

Fail Gracefully: Exception Handling In Deluge

Techniques for more supportable code



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Mike has 18+ total years of experience in Operations, Data Science, and Application Support. Passionate about process design and finding ways to utilize technology more efficiently.



Authorized
Partner



Think Forward, Think Big

- Established March 2020
- Focused on serving small and medium size businesses and non-profits
- Excel at Process Design, CRM Transformation, and Integrations

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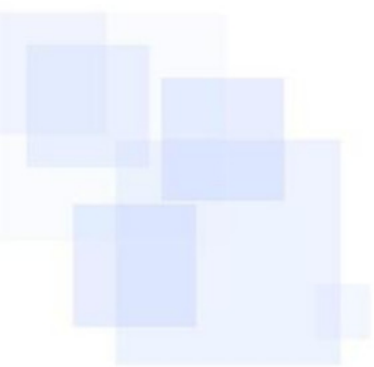
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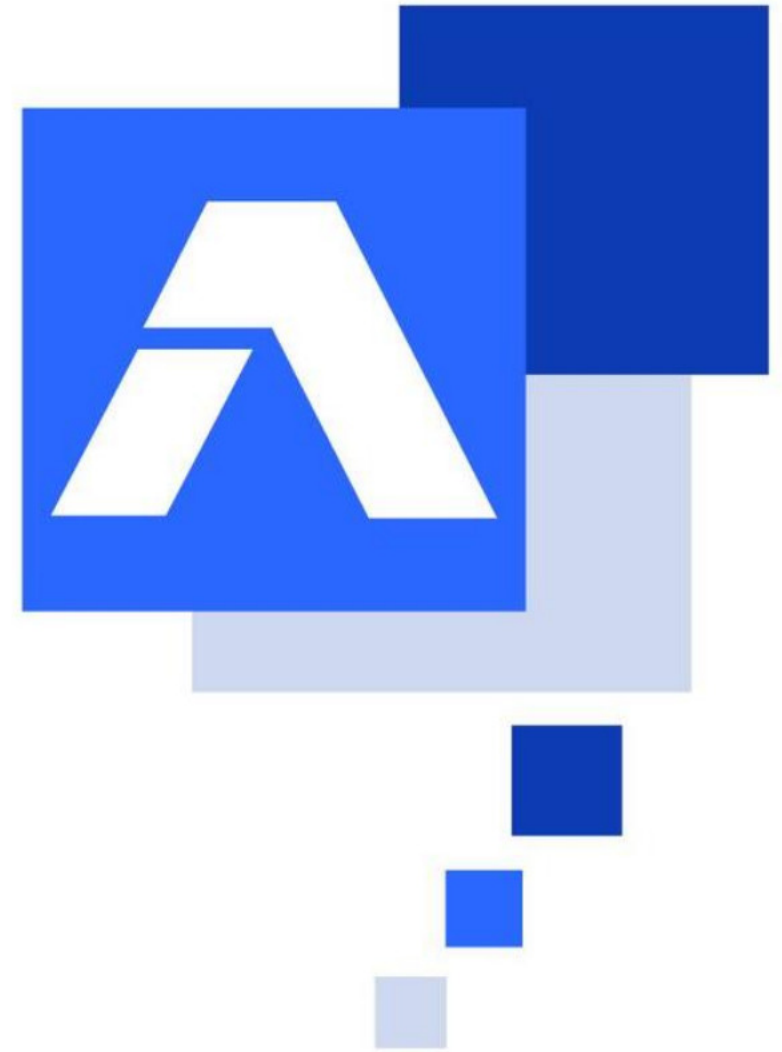
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Takeaways From Today

- Learn how to handle exceptions and prevent failures in your Deluge code
- Advanced usage of Try/Catch statements
- Tips on how to track multiple exceptions and make them actionable



Exception Handling Introduction



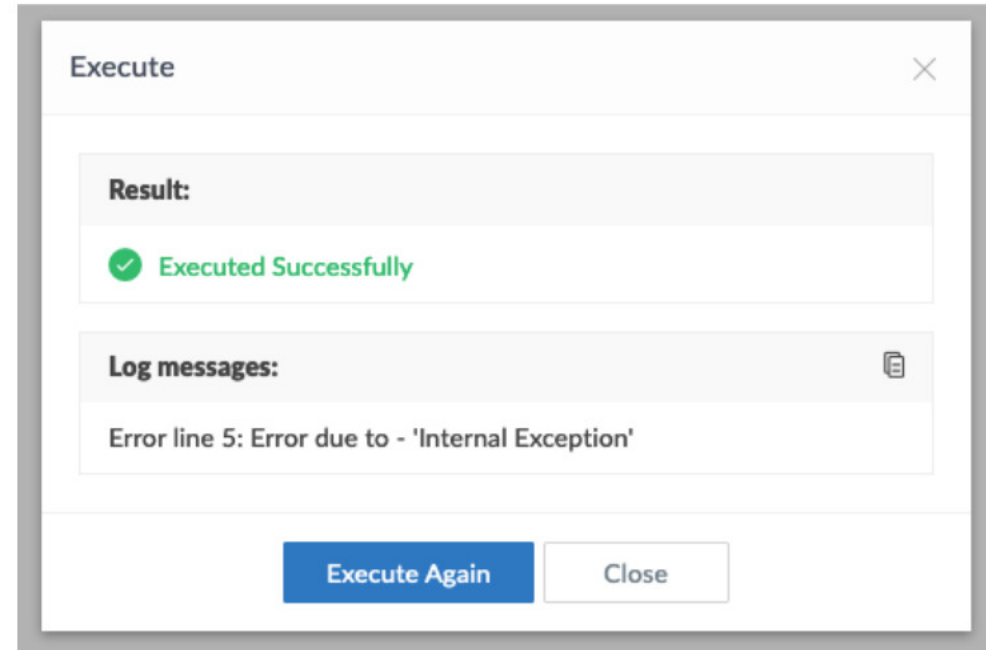
What is Exception Handling?

- Exceptions vs Errors
- Gracefully handling unexpected situations in your code
- Expected vs Unexpected Exceptions



Try Catch Statement

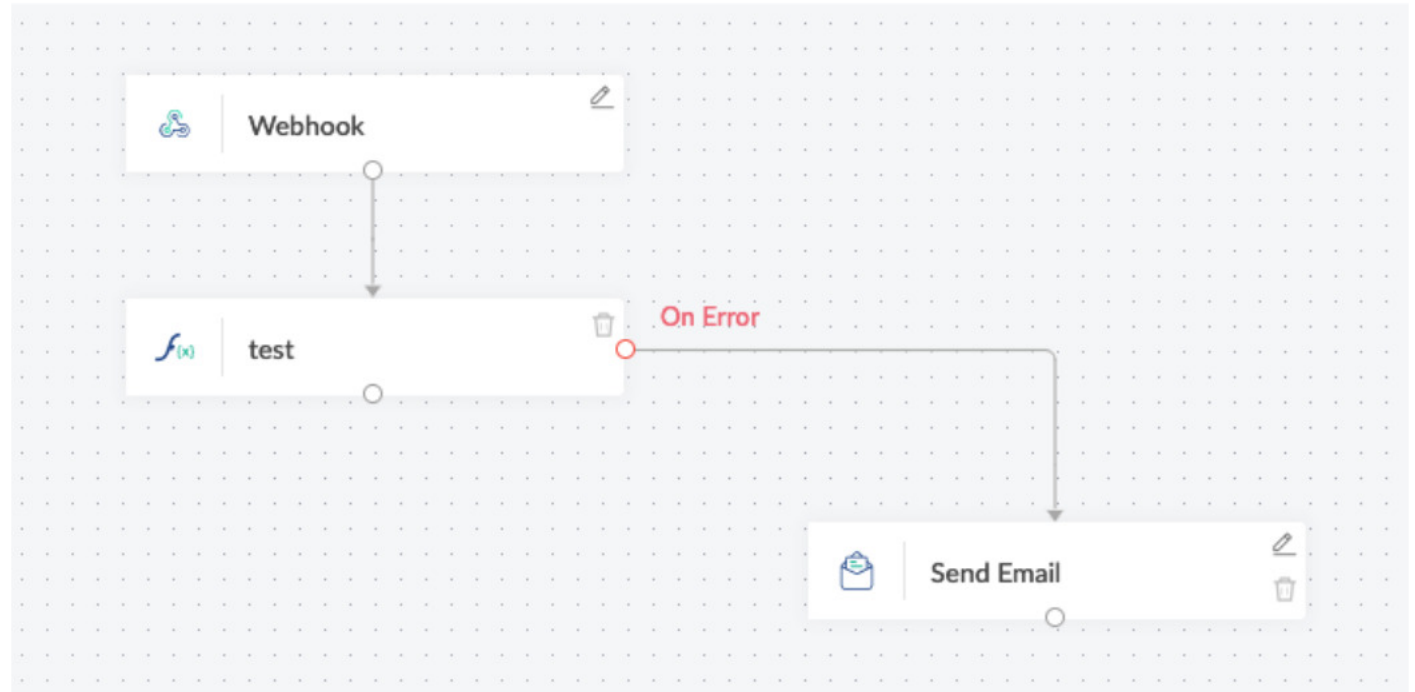
```
void simpleTryCatch()
{
    try
    {
        getSite = getUrl("https://zoho.nope");
        info "Zoho's Nopepage HTML has " + getSite.length() + " characters";
    }
    catch (err)
    {
        info "Error line " + err.lineNo + ": " + err.message;
    }
}
```



Should you always catch exceptions?

Yes, but there are alternatives...

Zoho Flow has built in exception handling to take follow up actions



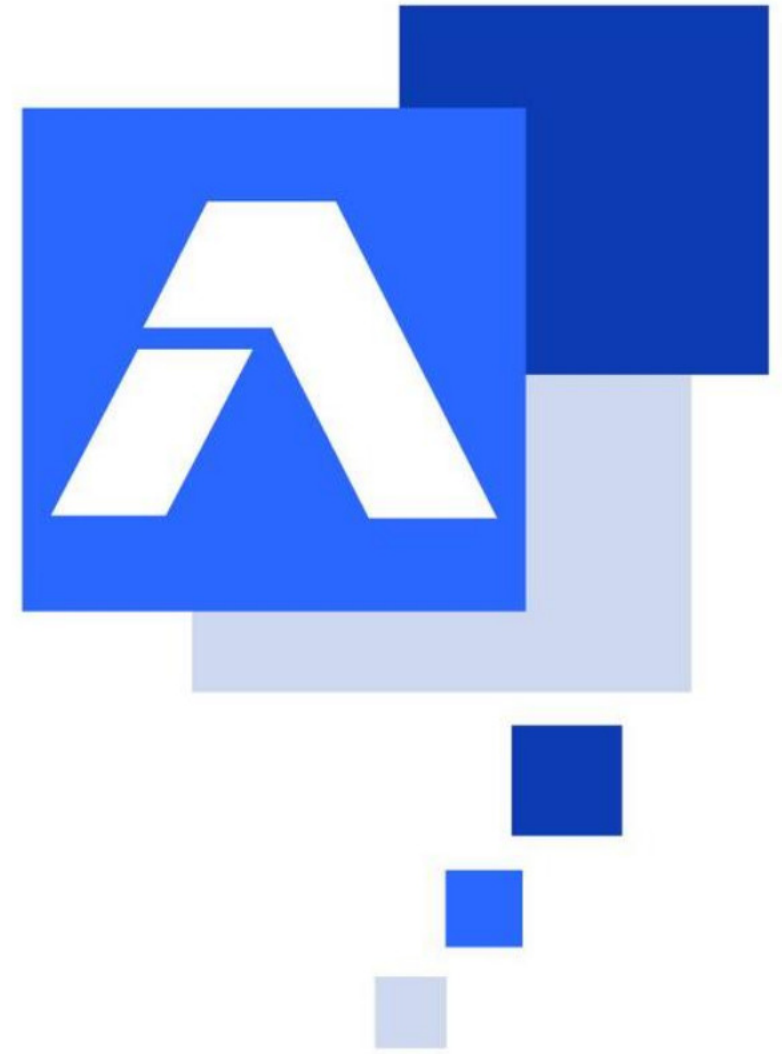
Can't I just use if statements to do my checks?

- Yes, but that only covers the behavior you *expect*
- What happens when something unexpected happens?
- What happens when the API you are calling changes?
- What happens when you make a coding error?

Focus on the resulting action, not just catching errors



Advanced Exception Handling



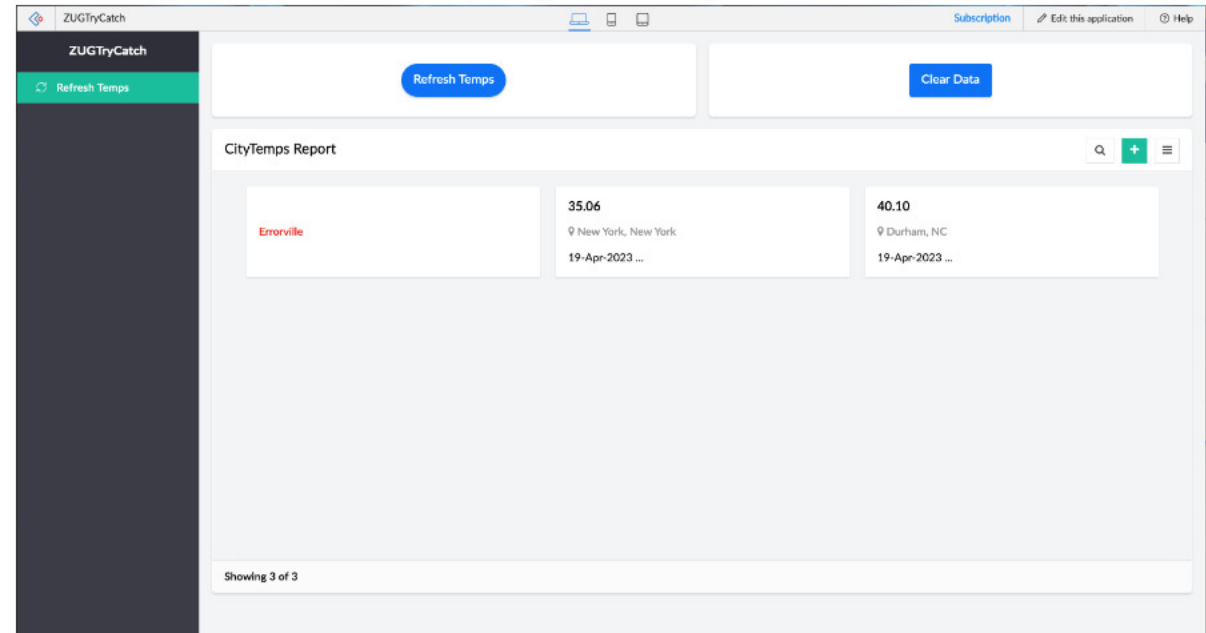
Not limited to just one try/catch!

- Wrap each block of code in its own try/catch to target a specific outcome
- Isolate specific actions you would take if an exception would occur
 - Edit information and retry action
 - Use a backup data source
 - Create a log entry
 - Notify someone
- Embed try/catch statements in each other
- Cascade errors to get a full stack trace of what happened
- Return errors with each of your function calls to be collated



Example Creator App

- Simple app to track and update temperatures for an addresses coordinates
- Uses Try/Catch statements to isolate errors and take actions as needed
- [Weather data by Open-Meteo.com](#)
- Note: This API is not to be used for commercial purposes



Other Tips



Forcing An Exception

```
void forceException() {
    try
    {
        /* This statement will always fail!
        ** Use this to test your exceptions or force a failure
        */
        /* This statement forces an error
        info "a".toDecimal();
        */
        // But you can also use a custom exception "throws" keyword (this is not documented)
        throws "My Custom Exception Message";
    }
    catch (err)
    {
        info err;
    }
}
```



Creating Actionable Exceptions

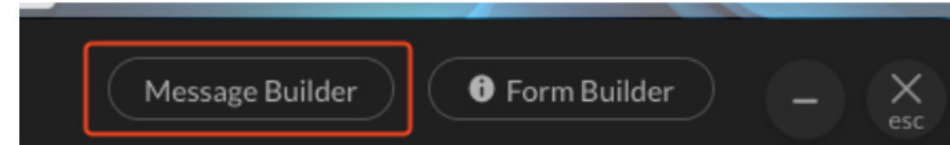
Organize

- Log exceptions against the record
- Create a separate log module
- Use external logging tool

then...

Take Action!

- Email Alerts to a group dedicated to notifications.
- Cliq channels dedicated to error notifications



 Error Bot 

Exceptions have occurred when refreshing the temperatures. Please review and take action.

Errors From Refresh Temps

Entity	Exceptions	Id
Errorsville	API Error at line : 11, Value is empty and 'get' function cannot be applied", "Calc Error at line : 2	123456498941

[View Record](#)

[Rerun Job](#)

Thank You!

Questions?



[Link To Code Presented Today](#)