kubernetes deployments of containers with Openshift orchestration
  + Java spring boot back end
  + An SPA javascript framework like React.js or Angular
  + A resilient database preferably with high availability and redundancy provided by the cloud provider (for example Postgress Clusters)
  + Do we need a NoSQL database? Mongo/Redis/Couchbase or maybe something more elaborate like a graph db Neo4j or a PostGIS extension for Postgress.
  + Identity and access management servers. Something like Keycloak
  + Decide if we will be using synchronous or asynchronous requests. In case of asynchronous and messaging or a streaming platform like Kafka or RabbitMQ would be used. In case of IoT we could use MQTT

1. Platform Assessment

After the scope and the functionality of the Saas is created we will need to evaluate the cloud platform that we should use. The high-level technical architecture is required here to see what needs to be done.

Things to consider:

* + Does the service need to be in multiple countries/continents?
  + Do we need to provide private installation options as well?
  + Do we need to have the servers/data in a specific geographical location?
* Define the evidence points that are both functional and non-functional.
* Examining the economics of PaaS solutions
* Consider the features and capabilities of the cloud platform regarding the SaaS product architecture.
* Prepare a limited list of PaaS vendors for a proof of concept.

1. Start with the implementation planning

The technical manager and the product manager should handle the following:

* Compile a list of the essential product features.
* Product architecture and design specifications should be simplified.
* Make a project timetable and plan.
* Make a plan for resources and communication.
* Make a plan for risk management.

The technical manager/architect should make sure that the team has the following:

- A good understanding of the scrum methodology

-A CI/CD integration that they can use to deploy and test code (Jenkins)

-Some staging environments for QA to test the delivered code (An openshift implementation used by CI/CD for staging perhaps)

-Version control connected with CI/CD (github/gitlab/bitbucket)

-A code evaluation tool like SonarQube would be nice as well to evaluated the condition of the code, technical debt and sometimes find bugs as well

-Create a logging and monitoring system. One solution would be Prometheus with Grafana