**ONSITE INTERVIEW STRUCTURE**

You’ll be interviewing with 4 individual DS’s and have a break, 1-on-1, with a DS. Below is a general interview itinerary; you’ll receive a final itinerary, including interviewer names, assigned focus areas and session times, once we’ve locked in the date of your visit.

Note: Itineraries are subject to change at any time and dependent on interviewer availability. Focus less on the specific individuals and the order of interviews; focus more on preparing for the substance or content of the focus areas outlined below.

*Meet & Greet (15 mins) - Candidate greeted in lobby and escorted to conference room*

*1 Interview (30 mins) - Analysis Case: Product Interpretation*

*1 Interview (30 mins) - Analysis Case: Applied Data*

*Break - Non-interview, hosted by a data scientist*

*1 Interview (30 mins) - Quantitative Analysis*

*1 Interview (30 mins) - Tech Analysis*

*Walk-out (15 mins) - Candidate escorted to lobby*

**FOCUS AREA DESCRIPTIONS**

**PRODUCT INTERPRETATION**

This interview focuses on a case study or hypothetical problem that targets interpretation of user behavior using data and metrics and aligning insights to the larger product vision or roadmap.

**Scope:**

Understanding hypotheses for launching new features: “How can I improve a product?"

Identifying most relevant metrics and evaluating tradeoffs in selecting metrics.

Designing experiments to test specific hypotheses; interpreting experiment results.

Aligning proposals, solutions, decisions on product through interpretation of metrics.

**Sample Question**:

How would you evaluate YouTube's video recommendations?

**APPLIED DATA**

This interview evaluates the more technical aspects of framing and solving a problem, using data and applying different techniques.

**Scope:**

Thinking about which data sets are best suited to answer specific product questions.

Drawing inferences or hidden insights from data sets through various analytical techniques.

Combining multiple signals into a structured, data-informed statement.

Testing validity and quality of data sets.

Mapping hypotheses and analytical insights to user engagement with products/features.

**Refresh:**

[Facebook Products](http://newsroom.fb.com/Products)

[Facebook News](http://newsroom.fb.com/news/)

[VP of Analytics, Alex Schultz's Talk at Stanford on Growth at Facebook](https://www.youtube.com/watch?v=n_yHZ_vKjno)

**QUANTITATIVE ANALYSIS**

This interview is designed to evaluate quantitative reasoning and applied statistics. Quantitative reasoning tests knowledge of relevant mathematical/probabilistic/statistical concepts and how they relate to Facebook products. Applied statistics testsproblems drawn from real-world data or estimation.

**Scope:**

Estimation and logical reasoning in the context of a real-world product.

Elements of descriptive statistics (mean/expected value, median, mode, percentiles).

Common distributions such as binomial or normal distributions.

What does real-world data typically look like?

Law of Large Numbers, Central Limit Theorem, Linear Regression.

Conditional probabilities, including Bayes' Theorem.

**Sample Question:**

What do you think the distribution of time spent per day on Facebook looks like? What metrics would you use to describe that distribution?

***What won’t be covered:*** *Advanced stats/math concepts: calculus or advanced statistical/ML models; more complex distributions like the exponential, Weibull, Beta, etc.; brainteasers or contrived estimation problems (e.g. how many golf balls fit in a 747).*

**Refresh:**

The [combinatorics](https://urldefense.proofpoint.com/v2/url?u=https-3A__brilliant.org_math_combinatorics_&d=CwMFaQ&c=5VD0RTtNlTh3ycd41b3MUw&r=tSazLlzoiEtDd-Kdm8uNZotuVZ5jGA-7kZjoQLSK7mg&m=odVcaqw5HYXsNfoqeBnuWwcq7K4u-dkqnt-77vjj45Y&s=X3pLEcgNs7_RWmHWWnUsn5fgOVpArdAWKCBv22VwhiA&e=) page on [brilliant.org](http://brilliant.org/) offers many questions around probability and statistics. Note: This page can lead to going down a rabbit hole of fun math quizzes and questions; but our interview will just target the fundamentals here.

**TECH ANALYSIS**

This interview assesses the ability to think about data and analyze open-ended product problems with code.

**Scope:**

Structuring and articulating a solution based on data when presented with an open-ended problem.

Coding an executable solution based on the articulated approach.

Identifying and addressing edge cases.

Adapting or changing code based on new information and/or constraints.

Mindfulness of code efficiency.

Note:Most questions are designed with SQL in mind, but you should feel free to execute in your language of choice. You’ll be discouraged from using any convenient "magic" functions that trivially solve the problem. While some syntax details that can be easily Googled might be forgiven, pseudo-code that allows you to gloss over details is not acceptable. Brush up as much as you can on syntax, grammar, etc. and practice manually writing out code - all coding at onsite stage is via whiteboard.

**Sample questions:**

Given timestamps of logins, figure out how many people on FB were active all 7 days of a week and on a mobile phone?

How do you determine what product in Facebook was used most by the non-employee users for the last quarter? [Required parameters will be given].

**Refresh:**

[Introduction to Databases](https://lagunita.stanford.edu/courses/Engineering/db/2014_1/about) (by Jennifer Widom, in Coursera) - Self-paced. Exercises called 'SQL', 'Indexes', 'Constraints and Triggers', 'Transactions' and 'Views' tend to be especially helpful.

[SQLZOO](http://sqlzoo.net/wiki/Main_Page) - Offers both SQL problems and a self-paced tutorial. Problems here probably the most analogous to what will be asked in this focus area.

[W3 Schools](http://www.w3schools.com/sql/) - Offers alow-paced, broadly scoped tutorial. Covers more topics than SQLZOO but tends to be less challenging.

[Active SQL](http://db.grussell.org/sql/) - Offers SQL exercises sequenced according to complexity.

**FAQ**

**Are there other resources on the Web (not recommended on this prep guide) to help me prepare for this interview**?

This prep guide was designed by FB recruiters and members of our DS org to help as much as possible in setting you up for success. This guide won’t give you the answers, but it will give you a sense of direction and sense of where you should be investing your time, especially given how vast the data science spectrum is. While you’re free to turn to the Web to glean hints on our interview process, be cautious in relying too much on publicly posted FB interview questions and their corresponding solutions, as some of this data has been found to be incorrect or misleading. Our most successful candidates are those who can navigate ambiguity through analytical rigor, creativity and ability to realize a compelling story independently.

**Anything new about the focus areas covered at the onsite stage (vs. initial stage)?**

As in the initial, the onsite continues to examine your analysis and technical/coding skills - we just do a deeper dive into these areas at the onsite stage. The one new focus area introduced at the onsite is “Quantitative Analysis,” which evaluates basic stats concepts relevant to the more computational and quantitative side of the DS role. This may not be the most heavily weighed of the focus areas, but you’ll still want to brush up in this area - rustiness here and there can be easily forgiven (especially if you’re fairly experienced in industry), but a glaring deficiency in demonstrating math fundamentals and basic stats can raise concerns.

**Will the backgrounds or product areas of my interviewers determine the topics of the interview questions?**

Some interviewers have a natural and reasonable tendency to ask questions or base case studies on the product areas that they’re supporting. But keep in mind that our interviews are not product-specific or team-specific; they’re “general interviews” aimed at assessing the core technical (or analytical and problem-solving) skills needed for FB’s DS org at large. Interviewers can choose to discuss any product or feature they want; they can even discuss non-FB products and features. Be ready.

Do your best to familiarize yourself with our core applications and their features to ensure a reasonable comfort level in wrapping your minds around the unique data challenges that FB faces. Our most successful candidates - especially in “Product Interpretation” and “Applied Data” focus areas - are either those who regularly use FB products as consumers or who invest a good chunk of their interview prep in learning how to use our core applications and learning how the core features work.

Note: Interviewers will typically set up a case study question so that the candidate has sufficient context to be able to discuss. But if an interviewer presents product- or feature-specific jargon or terminology that’s unfamiliar, it’s up to you to ask clarifying questions and proactively seek the information you need to formulate a response.

**When can I expect to hear news on the outcome of my onsite interview?**

Interviewers are given 2-3 days to submit their feedback. Once all the feedback is collected, the feedback is discussed and consensus is reached on whether we’ll be presenting our leadership with a recommendation for an offer. If the recommendation is approved, then the exciting part of finalizing the terms of your offer are discussed. The estimated timeline from the onsite to offer stage is about 5-7 business days; I’ll do my best to keep you updated along the way. If, any point, you have urgent questions or concerns (especially around competing opportunities and/or offer deadlines) should reach out to me immediately to discuss the best way to remain in sync.

Note: Just a heads-up that some interviewers may take notes on their laptops, notebooks and even on their mobile phones during their session – if they seem preoccupied, they are: they’re documenting important details from the interview! While some interviewers can draw feedback from memory; others need notes to help preserve the integrity of their feedback and recommendation. Be patient with interviewers who take a few moments to collect their thoughts and commit them to computer or paper – rest assured that they have the best interests of the candidate in mind.

**What’s the best way to follow up with my interviewers if I’d like to send them a thank-you note?**

Candidates should feel free to email their thank-you(s) to their recruiters, who will be more than happy to forward them along