

	HEADERS	DETAILS
1. Intimation of Incident (T-day, within 1 Hour of the Incident)	1. Letter / Report Subject - Name of the Member -- Member Code -	Reporting of technical glitch Zerodha Broking Limited NSE: 13906; BSE: 6498, MCX: 56550
	2. Designated Officer (Reporting Officer details)	Name: Pankathi H Jain Mobile: 9945944580 Email ID: pankathi.jain@zerodha.com
	3. Date & Time of Incident	04-12-2023; 9:18 AM
	4. Exchanges on which Technical Glitch was encountered (NSE, BSE, MCX, NCDEX, MSEI)	NSE, BSE and MCX
	5. Intimation to clients about the Technical Glitch. (Please attach screenshots of communications to clients)	Bulletin, Tweet, IVR message, Support Bulletin
	6. Network Connectivity Issues / Hardware Issues / Software Issues / Human Error / Other (Please Specify (if more than one, please separate with commas))	Due to an intermittent issue, some of our users were not able to login to the kite web application. Most of our users were able to login and place orders via kite mobile application. However, there were no issues with order placement, order modification and order cancellation. The issue was Intermittent. The impact was on login to the kite web application intermittently. However, most of our users were able to login and place orders via kite mobile application. The order placement, order modification and order cancellation were not impacted. The said issue did not affect all users, but only a set of users operating out of a particular Silo (Setup). A bulletin was put up on our website informing clients about the issue. A tweet was also put up. IVR message was played to the clients calling on our support line informing them about the issue.
	7. Additional Details about the Technical Glitch, if Any.	
1. Intimation of Incident (T-day, within 1 Hour of the Incident)	1. Date & Time of Incident & Incident duration (in Minutes)	04-12-2023; 9:18 AM; 37 minutes Due to an intermittent issue, some of our users were not able to login to the kite web application due to an issue with the password reset flow. Most of our users were able to login and place orders via kite mobile application. The issue affected users on Kite web and people who hadn't logged into Kite mobile app in the past month. The order placement, order modification and order cancellation were not impacted. The said issue did not affect all users, but only a small set of users who hadn't logged into trading platform in the past month.
	2. Incident Description	Our team is in the process of carrying out an RCA of the issue. A bulletin was put up on our website informing clients about the issue. A IVR message was put up for incoming calls informing clients about this issue. We also informed our users on Twitter about the same. 9:18 AM to 09:55 AM: Our email and notification alert system, designed to notify users of logins from unfamiliar locations and IPs for safety reasons, sent alerts to numerous users about logins from new locations/IPs. This was due to a recent update to our IP database over the weekend, as a result of an increase in the geo-location accuracy of the IP/geo-location database that we use, thus triggering these alerts. We believe that this incident may have led to an influx of password reset requests, putting a strain on our password reset systems and resulting in login failures. To address this, we temporarily suspended password resets, which effectively resolved the login issues. Password reset functionality was reinstated at 1 PM with added safeguards to prevent similar issues in the future.
	3. Immediate action taken (provide brief details)	
	4. Business Impact i) Number of Clients Impacted ii) Any other impact	i. We are in process of quantifying the number of clients impacted. As stated earlier, order placement, order modification and order cancellation were unaffected. Of the 14 million clients on our platform, we received about 4100 calls and 1500 tickets across all segments ii. Further, there was no other impact.

2. Preliminary Incident Report (T+1 day)	5. Were alternate trading channels available for clients (list all the alternate channels) i) Was there a spike in traffic on the alternate channels available to clients? If yes, provide details.	Since order placement, order modification and order cancellation were not impacted. Further, most of our users were able to access the trading platform on the kite mobile application and hence the order flow was unimpacted. Call and trade desk was also available for the impacted users.
	6. Was the issue caused or encountered by a third-party vendor or service provider? i) Name of the third-party vendor or service provider and a brief description of the issue. ii) Do you have a back-up vendor for the said services	NA
	7. Was the issue encountered on the Exchange-provided environment? If Yes, kindly provide details of intimation and communication sent to the Exchange.	No
	8. Did you move operations to the Disaster Recover (DR) site? If, Yes, what was the Recovery Time?	No
	1. Date & Time of Incident & Recovery & Incident duration (in Minutes)	04-12-2023; 9:18 AM; 9:55 AM; 37 minutes
	2. Incident Description & chronology of events (Please provide brief details)	Due to an intermittent issue, some of our users were not able to login to the kite web application due to an issue with the password reset flow. Our email and notification alert system, designed to notify users of logins from unfamiliar locations and IPs for safety reasons, sent alerts to an unusually large number of users about logins from new locations/IPs. This was due to a regular update to our GeoIP database over the weekend, as a result of an increase in the geo-location accuracy of the IP/geo-location database that we use, thus triggering these alerts. We believe that this incident may have led to an influx of password reset requests, putting a strain on our password reset systems and resulting in login failures. To address this, we temporarily suspended password resets, which effectively resolved the login issues. Password reset functionality was reinstated at 1 PM with added safeguards to prevent similar issues in the future. However, most of our users were able to login and place orders via kite mobile application. The mobile application is the primary terminal for over 85% of our users. The issue affected users on Kite web and people who hadn't logged into Kite mobile app in the past month. Further, order placement, order modification and order cancellation were not impacted.
	3. Business Impact: Please provide details on the points below: i) Number of clients impacted ii) Number of client orders impacted iii) Any P&L impact iv) Any other impact on Business	i. A section of our clients were impacted by the incident. The number of unique users impacted by this incident were 65.4k. ii. No impact on client orders. iii. No impact on P&L. iv. No other impacts.
	4. Details of Client Complaints Received (Please provide details of claims of impacted clients) i) Number of Complaints Received ii) Number of Complaints Settled iii) Number of pending complaints iv) Total amount claimed by complainants	i. There were few complaints. 4 exchange complaint across all segments as on the date of the submission of this RCA ii. All the client complaints via tickets and calls have been resolved. iii. There are 4 complaint open at the exchange as on date of submission of this RCA. We are actively working on resolving those at the earliest and have submitted our response to the exchange regarding those complaints. iv. The amount claimed by the complainants is approximately Rs. 27,000.
	5. Root Cause Summary (Pl attach the detailed Report separately)	After conducting an initial investigation, it was found that the users who were trying to reset their password were not able to do so due to an issue with the password reset process. Further investigation pointed towards an email and notification alert system designed to notify users of logins from unfamiliar locations and IPs for safety reasons, sending alerts to numerous users about logins from new locations/IPs. This was due to a recent update to our IP database over the weekend as a result of an increase in the geo-location accuracy of the IP/geo-location database that we use, thus triggering these alerts. We believe that this incident may have led to an influx of password reset requests, putting a strain on our password reset systems and resulting in login failures. This, however, had no impact on logging in to Kite mobile and Kite web for most of our users. There were more than 0.7 million users trading from our platform during the duration of the incident.
	6. If the issue was caused or encountered by a third-party vendor or service provider, Please provide the below details: i) What services are being provided by the third-party vendor or service provider? ii) Time taken (in Minutes) by third-party vendor or service provider to resolve the issue.	i. Not Applicable. ii. Not Applicable.
	7. Has a similar issue been encountered prior to the submission of this RCA Report?	A similar issue hasn't been encountered prior to the submission of this RCA, since Dec 2021 when we started reporting the glitches.

3. RCA of Technical Glitch Incident (T + 14 days)	8. Details of long-term preventive action (please provide all action points for long-term preventive action with the date from which they will be implemented) (please use additional sheets if necessary)	1. Migrated all password reset which does database (DB) write operations to different app groups to add resilience. 2. The issue with the password reset query was fixed by introducing an index to the user table. 3. We have also an additional secondary DB for all read-only queries so that traffic is distributed among three instances instead of the usual two as an additional resilience measure.
	9. Provide a detailed Architecture Diagram of the System.	Attached