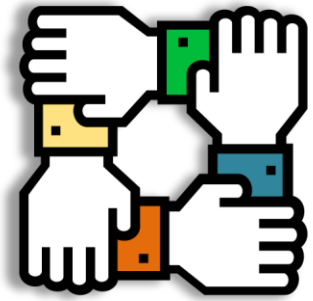


WorkApps

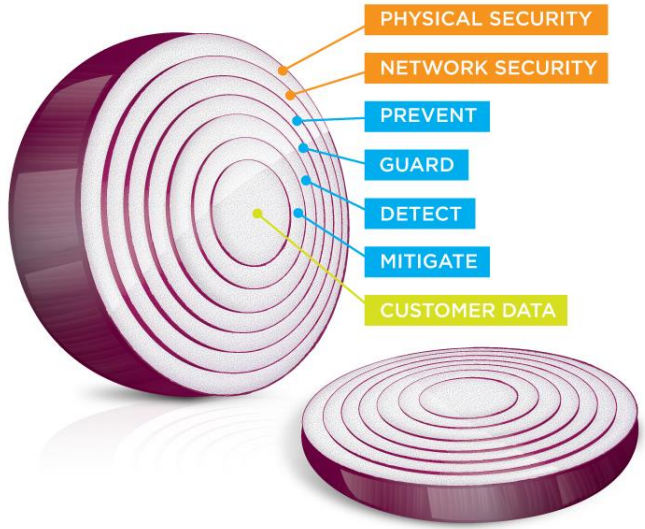
Let's work together...

Technical Specifications

Technology Stack

Front end UI	Server Platform	Chat Engine
Angular JS (JavaScript MVC framework) Html4/Html5 JavaScript Web Sockets Nginx : Web server	Java Spring Hibernate (ORM framework) MySQL (Database) Redis (caching) Tomcat (application server) Aws S3 (attachment content storage)	Java Play Framework Akka Framework GCM Client & JavaPNS (for mobile push notification) MySQL Redis

Security Overview



Onion Right Security Architecture

Web Security

Cross Site Scripting (XSS)

- Input validation on client & server side
- HTML encoding done for special chars
- HTML Safe enabled in Web app (Angular JS feature)
- Enabled X-XSS protection header
- Enable content security policy (CSP)

Cross Site Request Forgery (XCRF)

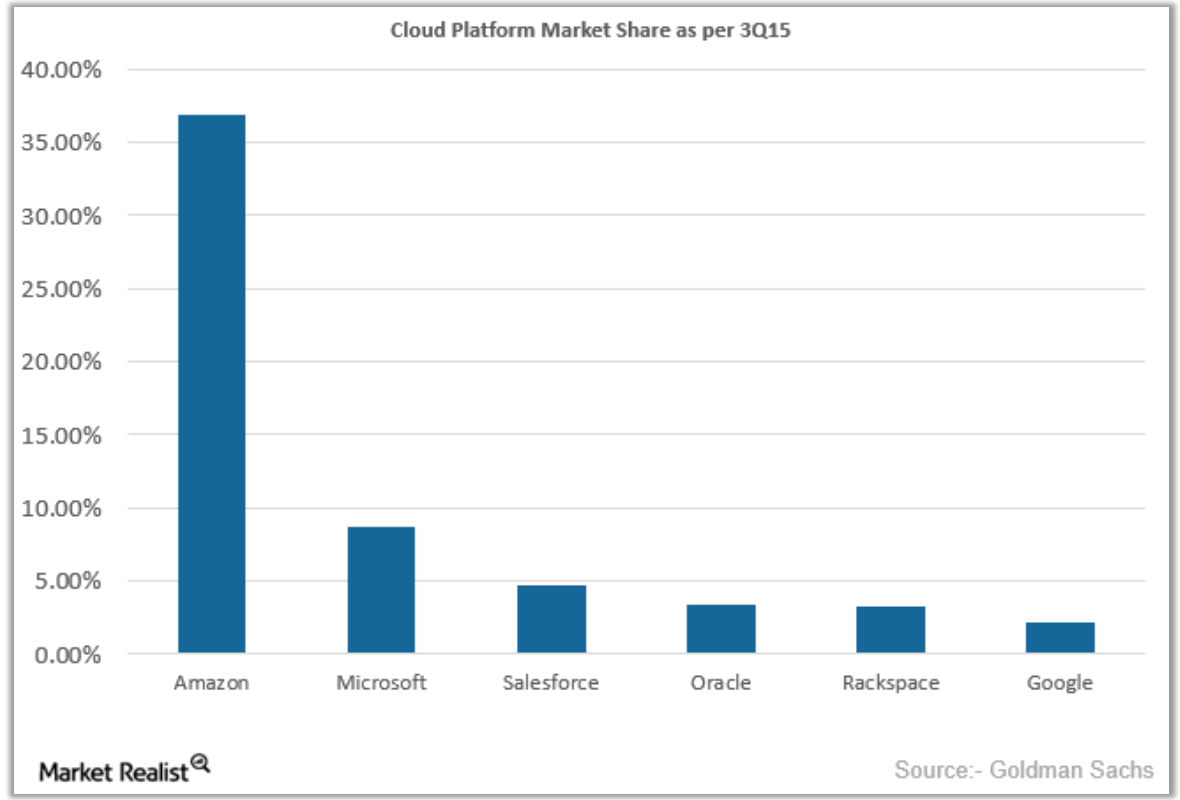
- Data update only in PUT, POST & DELETE REST APIs
- Supported browser has strong single domain policy
- Do not allow app loading in i-Frame
- HTTP strict transport security enabled

API Security

- Transport Security – WSS, HTTPS, TLS 1.2
- Hash & Salt password storage
- Token based API authentication
- Role based authorization
- Client Authentication (some APIs are available for mobiles only, token expiry is also different)
- Cookie security – HTTPS, WorkApps Domain, Server Only
- All tokens (User, Invitation, Public File and Folders) are encrypted before sending out
- Hash based One Time Password (OTP)
- OTP valid only for Specific Caller & for 5 minutes only
- Input data restriction and validation to protect server data
- Admin control to lock users, invalidate sessions

Infrastructure Security

- Multi-AZ enabled (RDS) to provide high availability of data, back up policies to avoid data loss
- Strong security groups to control inbound and outbound traffic (Strong ACL)
- S3 private bucket, WorkApps domain with PUT/POST enabled to upload file
- Onion Ring Security Architecture (DB layer is the most secure)
- Prod Environment access is only to 2 People internally
- Amazon web services (AWS) used for deployments
- AWS Inherent security to protect the infrastructure
- AWS recommended practice followed for security
- Multi Factor Authentication (MFA) for AWS Account
- No Passwords & Tokens stored in Source
- Source code is managed using on-premise SVN



Data Security & Backup

- Access Control: Application servers, DBA
- Data Back up (RDS): Standard AWS back up policy
- Full back up - every day (S3 & Internal Data Server)
- Snapshot back up - every two minutes
- Multi-AZ DB Instances (master/slave cluster) : for better availability & durability
- Files Storage Backup : Standard S3 policy (Bucket versioning)
- Redis server : It’s secondary data and can be regenerated from master.
- Multi-AZ enabled for Availability & Durability

OWASP 2017 Top 10 Security Compliances

Sr. No.	Point	WorkApps Compliance
1	Injection	Yes
2	Broken Authentication and Session Management	Yes
3	Cross-Site Scripting (XSS)	Yes
4	Broken Access Control	Yes
5	Security Misconfiguration	Yes
6	Sensitive Data Exposure	Yes
7	Insufficient Attack Protection	Yes
8	Cross-Site Request Forgery (CSRF)	Yes
9	Using Components with Known Vulnerabilities	Yes
10	Underprotected APIs	Yes

Securing the Data Mobile

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	Priyanka Pathania	Associate Vice President	Product Sol...	priyanka@workapps.com

Lock User
Delete User
Make Admin

Once a User is Locked, the data of that User stored on the Mobile is Deleted Instantly

Delete Data stored on the Phone

On Premise Suggestions

Software	Requirement
Operating System	Linux (CentOS 7.0 / Redhat 7.0 / Ubuntu) Windows 2008 Server
Web Server	Nginx 1.8.1
Application Server	Tomcat 7.0.55
Database	MySQL 5.5 (Relational Database) Redis 2.8 (Caching Server)

Suggested Services

Amazon S3 – File Storage

Amazon SES – Email Service

Plivo – SMS Service

Suggested Hardware

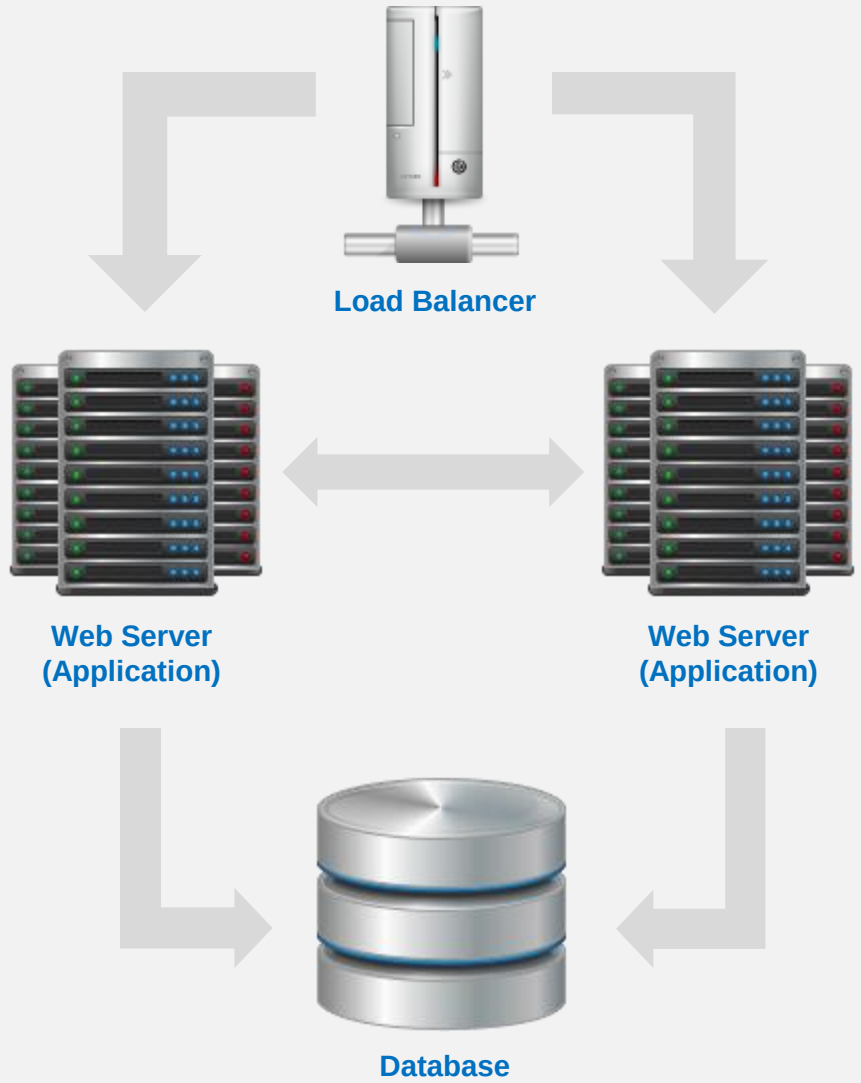
Minimum 2 machines

8 GB RAM

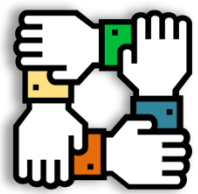
8 Core Processors

250 GB Hard Disk

Suggested Server Infrastructure



thank you…



WorkApps

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