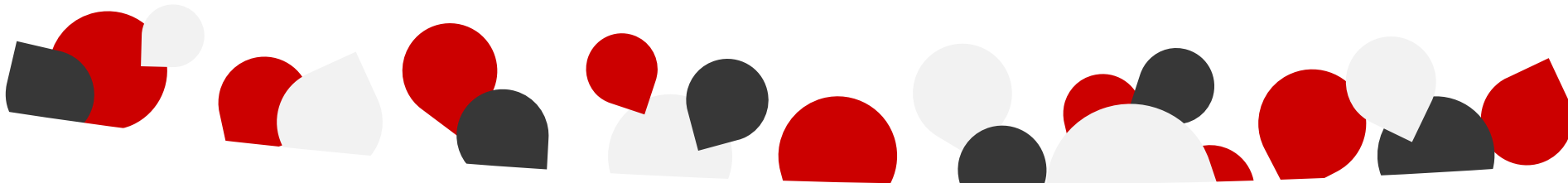


11 Habits of Great SQL Developers

Ike Ellis

Data Platform MVP and Partner at Crafting Bytes

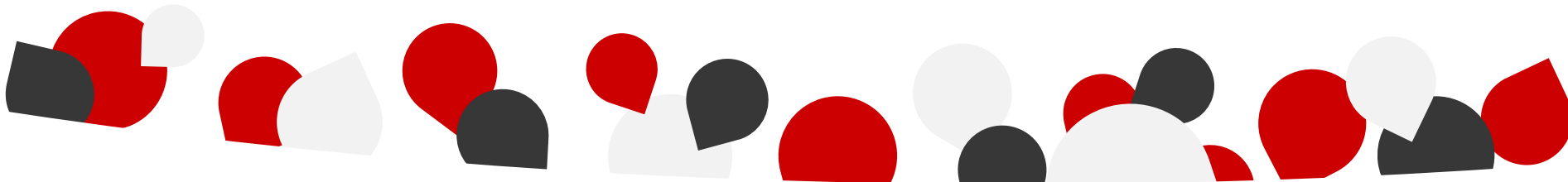


- Crafting Bytes
- Microsoft Data Platform MVP (2011 – Present)
- Friend of Redgate (2012 – Present)
- Chairperson of the San Diego TIG
- Co-chairman of the San Diego Software Architecture Group
- Book co-author – Developing Azure Solutions
- www.craftingbytes.com
- www.ikeellis.com



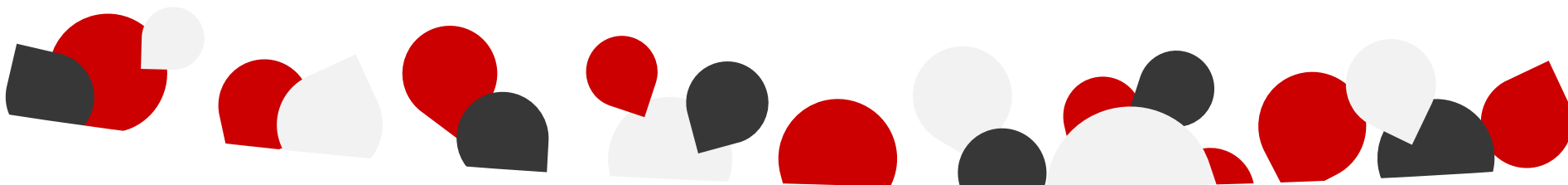
Ike Ellis

 @ike_ellis

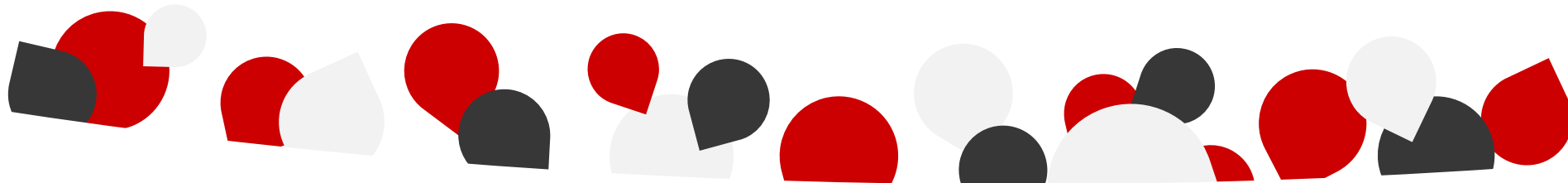


Agenda

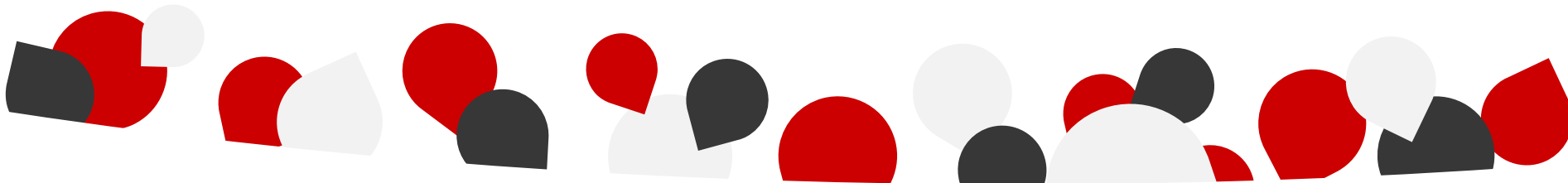
- Things great SQL developers have in common
- Great for all developers, not just SQL developers
- In order to benefit you, not benefit me.
 - #1, #2, #3 are by far the most important
- This isn't a performance lesson
- This isn't a SQL internals lesson
- This isn't a SQL language best practices lesson
- This is a discussion on the personal habits and characteristics and thought patterns of great SQL developers.



Habit #1: Use Source Control

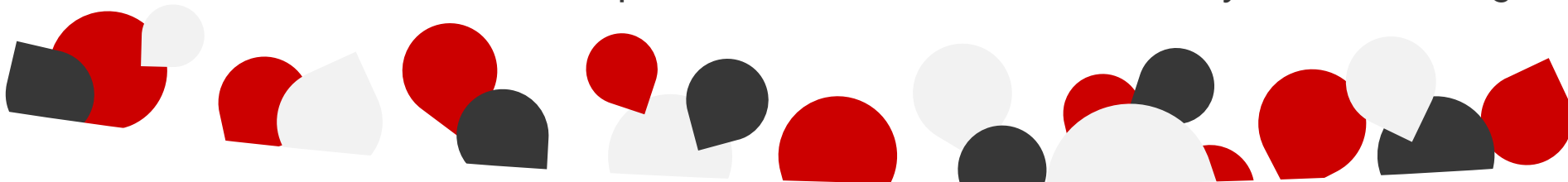


Habit #2: Test, test, and test again

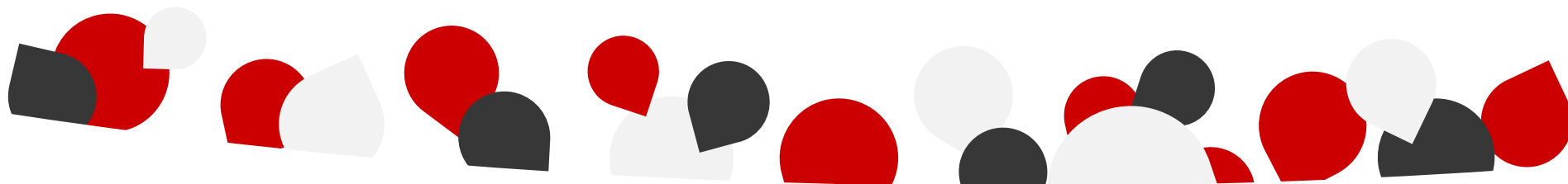
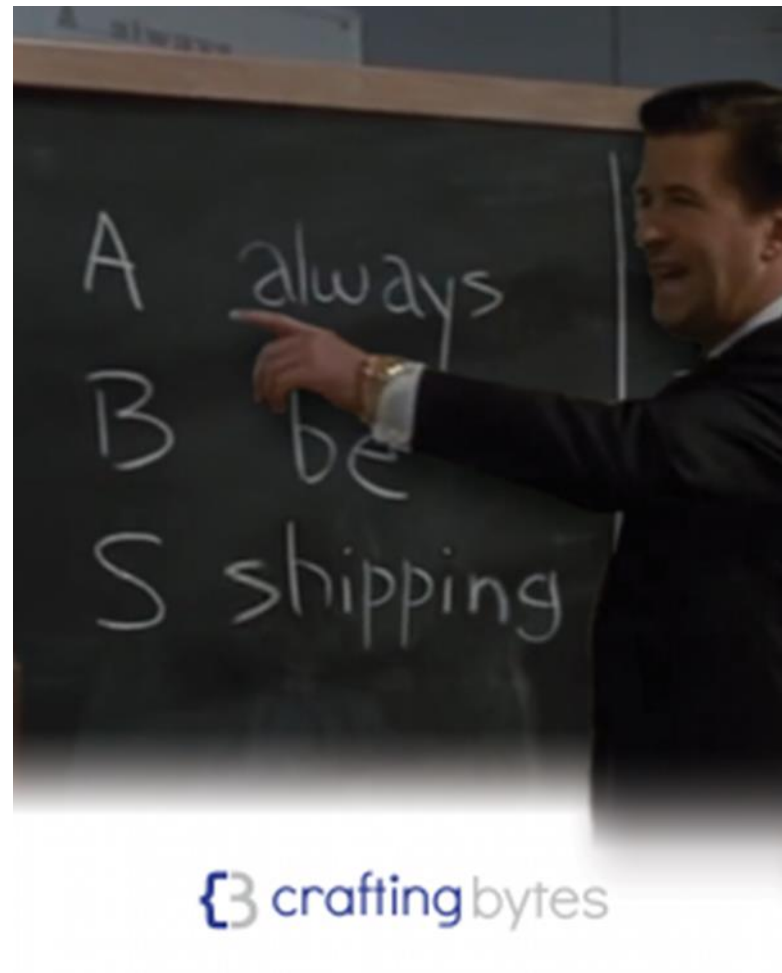


Habit #2: Testing Best Practices

- Mask sensitive data
- Every developer should have their own database
- Love all testing frameworks
 - tSQLt
 - Visual Studio
 - NUnit
 - SpecFlow – BDD testing
 - Cucumber/Gerkin
 - ApprovalTests
- At minimum, test that the sprocs, views, and functions actually run with the right arguments

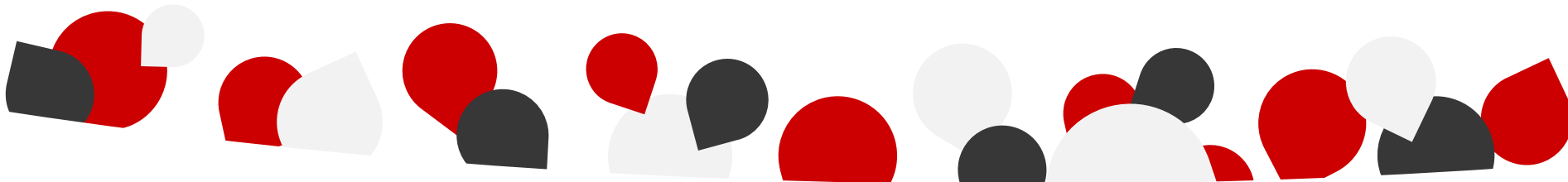
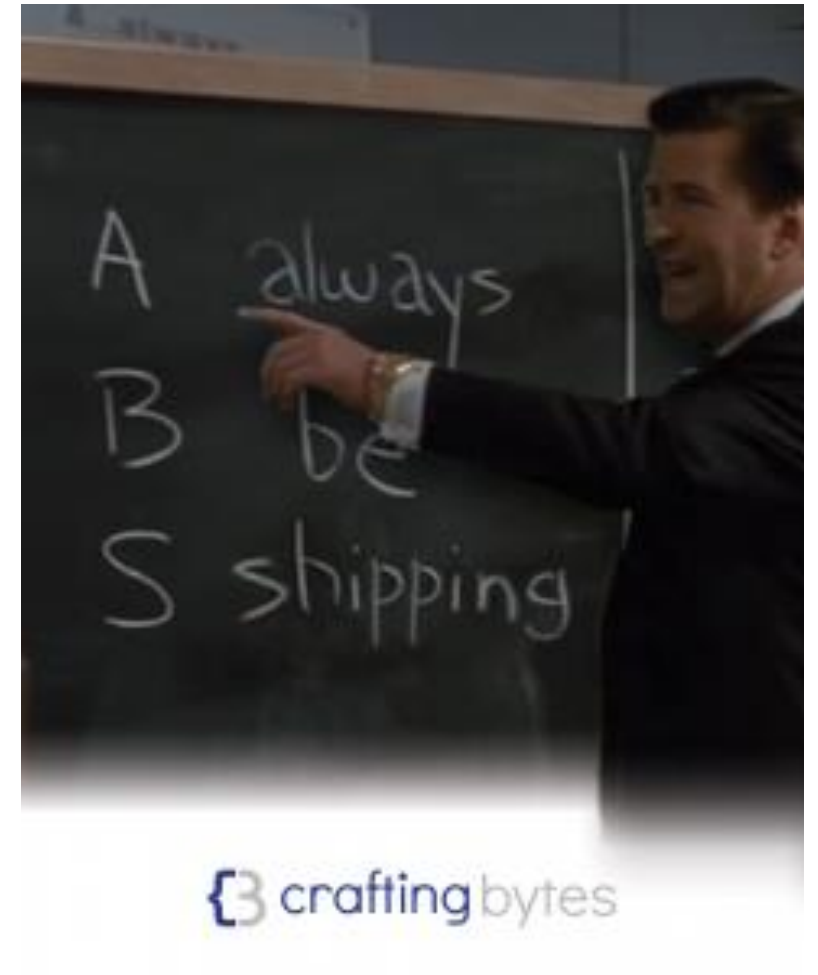


Habit #3: Always Be Shipping

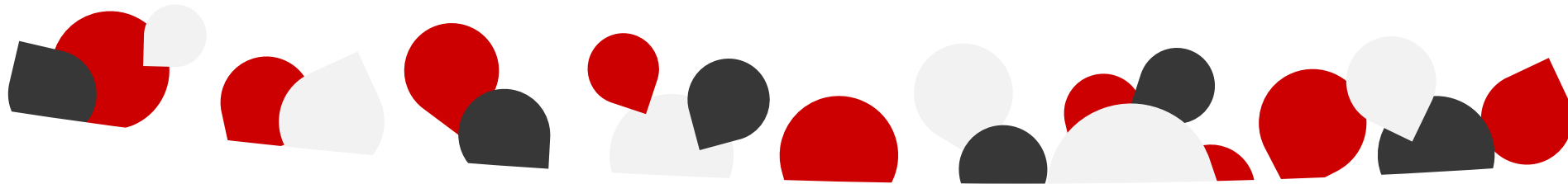


Habit #3: Always Be Shipping

- Automate, automate, automate
- Fold tests into deployment process
- Learn a scripting language
 - PowerShell
 - Azure CLI
- Grant Fritchey says!
- Never change an object in production directly
 - Always go through the deployment pipeline



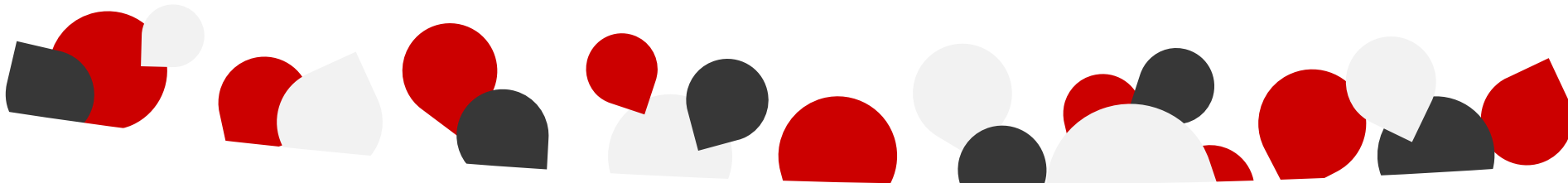
Habit #4: Code for resiliency/ code for cloud



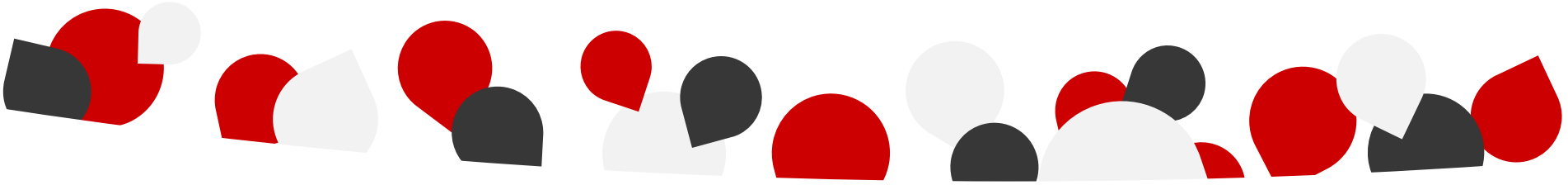
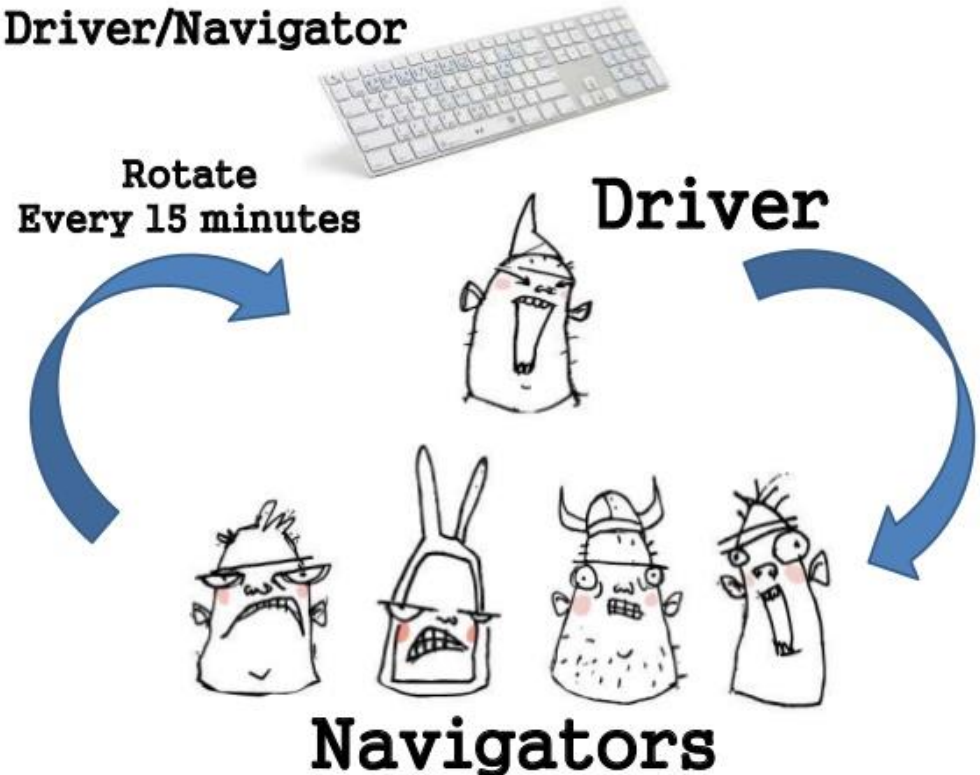
Habit #5:



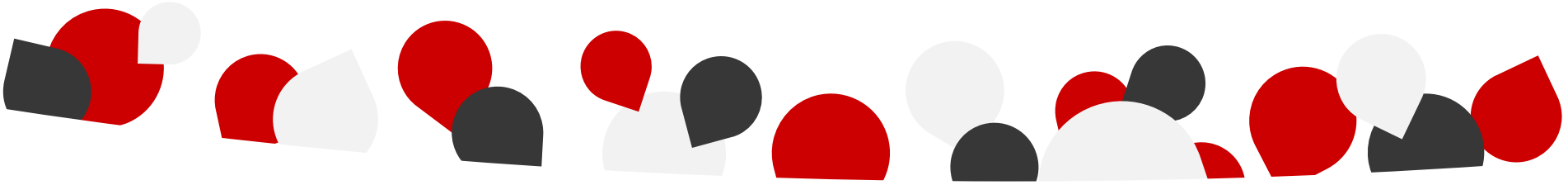
Habit #6:
Software development,
at its most fun, is a
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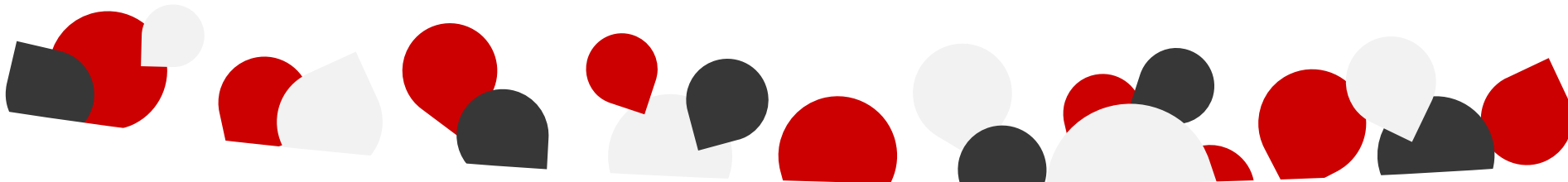


Habit #6: Software development, at its most fun, is a team sport

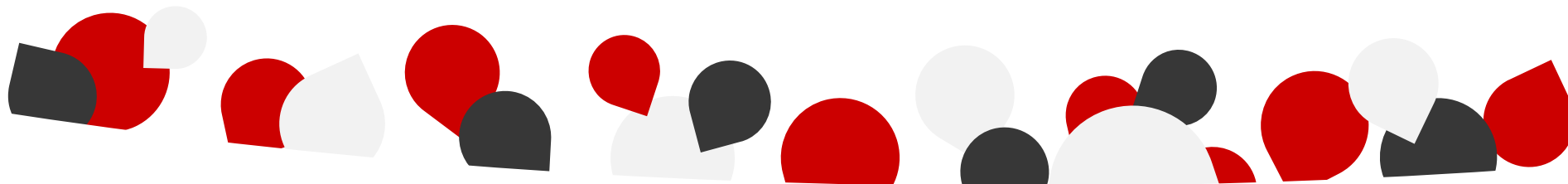


Habit #7: Love your tools

- Know every option
- Know keystrokes and shortcuts
- Know code navigation
- Know these tools:
 - SQL Prompt
 - Visual Studio
 - SSMS
 - Profiler
 - Extended Events
 - MS Excel

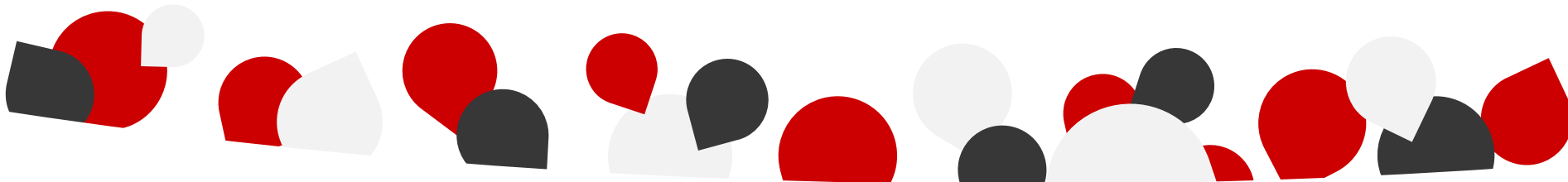
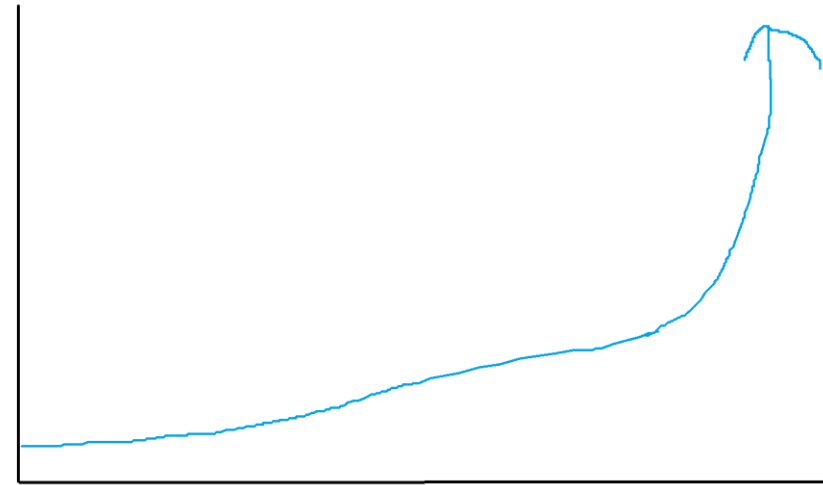


Habit #8: Fight dependencies



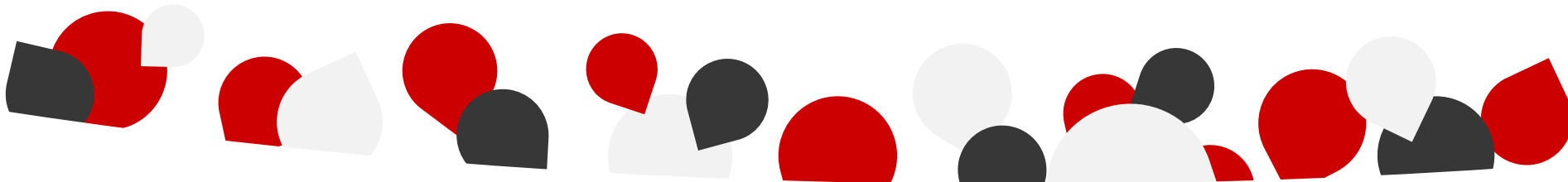
Habit #8: Fight dependencies

- Avoid change lock
 - Happens because of dependencies
 - Lack of testing
 - Complicated code
 - Loss of intent



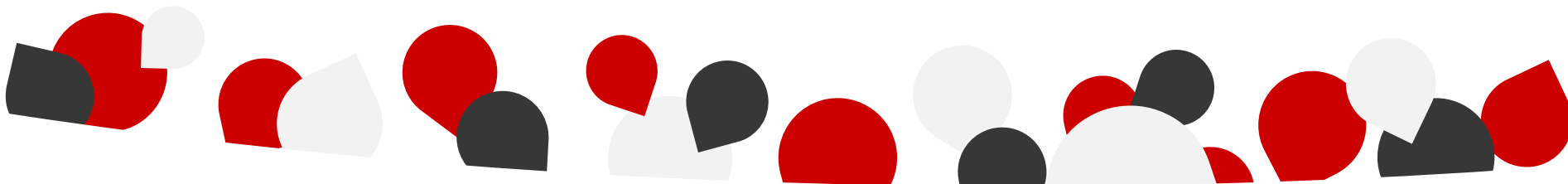
Habit #8: Fight dependencies

- Never allow direct access to your tables for anyone not on your team.
- It's rude to knock on the back door
- Fight three part names
 - Database.dbo.tablename
- Or even worse, four part names
 - Servername.database.dbo.tablename



Habit #9: Question, Re-Evaluate, Act

- Question
 - preconceived notions
 - Biases
 - purpose of new technology
 - your own derived answers
- Evaluate effect on previous decisions
- Change your mind and behavior

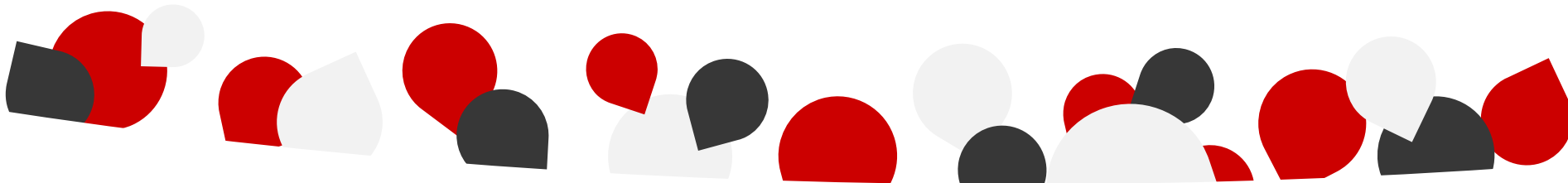


Habit #10:

*LEAVE IT BETTER
THAN YOU FOUND IT*



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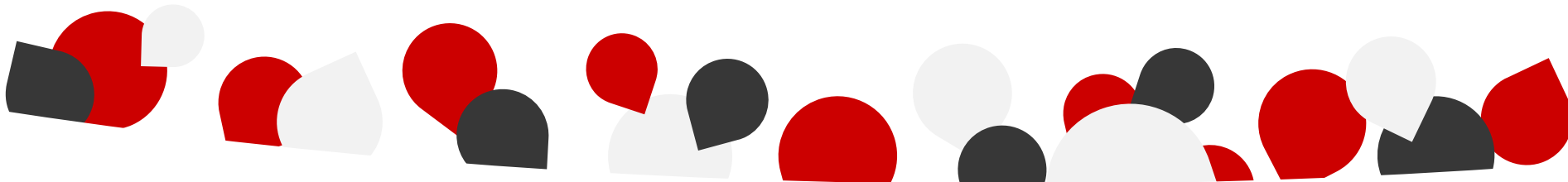


Habit #10: Leave it better than you found it

- Bad developers
 - work to get the item off their plate so they can do something else
- Great developers
 - work so that the item is more enjoyable to work on when they're asked again



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Habit #11:

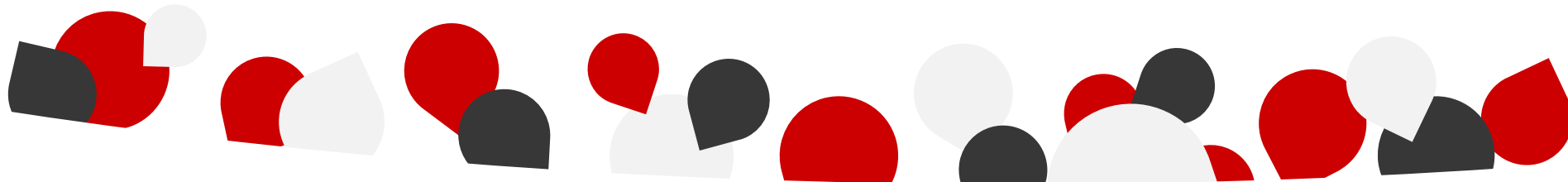
Respond...

With...

URGENCY!



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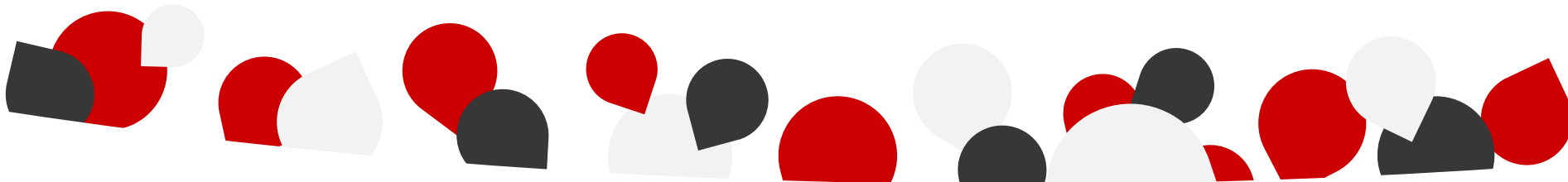
Habit #11: Respond with Urgency

- Things that erode user trust:
 - Repeated mistakes
 - Half-done code
 - Bugs surfacing at run-time
 - Missed deadlines
 - Bad listening skills
 - Not reading the entire email
- Things that gain user trust:
 - Doing what you said you do when you said you'd do it
 - Digging deeper to understand and empathize
 - Doing their work with them, not for them

Respond...
With...
URGENCY!

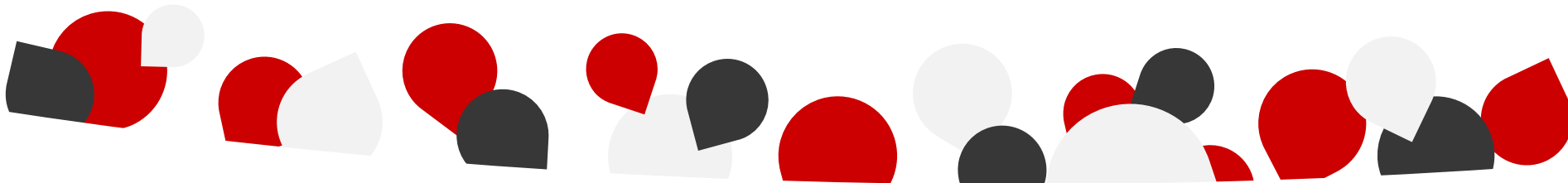


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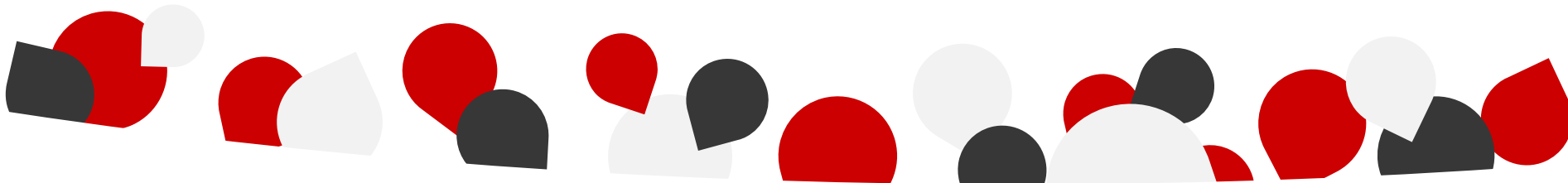
Bonus Habit: Love Your Language

- Learn new features:
 - CONCAT
 - TRY_CAST
 - Window Functions
 - Memory Optimized Tables and Procedures
 - Columnstore
 - DROP IF EXISTS
 - R
 - Python
 - JSON



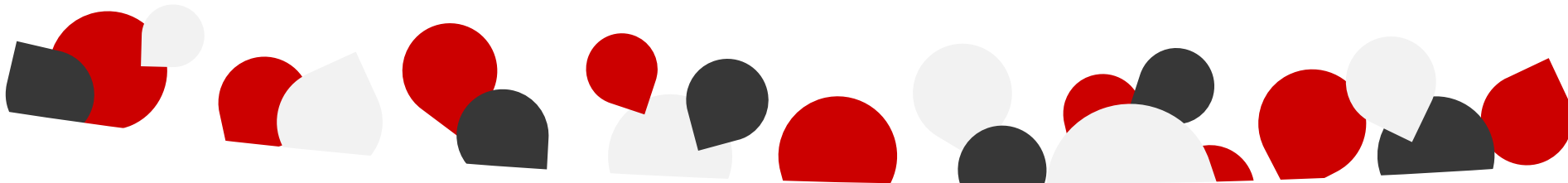
Bonus Habit: High Performance/Security

- Two types of team
 - Culture
 - Accident
- Permeate all conversations



Bonus Habit: Time as the most valuable commodity

- Record victories in excel, google doc, or better yet: Toggl
- Think about time doing plumbing and maintenance
 - Merging, branching
 - In meetings
 - Moving code to production
 - Maintenance tasks
 - Repeated tasks
- Take ownership of their habits and their time
- Make things happen, not happen to them



PRIZES TO GIVE AWAY!

- Next week I'll ship a bunch of laptop stickers to winners
- Sign up at www.CraftingBytes.com

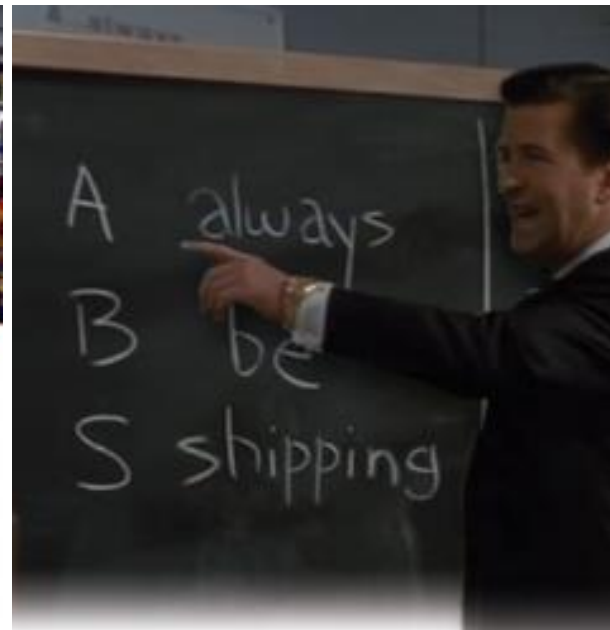
Respond...
With...
URGENCY!



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