**CHAPTER 2: EXECUTION ORDER OF SCRIPTS**

**ServiceNow Script Execution Order (Form Lifecycle)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Step | Event | Script Type | Runs On | Notes / Purpose | | --- | --- | --- | --- | --- | | 1 | Form load request sent | — | Client → Server | User opens a record, browser requests it from ServiceNow. | | 2 | Before record is sent | Display Business Rules | Server | Prepares data before sending to client. Can populate g\_scratchpad variables. | | 3 | Before record is sent | Before Query Business Rules | Server | Runs before a GlideRecord query fetches data (rare in normal form load). | | 4 | Data sent to browser | — | Server → Client | Server sends HTML, form data, and scripts. | | 5 | Form rendered in browser | Client Scripts (onLoad) | Client | Executes when the form finishes loading. Good for UI adjustments. | | 6 | Form rendered in browser | UI Policies (onLoad) | Client | Runs after onLoad client scripts to set visibility, mandatory, read-only. | | 7 | Field value changes | Client Scripts (onChange) | Client | Executes every time a watched field changes. | | 8 | Field value changes | UI Policies (onChange) | Client | Runs after onChange client scripts. | | 9 | Form submit (Save/Update)\*\* | Client Scripts (onSubmit) | Client | Runs before data is sent to server. Can cancel save with return false. | | 10 | Form submit | UI Policies (onSubmit) | Client | Runs after onSubmit client scripts. | | 11 | Record save request received | Before Business Rules | Server | Runs before DB write; can modify current or abort transaction. | | 12 | Record save request received | Before Query Business Rules | Server | Only runs if a GlideRecord query happens during this save process. | | 13 | Record inserted/updated | — | Server | Database commit happens here. | | 14 | After DB write | After Business Rules | Server | Runs immediately after DB write but before transaction ends. | | 15 | Transaction complete | Async Business Rules | Server | Runs in the background after the transaction is fully committed. | | 16 | Form reload (if configured) | Steps 1–6 repeat | Client + Server | If UI refresh or redirect occurs, process restarts. | |
|  |

**Key Notes**

* *Order Field in Business Rules*: Controls execution sequence within the same type (Before, After, Display). Lower number = runs earlier. Number less than 1000 runs first, later before engines, worflows, approvals and then greater than 1,000 runs.
* Client vs Server separation: Client scripts never directly touch the database — use GlideAjax to call Script Includes on the server.
* g\_scratchpad: Only way to pass server-calculated data from Display Business Rules to client scripts without extra Ajax calls.